BEFORE THE PUBLIC SERVICE COMMISSION

Civil No. 17-035-61

PUBLIC HEARING

DAY 1

September 29, 2020

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BEFORE THE PUBLIC SERVICE COMMISSION

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Application of Rocky Mountain Power to Establish Export Credits for Customer Generated Electricity	Civil No. 17-035-61

PHASE II VIRTUAL PUBLIC HEARING, DAY 1

TAKEN THROUGH ADVANCED REPORTING SOLUTIONS

Taken on September 29, 2020

at 9:02 a.m. to 4:58 p.m.

Reported by: Michelle Mallonee, RPR, CCR

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CHAIRMAN LEVAR: Okay. We will go on the record.

Good morning. We're here in Public Service Commission Docket 17-35-61 for the Phase II hearing in the application of Rocky Mountain Power to establish export credits for customer-generated electricity.

We have all three commissioners present here today, myself, Thad Levar, Commissioner Ron Allen, and Commissioner David Clark is on this video chat.

Why don't we start with appearances next.

So Rocky Mountain Power, will the attorneys representing Rocky Mountain Power just state your appearance for the transcript.

MS. WEGENER: This is Emily Wegener for Rocky Mountain Power. (Inaudible).

CHAIRMAN LEVAR: Ms. Wegener, you muted yourself after you began. So can you start over?

MS. WEGENER: Can you hear me now?

CHAIRMAN LEVAR: Yes.

MS. WEGENER: Okay. I'll start over.

This is Emily Wegener for Rocky Mountain Power. I have with me co-counsel, Jake McDermott. Also in a very large, socially-distanced conference room, I have

Joelle Steward, Jake Barker, and Jana Saba. In Portland, I have Robert Meredith and Dan MacNeil.

CHAIRMAN LEVAR: Thank you, Ms. Wegener.

We'll go to Division of Public Utilities next.

MR. JETTER: Good morning. This is Justin Jetter with the Utah Attorney General's Office, and I represent the Division of Public Utilities. And the division will present two witnesses at this hearing, Robert A. Davis and Abdinasir Abdulle.

CHAIRMAN LEVAR: Okay. Thank you, Mr. Jetter.

We will go to the Office of Consumer Services next.

Mr. Snarr.

MR. SNARR: My name is the Steven Snarr. I'm an assistant attorney general, and I'm representing the interests of the Office of Consumer Services in this case.

CHAIRMAN LEVAR: Okay. Thank you, Mr. Snarr.

We'll go to Vivint Solar next.

MR. MECHAM: Good morning, Mr. Chair and Commissioners. This is Steve Mecham. I represent Vivint Solar. Also on the call is Dr. Chris Worley, who is Vivint Solar's expert and will be testifying.

I will also be helping Ryan Evans, president of Utah Solar Energy Association, with getting his testimony

on the record.

CHAIRMAN LEVAR: Thank you, Mr. Mecham.

We'll go to Utah Clean Energy next.

MR. HOLMAN: Good morning. My name is Hunter Holman, and I am the attorney representing Utah Clean Energy. Kate Bowman is going to be our only witness in this hearing. She is also on the call.

And I will be helping Christopher Thomas with Salt Lake City present his testimony during this hearing.

CHAIRMAN LEVAR: Thank you, Mr. Holman.

We'll go to Vote Solar next.

MR. SELENDY: Good morning, Chair Levar. This is Philippe Selendy of Selendy & Gay. I'm here with my colleagues, Josh Margolin, Jennifer Selendy, Lauren Zimmerman, Shelby Rokito, and Spencer Gottlieb.

We will be presenting six witnesses. Our witnesses include Carolyn Berry, Sachu Constantine, Michael Milligan, Curt Volkmann, Albert Lee, and Spencer Yang. Thank you.

CHAIRMAN LEVAR: Thank you, Mr. Selendy.

Salt Lake City Corporation. Is Ms. DePaulis on the line?

MR. HOLMAN: I don't believe she is, Chairman Levar. I will be introducing Christopher Thomas' testimony in the hearing.

CHAIRMAN LEVAR: Okay. Thank you, Mr. Holman.

We have three parties who intervened who did not file any testimony. I just want to check and see if anyone is making an appearance today for those three parties.

Is there anyone on the line for Western Resource Advocates? I'm not hearing or seeing anyone.

HEAL Utah? I'm not seeing or hearing anyone.

And Auric Solar, LLC? Okay. I'm not seeing or hearing anyone from those three intervenors.

So why don't we start with Rocky Mountain Power.

Ms. Wegener, if you want to call your first witness, you can go ahead.

MS. WEGENER: The Company calls Joelle Steward.

CHAIRMAN LEVAR: Ms. Steward, do you swear to tell the truth?

THE WITNESS: I do.

CHAIRMAN LEVAR: Okay. Thank you.

Ms. Wegener, go ahead.

JOELLE STEWARD,

was called as a witness, and having been first duly sworn to tell the truth, the whole truth, and nothing but the truth, testified as follows:

DIRECT EXAMINATION

BY MS. WEGENER:

Q. Can you please state and spell your name.

A. It's Joelle Steward, J-O-E-L-L-E, S-T-E-W-A-R-D.

Q. What's your business address?

A. My business address is 1407 West North Temple, Salt Lake City, Utah.

Q. What's your position with the company?

A. I'm a vice president of regulation for Rocky Mountain Power.

Q. Did you submit direct, rebuttal, and surrebuttal testimony in this matter?

A. I did.

Q. Do you have any corrections to that testimony?

A. No.

Q. If I asked you the same questions in your testimony today, would your answers be the same?

A. Yes.

MS. WEGENER: I move to admit the direct, rebuttal, and surrebuttal testimony of Ms. Steward.

CHAIRMAN LEVAR: Okay. This is Thad Levar.

If anyone on the call objects to that motion, please unmute yourself and indicate your objection to the motion. I'll give you a few seconds for that.

Okay I'm not seeing or hearing any objection to

that motion, so the motion is granted.

Ms. Wegener, go ahead.

Q. (BY MS. WEGENER:) Ms. Steward, can you please provide a summary of your testimony?

A. Yes.

Good morning, Chairman Levar, Commissioner Clark and Commission Allen.

The last time I appeared before the three of you as a panel was in 2014. At that time, I was testifying about fixing cost shifting that we saw occurring from that metering. Here I am again, 6 years later. I'm still testifying about fixing cost shifting occurring from that metering. But we have made progress during that time.

The 2017 settlement stipulation in Docket 14-035-114 was a breakthrough on this issue where, after significant efforts with parties representing a diverse range of interests, agreed on a path forward that closed the old net metering program and began a transition to a new customer generation program.

In this filing, the Company is calling that new program structure the "Net Billing Program." Under the Company's proposed net billing program and consistent with the terms of the 2017 stipulation, new customer generators will continue to receive the retail rate,

approximately 10 cents a kilowatt hour, for the generation output that they use on site.

For the generation output that is not used on site and is exported to the grid, the Company is proposing to buy that output with a bill credit based on a rate that is consistent with what customers would pay for energy with similar characteristics. This structure provides customers compensation for the energy they export to the grid at a rate that reflects the market value for the power while not driving up costs to other customers.

Specifically, the Company requests approval of six different items in this application. First, approval of Schedule 137 for net billing service to new customer generators. This would be effective no later than January 1, 2021. The net billing tariff will provide export credits to customer generators for all energy they export to the grid from their generation service systems. This is for all energy that they don't use on site. For customer usage that continues to be served from the Company, those customers will continue to be billed under the standard applicable service schedule rate for all other similarly-situated customers. Customer generation that is consumed on site will offset those kilowatt hours and effectively provide compensation at the equivalent of

the retail rate.

Similar to the current transition program, excess exported credit will carry over and apply against the power and energy charges in subsequent monthly bills until the end of a customer's annualized billing period.

No. 2, approval of the methodology to calculate the export credit rate using one of the alternative approaches in Dan MacNeil's surrebuttal testimony. Mr. MacNeil presents export credit rate in two different ways based on some of the feedback from parties through this proceeding.

The first way is based on the approved methodology for forecasting qualifying facilities' avoided costs. This results in an initial average export credit rate of 1.53 cents per kilowatt hour.

Or the second methodology is based on the historical energy imbalance market prices, which result in an initial average export credit rate of 2.22 cents per kilowatt hour.

Under either approach, the Company proposes to differentiate the rate by time of day and season and to update the rate annually to be applicable to all program participants.

No. 3, a process to update the export rates annually. The Company proposes to file on April 30th

every year to reflect the most recent information on the inputs to the calculation consistent with the methodology approved by the Commission in this proceeding with a July 1 effective date for the annual export credit rate.

No. 4, approve a one-time, nonrefundable application fee of $150 for interconnection applications under Schedule 137.

No. 5, approve a one-time customer generation fee of $160 for interconnection applications. Both of these fees are discussed by Robert Meredith.

Lastly, close Schedule 136, which is the transition program, to new applications received after the Commission issues an order in this proceeding or no later than December 31st, 2020.

Now, several parties have proposed that the Commission delay -- continue to delay a full move to cost-based export rate in the name of gradualism. I think the Company's position on this has been rather clear. Gradualism has already been deployed for this issue. And it's also not relevant here because the new program is applicable to only new participants. So no customer is harmed by adopting the Company's proposal, but other customers will be harmed by higher rates for paying uneconomic credits for excess energy from customer generators under the transition program or for continuing

the old net metering program.

The net billing program structure and export credit rate calculations proposed by the Company in this proceeding, which is also supported by the Division of Public Utilities and the Office of Consumer Services, should be no surprise to parties in this case since it was essentially developed through the course of the proceeding in 2017.

We also already have 350 megawatts of installed customer generation in Utah that was able to take advantage of the net metering program and the transition program with fixed program structures and rates that provide a subsidy for an extended period of time, which is 2032 for the transition program and 2035 for the net metering program. Subject to the overall program cap for the transition program, customers still have through the date the Commission issues an order in this proceeding to submit an application to participate in that program.

In response to proposals to continue the transition program until that cap is reached, the cap that was agreed to in the 2017 stipulation which is a total of 240 megawatts, I want to note that this cap in this stipulation was not a target for the transition program. It was a backstop. Therefore, continuing the transition program until the cap is reached would be

contradictory to the 2017 stipulation and the compromises that the parties agreed to therein.

Rocky Mountain Power supports cost-effective renewable energy. We see it as an important part of our resource portfolio to provide safe, reliable, and low-cost service to our customers. But the energy we purchase from the customer generation energy program is not low-cost power. It's more than five times the cost we pay on the market for the same energy or that we could otherwise acquire through larger-scale renewable resources.

I urge the Commission to move to export credit rates that reflect the value of the energy that is provided to the grid. It is important to keep in mind that the new program participants will continue to receive the full retail rate value for all of the customer generation that is consumed on site behind the meter. This feature is consistent with the compromises made in the 2017 stipulation and continues a program foundation that customers should have the ability to offset their own usage with on-site generation. But we believe it is time to correct the cross subsidy from other customers for excess energy exported to the grid.

In addition to myself, Rocky Mountain Power has three other witnesses to support our filing. Robert

Meredith is the director of pricing and cost of service and testifies on the program details. Jake Barker is the director of transmission planning and power quality in response to issues on distribution and transmission system planning and capital investments. And lastly, Dan MacNeil, who is the resource and commercial strategy advisor with the Company, and supports the methodology for the calculation of export credit rates.

And that concludes my summary.

Q. Thank you.

MS. WEGENER: I have nothing further. Ms. Steward is now available for cross-examination.

CHAIRMAN LEVAR: Thank you, Ms. Wegener.

Why don't we go to Mr. Jetter first.

Mr. Jetter, do you have any questions for Ms. Steward?

MR. JETTER: I have no questions, thank you.

CHAIRMAN LEVAR: Thank you, Mr. Jetter.

Mr. Snarr, do you have any questions for Ms. Steward?

MR. SNARR: We have no questions for Ms. Steward.

CHAIRMAN LEVAR: Thank you, Mr. Snarr.

I will go to Mr. Mecham next. Mr. Mecham, do you have questions for Ms. Steward?

MR. MECHAM: Yes, just a couple. Thank you.

CROSS-EXAMINATION

BY MR. MECHAM:

Q. Ms. Steward, in your summary as well as in your direct testimony, you note that the Company is supportive of cost-effective renewable energy. And then in your direct testimony, you elucidate the various areas where you believe the Company is supporting or showing they -- support for renewables.

How does the Company -- you noted that the -- your view of rooftop solar is, is that it's not -- it's high cost, it's not necessarily efficient.

Does the Company ever think of this as a resource, a possible resource, rooftop solar?

A. First and foremost, we see this program as an opportunity for customers to supply their own energy to, you know, maintain some control over their bills, to maintain some independence, although for the most part, these customers remain connected to the grid, so they are still entirely dependent on our system.

And so the excess energy, you know, is not necessarily very material at this point to be considered a firm resource. We still have to plan to serve those customers' loads.

So I would really characterize it more as a program option for customers to serve themselves.

MR. MECHAM: Okay. Let me -- Mr. Chair, may I -- you know, the parties -- I should have noted this at the outset. But the parties among themselves agreed that Vote Solar, generally speaking, could do their cross-examination first. And I've sort of gone out of order of that. But is that -- I've just got another question or two of Ms. Steward. But following that, is that something that we could follow thereafter and have the attorneys from Selendy & Gay do their cross-examination in advance of the other lawyers in this matter?

CHAIRMAN LEVAR: This is Thad Levar.

Mr. Mecham, if you and Mr. Holman are in agreement with that, and if all the attorneys from Selendy & Gay are in agreement with that course, then I will be happy to do that going forward.

MR. HOLMAN: That's fine with me, Chair Levar.

MR. SNARR: Yeah, and --

CHAIRMAN LEVAR: So Mr. Snarr, you go ahead and finish your cross-examination of Ms. Steward, and then I'll move to Selendy & Gay next.

MR. SNARR: And then if possible, depending on what Ms. Steward, how her responses go with Selendy &

Gay, those lawyers, then I may have a couple of additional cross questions, if that's okay.

CHAIRMAN LEVAR: We are typically flexible for issues like that, and I don't see any reason not to be today.

MR. SNARR: Thank you. I appreciate that.

Q. (BY MR. SNARR:) Ms. Steward, did you have an opportunity to read Dr. Worley's surrebuttal testimony?

A. Yes, I did.

Q. And do you remember in that testimony that he cited the Company's Form 10K and statements that were made to the Securities Exchange Commission in that form? It's actually Lines 215 to 222 in his testimony, surrebuttal testimony.

A. That is on my laptop, and I just got locked out, so one second.

Could you repeat the line number, please?

Q. Yes, Lines 215 to 222.

A. Okay.

Q. Do you see that? Could you read that, and then I've just got a couple of questions.

A. From 215 to 222?

Q. Yes.

A. "A significant sustained decrease in demand for electricity or natural gas would decrease its operating

revenue, could impact its planned capital expenditures, and could adversely affect its financial resolve. Factors that could lead to a decrease in market demand include, among other things, efforts by customers, legislators, and regulators to reduce the consumption of electricity generated or distributed through various existing laws and regulations as well as deregulation, conservation, and energy efficiency and private generation measures and programs."

Q. So based on that last phrase in particular, doesn't customer investment and behind-the-meter solar energy reduce Rocky Mountain Power's demand for energy?

A. Yes, it reduces customer demand, just as all of our energy efficiency programs do.

Q. And does that reduction in demand mean that Rocky Mountain Power may not need to invest in planned capital expenditures?

A. Well, yeah. You have to put it in the larger context of how much load gross we're seeing versus reduction in demand. But altogether, we look at a load resource balance through our IRP process to determine the need for new investments.

Q. And is that a -- well, is rooftop solar a competitive threat in any way? Does it challenge your financial performance?

I'm sorry. Am I just hearing feedback, or did I hear something else?

A. Yeah. You heard some feedback from another room nearby.

Q. Okay. I mean, the statement says any of these things could adversely affect financial results.

Is that a competitive threat to Rocky Mountain Power, rooftop solar customers?

A. I wouldn't characterize rooftop solar customers as a competitive threat. I mean, certainly we are in a much more growing environment for competition. The reduced demand does influence our overall load resource balance. But we are still adding new resources, as you can see in the IRP. So it is still a feature of trying to find least cost/least risk resources; and oftentimes, when customers can reduce their peak consumption, that reduces our need for resources.

Q. And is the reduction in demand a financial risk for PacifiCorp/Rocky Mountain Power?

A. It's -- I wouldn't -- it's a combination of many things. I mean -- and again, we don't just look at the reduction of demand on its own. But when demand goes down and for the most part our costs are fixed, that's an increase of costs just from denominator/numerator math. That results in an increased cost to other customers just

to pay for our existing resources since we are largely capital intensive.

Q. Okay.

MR. SNARR: I think at this point, I'm going to suggest that the Selendy Gay lawyers move forward, and I'll come in later again, I hope.

CHAIRMAN LEVAR: Thank you, Mr. Mecham.

Mr. Selendy or someone else from your team, do you have some questions for Ms. Steward?

MR. GOTTLIEB: Good morning, Chair Levar. My name is Spencer Gottlieb from Selendy & Gay on behalf of Vote Solar.

CROSS-EXAMINATION

BY MR. GOTTLIEB:

Q. Good morning to you, Ms. Steward.

A. Good morning.

Q. You oppose a return to net metering, right?

A. Yes.

Q. You say that a return to net metering violates the settlement stipulation from the previous docket, right?

A. Yes.

Q. And the Commission so ordered that stipulation, correct?

A. Correct.

Q. But the Commission's order didn't say that a return to net metering was off the table, right?

A. The Commission's order adopted the settlement stipulation. The settlement stipulation capped net metering customers -- the net metering program, and all parties in that stipulation agreed to move to a new transition program.

Q. I understand what the parties agreed to, but I think my question was a little different.

The Commission did not say that it could not return to net metering in this proceeding, right?

A. The Commission capped the program but no, I don't believe they said they couldn't return to net metering.

Q. Okay. And in fact, the Commission in that order had said it had not yet determined if net metering's costs exceeded its benefits, rights?

A. That's correct, because that issue was delayed because net metering is in existence through 2035.

Q. Okay. And it hasn't done that. And the Commission actually said in that order that, given the additional load studies and the other data that would be collected after that order, it would be in a better position to do that now, right?

A. It said at a later date. It did not say now.

And in fact, the stipulation identifies the scope for this proceeding to be -- to determine the export credit for the transition credit program, or for the post transition program and post net metering program.

Q. So is your position that there should be another proceeding to determine whether net metering's costs exceed its benefits?

A. I think when the Commission feels that that decision needs to be made to ultimately end that metering, yes, there should be a different proceeding for that.

Q. And if the Commission decides that now is the time for that decision to be made whether net metering is part of a just and reasonable export credit rate, the Commission could do that now, right?

A. I think that's outside the scope that was established for this proceeding.

Q. But it could do that, right?

A. No, I don't think so. I'm not an attorney, but I don't believe that would be appropriate. That's not the record that we have before us.

Q. Can we please pull up Tab 3.

I show you part of the Commission's letter,

Ms. Steward, with the help of one of my colleagues.

So we'll start right here, where you see that it says the statute requires -- requires the PSC to determine "whether costs that the electrical corporation or other customers will incur from a net metering program will exceed the benefits of the net metering program, or whether the benefits ... exceed the costs."

You see that part, right?

A. Yes. And this is the order from the 2017 docket; is that correct? 2014. Yeah. Okay.

Q. Yes. This is --

A. Correct. That is the statute.

Q. Okay. That --

A. That was the issue that was to be addressed in that proceeding, and that resulted in a stipulation that closed net metering.

Q. Okay. So then we'll turn to page 9 of that, which if we just scroll down I believe is our next excerpt.

And the Commission says right here in the yellow highlighting that while the settlement that you reference, Ms. Steward, caps the net metering program and resolves rates for a period of time, the evaluation statute will continue to pertain.

And the next sentence says: "That is, the

Settlement" -- again, that you referenced, Ms. Steward -- "does not operate to annul our obligations under Subsection One, rather, it prolongs them," right?

So the Commission explicitly said here that the settlement that you and other private parties entered into does not annul its obligations to determine whether net metering's costs exceeds its benefits?

A. Correct.

Q. Is that correct?

A. It points it to at a future date.

Q. And this is the Commission's order on the settlement, right?

A. Yes.

Q. This is what applies, not the language of the settlement that RMP and other private parties agree to, right?

I'll rephrase that question. I'll rephrase that question.

A. Yes.

Q. The parties' stipulation does not supersede what the Commission's order says, right?

A. No. But this also doesn't address the scope for the current proceeding, which was established by the settlement agreement.

Q. So is your position that the Commission no

longer has to determine what we showed you on page 1 under that statute?

A. No. In fact, I very distinctly said that's not the case, that that would be determined at a future date, as the Commission said in that order, that that is not the position -- or the proceeding we're in right now.

Q. Okay.

A. Because net metering continues on through 2037 at this point in time.

Q. But you would agree with me that the Commission has the right to determine that net metering is a component now of a just and reasonable export credit rate, correct? It has that right to do that?

A. Again, you know, I will defer to the Commission. I think it would be the position of myself and the Company that that is outside the scope of this proceeding. That is not the record that has been laid out before the Commission.

Q. So that's a yes, they have the right to do that?

A. Certainly.

Q. Thank you. Okay. I'd like to turn your attention to what happened after the prior net metering program ended.

The settlement stipulation replaced the net metering program with the transition program, right?

A. Yes.

Q. And under net metering, customer generators were paid full retail rate for their exports, right?

A. Well, it was a kilowatt hour credit. So yes, until it reached the end of the annualized billing period, they received compensation at the fuel retail rate.

Q. Right. And under the transition program, that rate went down to 9.2 cents per kilowatt hour, at least for residential customers, right?

A. That's correct.

Q. And RMP is a party to that stipulation, as we've already discussed --

A. Yes.

Q. -- right? Yes.

And RMP agreed then that 9.2 cents was a just and reasonable rate for CG exports, correct?

A. We agreed in light of that comprehensive stipulation that that was reasonable for the transition period while we developed and had the export -- the load research study that occurred the following year and which brings us to this proceeding.

Q. Well, I understand that you just conditioned it as reasonable for the transition program. But what that stipulation actually says is that it was just and

reasonable in result and will result in rates that are just and reasonable, right? It doesn't say just and reasonable for the transition program.

A. The whole stipulation was in the context of the transition program with the compromise the parties made to close net metering and to, effectively, deploy gradualism on this issue.

Q. So I believe that you said it was just and reasonable then. And I heard you mention in your opening statement that RMP was -- that the transition program's rate affected a subsidy.

Did I hear that correctly?

A. Yes.

Q. Okay. But the settlement doesn't say that that rate results in a subsidy, right?

A. It doesn't, but it's very apparent in our rate making. In fact, we have calculated that. And that subsidy is calculated and flowing through our energy balancing account right now. And for 2019, it's calculated at $1.6 million for customers that were part of the transition program through 2019.

Q. Okay. So not only did it not say that the transition program's rate resulted in a subsidy, which you just testified to, but in this proceeding, you haven't quantified any subsidy under the transition

program, right?

A. We did not because we're proposing a new program. But the stipulation does identify how the above-market costs are calculated to flow through the energy balancing account. So it does implicitly acknowledge there are above-market costs.

Q. Ms. Steward, that figure you just referenced about the amount of money in the energy balancing account, that's nowhere in the record in this proceeding, right?

A. In this proceeding, no, it's not. It's in our energy balancing account proceeding.

Q. Okay. It's not in the record.

And you would agree that RMP's proposed rate today is 1.53 cents, or alternatively 2.22 cents per kilowatt hour, right?

A. That's the value we've calculated for equivalent energy, yes, essentially the market value of that energy at this point in time.

Q. And you believe that's just and reasonable, right?

A. (Inaudible).

Q. That was a yes, right?

A. Yes.

Q. So in 3 years, what RMP views as just and

reasonable for CG exports has decreased about 80 percent, hasn't it?

A. Our position -- well, we actually cited similar numbers in that proceeding that, again, resulted in a settlement compromise leading us to now, where we are proposing where we move directly to those cost-based rates. And yes, it is a decrease.

Q. About an 80 percent one, right?

A. Yes.

Q. Okay. And your position is also that the decrease in compensation from net metering to the transition program didn't curtail the growth of customer generation, right?

A. Could you repeat that or point me to that?

Q. Sure. Your position is that the decrease in compensation from the net metering program to the transition program did not slow CG growth, right?

A. I don't think I ever said that. We did see a drop in applications as we moved to the new transition program.

Q. Can we please bring up Tab 9.

You can see a question and answer here from your rebuttal testimony. And the question is:

"Several of the parties point to reduced growth in customer generation interconnections since the

beginning of the Transition Program as evidence that it is detrimental to the solar industry. Do you agree with this characterization?"

"No."

That's your testimony, right?

A. Yes, but that's a different point than the question you just asked me.

Q. Okay. Well, let me back up just one second.

You don't believe that the transition program has led to a decline in CG growth, right?

A. Well, my very last sentence in that paragraph on Line 107 to 109 recognizes that there was a near-term moderation in the growth of new applications, which was expected as the incentive structure was adjusted.

Q. So that's a no, you don't believe the transition program led to a decline in CG growth, right?

A. No, that's not what I said. I mean, we saw a decline in applications. That's factual. As the transition program structure was adjusted to, and we started to see the uptick again in those applications. But we're not still at the point we were in 2017.

Q. No. In fact, every year since 2017, the number of applications has declined, hasn't it? What's in the record, 2017 to 2018 to 2019, that has been a decline year over year, right?

A. You'd have to point that to me in the record. I don't recall there's been a decline year over year.

Q. Sure. Can we please bring up Tab 11.

I'm going to show you a chart from Dr. Berry's testimony. It pulls the data, as you can see here in the footnote, from RMP's discovery responses.

You see here the chart, "Yearly Additions of CG Installed Capacity." You would agree with me that the settlement in 2017, from 2017 to 2018, there was a decline, right?

A. Yes.

Q. You would also degree with me that from 2018 to 2019 there was a decline?

A. I'm having trouble following the -- it's a little too small on there. That 2019 number, I'm not sure. I haven't looked at this data. I mean, this is from April.

That does not look correct to me that that 2019 light blue is that low for 2019.

Q. Okay. To be clear, no one from RMP or any other witness has objected to Dr. Berry's testimony, right, on this chart that you're aware of?

A. No, not that I'm aware of.

Q. And you also see -- or if we zoom in, you can see that the data from this is Dr. Berry's citation as to

RMP's responses, right? So this is data that you supplied, RMP supplied, right?

A. Apparently, yes.

Q. Okay. And accepting what that chart shows to be a reflection of the data RMP provided, this shows a decline in CG solar after the transition program took effect, right?

A. Yes, for residential. It doesn't look to be the case for commercial.

Q. Okay. But total additions of CG solar, including residential, have declined?

A. Yeah, subject to check of looking at the dates of what the data was.

Q. I see that the citation refers to April 22nd. But representing that that's analyzed throughout 2019, you would agree that that's a decline, right?

A. As it's shown there, yes.

Q. Okay. Your position, which you repeated in your opening testimony, is that RMP intends to pay customer generators for the market value of their exports, right?

A. Yes.

Q. RMP's position is that customer generators should not be overpaid for the value of their exports, right?

A. Yes.

Q. Because that would be a subsidy to customer generators, wouldn't it?

A. Yes.

Q. And the Commission should not adopt a rate that results in a subsidy, right?

A. Correct.

Q. But you'd agree the customer generator shouldn't be underpaid for the value of their exports either, right?

A. Sure.

Q. Because that would be a subsidy to noncustomer generators, right?

A. Correct.

Q. So you would agree -- we would both agree that the Commission should not adopt a rate that creates a subsidy in either direction, right?

A. Consistent with all our rates, they should be cost-based rates to the greatest extent possible.

Q. But the Commission should not adopt a rate that creates any type of subsidy going to or from customer generators, right?

A. Our position is that that subsidy be fixed now and moved to a market-based rate, yes.

Q. I think you --

A. -- can't go backwards from what we've already

agreed to. Those subsidies already exist.

Q. But my question was about the rate that the Commission will adopt after this proceeding. And my question was that the Commission should not adopt any rate in this proceeding that would result in a subsidy going either to or from customer generators, right?

A. Correct. It should be cost-based.

Q. Okay. No subsidy in any way should be adopted, right?

A. Correct. It should be cost-based.

Q. Okay. And to know whether a subsidy exists under the net metering program specifically, you would need to value the costs and benefits of serving the customers who participate in that metering, right?

A. Yes. So we weren't looking at the net metering program, we were looking on the export credit itself and the excess energy that goes onto the grid and what that should be paid.

Q. Right. You didn't value the costs of the net metering program, right?

A. Correct.

Q. You didn't value the benefits of the net metering program, right?

A. Correct.

Q. So you haven't actually done the work to allow

this Commission to determine whether a subsidy existed under the net metering program, right?

A. We did that work in 2017. That was the scope of that proceeding that resulted in where we are today, which is looking at a new program structure that addresses exported energy and how to place the proper valuation for the exported energy.

Q. I want to clarify: The Commission never determined that the costs of net metering exceeded its benefits, right?

A. No. Because the cap on the metering resulted in a stipulation of the parties.

Q. And we have seen the order for that stipulation. But my question is: You did not introduce evidence in this proceed of the costs and benefits of net metering, right?

A. Correct. That was outside the scope of this proceeding.

Q. Great. And you have said that customers -- I believe you said in your opening -- would see full retail rate for the energy they consume and use behind the meter, right?

A. Essentially, yes, by avoiding purchases.

Q. Right. What you're saying is that if a customer generator produces energy by themselves and consumes the

energy they produce, RMP is not going to charge them for that energy, right?

A. Right. And we're also not proposing any changes to the rates they would otherwise pay. They will get the same retail rate as the other residential customers, for instance.

Q. But you're simply not going to charge them or change their rates based on energy that they consume and produce without any involvement by RMP, right?

A. Correct. And that was the compromise we reached in the stipulation.

Q. And to be clear, RMP hasn't quantified any benefits from that behind-the-meter usage in this proceeding, right?

A. No. Again, that's outside the scope of this proceeding.

Q. Okay. And you haven't quantified any costs associated with that behind-the-meter usage, right?

A. No.

Q. You also stated in your opening that that behind-the-meter usage benefits RMP by lowering its need for resources, right?

A. It reduces demand, yes.

Q. And that's a benefit?

A. Generally, yes.

Q. Every time a customer uses energy behind the meter, that benefits everyone else, including RMP, right?

A. Yes, particularly if it's during the peak periods. And that's why they're getting compensation at the full retail rate of about 10 cents per kilowatt hour.

Q. Okay. Ms. Steward, I'd like to turn your attention to the proposal that excess credits expire each year.

And RMP supports that, right?

A. Yes.

Q. Those are credits that customer generators earn by exporting energy back to the grid, right?

A. Yes.

Q. And RMP sells these exports to other ratepayers, right?

A. Where they come onto our system and become part of our resource mix, essentially, yes. They are part of our system energy.

Q. Right. And you sell that energy back at full retail rate, right?

A. Well, we receive compensation from other customers at the full retail rate for their service, which includes energy as well as demand and all of our transmission and distribution investments and (inaudible) programming requirement.

Q. So that's a yes, you sell the energy at full retail rate, right?

A. The energy is a component of the full retail rate.

Q. Do you sell the energy back below full retail rate?

A. No. But we don't put the energy --

Q. You sell the energy back --

A. It's misleading to characterize the energy value against the retail rate. Those are two different things. One is a component of the bigger picture. Other customers also pay the retail rate.

Q. I'm just asking you whether the energy that you sell to other customers that you receive from those exports is sold back at the full retail rate.

And the answer to that is yes, right?

A. Other customers pay the full retail rate, yes.

Q. Okay. And the value of the expired credits would be credited to all customers as part of the energy balancing account, right?

A. Yes, or whatever other mechanism the Commission determined would be in the public interest, such as through increase in funding for the low income programs.

Q. Okay. That would lower other ratepayers' utility bills, right?

A. Yes.

Q. So that's a subsidy from customer generators to everyone else, right?

A. In a sense it is. But it's still -- we're still -- these are not power producers. They are still getting compensation or have that opportunity to be fully compensated for the energy they produce.

Q. And we also agreed before that the Commission shouldn't adopt any proposal that results in a subsidy, right?

A. Yes. But we also want to ensure customers are right sizing their facilities.

Q. Okay. Well, we'll get to that in a second.

You would agree that a rational customer would want to minimize the amount of credits that expire, right?

A. Yes.

Q. And you would also agree that after a rooftop solar system is installed, generators generally can't control production, right?

A. Right. It's non-firm energy, yes.

Q. I think my question was a little different.

Once a rooftop solar system is installed on your roof, you really can't control how much is produced, right, no matter what you do?

A. Generally, yes.

Q. Generally, yes. But they can, to a certain extent, control consumption, right?

A. Yes.

Q. So generally, consumer generators who want to reduce the amount of exports that they have could only do so by consuming more and exporting less, right?

A. Right.

Q. Even during times of peak demand, a customer in danger of having credits expire would be incentivized to customer more and export less, right?

A. Yes.

Q. And consumption for consumption's sake is not an efficient use of energy, right?

A. When it doesn't come onto our system, it doesn't matter to us. It's not energy that is affecting other customers if they're using it while their energy -- while their generation is operating.

Q. If customer generators use the energy they produce rather than exporting, that doesn't aid other customers, right?

A. It also doesn't hurt other customers. But correct, it doesn't aid other customers.

Q. Even during times of peak demand, right?

A. Yes. But it's not -- they're not contributing

to the peak, so it doesn't seem relevant.

Q. Okay. You say without this expiration feature, there's a risk customer generators will oversize their system. I believe you just said that a couple of moments ago, right?

A. Right.

Q. And that customer generators might become mini wholesale power producers, right?

A. Right.

Q. Do you quantify that risk in your reports?

A. The risk of what?

Q. The likelihood of either of those happening.

Do you quantify that in your reports?

A. I don't recall. I didn't in my testimony. I don't know if Mr. Meredith did. I'm trying to recall.

But the point of the program is to enable customers to offset their own usage.

Q. Right. It's not to incentivize consumption, for instance, during peak demand periods, right?

A. Right. It's not to incentivize becoming a power producer.

Q. Well, let's go back to that.

Can you show me any evidence in your reports that would allow the Commission to quantify the risk that someone will try and become a mini wholesale power

producer?

A. No.

Q. Okay. So you can't show me any evidence in your reports that would allow the Commission to determine that, right?

A. I don't think it is necessarily evidentiary. I mean, it's conceptually easy to grasp, I think.

Q. Right. But if we're talking about the likelihood or the risk or the magnitude, there's nothing in your reports that could allow the Commission to determine any of those things, right?

A. No. I'm not even sure how we would present that quantitatively.

Q. Okay. I'd like to pull back up one exhibit because I did have a follow-up question on the Commission's order on something you said, which I believe was my Tab 3.

Do you recall when you testified that the order from the previous docket was a separate order that didn't apply here?

A. Yes.

Q. Okay.

A. So, I don't know that I said that. It certainly established the scope for this proceeding.

Q. Okay. Well, let me ask you: Do you remember

when we talked about how the Commission said that that order did not annul their obligations to determine whether the costs of net metering exceeded its benefits?

A. Yes.

Q. Okay. So I'd like to show you what's highlighted here in Footnote 9. And you see where it says: "As a practical matter, we acknowledge the findings we would make in a docket devoted to fulfilling Subsection One will be largely subsumed in the Export Credit Proceeding."

This is that export proceeding, right? If it would help you, I can go back and show you what Subsection 1 is, although we looked at it before. And I can represent that Subsection 1 was on page 1.

I'll show you Subsection 1 here first, right here.

A. Right.

Q. The statute requires PSC to do this, which you agree is whether the cost of net metering exceeds it benefits, defined as Subsection 1.

A. Okay.

Q. And then we'll go back to page 9, in Footnote 9.

And you agree the Commission here says that the findings in a docket devoted to fulfilling that subsection will be largely consumed [sic] in the export

credit proceeding?

A. "... and in general rate cases we are likely to consider between now and the conclusion of the Grandfathering Period."

Q. This is that export credit proceeding, isn't it?

A. Yes. But it also doesn't say it will be explicitly determined in this proceeding. It says: "And in general rate cases we are likely to consider between now and the conclusion of the Grandfathering period."

Q. Ms. Steward, are you aware of any other export credit proceeding that the Commission is going to hold to determine an ECR for CG solar?

A. No, this is the export credit proceeding. But again, I don't believe most parties treated that as the scope of this proceeding. The settlement stipulation called out the scope for those proceeding like the export credit itself.

Q. And that sentence doesn't say, Export credit proceeding or the general rate cases, right? It says "and," doesn't it?

A. It does, but it doesn't mean that the Commission has to make that determination at the conclusion of this proceeding.

Q. I understand your position.

A. This proceeding may ultimately help lead them to

that conclusion but as part of a longer process.

Q. This highlighted connection controls the scope of this proceeding, right?

A. I don't know that that's --

Q. Let me withdraw that question. I'll ask you a new one.

The stipulation does not control this proceeding, right?

A. I would argue it does.

Q. You would argue that a stipulation between private parties controls what the Commission can do here now in this proceeding; is that your position?

A. I think the stipulation established the scope for this proceeding.

Q. So that's a yes, your position is that the stipulation supercedes the Commission's own order?

A. I don't believe that's what the Commission order says, so I don't believe it supercedes it.

Q. I do have just a couple more questions for you. I'd like to turn your attention to rooftop solar's economic benefits.

Your position is that there is a greater positive impact on the economy from RMP's ability to provide low-cost electricity to all of its customers than from the rooftop solar industry, right?

A. I don't recall exactly saying that. But generally, yes. Low-cost power, I think, benefits the wider economy of Utah.

Q. We'll pull up Tab 20 so we can show you your testimony.

A. Okay. Are you looking in the rebuttal or direct?

Q. I'm looking in your rebuttal, and I'll pull it up right here, starting at Line 115.

"Parties' claim that the Company's proposal could affect the growth of the solar industry and related jobs in Utah fails to acknowledge the greater positive impact on the economy from maintaining the Company's ability to provide low-cost electricity to all of its customers."

That is your testimony, right?

A. Yes, and that seems consistent with what I said. I just don't have my testimony memorized.

Q. Okay. But to determine whether a source of power is low cost, you would have to determine the costs and benefits associated with that source of power, right?

A. Correct, which is what Mr. MacNeil does in his testimony.

Q. Okay. You don't actually do that work for any source of power, right?

A. Right.

Q. And can you point to anything in your reports that quantifies the likelihood or the magnitude of an increase in the cost of electricity because of solar energy?

A. No. I don't believe I quantify that in my testimony.

Q. Thank you. I have no further questions.

CHAIRMAN LEVAR: Thank you, Mr. Gottlieb.

As we discussed before, why don't we go back to Mr. Mecham at this point.

Mr. Mecham, do you have any follow-up questions for Ms. Steward?

MR. MECHAM: I don't at this point. Why don't we go to Mr. Holman.

CHAIRMAN LEVAR: Mr. Holman?

MR. HOLMAN: Thank you, Chair Levar. I just have a few questions for Ms. Steward.

CROSS-EXAMINATION

BY MR. HOLMAN:

Q. Good morning, Ms. Steward.

A. Good morning.

Q. I'd like to talk about a line in your surrebuttal testimony, if you have it in front of you. I

don't need to share my screen, but if you'd prefer, I can share my screen.

A. I have it.

Q. Okay. The line begins on 113 of your surrebuttal testimony. And you say: "By the time the new export credit rates and Schedule 137 are implemented in this proceeding, the solar industry will have had almost 7 years to adapt to the changes."

Is that the correct reading of your testimony?

A. Yes, it is.

Q. Can I ask you to clarify what you mean by "changes" in that sentence?

A. The changes of moving and changing from the net metering program to a new program that reduces cost shifting.

Q. So the change that the solar industry is adapting to in this sentence is effectively the new export credit rate in Schedule 137, correct?

A. Yes.

Q. Do either the new export credit or Schedule 137 currently exist?

A. No. But Schedule 137 is very similar and largely mirrors 136, with the exception of the rate itself.

Q. So the Commission has yet to identify the new

export credit rate that it's going to incorporate into Schedule 137. You would agree with that?

A. Yes.

Q. So the solar industry has not had almost 7 years to adopt to the export credit because the new export credit doesn't exist; is that correct? Would you agree with that?

A. It doesn't exist. But there is a known change that was coming that we've been working on addressing the cost shifting for 7 years. But the structure we established isn't essentially the same in the 2017 proceeding. And, in fact, we were very transparent about what we thought that rate should be in that proceeding.

Q. Rocky Mountain Power was very transparent, but the Commission didn't agree with Rocky Mountain Power. It didn't establish Rocky Mountain Power's proposal in that proceeding as the new export credit rate, correct?

A. Correct, because it approved a stipulation.

Q. Right. And a stipulation doesn't predetermine any particular consideration that the Commission will use to determine the new export credit rate, will it? Does it?

A. No.

Q. And the stipulation actually affords parties quite a bit of leeway in presenting whatever evidence

they want, so long as that evidence is substantiated with quantifiable showings proposing any export credit that they want, correct?

A. Correct.

Q. So the settlement stipulation doesn't actually provide the solar industry any particular clarity on what the Commission is ultimately going to identify for the new export credit, does it?

A. It doesn't. Ultimately, we don't know what the Commission will determine. But the direction we've been taking this has been consistent for many years.

Q. Okay. Thank you, Ms. Steward.

MR. HOLMAN: I have no further questions.

CHAIRMAN LEVAR: Thank you, Mr. Holman.

Why don't we go back to Ms. Wegener.

Do you have any redirect for Ms. Steward at this point?

MS. WEGENER: I don't have any redirect. Thank you.

CHAIRMAN LEVAR: Okay. Thank you.

Commissioner Allen, do you have any questions for Ms. Steward?

COMMISSIONER ALLEN: No questions from me. Thank you.

CHAIRMAN LEVAR: I'm sorry. I talked over you.

Can you say that again?

COMMISSIONER ALLEN: No questions. Thank you.

CHAIRMAN LEVAR: Thank you, Commissioner Allen.

Commissioner Clark, do you have any questions for Ms. Steward?

COMMISSIONER CLARK: No questions for Ms. Steward. Thank you very much.

CHAIRMAN LEVAR: Okay. Thank you. I have a few.

CROSS-EXAMINATION

BY CHAIRMAN LEVAR:

Q. The first is just a clarification. I heard you say something in your summary that, to my understanding, was a little bit inconsistent with your application. So I just want to make sure I heard you right.

I thought I heard you in your summary refer to the fact that new applicants would be able to receive the transitional rate up until the date the Commission issues an order in this docket. My understanding of the application was that new applicants could receive the transitional rate up until January 1st even if our order is issued sometime between now and January 1st.

Am I misunderstanding your summary, or am I misunderstanding the application?

A. I'm not sure. I mean, I think you could go up to January 1st. But I think the stipulation -- now I can't recall if we actually did digress between the stipulation and our application. But the stipulation said from the date of the Commission order or no later than the 31st, I believe.

Q. Okay. Thank you. I think that answers the question I had.

A couple other things I wanted to ask about. On the issue of expiring credits and the policy that you've espoused to prevent overbuilding, does an annual expiration become less relevant to you and less important to you if the export credit rate is, in your view, more accurate than what you consider it to be right now? If the rate -- if the rate -- if there's a rate that, in your view, fairly compensates for the right value, is annual expiration really still relevant at that point?

A. It is certainly very much less relevant if it's a cost-based rate. But again, generally, the program is designed to -- for customers to offset their own usage not just to become power producers. But if it's cost-based, we are certainly less concerned about a cap.

Q. My only other question is a hypothetical, and so I'll say please don't read anything into this hypothetical.

A. Okay.

Q. As we're considering potential options on this case. This is with respect to the frequency of updates to the export credit rates.

A. Okay.

Q. The parties seem to be either proposing an annual update or a 20-year fixed credit. Parties have not advocated for updating the rates at each general rate case. No specific party has advocated that. Again, this is hypothetical. Don't read anything into it.

But if as a commission we were considering updates at general rate cases rather than annually, would that require any adjustments to how we initially calculate the initial rates for export credit?

A. You know, I'm not certain. I would actually want to defer that to Mr. MacNeil since he's the one that calculates that.

You know, we certainly try to stay out of rate cases as much as possible, so there could potentially be a lengthy delay between when that's updated. And the risk of not keeping it current, I think, would -- or any modification I think would better be -- be better addressed by Mr. MacNeil.

CHAIRMAN LEVAR: Okay. Thank you, Ms. Steward. That's all of my questions. And I think that concludes

your testimony this morning. Thank you for participating with us.

THE WITNESS: All right. Thank you.

CHAIRMAN LEVAR: Why don't we take -- we're a little bit early for taking a break. But why don't we go ahead and take a 15-minute break right now, and then we'll return and let Rocky Mountain Power call their next witness.

So we'll be in recess for 15 minutes from now. Thank you.

(A break was taken from 10:10 a.m. to 10:26 a.m.)

CHAIRMAN LEVAR: We'll go back on the record.

And we'll go to Ms. Wegener for your next witness.

MS. WEGENER: The Company calls Robert Meredith.

CHAIRMAN LEVAR: Okay. Mr. Meredith, are you with us?

THE WITNESS: I am.

CHAIRMAN LEVAR: Do you swear to tell the truth?

THE WITNESS: I do.

CHAIRMAN LEVAR: Okay. Thank you.

Ms. Wegener.

ROBERT M. MEREDITH,

was called as a witness, and having been first duly

sworn to tell the truth, the whole truth, and nothing but the truth, testified as follows:

DIRECT EXAMINATION

BY MS. WEGENER:

Q. Mr. Meredith, can you please state and spell your name for the record.

A. Sure. My name is Robert M. Meredith. That's R-O-B-E-R-T, last name is spelled M-E-R-E-D-I-T-H.

Q. What's your business address?

A. It is 825 NE Multnomah Street, Suite 2000, Portland, Oregon 97232.

Q. What's your position with the Company?

A. I'm the director of pricing and cost of service for PacifiCorp.

Q. In that capacity, did you submit direct, rebuttal, and surrebuttal testimony in this matter?

A. Yes, I did.

Q. Do you have any corrections to that testimony?

A. No, I do not.

Q. If I asked you the same questions in your testimony today as written in what you submitted, would your answers be the same?

A. Yes, they would.

MS. WEGENER: I move to admit the testimony of

Robert Meredith, direct, rebuttal, and surrebuttal.

CHAIRMAN LEVAR: Thank you.

If any party objects to that motion, please unmute yourself and state your objection. I'll just give a few seconds for anyone to do that.

I'm not seeing or hearing any objections, so the motion is granted. Thank you.

Q. (BY MS. WEGENER:) Mr. Meredith, could you please provide a summary of your testimony.

A. Yes. Good morning, Chair Levar, Commissioners Clark and Allen.

Rocky Mountain Power's proposed net billing program is just, reasonable, in the public interest, and fair for all customers. The purpose for customer generation programs has always been to give customers an opportunity to offset their energy usage with on-site renewal power. Net billing does that by preserving the same retail rates that any other similarly-situated customer would pay for all the energy that the Company supplies them and being compensated for energy that they export to the grid at a price that holds other customers economically indifferent from a purchase of energy from their neighbor's rooftop solar system or any other source of energy.

Netting exports and energy deliveries over a

longer time frame, such as an hour or 15 minutes, masks the actual service the Company provides customer generators and adds unnecessary complexity for participants and for the Company.

The application and metering fees recommended by the Company for the net billing program are fair and reasonable and ensure participants appropriately pay the costs they create.

Batteries should be added to the list of eligible technologies on the net billing program so that customer-sided storage can be interconnected efficiently and safely. Inclusion is particularly important now that the Company has filed its Wattsmart battery program. I recommend the Commission approve the Company's Schedule 137 Tariff.

That's the end of my summary.

Q. Thank you.

MS. WEGENER: I have nothing further for Mr. Meredith, and he is now available for cross-examination.

CHAIRMAN LEVAR: Thank you.

I'll go to Mr. Jetter next.

Mr. Jetter, do you have any questions for Mr. Meredith?

MR. JETTER: I have no questions. Thank you.

CHAIRMAN LEVAR: Thank you, Mr. Jetter.

Mr. Snarr, do you have any questions for Mr. Meredith?

MR. SNARR: Yes, just a few questions, if I might.

CHAIRMAN LEVAR: Go ahead.

CROSS-EXAMINATION

BY MR. SNARR:

Q. Mr. Meredith, Rocky Mountain has taken the position that having credits expire prevents customers from oversizing their customer-owned generator -- generating resources; is that correct?

A. Yes, that's correct.

Q. Is it also true that residential customers who want to install solar generation must adhere to a cap of 25 kilowatts for their resources?

A. Yes, for residential customers, that is correct.

Q. Okay. Now, I'm curious how that relates to the actual residential customer size.

Do you know what the noncoincidental peak is for an average Utah residential customer?

A. I believe, subject to check, that it's about seven kilowatts.

Q. Okay. Thank you for that clarification. That's

all the questions I have, Mr. Meredith.

CHAIRMAN LEVAR: Thank you, Mr. Snarr.

We'll go next -- Mr. Selendy or someone else from your team, do you have questions for Mr. Meredith?

MR. SELENDY: Thank you, Mr. Chair. This is Philippe Selendy, and I do have some questions for Mr. Meredith.

CROSS-EXAMINATION

BY MR. SELENDY:

Q. Mr. Meredith, good morning.

A. Good morning.

Q. I take it you agree that any export credit rate adopted for solar should be just and reasonable, right?

A. Yes.

Q. And in determining a just and reasonable rate, the Commission is entitled to consider the impact that the rate will have on each category of customers, including CG customers, correct?

A. Yes.

Q. The Commission may also take into account the well-being of the state of Utah, right?

A. I'm not totally sure if that is particular to a retail rate that a customer pays, whether that could include externalities. I'm not sure that I'm prepared to

say that it -- I think generally it could take into account the well-being in the state of Utah. But I think that I'm not totally sure that it could take into account directly certain externalities.

Q. Mr. Meredith, are you familiar with the Utah Public Utilities Code Section 54-3-1?

A. I don't have -- I generally know about it, but I don't know it in depth.

Q. Okay. I'm going to show you an excerpt from that code which we're pulling up right now. It's Tab 1. May I see that on the screen, please? Okay.

Do you see that, Mr. Meredith?

A. You pulled it away. I didn't have a chance to read all of it in its entirety.

Q. We'll put it there, and we'll leave it there. One moment. Okay.

Do you see that now, Mr. Meredith?

A. Okay.

Q. All right. And we've highlighted a section of it.

Do you see that: "The scope of the definition just and reasonable may include, but shall not be limited to, the cost of providing service to each category of customer, economic impact of charges on each category of customer, and on the well-being of the state of Utah."

Do you see that?

A. Yes, I do.

Q. Okay. And the Code goes on to say that as part of this assessment, the Commission is entitled to consider "means of encouraging conservation of resources and energy," correct?

A. Yes, I do see that.

Q. All right. Now, one way to encourage the conservation of resources and energy is to adopt a time-of-use rate structure, correct?

A. Yes. That is one way to encourage an efficient use of the system.

Q. And I take it you agree that a time-of-use rate should induce customer behavior that promotes economic efficiency; is that right?

A. Yes. I think that is one of the factors that should be weighed when considering any rate design is the economic efficiency of the price signals given to customers.

Q. And, Mr. Meredith, what you want to do through such a structure is to reduce consumption during periods of higher demand, correct?

A. Yes. I think you want to reduce system costs.

Q. And, similarly, you want to increase exports or generation during periods of higher demand, correct?

A. So I think that in the context of the net billing program, yes, you would want to encourage exports in the period of the highest value. I think that's correct, yes.

Q. And, obviously, you can protect the grid by reducing demand or increasing generation during these periods of higher demand, right?

A. That's correct.

Q. Okay. And so I take it you would agree with me it's important to create an export rate structure that encourages customers to build and operate their systems in ways that are the most beneficial to the power grid?

A. That's what I said.

Q. Okay. And you can differentiate the price of exported energy by setting a time-of-use rate structure, right?

A. And that's what the Company did, is that we proposed to differentiate the export credits into on- and off-peak periods as well as into summer and winter seasons.

Q. And RMP's position is that its time-of-use rate structure fairly compensates customers that export energy during periods when energy is more valuable, right?

A. Yes, that's exactly correct.

Q. And the differentiated pricing should encourage

customers to shift their export of energy to periods of higher demand, right?

A. I think we do say that, and I think as I've discussed throughout this testimony, probably the more powerful price signal from the Company's net billing program is to encourage customers to shift their consumption to times of off-peak exports. I think that is probably the period that -- that's probably the primary price signal that's sent. But it does also encourage customers to export during the on-peak period. But I think that is a lesser price signal than the one I just described.

Q. And with respect to encouraging the exports of energy to periods of higher demand, would you agree with me that those periods typically include the late afternoon in the summer?

A. Yes. I think the late afternoon, the early evening is what we have identified as the on-peak period for the summer season.

Q. Can you explain, sir, is the Schedule 2 that RMP has in place the current rate schedule for retail customers?

A. Schedule 2 is not the current rate schedule for retail customers for all residential retail customers. It is a time-of-use option that's available for

residential customers. And there's a fairly limited number of participants on that schedule.

Q. So that is RMP's current time-of-use structure that's available to residential customers, correct?

A. There are two time-of-use schedules that are available to Rocky Mountain Power's residential customers: Schedule 2, which has been available for quite a few years, and also Schedule 2E, which is an experimental time-of-use rate schedule, particularly for customers who have electric vehicles.

Q. And if we look at the Schedule 2 that's been in place for sometime, RMP defines a period of higher demand in the summer as the time from noon until 7:00 p.m., correct?

A. You're looking at Schedule 2?

Q. Schedule 2, correct.

A. Schedule 2, I'm looking at it right now. And I show that the on-peak period is 1:00 p.m. to 8:00 p.m. for the summer months of May through September.

Q. Okay. Thank you. Thank you, sir. So 1:00 p.m. to 8:00 p.m.

And during that period, is it correct that RMP charges customers between 13.2 cents and 18.8 cents for each kilowatt hour?

A. I see that this is a figure that I believe was

in Ms. Berry's testimony. I haven't confirmed this, but subject to check, I think that's accurate.

Q. And so by charging rates of between 13 cents and 18.8 cents, RMP is designating this period between 1:00 p.m. and 8:00 p.m. as a period of higher demand where it wants to reduce consumption, correct?

A. It has, but I would note that Schedule 2 is a schedule that was set many, many years in the past. I don't know the exact date, but I believe in the early 2000s is when Schedule 2 first became a schedule and when those time-of-use periods were established.

Q. And RMP is still charging customers who opt into the time-of-use rate structure according to Schedule 2 even today, correct?

A. We are. But I think that if we were to redesign this rate schedule, which I think is something that we will probably consider probably in the next rate case not in this rate case because of the metering technology available to us right now, I think that they would be different time-of-use periods than what we have for Schedule 2.

Q. Mr. Meredith, just so the record is clear: You would agree with me that RMP today is charging customers that opt into its time-of-use rate structure according to the Schedule 2 figures as set forth in Dr. Berry's

report, right?

A. I would agree. And I would also note that there are a very limited number of customers who are on this schedule.

Q. Now, the signal that is sent is that -- is it RMP's position that it actually -- the power is worth between 13.2 cents and 18.8 cents for that peak period between 1:00 p.m. and 8:00 p.m. from May 1st until September 30th?

A. I think it's the Company's position that these are -- these are the rates that a participant on Schedule 2 would pay. They, in totality, reflect the cost of service for those customers, which includes a variety of different costs, many of which are fixed.

Q. And to be clear, it's RMP's position that it is just and reasonable to charge customers that opt into the TOU program between 13.2 cents and 18.8 cents for that entire period, May 1 to September 30th, all power used between 1:00 p.m. and 8:00 p.m., correct?

A. These from Company's rates. These were approved by the Commission and are just and reasonable for the purposes of this time-of-use program.

I would note that if we were to look at this again, which I think we will in the future, they would be likely different than what they are right now, and we

would establish a different time-of-use on-peak period for them.

Q. At present, this is the best evidence we have of RMP's current valuation of the worth of the power for this period, 1:00 p.m. to 8:00 p.m. from May 1st to September 30th, right?

A. I would disagree with that. This is -- this is the best valuation of the power. There's a lot that's loaded into that term. Is this the incremental cost of producing energy for these customers during those times? I would say that it's not. It includes recovery of fixed costs. So when you say it's the best measurement of the valuation of those periods, I would disagree with that.

Q. Is RMP overcharging its customers that are on the time-of-use schedule and who buy power during these time periods?

A. No. However, I would note that when you say the word "valuation," that can have a number of different meanings.

Q. So RMP believes that the pricing is fair and just and reasonable --

A. Yes.

Q. -- on Schedule 2? Okay. Thank you.

A. Yes, it recovers fixed costs for those customers, and it is fair and just and reasonable.

However, as I've noted, if we were to redesign a time-of-use offering for residential customers, it would likely be very different than this.

Q. That was a yes, sir, right?

A. Yes.

Q. I understand you said RMP in the future will do something different?

A. Correct.

Q. Now, RMP's position, then, is that the Commission can assess whether an export rate structure is just and reasonable by examining, in part, whether it encourages exports during periods of higher demand, right?

A. That can be one factor that it considers.

Q. But, in fact, today RMP is not proposing a rate structure that would increase exports during periods of higher demand; isn't that right?

A. Can you ask that question again, please?

Q. Yes, sir. In fact, today RMP is not proposing an export rate structure that would drive customers to increase exports during periods of higher demand; isn't that correct?

A. I don't think that I agree with you. I think that it would induce customers, if they had some capability, they would export during the periods of

higher value. However, as I've noted, the stronger price signal for customers is to move their consumption to the times when their generation is producing.

Q. So you answered my question about exports by talking about a signal with respect to consumption. So let's focus just on exports.

Do you agree that the time-of-use structure that RMP has proposed is unlikely to drive behavioral change in shifting exports to periods of higher demand?

A. No, I don't think that I agree with that because, as I mentioned, because you have to look at the net billing tariff in its entirety and the price signals that are sent to customers. The primary price signal that is sent to the customer is to move their consumption to the off-peak period and to align with their solar generation. As a result of that, that may cause more exports to occur during the on-peak period.

For example, let me give you an example. Let's suppose that you have a customer with a solar generation resource and an on-site battery. They may have the ability to choose which times they are charging up that battery, and they may set the characteristics or the options within that battery to charge more during the on-peak period of their solar production which, in turn, would cause greater exports during the on-peak period

than if that battery were charged more during the off-peak period. So I don't think that I agree with you that it would not cause more exports to occur during the on-peak period proportionately.

Q. So my question asked you specifically whether you agree that the time-of-use structure is unlikely to drive behavioral change in shifting exports to periods of higher demand.

Is it likely or unlikely, sir? I'd like to be clear.

A. So your question is whether it's likely or unlikely to drive exports to the on-peak period. I think that it is likely to cause there to be more exports during the on-peak period than there would be otherwise absent time-of-use periods for the exports.

Q. I'd like to call up a section of your own surrebuttal report, sir, at Lines 205 to 211.

A. Okay. One minute.

Q. We'll put that on the screen.

And in the testimony that you submitted to this Commission, you stated: "Dr. Berry is correct in her assessment that the 2:1 ratio of on- to off-peak credit is unlikely to alone drive behavioral change."

Do you see that testimony, sir?

A. Yes.

Q. In other words, RMP's structure is not likely to encourage customers to export more power during peak periods, correct?

A. That's not what I said. What I said was that "Dr. Berry is correct in her assessment that the 2:1 ratio of on- to off-peak credit is unlikely to alone drive behavioral change."

I think there is a key distinction there in the term "alone" because, as I mentioned earlier, you have to look at the entire package of the price signals given to customers through the net billing program, which includes an incentive both around the exports but then also the incentive to align consumption with those periods of solar generation. And so I would disagree with you. That is not what I said.

Q. So, Mr. Meredith, I'd like to be clear when we're talking about incentives that affect exports versus incentives that affect consumption. And indeed, you go on to say in the same stretch of testimony that "... it is the Company's belief that the ratio of retail rates to export credit, which is as high as roughly 8:1, will drive customers to align their usage with the times of higher solar production."

Do you see that?

A. Correct. Yes.

Q. Okay. First, you admit that the ratio of retail rates to RMP's proposed export credit is as high as 8:1, right?

A. Right.

Q. So that means RMP is charging eight times as much for power as it's prepared to pay CG customers, correct?

A. That is correct.

Q. And so your point is that rational consumers faced with that 8:1 ratio will try to use all their own power rather than sell it to the grid, correct?

A. I think that it means that they will try to align their consumption with solar production, and they will have an incentive in as much as they're able to, to align that particularly with the off-peak period of exports.

Q. To be clear about it, sir, when you say "align consumption with production," what you mean is consume the power that they produce rather than export it to the grid, correct?

A. Correct.

Q. Okay. And the sun is obviously shining during the summer during almost all of the period from noon until -- from 1:00 p.m. until 8:00 p.m., right?

A. During the summer, all the period from 1:00 p.m.

to 8:00 p.m., I mean, I think that's --

Q. In the summertime.

A. Yes. I would agree that it is fairly sunny from 1:00 p.m. to 8:00 p.m. during the summer period.

Q. Okay. And so what RMP is doing is designing a structure where during that period that RMP itself said was of such high value that it's charging its customers between 13 and 18.8 cents a kilowatt hour, during that same period, it's sending a signal to solar generators to consume rather than export, correct?

A. I think there are two different price signals that are sent. One with Schedule 2, which, again, was established many, many years ago. And the view of what is the on-peak period has evolved significantly since the time that Schedule 2 was first established.

As I mentioned, if we were to design Schedule 2 again, which has very limited usage and has not been a particularly popular time-of-use option for customers, we would likely design it very differently.

And so yes, the price -- time-of-use periods are quite different between Schedule 2 and between the Company's proposed Schedule 137.

Q. Let me ask this a different way. First, just to be clear: RMP is not, today, asking the Commission to reduce the rate that RMP charges customers on its

Schedule 2, right?

A. It is not asking to reduce the rate that it is charging for Schedule 2 at this time, no.

Q. Right. And more importantly, sir, you would agree with me that customer-generated rooftop systems produce power during periods that substantially align with periods of higher demand for the system, whether on Schedule 2 or not?

A. I don't know that I would agree with that export -- exported energy aligns particularly well with periods of peak usage for the Company.

Q. Let me make it even simpler, Mr. Meredith. You don't disagree that the sun is shining and solar systems are producing power during time periods that overlap with RMP's own schedule of higher demand, right?

You would agree with me that part of the power produced by solar systems is during the period of high demand, right?

A. Sure. I would agree that some solar power is produced during times of higher demand. However, the Company's net billing proposal and program ultimately is looking at exported energy, which is ultimately different than solar production itself.

But I would agree that if we're looking at Schedule 2, which is a schedule that was established many

years in the past, that on-peak period is not a great reflection of the Company's on-peak period today.

Q. If we look at Schedule 2E, which you referred to before, that period is from the late afternoon to the early evening, correct? Midafternoon, perhaps? 3:00 until 8:00; is that right?

A. Yes.

Q. Okay. And that is the Company's current view as to a period of higher demand, right?

A. That was the Company's view when it established the Schedule 2E rate schedule at that time, which I believe we calculated that in late 2016, early 2017. And so it was the Company's view of on-peak at that time. And generally, I think that it does a much better job of reflecting on-peak than Schedule 2 because it has that middle of the day as off-peak.

Because what we see is that that period, you know, around 10:00 a.m. to 2:00 p.m., is really not an on-peak period for the Company anymore. It's really not a period where our system is particularly under strain.

Q. Mr. Meredith, sticking with this current schedule, you also agree, I take it, that the sun is shining for most of the period that RMP currently designates as peak, correct, for the summer months, June, July, August, and so on, right?

A. I think that the sun is shining for a good portion of that. I would note that oftentimes the solar production is waning during those hours. So if you were to look at the curve of solar production, that is a period when solar production is declining. And also, particularly exports, I believe, are more focused around the middle of the day and are less prevalent during that late afternoon/early evening period.

Q. I'd just like to keep your answers focused to my questions so we can move it forward, if I may.

The fact is that RMP is proposing a structure that would drive customers to consume their rooftop solar during periods that overlap with what RMP today regards in both Schedule 2 and Schedule 2E as periods of higher demand. Can you answer that yes or no?

A. I think that I have to qualify the answer besides just saying yes or no. The primary price signal, as I indicated before, is if a customer is able to move consumption to the off-peak period.

A secondary price signal would be that yes, during those hours from 3:00 p.m. to 8:00 p.m., supposing that they were on Schedule 2E, I think that they would want to consume their own exports before exporting to the grid.

So I think it's something that has to be

qualified, what you're saying there. I think there are a lot of price signals that are sent to customers in Schedule 137.

Q. Let's talk about it more broadly, sir. You keep limiting your answers to the schedules.

The average retail rate that RMP charges all of its customers is about 10 cents per kilowatt hour, correct?

A. For residential customers, it's about 10 cents a kilowatt hour.

Q. And the rates that RMP proposes to pay for exports of solar under the new export credit rate are either 1.55 cents or 2.2 cents?

A. On average, that is correct.

Q. So RMP is sending a signal to customers not to export solar power at a price of 2 cents or less but, instead, to consume it, including during the periods of higher demand that RMP has identified in the only time-of-use schedules it has in effect for residential customers, right?

A. I think that what -- as I get back to the summary statement that I made, ultimately yes, the Company is proposing an export credit that is less than the rate, the retail rates that residential customers, for example, would pay. And that's because of fairness

and because of the settlement. And ultimately, that exported credit rate is less, and so it does send a price signal for customers to consume their own on-site production, which has always been the purpose of customer generation programs, which has been to help customers manage their energy and reduce their energy.

Q. Thank you, Mr. Meredith.

And when you say it's less, you mean it's actually about 20 percent of the retail rate, right?

A. So if we're saying it's about 2 cents in the one proposal relative to 10 cents, and if we're saying for residential customers, I would agree. It's roughly that difference.

Q. And when RMP is discouraging solar exports during periods of high demand, it's basically driving up cost of power and the risk of outages for everyone; isn't that right?

A. I completely disagree. I think that you have to look at the package of the price signals that are provided in Schedule 137. And if you consider the times when the Company's system is under the most strain -- so let's say a very hot day in July when the Company peaks -- it's very likely that that customer is going to have a large level of usage at that time. And so I think that in as much as you are sending a price signal for

them to use their solar to serve themselves, I think it is efficient, and it will encourage those customers to reduce their draw on the system at that time.

Q. Mr. Meredith, do you agree with me that reducing demand during periods of high demand is beneficial for the system?

A. Yes.

Q. And increasing exports during periods of high demand is beneficial for the system?

A. Yes.

Q. Okay. Now, Mr. Meredith, RMP claims that by offering a higher credit price during the on-peak period, the Company is encouraging customers to invest in innovation; is that correct?

A. Yes.

Q. All right. And you agree it's important to set a rate structure that encourages customers to invest in solar rooftop systems and related innovations, right?

A. I believe that it's more important to send price signals that are economically justified to customers. And I think that as a beneficial result of that sending very principled prices that reflect the true value of the service that's being provided to customers as well as the benefits that they provide with rooftop solar, for example. I think that combination of sending

economically efficient price signals through principled rate design achieves that, achieves innovation, and achieves customers -- inducing them to do what minimizes system costs. And so I think that that's important. But I think the primary concern should be to set rates, including export credit rates, at what is economically justified.

Q. How does RMP's proposed ECR encourage customers to invest in rooftop solar systems?

A. It encourages them to invest in rooftop solar systems because as part of the broader net billing program, they are able to, for everything that they consume on-site, offset their retail rates.

Q. That's not a function of the ECR, is it, sir?

A. Well, but the ECR is part of a program that the Company is proposing. And that program sends different price signals to the customers. And ultimately, there is an overall amount of value that a consumer would get. Part of that is from the export credits. A larger part per the prices that the Company has proposed is through what they could avoid for retail rates.

Q. The ECR itself -- strike that.

When you say that the overall package encourages customers to invest in solar systems, what you mean is that customers that don't want to pay RMP's rates could

invest in solar systems, right?

A. Yes. They could invest in solar systems, and that would reduce the amount of energy that they take from the Company and would help them to manage their energy costs.

Q. So the only incentive that's created here is for RMP's customers not to buy power from RMP because the rates are too high, right?

A. No. No. There are couple -- as I mentioned, there are two ways that a consumer can get value: One, through the export credit; and then two -- and not in any particular order. I would say No. 1 by offsetting their retail energy. No. 2, by sending export credits and being compensated fairly for those. So there's two sources of value for customer generators through Schedule 137.

Q. You're saying that customers that are unable to take advantage of consuming all the power and therefore getting the value of 10 cents per kilowatt hour could still sell at 2 cents or less to RMP?

A. In essence, yes. It is an export credit rate that holds other customers economically indifferent.

Q. Now, RMP is proposing to update the export credit rate on an annual basis, correct?

A. Yes.

Q. But the installation of a solar rooftop system is a long-term investment, right?

A. Yes, I would agree with that.

Q. Homeowners who install this are looking at a system with a life cycle of about 20 to 25 years or more, right?

A. Yes, that's what they're considering.

Q. And it's an expensive proposition for a homeowner to put a solar system on their rooftop, right?

A. I think it can be, although I would note that what I've seen is that typically solar prices have declined quite a bit in recent years and seem to -- all indications are that those prices continue to climb. But yes, I would agree that it is a significant investment for most households.

Q. And given the expense of solar systems, homeowners evaluate their long-term value, including the payback period for the investment, right?

A. I would agree that they look at the payback period. I think that there are other factors that come into that as well that are intangible. But I think that the payback period is a large part of what a customer is considering when they make any sort of energy investment.

Q. And if the export credit rate changes annually, that makes it difficult for a homeowner to estimate what

the payback period will be, correct?

A. I think that can make it more challenging to estimate the payback period. However, I think that there's a lot of uncertainty in many energy investments that a customer would make, including conservation.

Q. And the more difficult that the payback period is to assess, the less likely it is that homeowners will invest in solar systems, right?

A. I don't think I can say that per se. I think that, for a customer, I think that there is a lot of factors that come into play for them, and many of those are quantifiable. Some of them are more qualitative in nature.

Q. We're focusing on quantifiable costs and benefits in this proceeding, right?

A. Correct.

Q. Okay. And if homeowners are looking at quantifiable costs and benefits of the solar system, it is much more difficult to assess the payback period for an investment if the price that can be recovered for the sale of power changes every single year, right?

A. I think that it can increase uncertainty, yes. I would note that retail rates themselves are -- also can be -- are not necessarily the same year after year. So I think there are other considerations that are significant

for somebody considering a rooftop solar system. I think one very significant factor for them is what their expectations of retail rate changes will be in the future.

But yes, I think that a less certain future could make a customer less likely to purchase an investment.

Q. Does RMP actually want to encourage the installation of rooftop solar in Utah?

A. I don't know that we want to encourage it, but we don't want to -- I think what we want to do is make it fair for all customers. And so we want, ultimately, other customers to be held -- as I've said many times before, we want to hold other customers to be held economically indifferent between the export that they get from their neighbor's rooftop solar system or another source of energy.

Q. I just want to be clear. I understand your answer.

Is it your testimony that RMP neither wants to encourage nor discourage the installation of rooftop solar in Utah?

A. Yes. I think that we don't want to discourage or encourage. We want to send the correct price signals to customers, and then they can make an informed

decision. I think giving them the right prices is what will induce customers to make whatever decision they make.

Q. Does RMP want to encourage conservation investments by its consumers in Utah?

A. Yes, I would say that we do want customers to make conservation investments. I think that we have programs that support that. And that is a function of rate design as well, is that it encourages customers to conserve and efficiently use the system.

Q. And why does RMP want to encourage conservation on the part of its consumers in Utah?

A. I think it -- it is a resource that's part of the IRP planning process.

Q. But why specifically does RMP want to encourage its customers to invest in conservation and energy efficiency measures?

A. And I would say when we want to encourage, we want to encourage cost-effective energy efficiency, so not necessarily conservation for conservation's sake at any price. I think that that's what ultimately DSM programs do and conservation programs do, is they encourage customers to adopt energy efficiency measures.

I think that's also what prices do. Prices send an energy price to a customer, and the customer then has

that information. They know, I get such and such a rebate for enacting this conservation measure. I also have a price. This price encourages me to enact this conservation measure, much like rooftop solar.

Also, there's an incentive that is sent. And I guess an incentive -- a "price signal" I think is a better term. The price signal encourages customers to reduce their consumption from the grid.

Q. Mr. Meredith, you didn't answer my question, so I'm going to ask it again.

Why specifically does RMP want to encourage investment in conservation measures in Utah?

A. To lower its overall system costs.

Q. And to lower the demand on the system during periods of higher demand, correct?

A. I think that there is -- when we're considering cost-effective DSM, I think there are both energy savings as well as capacity savings, depending upon the measure.

Q. Is it correct that one reason RMP seeks to encourage conservation measures is to lower demand on the overall system during periods of high demand, peak or off-peak for higher demand?

A. Yes.

Q. Okay. And solar accomplishes the same effect as conservation in reducing the overall demand on the

system, including during periods of peak and near peak demand, correct?

A. I think that solar is fundamentally different from DSM in certain ways. DSM will lower -- DSM will lower the consumption that a customer takes from the grid. Solar may, at times, align with those peak periods, and other times it may not align with those peak periods.

Q. Every hour -- every hour of power that -- kilowatt hour that a consumer draws from a solar system during periods of near peak demand is an hour of power that is not demanded from RMP and the grid, correct?

A. Yes.

Q. And that reduces the demands on the grid, correct?

A. Yes, it can.

Q. And that's just the same as conserving an hour of power during that same period of time with respect to reducing the demand on the grid, correct?

A. I don't know that -- and maybe you could rephrase that question. You're saying that conservation and rooftop solar or solar of any stripe is the same. I don't know that I would say that the value is necessarily the same. I think maybe what -- maybe you can ask that question again.

Q. Do you not understand the question, sir?

A. If you could ask it again, I would appreciate that.

Q. Solar reduces demand on the grid during periods of peak and near peak demand in the same way that conservation measures do, correct?

A. It can reduce the peak demand. However, I don't think that we could say that it's the same as conservation, per se. It may be less certain than conservation, although I would say that questions of valuation, I can speak generally to those. I think Mr. MacNeil is the Company's witness who best understands questions of valuation. But I do not believe that conservation and solar, particularly exported solar, that we can say that those two things are equivalent.

Q. And if a consumer chooses not to use electrons from the grid, whether through conservation measures or through investment in solar, the same effect applies with respect to the reduction in demand, right? That's elementary, isn't it, Mr. Meredith?

A. Yes, it is. But I think there are, you know, other factors at play. I think you can have clouds that might come by. But let's just say that it's the same -- let's just say that it's the same exact profile, the conservation and the solar output. I think that we could

say that it's a similar value, sure.

Q. Now, before RMP itself invests in generation assets, RMP typically obtains permission from the Commission to pass the costs of its investment on to consumers in the future, right?

A. I think Mr. MacNeil would be best able to handle that question. I'm not an expert on the Company's procurement of resources and the policies around that.

Q. RMP is typically guaranteed a regulated rate of return on its generation assets, right?

A. I wouldn't say that it's guaranteed a rate of return on its generation assets. I think that it has an opportunity to earn a rate of return on all of its investments, and that's part of the rate making process.

Q. You mentioned the IRP earlier.

Is it fair to say that RMP, when it invests in generation assets, is typically looking to achieve a predictable rate of return on those investments?

A. I think ultimately what it is trying to do is achieve the lowest cost for its customers. That is what it's trying to achieve with the IRP.

Q. RMP is also looking to achieve returns for its corporate shareholders, correct?

A. Yes, it is trying to achieve earnings for its corporate shareholders.

Q. And it's trying to ensure that when it makes investments into generation assets that there will be some predictable level of return on those investments, right?

A. I think that it wants to make sure that it can reliably, safely serve its customers with low-cost energy. And I think that in doing that, that produces good outcomes for shareholders as well.

Q. But RMP doesn't believe that homeowners in the state of Utah should have a predictable level of return on their own investments in solar systems; is that right?

A. I wouldn't say that. I think that what we want is to have the prices, the export credit rates that customer generators are given for their export energy, to be fair and to hold other customers economically indifferent between that purchase or any other purchase.

Q. And it's a critical part of RMP's proposal that the export credit rate change every single year; is that right?

A. That is a part of the Company's proposal, yes.

Q. No other residential RMP customers are subject to such annual rate changes, are they?

A. That's not true. The Company has an energy balancing account under which rates do change annually as a result of changes in the Company's net power costs.

Q. You're referring to Schedules 94, 98, and 193; is that right?

A. I think it's 94. 98, I believe, is the rec balancing account.

And what was the other one you mentioned, 198?

Q. 193, which is the demand side management cost adjustment.

A. Right. That is -- well, the DSM charge, I don't know that that changes annually. The rec adjustment schedule as well as the energy balancing account, that does change annually.

Q. And to be clear, these are tariff riders, right?

A. Correct.

Q. And so they apply to small subcategories of RMP customer bills; is that right?

A. When you say "subcategories," I mean, they are a rate that the customers pay. But it's not the preponderance of the rate that they pay.

Q. It's only affecting a small portion of the customer's bill, right?

A. The EBA itself, Schedule 94, is not -- you know, it's a significant charge, but it's not, you know, the main charge that the customers pay. Mostly, they pay the base retail rates. That's the larger component of the revenue that they -- of the rates that they pay.

Q. And with respect to the export credit rate, that affects the entirety of the power that solar generators sell to RMP, correct?

A. That affects the entirety of the power. However, I would note that it does not affect the entirety of the value that a customer generator gets from their investment in customer generation.

Q. Is it fair to say that RMP plans to replace its older, nonautomated meters with AMI meters by the end of 2022?

A. I believe that the timing is that it does plan to replace a certain amount of meters, not all meters, with AMI meters and create a mesh network for all customers.

Q. And the new AMI meters will be capable of measuring bidirectional energy flow; is that right?

A. Yes.

Q. Okay. And RMP customers are going to be receiving this AMI meter that is capable of measuring bidirectional energy flow; is that right?

A. Some subset of customers will receive AMI meters. Those AMI meters do have to be reprogrammed in order to be able to measure the bidirectional flow. So my understanding is that a person in the metering department would need to remotely reprogram those meters

to be configured specifically for customer generation.

Q. RMP is not going to charge its non CG customers for AMI meter replacements, is it?

A. It's not going to charge the customers who do not receive an AMI meter for those because all customers will benefit from the larger mesh network.

Q. I just want to be clear: With respect to the non CG customers that receive AMI meters, is RMP going to charge those non CG customers for the new AMI meters?

A. They will not charge them specifically for those AMI meters. However, it is the Company's proposal that within retail rates, all customers would pay for those AMI meters and the systems that support it.

Q. So all customers, including CG customers, are going to be paying for the new AMI meters that go to customers that do not have solar power, right?

A. Right. They'll pay for it because there are benefits in having this network for all customers to be able to have.

Q. And then RMP proposes to charge the CG customers a second time with the $160 additional fee for the AMI meters that go to the CG customers, correct?

A. The Company proposes to charge a $160 fee to cover a weighted average cost that includes the cost of reprogramming the meter, which is direct cost of when a

customer who happens to have, coincidentally, an AMI meter chooses to be a customer generator, and then also, for customers who do not have an AMI meter, the cost to install an AMI meter that is able to read bidirectional flows. So it is the weighted average cost that the Company anticipates would reflect the incremental additional metering costs associated with that customer's choice to install customer generation.

Q. To be clear, Mr. Meredith, the only customers that will be charged for the installation of new AMI meters under your proposal are the CG customers, correct?

A. So what you're saying -- I want to make sure I understand the question correctly -- is that only CG customers will be charged for their change -- for the metering costs that they create as a result of their choice to adopt customer generation. Is that what you're asking?

Q. Mr. Meredith, I'll say the question in my own words and see if you can understand it.

Is it correct that the only customers that are charged specifically for the installation of AMI meters are CG customers?

A. Yes. And they would be charged a weighted average of the cost of an AMI meter or reprogramming for those who happen to coincidently already have an AMI

meter.

Q. The reprogramming cost, to be clear, is about $20; is that right?

A. That's correct.

Q. Okay. And yet, RMP is going to charge all CG customers a $160-meter fee; is that right?

A. Yes, because whether a customer has an AMI meter or not, that isn't something that they would have effected. It would be a coincidental -- it would be coincidental that a customer would happen to have an AMI meter or not. And so charging all prospective CG customers the same is fair because their -- their having a AMI meter is not something that they caused or chose to cause. And so that $160 fee accurately reflects the costs for all CG customers and is fairly recovering those costs from customer generators.

Q. And RMP is proposing that CG customers pay the $160 fee in addition to the increase in their rates, which is used to subsidize AMI meters being put in the homes of non CG customers, right?

A. Yes. Through their rates, they would pay for AMI meters being installed throughout Rocky Mountain Power service territory to create a network that provides benefits for all customers.

Q. RMP is also proposing a nonrefundable

application fee of $150 for each new CG customer, right?

A. That is correct.

Q. And RMP doesn't charge any non CG customer $150 to take part in a rate schedule, does it?

A. It does not charge a fee like that for another rate schedule.

Q. RMP also doesn't charge customers to enroll in the other energy saving programs it offers, does it?

A. When you say "other energy saving programs," maybe you can elaborate on which particular ones.

Q. RMP doesn't charge customers to enroll, for example, in the Cool Keeper program; is that right?

A. It doesn't charge customers to enroll in the Cool Keeper program.

Q. And the Cool Keeper program is available to residential customers who have electric central air conditioning; is that right?

A. That's correct.

Q. Are there about 92,000 customers who participate in that?

A. I wouldn't know the exact number.

Q. Okay. Does it sound about right to you?

A. I really wouldn't know.

Q. Okay. Let's put up Tab 43.

This is RMP, which was pleased that its Cool

Keeper program was recognized for tech innovation. And if we -- are we able to scroll down?

Clay Monroe, Rocky Mountain Power director of customer solutions, said, "This is a big honor for the program and we appreciate the 92,000 Utahans that participate in Cool Keeper."

Do you see that?

A. Yes.

Q. Does that sound like about the right number to you?

A. I think that I will accept the article that you've shown to me, yes.

Q. And RMP advertises the program as a way to help create a healthier environment, right?

A. I am not involved in the advertising for the Cool Keeper program, so I couldn't say that, per se. But it sounds like something that we might advertise.

Q. And RMP also says it's a way for the community to use energy efficiently, right?

A. I could accept that, yes.

Q. RMP is using the program to help ease demand on the grid, correct?

A. Yes.

Q. And to take part in the Cool Keeper program, a customer has to enroll, right?

A. Yes.

Q. There's no application fee, correct?

A. No.

Q. And you're saying you agree a customer does not have to pay an application fee; is that correct?

A. I agree that there is not an application fee for the Cool Keeper program.

Q. And once a customer submits an application, an RMP technician actually goes to the customer's home to install the Cool Keeper device, correct?

A. Yes, that's my understanding of the program.

Q. Does RMP charge customers for the installation of the Cool Keeper device?

A. It does not.

Q. In fact, program members receive a monthly bill credit totaling $30 a year, right?

A. Again, I'm not an expert on Cool Keeper. I don't know if that's the exact credit. I would have to look at the tariff to confirm that. But that sounds about right.

Q. You're aware that RMP and, by extension, the customers that do not use the Cool Keeper program are paying for a credit that go to those customers that opt in, right?

A. I agree that all customers are paying for the

cost of the Cool Keeper program. I believe that is recovered through the DSM charge, and that has been something that has been shown to be cost-effective for the Company and its customers.

Q. And when you say it's recovered through the DSM program, you mean that there are efficiency benefits associated with conservation that help it pay for itself; is that right?

A. Yes, that there are benefits to the Company and its costs, and those make it a cost-effective resource for the Company to procure.

Q. And a similar example would be the Wattsmart program that you identified earlier, right?

A. The battery one?

Q. W-A-T-T-S-M-A-R-T, Wattsmart?

A. Yeah, the Wattsmart. I think that's just our labeling for our conservation programs.

Q. Right. And RMP offers rebates to customers who participate in the Wattsmart program, right?

A. That's correct.

Q. RMP customers who want to participate have to fill out an application to be a part of that program, right?

A. They have to fill out an application to get an incentive.

Q. And does RMP --

A. Well -- well, let me back up. I don't know that every single Wattsmart measure requires an application. There might be incentives that are at the store where they're already done automatically. I'm not an expert on energy efficiency in the exact way that those programs work. So there might be, you know, a buy-down of LED lights or something at a local hardware store, for example.

So I'm not sure that I can say every one of those has an application. But I think that there are conservation measures that do require an application for the customer to fill out to get the particular incentive.

Q. Does RMP charge customers any application fee to enter the Wattsmart program?

A. Not to my knowledge.

Q. And after a customer applies, RMP conducts a free on-site energy audit, correct?

A. I'm not an expert on the particular energy efficiency programs that we provide. I don't know whether they do an on-site energy audit or not.

Q. Okay. But what you do know is that all RMP customers are bearing the costs and enjoying the benefits of the Cool Keeper and Wattsmart programs, right?

A. I think all customers -- there might be special

contracts that do not. But the vast, overwhelming majority of customers pay the DSM surcharge, yes.

Q. And so even customers that don't sign up for the Cool Keeper and Wattsmart programs are subsidizing the programs, right?

A. I wouldn't agree that they're subsidizing the programs. Those programs have shown to be cost-effective, and so they are paying for a cost that ultimately lowers the overall system costs for all customers.

Q. Okay. And so what you're agreeing, is that they pay for the costs, and in your testimony, it's worth it because there are corresponding benefits, right?

A. Yes.

Q. Okay. And just to be clear, that means even customers that do not enroll in the Wattsmart and Cool Keeper programs are helping pay for the cost of those programs?

A. So yes, I would agree that there are customers who do not participate in conservation programs but still do pay DSM charges. But I do not agree that they're subsidizing the problem.

Q. And that's because there are system-wide benefits from the programs from reduced consumption, right?

A. Correct.

Q. And those benefits are particularly valuable during periods of higher demand, correct?

A. I would agree with that.

Q. That's just like the benefits from solar consumption and export during periods of higher demand, correct?

A. It's just like the export from solar during periods of high demand. I don't know that I could agree with you on that because I think that the valuation of energy efficiency and exports is very different. There are different profiles associated with them. The firmness of exports is very different than energy efficiency, so I don't think I could agree that it's the same value.

Q. I'm not going to retread the questioning we had before. But you agreed with me earlier, and I take it you still agree, that if there is a reduced demand for the electrons during a period of high demand for the system, then that is good for the system, right?

A. Yes, I agree that it's good for the system.

Q. All right. Now, Mr. Meredith, is it the case that you claim the $150 application fee for the ECR program is actually needed to deter the filing of unnecessary CG applications?

A. I think that having an application fee -- ultimately, the goal of the application fee is to recover the costs associated with administering that interconnection process for a customer generator.

An additional benefit of that is that having an application fee in place does discourage frivolous or unnecessary applications. So in a world with no application fees, I think that rooftop solar installers, not all of them, but some of them may send unnecessary applications in. And that was what my testimony says, was the Company's experience with Schedule 135 net metering prior to the transition program where we did have an application fee, there was no cost to submit an application, so many, many applications were sent, some of them for customers who had never even contacted or been in contact with an installer.

And so I think that yes, an application fee, as a side benefit -- its primary purpose, again, is to recover those costs specifically from the customers who pay that cost. But a side benefit is that it does discourage unnecessary applications.

Q. I saw the testimony in your surrebuttal speculating about frivolous applications, but I could not find any evidence in any of your reports of an actual number of invalid applications supposedly received by RMP

relating to solar systems.

You don't give the Commission any actual numbers on this, do you?

A. We don't have a particular number. But it happened, and it's something that our customer generation department saw a good amount of. I couldn't tell you the exact number, but it is something that made it challenging for them at a time when they were processing a lot of applications.

Q. So to be clear, you don't quantify any cost relating to this, correct?

A. I do not.

Q. Okay. Now, between the metering and application fees that we've just discussed, a customer would have to pay $310 just to become a CG customer under Schedule 137, correct?

A. That is correct.

Q. And to be clear, that $310 is over and above what the customer has to pay to invest in order to install the solar panels in the first place, right?

A. That is correct.

Q. So in essence, these customers have to pay $310 simply for the privilege of exporting energy to RMP at 1/8 of the retail rate, right?

A. They have to pay $310 in order to interconnect

to the Company's system their customer generation resource. And that ensures that those costs that they directly cause are paid by them and are not borne by other participants. And that is -- that is the cost that they would have to be able to be a customer generator in what the Company proposes.

Q. You've read Dr. Lee's rebuttal testimony, have you, Mr. Meredith?

A. Yes.

Q. Okay. And he calculated that, on average, each residential CG customer under your proposed schedule would receive about $94 in credits annually.

Are you familiar with that?

A. I remember something like that, yes.

Q. Okay. And at $94 annually, it would take more than 3 years just to earn back from the payment of these export credits enough money to pay the application fee and the special double meter fee that RMP is proposing to charge to CG customers, right?

A. The $94, I've never done the math and confirmed that that's accurate.

But if he is correct -- which he may very well be correct -- it would be true that $94, if that were -- yes. 300 divided by 94 is roughly 3 years or so. But I -- I would note that that's not something that I've

particularly spent a lot of time checking his math on. And I would note that the compensation that -- and when I say "compensation," the value that a customer generator gets from their system -- is not limited to the value of the export credits. It's both the export credits as well as what they're able to reduce of their own on-site consumption and avoid retail rates for.

Q. Now, the value of consumption is not something that RMP is giving to a solar customer, is it?

A. It's not something that the Company is giving to a solar customer, but it's something that a customer achieves savings for as a result of the Company's proposed program.

Q. It's not a result of the program, is it, sir? It's simply the result of a customer buying a system and reducing the amount of power that they buy from RMP; isn't that correct?

A. I would say that the program itself, when a customer is thinking about purchasing a rooftop solar system, there are two things that they can consider: There's the avoidance of the energy that they take from the Company at retail rates as well as the export credits that they receive for their exports.

I think that you have to look at the program -- yes, the program sets rates for export credits, but part

of that is the manner in which that happens. As Vote Solar's witnesses have discussed different periods of netting, you have to look at the program overall to get an understanding of the value that a customer -- well, let me back up. You have to look at the program overall to get a better understanding of the value proposition for a customer generator.

Q. Are you saying that RMP in any respect compensates a CG customer for the power that it consumes from a system that it has installed, that that homeowner has installed on his or her house?

A. So you broke up a fair amount in that question.

Q. Let me say it again. I'm sorry you couldn't hear me.

A. That's okay.

Q. Are you saying that RMP is compensating homeowners anything with respect to the power that they consume from the systems that they paid for and put on their own house?

A. We are not compensating them for what they avoid from the Company. But I would say that that is -- a result of the net billing program is that the way that it is structured, they are able to entirely offset the retail charges, the retail energy charges that they would otherwise pay to the Company. So it is a part of the

overall program package. I would say that it is not part of the compensation specifically that the Company is providing those customer generators.

Q. Is the Company saying that that is a benefit that it in any way gives to homeowners who use their own hard-earned dollars to install solar systems on their roofs? That's not a benefit from the Company, is it, sir?

A. I would say that it's not a benefit from the Company. But I would note that the overall package presented in the net billing program includes export credits as well as the capability for a customer to avoid retail rates through what they consume on site, which is not a benefit conferred by the Company to the customer, but it is a part of the design of the program.

Q. If I chop down wood and burn it in my fireplace and reduce the amount of power I need from RMP, RMP is not giving me anything, right?

A. Of course.

Q. And it's the same thing. If I use my money to put a system on my house and generate power that I consume, that's not a gift from RMP, right?

A. I would agree.

Q. Okay. And RMP in this proceeding is not accounting in any way for behind-the-meter benefits of

solar on homeowners' systems, right?

A. That's correct.

Q. Okay. Now, you're proposing that if there are actually export credits at a 1.5 or 2 cent rate that are unused, you're proposing that those expire annually, right?

A. That's correct.

Q. So if a CG customer is actually able to earn some money through export credits but doesn't use it up through consumption in a given year, they'll permanently lose the credits; is that correct?

A. That is correct.

Q. And those credits actually are one of the few types of compensation that CG customers could earn under the RMP program for solar, right?

A. I agree that it is the one type of compensation that they could earn. It is not the one type of value that they achieve.

Q. And under RMP's proposal, if the CG customer doesn't use up those export credits, the customer loses the compensation for solar altogether, right?

A. They would lose those particular credits that expired.

Q. Which is the only compensation they get, right?

A. It's the only compensation they get. It is not

the only value that they get.

Q. And under RMP's proposal, the value of those expired export credits will go to the energy balancing account, right?

A. That's correct.

Q. And it's an account that's held for the benefit of all RMP customers, correct?

A. Yes.

Q. And just to confirm: So RMP is taking the only source of compensation that can be earned by CG customers, and if they don't consume it, it's distributing it to the rest of its customers, right?

A. That is a feature of what we've proposed for the program as a disincentive from oversizing the system.

Q. It creates an incentive to consume energy so there are no leftover credits, right?

A. It creates an incentive to not oversize a customer generation system.

Q. If there are credits available, an economically-rational consumer would want to use them up before they get distributed to everybody else, right?

A. They may want to do that, yes. It's possible.

Q. So a program that zeros out export credits encourages inefficient energy use; isn't that right?

A. I would disagree with that. I think that the

main purpose of the expiring credits is to discourage customers from oversizing their system and becoming akin to a power producer. I think that it is unlikely that if a customer sizes their system appropriately that they would have a lot of export credits that would expire.

Q. If the export credits are 1 1/2 to 2 cents per kilowatt hour, there's no real incentive to invest in solar much less oversize it; isn't that right, from the standpoint of the exports?

A. I would totally disagree. I think that there is an incentive -- and when I say an "incentive," I think that there is a benefit that customers can achieve from installing rooftop solar because they can avoid retail energy charges that they pay to the Company for energy that they get. In addition, for what they export to the grid, they get fair and just compensation for that energy delivery to the Company.

Q. You're saying the real benefit is to avoid having to pay RMP the 10 cents a kilowatt hour or, depending upon the schedule, the 13 cents or 15 cents or 18 cents a kilowatt hour that RMP charges; is that right?

A. I think that most of compensation would be from avoiding retail energy charges and consuming the consumer's own generation on site, yes.

Q. I have one last topic, Mr. Meredith. I

appreciate your responsiveness. Let's talk about the netting program.

Now, you previously asserted that one of the benefits of realtime netting is that it sends a price signal for customer generators to align their usage with their generation output; is that correct?

A. That's correct.

Q. But you now assert the customer's ability to shift energy use is not dictated by the method of netting used, right?

A. I think that there -- so let's parse that out for a minute here. So the first part of your question was that I asserted that the realtime netting encourages them to align their consumption with production. I think that that's what I said, that's true.

The second part is that -- can you ask that second part of your question again?

Q. You now assert, sir, in your surrebuttal that customers' ability to shift energy use is not dictated by the method of netting used, correct?

A. Can you point me to the spot in my surrebuttal?

Q. Do you agree with that proposition, that the ability --

A. Can you point --

Q. Just answer my question, sir.

Do you agree that the ability to shift energy use is not dictated by the method of netting that is used?

A. I'm trying to remember if that's exactly what I said. I think I said something a little bit different than that. If you could refer to the surrebuttal spot where I said that, that would be helpful.

Q. I'm not asking you to tell me what you said before. I'm just asking if you agree that the method of netting that is used does not dictate the customer's ability to shift energy use.

Is that your current position?

A. I think that both of -- whether you have an hour netting period or a 15-minute interval netting period or realtime, you know, essentially no netting, just measuring all exports and deliveries, I think it sends a very similar price signal to customers, which is to align their generation and their consumption. I do think that it is a little bit more accurate when we're doing realtime and looking at all exports and all deliveries.

I don't know that I would say that it's exactly the same thing. Clearly, it's not the same thing.

Q. But your position is there's no significant difference in price signaling between realtime netting and, for example, 15-minute netting?

A. It's a very similar price signal, but I'll give you an example of how the price signal might be a little bit different.

Let's suppose that you have one customer who has a dishwasher, and they choose to set a timer on their dishwasher and have that run at noon, for example. That happens to be a period where there's more sunshine, and it's more likely that they would see more of their own generation align with consumption. That customer would be able to reduce the amount that was exported to the grid.

However, if a cloud rolled by, let's say, during that time frame, if we're looking at a realtime measurement, then they would be taking -- you know, their solar would drop off, and at the same time, they would be receiving some deliveries of power from the Company to continue to run that dishwasher.

Now, let's consider a second customer. This customer has on-site battery. That battery is programmed to reduce exports at the time of the off-peak period. That customer, if a cloud rolled by, it would be able to, in realtime, match the charging of that battery with the solar output. And so the price signal is a little bit different because more sophisticated solutions to align customer generation with consumption would see less of a

reduction in exports, like the example I just illustrated.

Q. Is RMP proposing to pay solar customers more if they install batteries together with their solar systems?

A. We are not proposing to pay them more if they install batteries with their solar systems as part of the net billing program. However, I think just functionally, a customer who has a battery would probably have a better ability to align consumption with generation. I think there are other technologies that might be able to do that. But I think a battery is one very good example where a customer could do a, probably a better job than the other solution I illustrated, timing a dishwasher to run at noon.

Now, both of those would reduce exports. To be clear, that still is a very similar price signal. It's not exactly the same price signal, but the price signal is still sent: If you can move consumption to the middle of the day when it is off peak and when you have a lot of solar output, move it to the middle of the day. And there may be some solutions that can do a better job than the first example of the dishwasher. But ultimately, that price signal is very similar.

Q. Just to be clear: If a homeowner is running a dishwasher and a cloud rolls by, the homeowner is not

able to respond in realtime to RMP's instantaneous netting price signal and turn the dishwasher off and then turn it back on 30 seconds later, right?

A. They would not be able to do that. But a customer who has a battery would achieve a lower export level. And so I think that is the price signal.

However, I do, as I've noted in my testimony, when we looked at the difference between 15-minute netting relative to realtime, it was very similar. So that cloud rolling by would probably not have a huge impact or would be something that we would think would largely affect the quantity of exports.

Q. The reason RMP wants realtime netting is that it works better for the Company, not because it sends better price signals to customers, right?

A. I think that there are three reasons why it wants realtime netting or no netting, as I describe it. And those have been illustrated in my direct testimony. No. 1, it masks the intertemporal relationship of the service that's being provided to a customer. No. 2, it's administratively less burdensome for the Company. And No. 3 -- and I think I said those a little bit out of order -- but No. 3, it's just a simpler construct to explain and for customers and others to understand.

Q. It's your belief that it's simpler for a

customer to have to look at the 3,600 points per hour versus 1?

A. They're not going to look at the 3,600 points per hour.

Q. Exactly.

A. They're not going to turn off and on their dishwasher. But they're going to, by making some choices like timing their dishwasher, be able to achieve a better alignment with their solar generation and exports. It's not going to be something that somebody is going to monitor with absolute perfection, but I think if they have a battery system, they will be able to achieve an even higher level of alignment of consumption with solar production.

Q. Is it true, Mr. Meredith, that realtime netting is less burdensome for RMP?

A. Yes.

Q. RMP has automated much of the process for billing the Schedule 136 customers; isn't that right?

A. That's correct.

Q. And the Schedule 136 customers are on 15-minute netting, correct?

A. That's correct.

Q. Most of the time, there are no issues with the billing data that RMP receives under the Schedule 136

15-minute interval approach, right?

A. That's correct.

Q. Again, I can't find any evidence in your testimony of the number of supposed issues that arise with Schedule 136 billing data.

Do you provide any quantifiable data of this in your reports?

A. We did not specifically quantify it. As I noted, it's been our billing department's experience that -- and I think it's some time that's spent by some of the billing personnel. We didn't specifically look at it. But we know that the work that they spend on Schedule 136 is more than the work that they spend on Schedule 135 because there are so many more data points, that when there is an issue with the metering that has to be resolved, it's just more information and ends up having to have more potential manual intervention. I did not specifically quantify it, but that is my understanding from speaking with the billing department.

Q. I have no more questions, Mr. Meredith. Thank you.

CHAIRMAN LEVAR: Thank you, Mr. Selendy.

MR. SELENDY: Thank you.

CHAIRMAN LEVAR: Why don't we take a recess at this point. Why don't we recess for one hour. And when

we return, we'll go to Mr. Holman, if he has any questions for Mr. Meredith. So we'll be on recess for one hour.

(A break was taken from 12:00 p.m. to 1:01 p.m.)

CHAIRMAN LEVAR: This is Thad Levar. I think we'll be back on the record in this hearing.

And we'll go now to Mr. Holman, if you have any cross-examination questions for Mr. Meredith.

Mr. Meredith, you are still under oath. So we'll move forward that way.

Mr. Holman.

MR. HOLMAN: Thank you, Chair Levar. I have no questions for Mr. Meredith.

CHAIRMAN LEVAR: Okay. Thank you.

Mr. Mecham, do you have any questions for Mr. Meredith?

MR. MECHAM: Yes, thank you, Mr. Chair.

CROSS-EXAMINATION

BY MR. MECHAM:

Q. Mr. Selendy covered most of the ground that we want to cover, but I do have one follow-up to the exchange with Mr. Selendy, Mr. Meredith.

And first, as you know, I represent Vivint Solar. So good afternoon.

A. Good afternoon.

Q. If I understood correctly in your exchange with Mr. Selendy, the instantaneous netting, or no netting, when the customer cannot see, does not have the consumption data that they have in order to change their behavior, did I understand correctly that the solution to that is storage? You buy storage in order to be able to smooth that out?

A. I think that that -- what I said is that that is maybe the most -- probably the best way to be able to respond to that price signal. But I think what I was trying to say there is that there are a variety of ways that you could respond to that price signal. Some may be a little bit more accurate to be able to have consumption align with solar production, like battery storage. Others might be less accurate, like the example of the dishwasher timer that I mentioned but would still reduce exports and align that consumption with production but maybe not as closely as, for example, an on-site battery might.

Q. I know you're aware that the price of a solar system is quite expensive, I mean, $20,000, $18,000, but it's high.

A. I think that it's a significant purchase for a household but, as I mentioned earlier, those costs have

fallen quite a bit in recent years. And the expectations have been that they will continue to fall, from what I've seen.

Q. But nevertheless, for a normal household, even if they continue to fall, you're still looking at a pretty significant expense?

A. It's a significant expense for a household to purchase a rooftop solar system, yes.

Q. And so then if you add solar, the cost of solar -- excuse me, storage to that system, you've further increased the price; have you not?

A. Yes. If a customer is purchasing both solar and storage, that would be an even greater cost of a system, of an overall solar-plus-storage system.

Q. Doesn't that put it even further out of the reach of a normal household?

A. Not necessarily. I think that the storage could make it more valuable for the customer because they could have a better alignment of production with customer generation and achieve a greater value from their solar-plus-storage system.

I think also just over time, storage has dropped significantly and is continuing. I think expectations, at least, are that it will continue to drop. But yes, purchasing rooftop solar and a battery would be more

cost.

Q. And it would be less likely for a customer -- make it -- that additional storage cost would make it even more less likely for people to purchase that system?

A. Well, I think -- I can't remember whose surrebuttal testimony, but I think maybe it was even -- well, I don't want to speculate. But I want to say that one of the parties had some surrebuttal testimony showing on the record that even right now, a fair number of customers are installing on-site batteries even though there really isn't a whole lot of economic value to doing so. So I think it's something that many customer generators are already starting to do.

But I would agree that it is more expensive for somebody to purchase solar and a battery. Whether that makes it more unlikely, I don't know.

Q. All right. Thank you.

MR. MECHAM: Thank you, Mr. Chair.

CHAIRMAN LEVAR: Thank you, Mr. Mecham.

I think with that, we'll go back to Ms. Wegener.

Do you have any redirect for Mr. Meredith?

MS. WEGENER: I just have a couple questions for him, or a handful of questions.

REDIRECT EXAMINATION

BY MS. WEGENER:

Q. Mr. Meredith, Mr. Selendy talked a lot about incentivizing exports.

And I just wanted to ask you what, in your understanding, is the primary purpose of a customer generation program?

A. The primary purpose of a customer generation program, as I mentioned before, is for a customer to be able to offset their energy usage with an on-site renewable generation resource.

Q. And when you're creating an export credit rate, what is the primary purpose of that rate?

A. The primary purpose of the export credit rate is to fairly reflect the value of that leftover exported energy that's provided to the grid.

Q. Thank you. Mr. Selendy also talked about the Company's Cool Keeper program.

Do you remember that?

A. Yes.

Q. Does the Company have control about or over when to dispatch the Cool Keeper program to save energy on the system?

A. Yes, it has the ability to dispatch that program within the parameters of the tariff.

Q. What about for customer generators? Does the Company have any control over when that energy enters the system?

A. No, the Company does not have any control over when customer generators export their energy.

Q. Would you say there's a value to that dispatchability?

A. Yes, I would say there is a value to dispatchability.

Q. Thank you.

MS. WEGENER: That's all the redirect I have.

CHAIRMAN LEVAR: Thank you, Ms. Wegener.

We'll go to Mr. Selendy next.

Did Ms. Wegener's questions raise any recross that you might have?

MR. SELENDY: Yes, Mr. Chair. Thank you. I have one or two questions I'd like to follow up on.

CHAIRMAN LEVAR: Okay. Go ahead.

RECROSS EXAMINATION

BY MR. SELENDY:

Q. Mr. Meredith, you just indicated that in RMP's view, the primary purpose of a CG system is to enable consumption. Did I get that right?

A. I said that the primary purpose of a customer

generation program is to enable customers to reduce their energy usage with on-site renewable generation resources.

Q. And did you derive that from the Utah Public Utilities Code?

A. I think that -- I think that's the Company's opinion of what the purpose of a customer generation program is.

Q. Do you have any source from the Commission that defines that primary purpose, or is that simply RMP's view?

A. I'll say that it's RMP's view. I don't remember if there was a particular policy, whether for the State of Utah or from FERC or from somewhere else that specifically lays out that purpose. It's possible, but right now, I can't think of a particular place where that might be. So I would say it is the Company's view.

Q. And if the Commission were to conclude that it's important to set a just and reasonable rate that would encourage conservation of resources and energy and drive economic efficiencies, including through encouraging exports, you would not disagree that that is an acceptable purpose, right?

A. As I mentioned to Ms. Wegener, I think the purpose is not to incentivize exports but to fairly compensate them.

Q. And it's for the Commission to determine what is appropriate in terms of energy efficiency and in terms of conservation of resources and energy, correct?

A. Yes, it's the Commission's decision.

Q. No further questions.

MR. SELENDY: Thank you, Chair Levar.

CHAIRMAN LEVAR: Thank you, Mr. Selendy.

Mr. Holman, any recross?

MR. HOLMAN: None for me. Thanks, Chair.

CHAIRMAN LEVAR: Okay. Thank you.

Mr. Mecham?

MR. MECHAM: None for me, either. Thank you.

CHAIRMAN LEVAR: Okay. Thank you. I'll go to Commissioner Clark next.

Do you have any questions for Mr. Meredith?

COMMISSIONER CLARK: No questions. Thank you, Chair Levar.

CHAIRMAN LEVAR: Okay. Thank you, Commissioner Clark.

Commissioner Allen, do you have any questions for Mr. Meredith?

COMMISSIONER ALLEN: Thank you, Chairman Levar. I also have no questions.

CHAIRMAN LEVAR: Okay. Thank you.

CROSS-EXAMINATION

BY COMMISSIONER LEVAR:

Q. I have, I think, one or two. And please tell me if I'm oversimplifying this concept. It's about netting.

A. Okay.

Q. So if imports and exports are netted over a 15-minute interval or over a 60-minute interval, is the real-world impact of that is that the CG customer could be receiving compensation and an export credit rate for kilowatt hours that are not, in fact, exported to the system?

A. Yes. I think the practical -- I think if what you're saying is that if you do net over an interval, be it 15 minutes or hourly, yes, it would -- in essence, they would be able to reduce their retail rates for energy that they actually took from the Company, but that would be masked from the netting process. So in that netting process, you wouldn't be measuring the true exports that happened during that interval period. What you would be measuring is a netting of it.

And so all things being equal, a longer period of netting will always reduce the quantity of exports. And similarly, it will also reduce the quantity that a customer is -- deliveries to the customer. And so then they would receive higher compensation for that -- well,

not -- not higher compensation, higher value, to be clear.

Q. So there is a connection, in your mind, between netting and the value of the export credits, the value a consumer receives from the export credits?

A. Yes. It's very small, the difference, at least between 15-minute and no netting, or it's relatively small. But all things being equal, a -- well, really, any time, if you have a longer period over which to net and an export credit that's lower than retail rates, there will be more value to the customer in a longer interval period over which a customer generator may export -- may net. Yep.

CHAIRMAN LEVAR: Thank you. I think that answers my questions. Thank you for your testimony today, Mr. Meredith.

THE WITNESS: You're welcome.

CHAIRMAN LEVAR: Ms. Wegener, we'll go back to you for your next witness.

MS. WEGENER: The Company calls Jake Barker. And I am going to give Jake my laptop and be off screen, if that's okay.

CHAIRMAN LEVAR: Okay. I'll just check in with Ms. Mallonee to make sure you're clear on who's speaking where. Why don't we give it a minute, and before we jump

in, if you need to get initial clarifications, please.

MS. WEGENER: Okay.

CHAIRMAN LEVAR: We won't be offended if you don't wear a jacket.

THE WITNESS: Thank you.

CHAIRMAN LEVAR: Ms. Mallonee, are you clear on who everybody is?

THE COURT REPORTER: (Inaudible).

CHAIRMAN LEVAR: I didn't hear any objection.

So, Mr. Barker, do you swear to tell the truth?

THE WITNESS: I do.

CHAIRMAN LEVAR: Okay. Ms. Wegener, go ahead.

JACOB BARKER,

was called as a witness, and having been first duly sworn to tell the truth, the whole truth, and nothing but the truth, testified as follows:

DIRECT EXAMINATION

BY MS. WEGENER:

Q. Mr. Barker, can you please state and spell your name.

A. Yes, Jacob Barker, J-A-C-O-B, B-A-R-K-E-R.

Q. And what's your business address?

A. 1407 West North Temple, Salt Lake City, Utah

84116.

Q. What's your position with the Company?

A. I am the director of air transmission planning and air quality.

Q. Did you submit rebuttal and surrebuttal testimony in this matter?

A. I did.

Q. Do you have any corrections to that testimony?

A. No.

Q. If I asked you the same questions in your testimony today as were included in your rebuttal and surrebuttal, would your answers be the same?

A. Yes, they would.

MS. WEGENER: I move to admit the rebuttal and surrebuttal testimony of Jacob Barker.

CHAIRMAN LEVAR: If any party has any objection to that motion, please unmute yourself and state your objection. I'll give just a few seconds to see if anyone does.

I'm not seeing or hearing any objections, so the motion is granted. Thank you.

Q. (BY MS. WEGENER:) Mr. Barker, can you please provide a summary of your testimony?

A. Chairman Levar, Commissioner Clark, and Commissioner Allen, I appreciate the opportunity to

provide this summary of my testimony. The testimony I have submitted can be parsed into two basic categories.

First, I address the reason behind the Company's exclusion of transmission and distribution investment deferral in the export credit. Second, I address costs that may be incurred by the Company due to increasing levels of customer generation.

Although transmission and distribution deferral could be possible in the targeted areas of this system, in low or no low growth areas where capital investments are not being made, customer generation would not provide a benefit.

I provided an example in the Salt Lake Valley where customer generation exports would likely not provide benefit in this targeted approach. The example I gave also demonstrates that determining the amount of deferral and the associated value are difficult to quantify given first, the current -- first, that the current load growth in our system is what it is; and second, the nature of the system reinforcement capital investments the Company is making are similar to the example I gave in rebuttal testimony. In the next few years, it's unlikely customer generation exports would provide transmission and distribution and deferral value.

To the extent a transmission and distribution

deferral could be possible and a value calculated in a targeted area, that value may be offset with additional costs incurred by increasing levels of customer generation.

Customer generation induced voltage variability can increase wear and tear on voltage-regulating devices and require additional voltage-regulating device installations.

In addition, as system protective devices are installed at customer generator expense to accommodate high penetration levels, system configuration changes will necessitate additional protective devices installed at Company's expense.

Besides these two basic categories, I address in my surrebuttal testimony the use of smart inverters and how they affect customer generation system issues. I also discuss the Company's position on integrated distribution, distribution system planning.

That concludes my summary.

MS. WEGENER: I have nothing further for this witness. I think that somebody does not have their phone on mute. We're getting some feedback over here, possibly the court reporter.

CHAIRMAN LEVAR: Thank you. This is Thad Levar. I'm not seeing anybody who's unmuted, but it might be --

well, it might be the result of the volume levels. Maybe, Mr. Barker, if you turned the volume level down there in the room you're sitting in, that might help things a little bit.

MS. WEGENER: Okay. Thank you.

Mr. Barker is available for cross-examination.

CHAIRMAN LEVAR: Okay. Thank you. We'll go to Mr. Selendy or someone from your team who has questions for Mr. Barker?

MS. ZIMMERMAN: Yes, thank you, Commissioner.

CROSS-EXAMINATION

BY MS. ZIMMERMAN:

Q. Good afternoon, Mr. Barker. My name is Lauren Zimmerman. I'll be asking you some questions on behalf of Vote Solar.

A. Good afternoon.

Q. RMP has not included a value for avoided transmission and distribution capacity investment costs in its proposed ECR, right?

A. Correct.

Q. It's your position that applying a deferral value for avoided transmission and distribution costs on overall capital investment projects is an oversimplification?

A. That is my view, yes.

Q. Because, according to you, an examination of each capital investment project individually can lead to a different deferral value?

A. A different deferral value, and if it's even applicable.

Q. So, you're right. It's your position that you need to evaluate each project individually to determine if it has the potential to have a deferral value?

A. Yes.

Q. And then if you determine that there is a potential for a deferral value, you have to look at the project individually, as each project may have a unique value based on how long the project can be deferred for?

A. That is correct.

Q. But, Mr. Barker, you didn't examine each of RMP's capital investment projects on an individual basis, did you?

A. No, I did not.

Q. So RMP doesn't include an avoided transmission and distribution value in its proposed ECR because you didn't calculate the value.

A. What I said in my testimony was that it was -- it was my belief that it was an oversimplification to apply that deferral value over all of our capital

projects. I provided one example where we did a, kind of back-of-the-napkin calculation. And then we added that it would be difficult to quantify based on what you're saying exactly, that in order for it to be appropriate and accurate, that would need to take place.

Q. So, right. You looked at one project.

A. I looked at one project. And I also have --

Q. And you did the back-of-the-napkin calculation, is that what you did before making a conclusion for this Commission?

A. I based that also on engineering judgment in that we have several other capital investments in the Salt Lake Valley very similar to that example that we made that I believe would have a similar outcome.

Q. But to be clear: Nowhere in any of your submitted testimony did you provide an analysis of those other projects that you claim are similar to the 90th Street Substation that you analyzed?

A. No, I did not.

Q. You also claim that CG solar customers' lack of commitment to remain in service makes it too risky for RMP to rely on CG solar when planning capital investments.

A. Oh, no, that is not correct. That was not my intent.

Q. Is it not your testimony that -- are you saying that the lack of CG solar's long-term commitment is not something that makes -- that makes relying on CG solar problematic for long-term capital investments?

A. What I said that -- is it, in looking at if I have a project that is going to go in service in, let's say, 1 to 5 years, and I, as an engineer or planner, am counting on the addition of solar over those several years, that counting on that to come online adds risk to my assessment as a planner.

Q. So you're saying that the lack of long-term commitment by CG solar customers adds risk to relying on CG solar for capital investments?

A. No, I did not say anything about long-term commitment.

Q. Did you use --

A. What I just said was them coming online in the next several years on when I'm planning on them coming online based on a forecast.

Q. Okay. Let's just make sure we're clear on what your testimony is.

Could you please bring up Tab 4. I'm going to direct you to your rebuttal testimony at Lines 93 to 97 in just a moment.

So follow along with me, please, if you will at

Line 93.

"There is risk associated with being able to bring sufficient customer generation resource on in time to defer a capital project. Capital investment projects from inception to in-service can take anywhere from one to five or more years. The Company does not directly control ... generation installation timeframes, nor does the Company retain a commitment from customer generators to remain in-service."

That was your testimony, right?

A. Yes.

Q. So you spoke to the fact that you can't guarantee that CG customers will retain a commitment to be in service?

A. That was part of it. I would say the majority of my concern is where people that we forecast may come online -- and that's the first line of my testimony there -- that they would bring sufficient customer generation resource on in time to defer it.

Q. I appreciate your answer. I'm not asking about what your major concern is.

You cited a concern what -- as one of your concerns in terms of relying on CG solar was whether or not CG solar customers will retain a commitment to remain in service as one of your concerns.

A. Yes, and that's probably fair.

Q. You'd agree with me that PV panels are expensive, right?

A. Under what context compared to what? I'm not sure how to answer that.

Q. Would you agree that for an individual household to add PV panels for over $10,000 is a significant investment?

A. It depends on the household.

Q. So to be clear: Were you listening when your co-employee -- when your colleague, Mr. Meredith, was testifying earlier?

A. Yes.

Q. Did you hear him multiple times admit that PV panel installation is a significant investment for most households?

A. Yeah, he didn't say most households. He said a household. And I think that in some households, it is not a significant investment.

Q. Okay. But for some households, it certainly is a significant investment, right?

A. Sure.

Q. You'd agree with me that buying something that's over $10,000 in cost is not a minimal investment?

A. No.

Q. You don't agree with me or you do agree that?
A. I agree that that is not a minimal investment.
Q. So given the price tag, becoming a CG customer is a long-term investment, right?
A. Yes.
Q. In fact, the life cycle of a typical PV panel is 20 to 25 years.
A. As I understand it, that's correct.
Q. And given that CG customers purchase PV panels with a 20- to 25-year life cycle, abandoning their panels after a year seems illogical, right?
A. Yes.
Q. Even abandoning it after 2 years doesn't seem to make much sense?
A. I would agree with that.
Q. And given the considerable cost of PV panels, it takes time to achieve a return on the investment?
A. Yes, I agree with that.
Q. You'd agree with me that CG exports -- excuse me, that a CG customer is not going to generate thousands of dollars in export credits in 1 year?
A. I would agree with that.
Q. They're probably not going to generate thousands of dollars in export credits in 2 years?
A. Correct.

Q. Now, any produced solar energy that's not used by a CG customer is automatically sent to the grid, right?

A. Can you ask that again? I'm sorry.

Q. Sure. Any unused solar that's produced by a CG customer is automatically sent to RMP's grid?

A. Yes.

Q. And generally, the need for long-term commitment from energy producers is, in part, to ensure that the producer doesn't sell their energy to other buyers, right?

A. Can you rephrase that question? I'm not sure I understood.

Q. The value of a long-term commitment from a power producer is to ensure that they don't take their power and sell it to somebody else, right?

A. I'm not sure how to answer that question. Maybe that's outside my purview of understanding power producers and generation.

Q. Okay. Well, let's talk specifically about CG customers.

CG customers don't have the option of shopping their energy exports around to other utilities, right?

A. Correct.

Q. RMP is the only possible buyer of CG exports in

its territory?

A. As I understand it, that's correct.

Q. You claim that at increasing penetration levels, CG solar will lead to a number of infrastructure costs.

A. That's correct.

Q. It's commonly known within the energy industry that infrastructure costs associated with CG solar are not a concern until penetration levels reach 10 to 15 percent, right?

A. Can you define 10 to 15 percent? Is that of the nameplate capacity, or 10 to 15 percent of what they're producing at peak?

Q. I'm asking you -- you're talking about in your testimony that there may be increased costs that RMP will suffer when there's increasing penetration levels of CG solar, right?

A. Correct.

Q. You have not anywhere in your testimony quantified the level of penetration that would be required to cause those costs to accrue to RMP?

A. That is correct. And I also in my testimony am very clear that it is difficult to quantify that value.

Q. And you said even in your direct testimony you're concerned about the costs that may accrue. But as you just said, you've never quantified what those costs

may be.

A. That is correct. But that does not necessarily mean that we cannot make assumptions on increasing penetration levels --

Q. But you can provide --

A. -- and what that will do to the system. And we can model what those things will do, as I've shown in my surrebuttal testimony.

Q. But despite the modeling and the assumptions, you haven't been able to tell this Commission at what penetration level RMP will start to incur costs due to CG solar?

A. That's correct.

Q. And you haven't given the Commission in any way an estimation of when CG solar will reach penetration levels that will cause those costs?

A. In my testimony, I have not.

Q. And you also have at no point provided any quantification of the potential infrastructure costs that RMP may suffer?

A. The only thing that I indicated was I showed a table on the number of regulating devices that we have throughout the system and of the reasonable assumption that as penetration levels increase -- and this is at any level as you have customer generation online -- those

regulation devices are going to operate more and take life off of those systems.

Q. The table you mentioned, it showed the number of voltage-regulating devices that currently exist in Utah, right?

A. Yes.

Q. But it did not provide a quantification of the costs RMP will suffer once CG penetration levels reach the level of causing costs?

A. It would suffer the cost of replacing that equipment on an earlier -- on an earlier basis than its normal life under a system not operating with customer generation.

Q. But you can't provide a numerical figure for what that possible cost may be?

A. As I discussed in my testimony, that is a very difficult number to parse out of the system because I have loads that are varying, I have a transmission system that is varying, coincidentally, because of renewable generation on the transmission system. Those elements also provide variability in the voltage.

And so to parse out the singularity of customer generation is difficult to do. But it is an aspect of reality, and it's a reasonable assumption for us to say that we are accruing some costs.

Q. So your testimony is that in the future, CG solar may accrue costs -- excuse me.

In the future, RMP may accrue costs associated with CG solar?

A. Yes.

Q. But you can't tell us when those costs will accrue?

A. No, I cannot.

Q. Okay. Thank you.

MS. ZIMMERMAN: No further questions at this time.

CHAIRMAN LEVAR: Thank you, Ms. Zimmerman.

And I have to do a mea culpa at this point. I should have gone to Mr. Jetter and to Mr. Snarr before I went to Ms. Zimmerman just to keep cross-examination of parties with similar positions in order.

So I think the equitable way for me to rectify that mistake is, Ms. Zimmerman, if you have any recross based on direct testimony of the Division or the Office, I'll allow you to do that, even if it's outside of the scope of any redirect by Rocky Mountain Power because I think I disadvantaged you by jumping to you first.

So I'll go to Mr. Jetter next.

Do you have any questions for Mr. Barker?

MR. JETTER: You know, the question I have is a

little bit along the lines of questions resulting from the initial cross-examination. And so I guess I'd need an opinion from the Commission if you would allow me to ask those questions or not.

CHAIRMAN LEVAR: I'll take the easy way out and say: Why don't you ask it, and see if we get an objection from anybody.

MR. JETTER: Okay.

CROSS-EXAMINATION

BY MR. JETTER:

Q. I guess the first question I would have is: Is it accurate that there are alternatives to selling the electricity back to the grid or simply abandoning solar panels?

A. Can you give an example? I'm not sure.

Q. Could you take your solar panels and sell them to your neighbor?

A. The solar panels themselves?

Q. Yes.

A. Yes.

Q. And could you take your solar panels and take them off the grid and use them solely to, let's say, recharge a car?

A. Yes, I believe you could do that.

Q. Thank you. And are you familiar with FERC Order 2222 that was recently released in the last week or so?

A. No, I'm not.

Q. Would you accept, subject to check, that FERC has recently released an order that will allow and require in some markets the aggregation of small customer generation facilities to sell on the wholesale market as an aggravated product?

A. I'm familiar with that concept, but I am in no way an expert on its impact or how it folds into our regulatory process.

Q. And I guess let me ask you hypothetically. If in the future that becomes an alternative for customer generators to sell on the wholesale market, do you think that that might be an alternative to selling directly through a customer generation export credit to Rocky Mountain Power?

A. Again, that's outside of my purview as an engineer. That's probably a better question for either our rate making or valuation witnesses.

Q. Okay.

MR. JETTER: Those are the questions that I had. Thank you.

CHAIRMAN LEVAR: Thank you, Mr. Jetter.

Mr. Snarr, do you have any questions for

Mr. Barker?

MR. SNARR: We have no questions at this time. Thank you.

CHAIRMAN LEVAR: Okay. Thank you. At this point because of my mistake on the order of cross-examination, I'll go to Ms. Zimmerman at this point.

Do you have any follow-up to Mr. Jetter's questions you'd like to ask before we move on?

MS. ZIMMERMAN: I do. Thank you.

FURTHER CROSS EXAMINATION

BY MS. ZIMMERMAN:

Q. Is there any evidence in this record of CG customers selling their PV panels to their neighbors?

A. Not that I'm aware of.

Q. And is there any evidence in this record of CG customers disconnecting their panels from their house only to charge their electric vehicles?

A. Not that I'm aware of.

Q. Thank you, Mr. Barker.

MS. ZIMMERMAN: Nothing further at this time.

CHAIRMAN LEVAR: Thank you, Ms. Zimmerman.

Mr. Holman, do you have any questions for Mr. Barker?

MR. HOLMAN: I have no questions. Thank you, Chair Levar.

CHAIRMAN LEVAR: Okay. Thank you.

Mr. Mecham.

MR. MECHAM: I have no questions, either. Thank you, Mr. Chair.

CHAIRMAN LEVAR: Thank you.

Ms. Wegener, any redirect?

MS. WEGENER: Yes. Just briefly. Am I showing up on my camera now?

THE WITNESS: Yes.

CHAIRMAN LEVAR: Yes.

MS. WEGENER: Good deal.

REDIRECT EXAMINATION

BY MS. WEGENER:

Q. Mr. Barker, how long have you been involved in distribution system planning?

A. For 18 years.

Q. And why did you select the 90th South Substation as the project to analyze to determine whether there was a T&D capacity deferral benefit from CG?

A. I believed the 90th South project was a good indication of generally how our system reacts. It has residential. It has commercial. It encompasses a fairly

large area of the Salt Lake Valley. It has a very robust load growth. And so I felt it was a good representation of what we invest in with our capital.

Q. So based on your experience, can you extrapolate from that project what the results might be if you analyzed each project individually and conducted that expensive analysis?

A. It would be my engineering judgment that most of the -- of our capital projects would fall into that same category. We typically invest in areas that have a higher load growth. Again, those areas that have no load growth, the generation that is connected has no benefit to the system. And because of that characteristic, I believe that most of our capital investments would fall into that category.

Q. Thank you.

MS. WEGENER: That's all I have.

CHAIRMAN LEVAR: Thank you.

Mr. Jetter, do you have any recross for Mr. Barker?

MR. JETTER: No, thank you.

CHAIRMAN LEVAR: Okay. Thank you.

Mr. Snarr?

MR. SNARR: We have nothing.

CHAIRMAN LEVAR: Okay. Ms. Zimmerman?

MS. ZIMMERMAN: Nothing, thank you.
CHAIRMAN LEVAR: Okay. Mr. Holman?
MR. HOLMAN: Nothing, thank you.
CHAIRMAN LEVAR: Okay. Mr. Mecham?
MR. MECHAM: Nothing from me, either. Thank you.
CHAIRMAN LEVAR: Okay.
Commissioner Allen, do you have any questions for Mr. Barker?
COMMISSIONER ALLEN: No questions. Thank you.
CHAIRMAN LEVAR: Thank you. Commissioner Clark?

CROSS-EXAMINATION

BY COMMISSIONER CLARK:

Q. I do have a question regarding voltage regulator devices, or voltage regulation devices and their life cycles.

Would you say that the frequency of their operation is material to their life span? And what other -- if so, what other influences would be material to their life span?

A. So I can think of two instances that would be material for their life span. The first would be the number of operations that they go through. There's mechanical linkage inside those voltage regulating

devices. So just like any other machine, the more that that operates, the more wear and tear that it receives.

The other aspect that may reduce its life, if you will, would be increased loading on -- or overloading of that particular device, so how much current will you run through that device? But, you know, typically we do not overload those devices. We would change them out prior to seeing an overload.

Q. So is it only the overloading condition with respect to current? Or is it any level of current passing through the device that affects its, the duration of its life span?

A. It would -- they are built to operate within the power parameters of the current parameters for which it is designed. So yes, it would have to be overloaded, its design parameters, in order to reduce its life.

COMMISSIONER CLARK: Thank you. That concludes my questioning.

CHAIRMAN LEVAR: Thank you, Commissioner Clark.

CROSS-EXAMINATION

BY CHAIRMAN LEVAR:

Q. Mr. Barker, just this question may fall outside of your expertise, so please tell me if it does. It has to do more with the marketing side of transmission.

So if customer generation resulted in freeing up some of PacifiCorp's available transmission capacity, is there a market into which PacifiCorp can sell that capacity on a short-term basis outside of long-time, multi-year contracts?

A. Yeah, that probably is getting outside my area of expertise. And our next witness may be able to answer that a little bit better in valuation.

CHAIRMAN LEVAR: Okay. Thank you. I appreciate that.

I don't have anything further, so thank you for your testimony today, Mr. Barker.

THE WITNESS: Thank you.

CHAIRMAN LEVAR: Ms. Wegener, Rocky Mountain Power's next witness.

MS. WEGENER: Yes. The Company calls Dan MacNeil.

CHAIRMAN LEVAR: Good afternoon, Mr. MacNeil. Do you swear to tell the truth?

THE WITNESS: I do.

COMMISSIONER CLARK: Okay. Thank you.

Ms. Wegener.

DANIEL MACNEIL,

was called as a witness, and having been first duly

sworn to tell the truth, the whole truth, and nothing but the truth, testified as follows:

DIRECT EXAMINATION

BY MS. WEGENER:

Q. Mr. MacNeil, can you please state and spell your full name?

A. My name is Daniel MacNeil, D-A-N-I-E-L, M-A-C-N-E-I-L.

Q. And what is your business address?

A. My business address is 825 NE Multnomah Street, Suite 600, Portland, Oregon 97232.

Q. What's your position with the Company?

A. I'm a resource and commercial strategy advisor.

Q. Did you submit direct, rebuttal, and surrebuttal testimony in this matter?

A. Yes.

Q. Do you have any corrections to that testimony?

A. I do not.

Q. If I asked you the same questions that are contained in that testimony today, would your answers be the same?

A. Yes.

MS. WEGENER: I move to admit the direct, rebuttal, and surrebuttal testimony of Dan MacNeil.

CHAIRMAN LEVAR: Thank you.

If any party has any objection to that motion, please unmute yourself and state the objection. I'll just give a few seconds.

I'm not seeing or hearing any objections, so the motion is granted. Thank you.

Q. (BY MS. WEGENER:) Mr. MacNeil, can you please provide a summary of your testimony.

A. Yes.

Good afternoon, Chairman Levar, Commissioner Clark, and Commissioner Allen. My testimony addresses the Company's methodologies for setting customer generation export rates under Utah Schedule 137.

Before I discuss my proposals, I'd like to make a comment on scope. The Schedule 137 export credit rates would apply to customer generation that is left over after meeting a customer's own needs. Customer generation that is used on site will avoid retail rates, just like under Schedules 135 and 136. The proposed rates would apply to new customer generation resources that submit applications in the future.

Scope is important because witnesses for other parties frequently conflate customer generation with customer generation exports. During the most valuable periods, higher on-site consumption tends to reduce the

volume of customer generation exports. So customer generation and customer generation exports do not have the same profile and are not equivalent.

Similarly, parties often conflate existing customer generation resources with those of future applicants. The export credit rate should reflect the costs the Company would otherwise incur to serve nonparticipating customers in the absence of the exports from future Schedule 137 participants.

My proposed export credit rates include three elements: Avoided energy costs, avoided line losses, and integration costs. My summary will also address parties' proposals for avoided capacity costs, the proposed on-peak and off-peak definition, and the need for annual updates to export credit rates.

The vast majority of the proposed export credit value is avoided energy costs, including additional energy savings from avoided line losses. I offer two avoided energy alternatives: A forecast based on the approved methodology for forecasting qualifying facility avoided costs, and a backcast based on historical energy and balanced market prices during the periods when customer generation exports have actually occurred.

While the forecast is specific to the rate effective period, historical EIM prices would be more

transparent for parties to review. Either method would provide a reasonable basis for export credit rates that are updated annually.

Vote Solar has proposed calculating avoided energy costs using hourly market prices based on the Company's official forward price curve, or OFPC. The hourly OFPC values reflect monthly heavy-load hour and light-load hour prices with hourly shaping based on historical market prices.

Vote Solar's avoided energy proposal overstates the value of customer generation exports because forward market prices reflect a premium for price and volume certainty that is inconsistent with the volumes that might or might not be exported by customer generators in any future period.

In addition, because of limits on transmission and market depth, the Company does not assume that all incremental volumes can be sold at market prices in either its integrated resource plan, IRP, or in the GRID model, which supports one of the Company's forecasts of the avoided energy costs in this proceeding. Vote Solar's proposal disregards these factors and should be rejected.

With regard to avoided line losses, Schedule 137 customers are expected to take service at secondary

voltages, and customer generation exports will need to cross the secondary distribution system to reach other retail customers.

Therefore, my direct testimony included avoided marginal line losses from the transmission system up to the primary distribution system. Under this proposal, line losses are highest when load is highest, reaching up to 11.5 percent in the late afternoon in July and dropping as low as 5.3 percent in the middle of the night in October when load is low. As a result, the export credit rate reflects losses specific to the conditions when exports are expected to occur.

Mr. Volkmann of Vote Solar suggested that the calculation of losses should include avoided line transformer losses on the secondary system.

If a more nuanced look at the secondary system is desired, it's also appropriate to account for incremental losses associated with the exporting customer's service drop. In my surrebuttal testimony, I incorporated the net impact of these two segments of the secondary system, slightly increasing the value of avoided line losses.

The final element in my export credit proposal is integration costs calculated based on the values for utility scale solar resources in the 2019 IRP. This

definition only includes the cost of setting aside flexible capacity that may need to be called upon within an hour to maintain a load and resource balance and not the cost of deploying that flexible capacity.

While integration costs for utility scale solar and customer generation exports aren't necessarily the same, I found that the historical intra-hour variability of customer generation exports was actually higher than that of the Company's large portfolio of utility scale assets upon which the integration cost is based. This supports my conclusion that including the small integration cost in the export credit rate is reasonable.

Several parties have advocated for including avoided capacity costs in the export credit rate. In my rebuttal testimony, I calculated the capacity contribution of customer generation exports in two ways: First, based on the methodology used in the 2019 IRP; and second, based on historical Utah loads net of utility scale solar generation, which is similar to the methodology proposed by Dr. Milligan.

Under both methodologies, the capacity contribution of customer generation exports is around 4 percent, which is significantly less than the contribution from customer generation production or utility scale solar assets.

Dr. Milligan's proposals fail to account for the solar resources the Company has already acquired to serve customers and ensure reliable system operation during the day when customer generation exports are greatest. The exports from customers applying to participate in Schedule 137 will not result in significant improvements to reliable system operation.

While a load capacity contribution does not preclude compensation for capacity, Schedule 137 customers will retain the option to use the entirety of their production on-site or incentivize to do so based on the relative levels of retail rates and export credit rates, and do not provide any guarantees that their exports will be made available to meet system requirements. As a result, it is more reasonable not to include compensation for avoided capacity costs in the export credit rate.

To the extent avoided generation capacity costs are still of interest, the Company's 2019 IRP preferred portfolio included Utah utility scale solar resources with the storage capability at a real levelized cost of just $32 per megawatt hour, or 3.2 cents per kilowatt hour in 2024.

This solar and storage resource has significantly higher capacity contribution than the

customer generation exports in consideration in this proceeding, and it also provides zero-cost energy and operating reserves.

The most valuable customer generation production reduces a customer's retail consumption when their loads are high, and it does not provide dispatch benefits that battery storage will. As a result, even if customer generation exports were soon to provide capacity, the value should be less than -- the all-in value should be less than the cost of this utility scale asset.

In contrast, Vote Solar witness Dr. Milligan proposes generation capacity costs based on a simple cycle combustion turbine that exceeds the all-in costs of this utility scale solar and storage asset. And then he goes on to add compensation for energy and greenhouse gas emissions.

The Company's intent in its IRP and resource procurement is to identify and acquire the least cost/least risk portfolio of resources so that customer rates are not higher than the level necessary to ensure reliable service.

Dr. Milligan's proposal is not based on the least cost/least risk options, and thus, is not a reasonable basis for setting export credit rates.

The Company's proposed export credit rates with

a four-hour on-peak period differentiated by summer and winter seasons. This structure provides a reasonable differentiation between periods of higher and lower value while retaining a relatively simple structure. This on-peak and off-peak definition does not change the effective compensation for the average export profile in the Company's analysis; however, distinguishing between on-peak and off-peak periods helps ensure that the compensation paid to customers with different export profiles is consistent with the value they provide.

Many conditions can cause export credit values to increase or decrease over time. Annual updates to export credit rates will ensure that the export credit rate remains accurate and that nonparticipating customers do not bear the risk of changes in value over time.

While the export credit rate will change, customer generation production that offsets a customer's on-site demand will avoid retail energy charges, and thus will not be affected by export credit rate changes. The parties' proposals to fix export credit values for an extended term would shift risks to nonparticipating customers and should be rejected.

That concludes my summary.

CHAIRMAN LEVAR: Ms. Wegener, anything further before we go to cross-examination?

MS. WEGENER: Nothing further from me. I'm sorry. I'm on mute.

CHAIRMAN LEVAR: Thank you.

Mr. Jetter, do you have any questions for Mr. MacNeil?

MR. JETTER: Actually I do.

CROSS-EXAMINATION

BY MR. JETTER:

Q. Good afternoon, Mr. MacNeil. Very briefly.

You referenced the IRP value of 3.2 cents per kilowatt hour for utility scale solar and storage.

Is it your opinion with your experience in this field that that's an achievable value that you could sign power purchase agreements for?

A. I believe that it's a fair estimate of the cost of bringing solar and storage resources online in that time frame. I do not have a great deal of experience in the exact numbers there, but I know we are running an RFP, and there are a lot of very competitive offers in that proceeding.

Q. Thank you. I'm trying to stay out of the confidential information from that proceeding.

But if we assume -- let's take a really high number. If we assume that it's 5 cents per kilowatt hour

for that solar and storage at a utility scale generation, and then we add another 2 cents, which I think is higher than any witness' testimony, for a transmission capacity to add to that, is that accurate that that would be 7 cents per kilowatt hour for that energy?

A. Five cents and 2 cents is 7 cents, yes.

Q. Okay. And if that were freely available in the market and, instead, you paid 24 cents per kilowatt hour for energy from an export from a customer, that wouldn't necessarily raise rates for the nonparticipating customers; is that accurate? And by that, I mean that would result in a higher rate paid by nonparticipating customers as compared to purchasing the hypothetical 5 cent per kilowatt hour solar plus battery.

A. Certainly paying more than the cost of an alternative would result in a customer's having higher rates than were necessary. And I would note if it happened to be that the solar plus storage resource identified in the 2019 IRP actually cost 5 cents plus 2 cents, it's entirely likely that something else besides solar plus storage would have been more cost effective as an alternative.

Q. Thank you.

MR. JETTER: That's all the questions I have. Thank you.

CHAIRMAN LEVAR: Okay. Thank you, Mr. Jetter.

Mr. Snarr, do you have any questions for Mr. MacNeil?

MR. SNARR: No, we have no questions for Mr. MacNeil.

CHAIRMAN LEVAR: Okay. Thank you, Mr. Snarr.

I'll go ahead with Vote Solar if one of your attorneys is planning to ask Mr. MacNeil some questions.

MR. SELENDY: Thank you, Chairman Levar. Philippe Selendy here. I will ask some questions, if I may.

CROSS-EXAMINATION

BY MR. SELENDY:

Q. Mr. MacNeil, your direct statement appears to include certain assertions and evidence that are not contained in the reports that you previously submitted to the Commission; is that correct?

A. Do you have a specific reference?

Q. Sir, have you introduced new assertions and facts which are not contained in the reports you previously submitted?

A. I do not believe so.

Q. Okay. I believe that you have.

MR. SELENDY: And, Mr. Chairman, we'd like to

reserve the right to strike newly-introduced facts upon our review of the reports. But we'll need to check that against the transcript once we have that.

Q. (BY MR. SELENDY:) Okay. Mr. MacNeil, you made a reference to a 4 percent figure with respect to exports in connection with avoided capacity costs.

What were you describing there?

A. That is the capacity contribution of customer generation exports. Capacity contribution is a way of characterizing how a particular resource contributes to the reliable operation of the system.

Q. And you indicated that that figure is considerably less than the avoided capacity contribution from CG production; is that right?

A. Yes.

Q. And what is the avoided capacity from CG production? Did you quantify that?

A. If it's quantified, it would be in my rebuttal testimony, but I do not recall the exact number.

Q. Did you submit that number in connection with these proceedings?

A. So there are several numbers identified in my rebuttal. For example, the capacity contribution of tracking solar resources was 11 percent on an annual basis. I would expect the contribution of CG production

to be in between that of a tracking solar resource that follows the sun and a subcomponent of the production which is related to exports.

Q. Do you provide any data on that in your rebuttal report or other reports, sir?

A. I would have to find a cite, but I am certain that the work papers I provided in conjunction with my rebuttal testimony did include a calculation of the capacity contribution for CG production.

Q. And when you talk about that capacity contribution, is that an average figure you're basing it on with respect to all CG systems?

A. It reflects the contribution related to the average profile that we were working with.

Q. And what's the source of the data that you used to determine an average profile?

A. I do not recall, but it was either the load research study produced by Vote Solar or that of the Company, and they were quite similar.

Q. All right. Now, we've heard some back and forth in these proceedings so far as to the nature of CG investments relating to rooftop solar.

And I take it you would agree with the basic proposition that rooftop solar is typically a big, long-term, fixed investment that stays on the house for

the life of the system, correct?

A. That is the intent, I would suspect. Yes.

Q. And what are the ways that homeowners can earn back the cost of the rooftop solar investment?

A. Customers can receive reductions in their retail rates, the expenditures that they receive for the retail service they take.

Customers can also receive compensation for the exports that they receive.

And customers may also have other reasons for supporting renewable energy.

And they may receive some resiliency benefits. If service from the grid is out for some reason, they may be able to operate in the absence of a connection.

Q. So homeowners can either use the energy they generate, or they can sell that energy back to RMP, right?

A. Yep.

Q. Okay. And if customers want to sell the excess solar energy, then, in practice, RMP is the only buyer in this service territory, correct?

A. Actually, any customer -- you know, a few hundred KW would be eligible to be a qualifying facility. And in accordance with our regulations, we are required to offer transmission service should any QF, qualifying

facility, wish to transfer their power to a different service territory.

Q. You're suggesting that if a retail customer were to pay the costs associated with selling on wholesale rates outside the RMP service territory, it would be able to do so?

A. I believe so, yes.

Q. And can you conceive of any situation in which that would be an economically sensible thing for a homeowner to do in RMP service territory?

A. It is certainly possible that someone is willing to pay you a great deal of money for your rooftop solar output, but it is unlikely to be economic, especially with where wholesale rates are today, which is the major driver for the export credit rates that we are proposing.

Q. So as a practical matter, homeowners either use the power or sell it to RMP, correct?

A. Yes.

Q. And are you familiar with the term "monopsony"?

A. I have read it but forget the definition.

Q. It refers to a market condition where there's only one buyer, correct?

A. Okay.

Q. And in RMP's territory, RMP is a monopsonist, the only buyer for customer generated solar energy,

correct?

A. We are the only buyer, that is true, subject to the other unlikely outcomes that we discussed earlier.

Q. So when RMP is proposing an export credit rate in this proceeding, it's asking the Commission to set the only price at which homeowners can sell solar power from their systems, correct?

A. We are asking that and, unlike other monopoly situations, we do not have pricing power. We require the Commission's approval to set the rates that we are allowed to charge.

Q. What you're saying is that you need the Commission's imprimatur in order to set that rate; is that right?

A. In other monopoly contexts, a party with monopoly power can set the rate at something that advantages them over what they might otherwise be able to achieve, and that is not the case for us.

Q. Well, let's test that a little bit.

RMP is a vertically-integrated company, correct? It owns not only control over the grid, but generation assets, right?

A. We own some generation assets. Not all of the generation assets that we use to provide customer service are owned by us. Also, not all of the grid that we use

is owned by us.

Q. And to the extent rooftop solar is selling power in RMP's service territory to RMP, that is reducing the amount of power that RMP can purchase from its own generation assets and, in turn, charge its customers for, correct?

A. We will reduce the output of some other source of power to accommodate the customer generation exports that are provided to the grid, yes.

Q. And when RMP is buying customer generated assets, it's not earning a profit on its own generation assets with respect to the power that it's buying from consumers, right?

A. So we don't earn a profit on any of the power generated by any of our assets. We earn on the fixed costs of the capital that we deploy, you know, through our net power cost mechanisms, in particular the energy balancing account. All of the costs that go into the procurement of power, that's fuel costs, purchase power, and even wholesale sales revenues, those all get trued up annually and passed on to customers without any profit.

Q. So if RMP is interested, for example, in building a new natural gas peaker plant and it's seeking the approval of the Commission to do so, it will expect to pass along the costs of investment in that peaker

plant, together with a reasonable rate of return to its customer base, correct?

A. If a new natural gas peaker plant is the most cost-effective solution for reliably meeting customer needs and it's most cost-effective inclusive of the profit that would be taken by the Company, then yes, we would try to do that option as opposed to something else to ensure that we can reliably serve customers at the least cost/least risk manner possible.

Q. And whether RMP has the ability to make new investments with returns that are paid for by the RMP customers turns on whether there's sufficient demand for new power from RMP, correct?

A. Certainly the more demand that there is, the more need for new investments may occur.

Q. And the more rooftop solar there is, the less demand there is for RMP to invest in new generation assets and pass those costs along to its customers, together with a profit for itself, right?

A. In general, most of the solar assets that we have acquired recently, either as qualifying facilities or as non QFs, we own a very minimal amount of solar resources. Most of those are not producing any sort of profit for the Company.

Q. But my question wasn't limited to solar assets,

sir. My question was a general one.

To the extent RMP is unable to seek Commission approval for the new investment in power generation assets because of the competitive production of power from rooftop solar, then RMP is also unable to earn the returns, the profit associated with that investment from the customer base in Utah, correct?

A. I appreciate that point. But I guess I would say with respect to this particular condition in customer generation exports, I'm saying it is unlikely at this time that RMP would be able to own a solar asset that is most likely to provide the capacity during the day when customer generation exports are most likely to occur, and that it wouldn't matter either way to the Company's earnings.

Q. And as to that source of speculation, there's nothing in your reports, right?

A. I do offer that a solar resource that we could acquire through our -- the identified process is the most similar to customer generation exports in the -- in its characteristics.

Q. Now, RMP is asking the Commission to set export rates that are, on average, either 1.53 cents or 2.2 cents a kilowatt hour, correct?

A. Yes.

Q. And do you have a view as to which of those alternatives is more just and reasonable in RMP's perspective?

A. I believe that the addition of new solar resources that is ongoing this year is likely to drive down the value of customer generation exports in the future. But, you know, there's a lot of room in rate making for just and reasonable rates to be set.

Q. When you say there's a lot of room in rate making for just and reasonable rates to be set, can you clarify what you mean?

A. The Commission will weigh a variety of factors when considering what just and reasonable rates are.

Q. Okay. And do you agree that the average retail rate that RMP charges consumers when it sells to residential homeowners is about 10.2 cents a kilowatt today?

A. Yes.

Q. And depending upon the time-of-use schedule, that could be as high as 18.8 cents, correct?

A. I understand those are the rates in those time-of-use schedules, yes.

Q. Okay. So RMP wants to be able to buy customer generated energy for 1.53 cents or 2.2 cents, and then turn around and sell it for 10 cents or 13 cents or 18

cents to other homeowners in its service territory, correct?

A. I do not view it that way. Those -- that 18 cents is spreading a lot of the fixed costs of our system, including generation resources, transmission and distribution, and so on across the usage and all of the customers that are taking service. You know, without the transmission and distribution system, at least the distribution system, it wouldn't be possible for us to take customer generation exports and deliver them anywhere.

We're not including a cost or reduction to the customer generation export rate to account for that usage of the distribution system. It's there. It's paid for through retail rates. It's fundamentally a different characteristic of what we are willing to pay for the marginal resource of a customer generation export versus how we have spread the costs of maintaining the entirety of our reliable system to retail customers.

Q. Let me give you an example. Suppose you have two homeowners behind the same secondary transformer. One of them installs a CG system for $20,000, and the other one does not have CG solar. The other one, however, is on the time-of-use schedule, too, which RMP still has in effect today, and is looking at a purchase

of power in the summer months in the peak period where it would be charging -- where it would be paying 18.8 cents to RMP.

If the solar customer provides exports and they travel from one house to the next behind the secondary transformer -- so there's no distribution system involved -- RMP is still going to charge the neighbor 18.8 cents for the power that went from one house across the yard to the other, where it's paying 1.53 cents or 2.2 cents for that power, correct?

A. So it's not correct that the distribution system is not involved. You know, the service drop, all those components, the poles and so on, the meters, all of that is being paid for in that retail rate, besides which all of the resources that are sitting available across, you know, the Rocky Mountain Power system. Those are all available. And so while those rates will be the effect on those two customers, there's a tremendous amount going on behind the scenes in order to ensure that that transaction can take place and that both customers can receive, you know, retail service that's reliable.

And I would also note -- I would also note that, to the extent we can source power at 1.5 cents elsewhere in our system and serve customers during the day when that customer generation export could occur, that's, in

essence, what we are proposing, you know, the cost of the resources we would otherwise deploy to serve those customers. So it's not that it costs us 9.2 cents out the door to serve or the 18 cents to serve that customer, who is a nonparticipating customer. You know, the variable costs of the generation that's deployed is well below that, but we're recovering the fixed costs of all those components that allow that to happen reliably.

Q. So your testimony is that it's a just and reasonable result for RMP to put a markup of 16.7 cents or more on the power from the solar customer when it sells that same power to the customer next door, correct?

A. I agree that it is appropriate for us to pay 1.5 cents for the customer generation exports and that charging the retail rates, as approved, is an appropriate cost of service for those consumers.

Q. I understand that you agree with Vote Solar's expert, Dr. Milligan, that any increase in supply or reduction in load during a period with loss of load events is likely to reduce the risk and/or the magnitude of outages; is that correct?

A. I did say that, yes.

Q. Okay. What are loss of load events?

A. So in order to maintain a reliable operation of the system, the Company must more or less instantaneously

maintain the balance between load and resources. The amount of generation push onto the grid must be equal to, within very slim margins, the amount of load taken off the grid.

If we don't have enough resources to maintain that balance, the problem is that the frequency can drop. If we take more electrons off the grid than we put on, the frequency of the system can drop, and it's not designed for those frequency drops. In that instance, the solution is to curtail from network load and bring the load and resource balance back together.

Q. How does an increase in supply help reduce the risk and/or magnitude of outages?

A. If we are 100 megawatts short and 1 megawatt appears, we only need to curtail 99 megawatts, or we only have to wait until that remaining 99 megawatts comes back into balance on its own, which would be sooner than if a larger amount was missing.

Q. And how does a reduction in load reduce the risk and/or magnitude of outages?

A. So the one resource balance is two components, and a production load as probative production in the generation that's necessary.

Q. So when homeowners install rooftop solar, that reduces the risk and/or magnitude of outages, right?

A. Yes.

Q. And let's break it down. First, distributed solar increases supply when it's sold to RMP, right?

A. For customer generation exports, yes. That would increase the supply to the system, yes.

Q. And with respect to consumption, distributed solar also reduces load when consumers use the energy from their rooftop solar systems rather than pulling in more energy from the system, right?

A. Yes. A customer that is using their own solar on site will not be drawing from the grid for those quantities.

Q. And these are positive values contributed by solar to the grid, correct?

A. I don't know that I would say that the on-site consumption of a particular customer is contributing to the grid. Their level of service is different than it would otherwise be, and they, you know, pay lower rates as a result.

Q. The reduction in peak or near peak demand provides benefits to the system, right?

A. Again, I don't know that it provides a benefit. We would not have to serve that. We will not recover the rates to cover the fixed resources that might be necessary to serve that peak. So there's a natural

pairing there between compensation and costs.

Q. I'm interested in hearing you say that you don't know it provides a benefit.

Did you hear the examination earlier today of your colleague, Mr. Meredith?

A. Yes.

Q. Okay. And do you recall Mr. Meredith acknowledging that one of the reasons why RMP supports programs, such as a Wattsmart program or energy efficiency programs, is that the reduction in load provides a benefit to the system during periods of higher demand?

A. All of those programs are cost-effective. They meet tests that ensure that the outlays related to those, including not just customer incentives but the administration of the process, provides more benefits than it's expected to cost. We are not doing that same type of analysis for the customer generation used on site in this proceeding.

Q. Clearly, you are not, and that's what I want to focus on. And in particular, leaving aside the question of cost, I'd like to focus on the question of benefit, what happens when there is a reduced demand for electrons during periods of peak or near peak demand?

And with respect to consumption by CG customers

using rooftop solar during periods of peak or near peak demand, that reduction in load is a benefit to the system, correct?

A. The system would not need to be as large as it would otherwise need to be to serve all of the retail load at that time if a portion of the retail load is removed.

Q. And that's because distributed solar can thus reduce the need for other capacity resources, correct?

A. Potentially, yes.

Q. And yet, RMP comes up with its export credit rate by assigning a zero value to distributed solar's capacity contribution, right?

A. So, we do not assign a zero value to the distributed solar. You know, nothing in this proceeding other than my summary, which you have disputed, actually addresses the contribution of distributed solar. We are focused on the exports.

There is a significant, you know, payment -- not payment, but cost savings that -- retail rates that are avoided by a distributed solar customer. That happens, and that is well above what we believe the marginal cost of capacity during the day is. But we are allowing that to flow through retail rates, just like any other adjustment to retail rates.

Q. You started to refer to a significant payment, and then you changed the course of your answer. What were you referring to? I just want to be sure I'm following what you're talking about.

A. You disputed earlier with Mr. Meredith whether there was actually a payment for the retail savings. And I just wanted to not enter that dispute again.

Q. Because, in fact, RMP is not paying or compensating customers in any respect for power that they are not buying from RMP, right?

A. We are neither charging nor compensating them for the fact that they have a distributed resource.

Q. And RMP's export credit rate is also not compensating customers for avoided generation capacity from the CG systems, right?

A. We have not proposed including an avoided generation capacity cost in the export credit rate.

Q. In fact, you're saying that it's not appropriate to compensate CG customers for avoided capacity costs, right?

A. I believe that's true, yes.

Q. I mean, if we look at your rate structure in total, the primary value of solar is essentially to allow customers to avoid paying RMP's retail rates, correct?

A. Yes.

Q. And if you had battery storage plus solar, that would allow consumers to save even more from not paying RMP's rates, right?

A. Absolutely.

Q. So do you consider the risk that homeowners will simply do that, buy solar and batteries and disconnect from the grid, so they can have a more economically sustainable structure?

A. It is possible. But there are significant benefits to having a system which is there and at the ready to meet your needs, even if there's snow on your roof and -- under a lot of conditions.

So while it is possible that, you know, solar plus battery could be competitive versus our retail rates, we want to keep our retail rates as low as possible. Part of that is ensuring we have the best least cost resources available to serve all of our customers. And to the extent we can provide low cost electricity with utility scale solar assets and storage more cheaply than a single residential customer could serve themselves with solar plus storage, then we can remain competitive.

Q. And you heard earlier in today's proceedings testimony to the effect that the cost of solar systems keeps coming down, as does the cost of batteries,

correct?

A. Yes.

Q. So that the risk of customers disconnecting, if you're not paying them enough to make it worthwhile to export, is going up year by year by year as the cost of solar and batteries comes down; isn't that right?

A. That is part of it. But at the same time, the cost of utility scale solar and battery assets is also coming down tremendously. And we have a lot of opportunities to serve customers, you know, more cost-effectively and have lower rates as a result.

Q. I just want to confirm your point that it's coming down a lot with respect to consumers because as I recall on Schedule 2, RMP is still charging customers that opt into that TOU rate between 13 and 18.8 cents an hour during peak periods in the summer; is that correct?

A. That's what I understand from the discussion this morning.

Q. And when was that rate first set, do you know?

A. I do not know.

Q. So whatever benefits you're talking about plainly are not flowing through to customers that are unfortunate enough to be on that schedule, right?

A. Obviously, the just and reasonable rates that the Commission approved for that schedule do not align

well with the lower-cost opportunities during the middle of the day that we currently have available.

Q. And so coming back to my point. If you set a rate structure which creates no incentive to export, where the only real benefit from CG systems is for consumers to use the power themselves, and where you are encouraging the use of storage rather than a fair rate structure to allow for exports and imports later, don't you run the risk that you will see a materially higher percentage of your consumers opting out of the grid altogether?

A. I think that's an okay risk. All customers are always at the option to take service from whatever means they can.

You know, we are going to keep trying to have rates that are as low as possible to serve customers. And if we can't do so cost-effectively and there's better options via solar and storage on-site, so be it.

Q. And if you see a significant number of people disconnecting from the grid, that means that the rate paying base will be smaller, and those customers that remain will have higher obligations with respect to paying for the transmission and distribution system that you just talked about; isn't that right?

A. It is true.

Q. And your testimony is that the Commission should not take that risk into account in assessing whether it's just and reasonable to adopt the ECR that you're proposing today?

A. I believe it would be a much worse outcome if we continue to allow net metering and overpay for the energy that's procured from customer generators and is exported to the grid relative to the export rate proposal that we've proposed.

Q. In the answer you just gave me, you talked about overpaying under a net metering system.

There is no evidence that you or any other RMP witness has put forward to show that the costs of net metering exceed the benefits, is there?

A. So nothing in this docket has addressed Schedule 135, the net metering customer class. You know, the evidence that I provided related to the export credit rate in this proceeding shows that the value of customer generation exports is significantly lower than the retail rate.

Q. You do not provide -- I'm sorry.

CHAIRMAN LEVAR: I'm wondering if this would be a good moment to take a break.

MR. SELENDY: Yes, I'm happy to take a break.

CHAIRMAN LEVAR: Okay. I wasn't sure --

MR. SELENDY: Thank you, Mr. Chair.
CHAIRMAN LEVAR: Okay.
MR. SELENDY: No, I appreciate the timing, and I think you've been very courteous to everyone involved with breaks, and I don't want to be in the way of that.
CHAIRMAN LEVAR: Okay. Well, I wasn't sure if I was catching you in the middle of a train of thought. So if you want to take a few more minutes, please excuse my interruption. But if now is a good time, that's fine, too.
MR. SELENDY: Now would be a good time. Thank you.
CHAIRMAN LEVAR: Why don't we take 15 minutes, and we'll reconvene then. Thank you.
(A break was taken from 2:31 p.m. to 2:45 p.m.)
CHAIRMAN LEVAR: Good afternoon, everyone. I think it's been 15 minutes. Once again, I forgot to look at my clock to see exactly when we started the break, but I think it's about time to go back.
So with that, we'll return to Mr. Selendy and Mr. MacNeil to continue cross-examination.
MR. SELENDY: Thank you, Chairman Levar.
Q. (BY MR. SELENDY:) Mr. MacNeil, before the break you said while RMP does not quantify the costs and benefits of net metering today, you did put a value on

exports, correct?

A. Yes. I have proposed the value for customer generation exports for future customer generation applicants.

Q. To be clear, RMP does not present any quantification of benefits to the system from CG production that is behind the metering consumed rather than exported, correct?

A. We have not tried to calculate how the benefits to the system from CG customers relative to their retail rates, what the difference of that might be.

Q. In fact, you don't even have a good or complete set of data in this proceeding showing the total amount of CG production, right?

A. We haven't proposed anything in Schedule 137 that relates to the production in total, just the exports.

Q. And if we're looking at actual costs, the only cost you identify from exports is that relating to integration costs, correct?

A. For the export credit program, we did include an integration cost. I'm not quite sure what you mean by "costs."

Q. Did you include any other integration costs in your calculation of the appropriate rate to be paid for

export?

A. We did not include the use of the distribution system. We did not include a variety of integration costs that Dr. Milligan indicated were possible interpretations of integration. We included the integration costs from our 2019 integrated resource plan and --

Q. Excuse me. So the only costs that you identify with respect to CG exports is the integration costs that you drew from the 2019 IRP; is that right?

A. That is the only cost that we included, yes.

Q. Okay. I'll come back to that.

Now, Mr. MacNeil, your surrebuttal report reflects certain changes in RMP's proposed calculation of the ECR compared to your original and rebuttal reports, correct?

A. Yes.

Q. And in particular, after reviewing the reports of other exports in this proceeding, you modified your calculation of avoided line losses, right?

A. Yes.

Q. Is it fair to say that your first two reports overstated line losses associated with CG exports?

A. I believe my proposal in direct was a reasonable accounting of the line losses associated with CG exports.

In the interest of having fewer topics to argue about, and given the minimal impact that it made, I was willing to adopt that change.

I would note that no one ever really mentioned how I proposed using marginal losses as opposed to the average losses related to retail load. You know, our loss proposal was actually higher than the starting point that Vote Solar started with and proposed. So I will offer that up. But yes, we adopted that change.

Q. And as a result of your correction of testimony, you now recommend the higher export credit rate, correct?

A. Yes. I'm not sure it impacts the fourth or third digit of the rate, but yes, it is higher.

Q. And that's because even with that correction, the rate is it still extremely low?

A. Well, the impact of the change is extremely small.

Q. And the rate remains the 1.53 and 2.22 cents, or whatever, correct?

A. Yes.

Q. And with respect to those two export credit rates, the methodologies that you used to derive both of them are using the energy in balance market pricing data, right?

A. No. So, you know, the energy in balance market

pricing data is used explicitly in the backcast. That's the only source of value in that estimate.

For the forecast, I've calculated using the GRID model, which is a production cost model with all of our resources, our transmission rights, and our loads and obligations -- you know, what the incremental costs or incremental savings would be as a result of the export credit program. We take those costs on a monthly basis and those savings and spread them into an on-peak and an off-peak period based on the relative pricing in historical EIM prices.

So that rate, that 15.23 that you cited to me, that's not dependent on the historical EIM pricing. That's the total. That's the average. All that we're using the historical pricing there for is to spread the on-peak and the off-peak values.

Q. Okay. And let's clarify that. So with respect to what you've termed your "backcast model," you are using the energy in balance market data historically in order to derive a proposed ECR for the future, right?

A. Yes.

Q. Okay. And your testimony is that with respect to the output from the GRID model, you are using the EIM data only to spread the data; is that your testimony?

A. Yes.

Q. All right. And in the GRID model, you come up with a price that is .69 cents below your backcast model. Do I have that right?

A. Subject to check, that 22.22 minus 15 point whatever is that, sure.

Q. And the difference is because in the calculation you made with the GRID model, you're including solar resources that are not online yet, right?

A. That is true. There are solar resources that are expected to be coming online in the near future that are -- were not online during the backcast period.

Q. Well, and so just to be clear: So, you're saying that today the ECR that should be set, for example, this year or next year, should be reduced for systems that are on homeowners' roofs because in the future, RMP intends to bring online other sources of power, specifically utility scale solar; is that right?

A. We have several hundred megawatts of contracted, committed solar resources coming online, you know, by the end of this year that, you know, we expect to reduce our needs and our marginal costs through the middle of the day in the future.

Q. And your -- your testimony, therefore, is that the ECR should be reduced to take into account assets that are not yet online; is that right?

A. Yes.

Q. Okay. And I'd like to be clear. You've made several references to PacifiCorp's IRP.

Is it fair to say that IRP has a 20-year planning period?

A. Yes.

Q. And that's the period that PacifiCorp is evaluating in order to assess, among other things, whether to invest in generation assets and what assets to invest in; is that right?

A. The IRP is not really about our investment. It's a plan of where investment might be required, the kinds of paths that we might be going down, and how to get there. You know, so it's not specifically where do our dollars need to go? That's more of a procurement process, you know.

Q. And when you talk about the paths that need to be examined, you're talking about, among other things, what types of generation assets PacifiCorp should be adding to its portfolio, correct?

A. That is part of what's identified in the IRP, yes, is the types of resource assets that, together, could comprise the least cost/least risk portfolio for certain customers.

Q. And do you understand why PacifiCorp uses a

20-year planning period for that purpose?

A. There's a lot of changes that happen in the future. A lot of assets have long lives. And we're trying to account for at least cost/least risk, not just for this year or next year, but throughout time.

Q. And when you say "least cost/least risk," among other things, PacifiCorp is considering what assets does it want to hold for 20 years in terms of the payback that it will earn on those assets, right?

A. Nothing in the integrated resource plan or in our evaluation of resources looks at the benefit to PacifiCorp, the earnings of those assets. We pick the least cost/least risk resources relative to what customers would pay.

Q. The IRP is used to help inform PacifiCorp's determinations as to which generation assets to invest in, correct?

A. Again, as I mentioned previously, it's not about what we were investing in. The IRP is charting -- you know, exploring the possibilities of what might be used to serve customers. When we actually find that there is a need and we identify the least cost/least risk solution, you know, we would have competitive processes to procure those resources, often adjudicated by the Commission upfront. Or at least we would present those

decisions that we make to the Commission and seek recovery of them.

Q. Isn't the IRP a fundamental planning document that helps guide PacifiCorp in deciding what types of generation assets to invest in in the future?

A. It guides us, but the decision is not made in the IRP. It's a road map of the things to explore more closely. And when we release our request for proposal, such as the one that we have ongoing right now, the IRP helps us ask for, you know, the things that -- it helps us be ready to evaluate the things that are most likely to be cost-effective for customers.

You know, the request for proposal that was released recently, in an all-source RFP. So regardless of what the 2019 IRP said was the most cost-effective option, anything is possible in procurement.

Q. Understood. Understood.

And when RMP does consider procurement, RMP itself is considering the return on its investments over the entire payback period, right?

A. When we try to justify our decisions, you know, we have to make sure that we present evidence to the Commission that shows that whatever choice we made was the most cost-effective option for customers.

To the extent that provides a benefit and a

return to the Company, you know, that's great. But if it's -- if other options are more cost-effective, you know, a prudent action by -- on our part is to take advantage of those other options to serve customers reliably in the least-cost manner.

Q. Does RMP have any concern that certain of its assets will be stranded if, for example, renewables take over an increasing part of production within its service territory?

A. Not -- not generally. I mean, there's always a risk that future conditions will be significantly different than we anticipated. And I --

Ultimately, whether something becomes stranded is just how it is recovered by the Commission. You know, those are those assets that are no longer cost-effective to provide continued service to customers. You know, we've invested in those and provided service with them for a long them, but ultimately, that's a question for the Commission.

Q. And we were talking about the payback period for RMP. And you heard some discussion on that earlier today.

I take it you would agree with me that homeowners who make long-term investments in solar are looking at long payback periods for those investments,

right?

A. It could take a number of years for that asset to provide compensation equal to its cost, yes.

Q. And if the rate that's paid for the CG solar varies every year, how can a homeowner calculate how many years, if ever, it will take for the solar system to earn back the cost of the investment?

A. I believe homeowners can manage that. You know, I have a car which is fueled by gasoline. The price for gasoline can double, you know. Am I still able to buy a more fuel-efficient car? I can manage that question.

Q. Do you or any other RMP witnesses provide any calculation of the likely payback periods for homeowner solar systems in this proceeding, assuming your ECR is adopted?

A. I know I do not. I can't speak for any of the other witnesses.

Q. Are you aware of any generation asset invested in by RMP that has a similar variable rate of return to what you-all are proposing for homeowners here?

A. I am aware that any asset, its value will be uncertain because future conditions are always uncertain.

I do know that under, you know, likely scenarios and a range of scenarios, we try to ensure that the resources we procure are likely to be cost-effective

relative to other options. But I don't know how that would relate to an individual customer considering, you know, applying for a CG solar system.

Q. I'd like to come back to your statement that, according to you, the output of the GRID model is a forecast, a forward-looking figure.

Is that your testimony?

A. Yes.

Q. And is it your testimony that you could use the output from that GRID model to look forward, for example, 5 years based on the data that you have input into the model?

A. It is possible to put into the GRID model data to look forward out 5 years, yes.

Q. You didn't do that, in fact, though, did you?

A. We -- for this proceeding, we only looked 1 year forward. But we did, in response to a Vote Solar data request, provide a GRID model that went out through 2038. 2038 is the last year of the 2019 IRP preferred portfolio. So we have a good idea of what resources will be used to cost-effectively serve customers through 2038, and we can put those into the GRID model.

Q. And I believe you indicated earlier that the EIM historical data is one of the inputs that you used for your outputs from the GRID model, right?

A. We used historical EIM data to shape the avoided energy value identified by the GRID model into on-peak and off-peak periods.

Q. And, sir, is it correct that conditions far into the future may not be aligned with that EIM data?

A. Certainly, far into the future it may be different. But we only forecasted a single year, 2021, which is reasonably aligned with recent EIM history.

Q. Okay. And you recognize that Vote Solar's avoided cost calculation relies on PacifiCorp's OFPC, right?

A. Yes.

Q. And the OFPC is PacifiCorp's official forward price curve, correct?

A. That is what "OFPC" stands for, yes.

Q. And it's a forward-looking curve, right?

A. Yep.

Q. Meaning it can account for future change to the grid?

A. It can.

Q. And it can account for, for example, future natural gas prices, too?

A. Natural gas prices are one of the inputs to the forward price curve, yes.

Q. And it can account for future inflation?

A. I believe inflation is also part of that forecast.

Q. As well as future plant retirements and plant additions, correct?

A. To a more limited extent. You know, when prices beyond about 3 years are forecasted in the official forward price curve, we use the AURORA model. The AURORA model has a variety of resource changes over time. And it uses inflation and gas prices, as discussed, to come up with, you know, the monthly market prices that are reported out. And after adjustments to make those forward, it's a basis of future prices secured for -- today for future delivery. That's the official forward price curve.

Q. And to be clear for the Commission, the AURORA model is the model that's used in the development of PacifiCorp's OFPC, right?

A. It's used in the development of the monthly heavy-load hour and light-load hour prices in the OFPC, yes.

Q. And therefore, it's the model that is ultimately used in the data that's relied upon by Vote Solar since Vote Solar is using the OFPC, unlike you, correct?

A. So, the OFPC, the monthly components of the OFPC, yes, coming from AURORA, reflecting future periods.

But the hourly prices within the OFPC are based on historical patterns throughout the day, and those repeat throughout the forecast period.

Q. And you're aware that PacifiCorp itself is planning to stop using the GRID model by the end of 2021, correct?

A. That's my understanding, yes.

Q. And instead, it's going to be transitioning to the AURORA model and to make use of the OFPC, right?

A. I do not know that we will transition to AURORA. The IRP team is switching to PLEXOS, a different model also by the same developer that produces AURORA.

Ultimately, in either case, I would anticipate that most of the inputs would be the same, regardless. Different settings, knobs, levers available to the user will be different, depending on which model it is. But I believe it will be operated in the same way. And it will actually be different from the AURORA model which is used to produce OFPC.

The AURORA model used to produce the OFPC is more regional in nature. It has the entire WECC, Western Energy -- I can't come up with the rest. But it has the entire west in it, and it's intended to identify for us the, you know, the marginal prices and the market prices across a variety of locations.

The use of production cost models like GRID, AURORA for the power costs, PLEXOS for IRP planning, those are limited to, in more detail, our system, our resources, our transmission rights that we use to serve our customers.

Q. And I'd like to break that down a little bit.

You made reference to the PLEXOS model, but that's a model that PacifiCorp is testing for the IRP, not for the assessment of regulatory net power costs, correct?

A. Correct.

Q. And for regulatory net power costs, PacifiCorp is testing and implementing the AURORA model, correct?

A. Correct.

Q. And one reason PacifiCorp is replacing or considering replacing the GRID model with the AURORA model is that the AURORA model can give us information about market prices at multiple market hubs, correct?

A. The AURORA model has reporting and tools that better allow for identifying market prices by location that the GRID model doesn't support.

Q. And in particular, it's what's called a "nodal based pricing model" by contrast to the GRID model, correct?

A. It can identify the prices at individual nodes.

It is possible to identify those prices with the GRID model, it's just onerous.

Q. Right. And you didn't do that in your use of the GRID model. You didn't try and break it down by nodal pricing, did you?

A. I -- when we modeled the customer generation exports, we did identify the value specific to the location of the customer generation exports at each interval in which they are expected to deliver and the quantities that were expected, and we haven't tried to identify the amounts on an hour-to-hour basis within there. But those are, in essence, nodal results.

Q. So just so that we're clear: Vote Solar used the model that PacifiCorp, itself, is transitioning to; namely, the data, the OFPC data that's generated by the AURORA model. Whereas, you relied upon the data from the GRID model that PacifiCorp intends to cease using as of the end of next year, correct?

A. I disagree completely. The model that, as I discussed before, the model of AURORA that is used to produce the OFPC has the entirety of the Western Interconnect. And it's used to identify prices at specific locations.

Both the regulatory and the power cost group and the IRP group are transitioning to other models, one of

which is AURORA. But the setup of that model is entirely different with the loads and the resources and the transmission rights and so on that are specific to PacifiCorp.

Q. All right. Is it accurate to say that the one cost that you did identify in connection with exports from CG, the integration cost, is drawn by you from the flexible reserve study and PacifiCorp's 2019 IRP?

A. Yes. That is where we reported the 2019 IRP values for integration.

Q. And that study, in fact, didn't derive integration costs that are specific to CG solar, did it?

A. That is true.

Q. It said it's an aggregate assessment across a series of energy resources, right?

A. We -- in the 2019 IRP, we looked at the regulation reserve requirements, how much flexible capacity is needed to accommodate variations of all sorts of classes of resources, that includes solar, wind, load, and nonvariable resources. We put all those together and identified how, by examining the total, we can hold a lower quantity of reserves. And we identified, specific to wind and solar, how much incremental requirements and the cost of those requirements for the 2019 IRP.

Q. Are you actually identifying a value that's

specific to solar, or are you simply importing the aggregate figures from the flexible reserve study?

A. The flexible reserve study identifies values specific to new solar and new wind added to our portfolio.

Q. When you talk about new solar and new wind, you mean utility scale solar and wind, correct?

A. Yes.

Q. Okay. And so the study is not addressing retail solar in particular, correct?

A. No.

Q. And the study also does not address the impact of smart inverters on CG integration costs, correct?

A. The study does not address the value of smart inverters; however, I would note, and I do note in my testimony, a smart inverter cannot balance the output of customer generation without reducing the output of customer generation. So to the extent you want to smooth out with a smart inverter, all you can do is shave off the peaks in order to make sure that the valleys are smaller. And to the extent customers were going to seek to do that, they would be losing out on energy value. And nowhere in the proposals that I've seen from Vote Solar would they suggest that withholding energy in order to make their output less volatile is under

consideration.

Q. You referred earlier to the difficulty of maintaining an appropriate frequency for the grid, correct, in the load balancing?

A. Yep.

Q. And smart inverters can benefit the system by helping with respect to that load balancing, correct?

A. Smart inverters can be better actors than not-smart inverters. Not-smart inverters, when there's a small dip in frequency, will drop all of their output and cause a bigger problem. Smart inverters have low voltage ride through, such that when there is a frequency drop, they will remain online and will not contribute to that problem.

Nothing in the rates that we proposed, as I mentioned several times. Nor do we include a cost for the possible frequency-related impacts of either smart or dumb inverters.

Q. So just to be clear: You are not assessing any benefit from smart inverters in your calculation of CG integration costs, correct?

A. We have not included any charge for the less -- for the deterioration on system reliability that will be caused by not smart inverters. So to the extent smart inverters provide a benefit in that extent, it just

causes them to not be any worse off.

Q. Is it your testimony that there is no positive benefit that the system can achieve from having smart invertors connected together with solar systems?

A. There are all sorts of benefits. We identified the benefits of energy. If there's going to be a benefit in excess of the value of energy, it would require the smart inverters to be operated to supply less energy to the grid.

Q. Okay. And you don't quantify those benefits?

A. There would not be an incremental benefit.

Q. Now, is it fair to say that what you've done instead is rely upon the generalized data from the flexible reserve study to adjust the export credit rate down; is that right?

A. In order for a smart inverter to provide a service that is comparable to that quantified in the integration study, the output of the customer generation would have to be maintained at a level below what it was actually capable of to ensure that if there was variation, that resource could be -- would still be within the range such that it could maintain the load and resource balance.

Q. So I'm just going to -- I'm going to try the question again.

Is it correct that you rely on the flexible reserve study and its generalized results with respect to integration costs in order to adjust the export credit rate down for retail solar?

A. We do rely upon the integration cost in the flexible reserve study. However, in my testimony, I identified that the variability of CG exports, the average CG exports from the census of Schedule 136 customers that the IRP used, the variability of those exports is actually higher than the variability of the utility scale assets that we used in the flexible reserve study.

Q. I'd like to turn back briefly to the 2019 PacifiCorp IRP that you've referenced a few times. That IRP takes estimates of future carbon compliance costs into account, doesn't it?

A. There were a range of carbon futures that were considered as part of the 2019 IRP analysis.

Q. Let's put Figure 7.3 up, if we could.

We're putting on the screen Figure 7.3, which is drawn from the PacifiCorp 2019 IRP. And the title of the chart is "CO2 Prices Modeled by Price-Policy Scenarios."

Do you see this chart, sir?

A. I see it, yes.

Q. Okay. And if we look at the future carbon

compliance prices for the CO2 prices, right now, on the Societal Cost figure, we're at $45 for 2019, modeled to go all the way up to 110 on the green curve by 2040.

This is the modeling by PacifiCorp, right?

A. PacifiCorp conducted a social cost of carbon sensitivity and some analysis based on that, yes.

Q. Okay. And do you see the figures for medium and high? Do you understand what those are?

A. Yes.

Q. And what are those?

A. PacifiCorp also conducted -- there were actually four prices of CO2 that were modeled as part of the 2019 IRP. There was the societal cost of carbon that we discussed. There was the high cost of carbon, a medium cost of carbon, and, not shown on this figure, but there was no carbon cost was the fourth carbon circumstance modeled in the 2019 IRP.

Q. So PacifiCorp is modeling future carbon prices and incorporating that into its IRP decision tool, right?

A. We are exploring the types of portfolios and their performance under a range of different conditions that include CO2 price, yes.

Q. And in the 2019 IRP, PacifiCorp acknowledges that it faces continuously changing electricity plant emission regulations, right?

A. If there's a cite, could you provide that?
Q. Sure. Let's put the excerpt from Tab 32 up.
This is page 43 of the October 2019 PacifiCorp IRP. It's coming on the screen.
The first sentence in highlighting states: "PacifiCorp faces continuously changing electricity plant emission regulations."
Do you see that?
A. Yes.
Q. And you agree that's a true statement, right?
A. Yes.
Q. And the IRP goes on to say: "Although the exact nature of these changes is uncertain, they are expected to impact the cost of future resource alternatives and the cost of existing resources in PacifiCorp's generation portfolio."
Do you see that?
A. Yes.
Q. These are costs that PacifiCorp is taking into account in assessing the value of resources in its portfolio, right?
A. We are considering futures in which these types of costs apply, yes.
Q. But your testimony is that customer generated systems should not be credited for avoiding carbon

compliance costs, correct?

A. Yes.

Q. So on the one hand, PacifiCorp recognized the importance of taking into account those costs, but you would ask the Commission to ignore them for purposes of setting a just and reasonable rate for CG solar, correct?

A. I'm asking for the Commission not to include costs in the 2021 rate effective period that nonparticipating customers are not currently obligated to pay.

Q. And you're also saying to the Commission that the export credit rate should ignore benefits for avoided fuel hedging costs, correct?

A. Yes.

Q. And you acknowledge that PacifiCorp, by contrast, has a hedging program, right?

A. We do procure power in advance of the need.

Q. And through its hedging program, PacifiCorp is able to reduce volatility in its net power costs, correct?

A. That is one of the intents, yes.

Q. And you acknowledge that RMP itself requires less energy and natural gas, for example, because of long-term, fixed CG solar installations, right?

A. To the extent our need to deliver power is

lower, then yes, we will procure less power, some of which is gas, some of which is coal, some of which is power from the market, yes.

Q. Yet you assign zero weight to the hedging value for CG solar, correct?

A. There isn't a lot of uncertainty -- there isn't a lot of certainty related to the CG exports in particular. So we don't know whether we will get deliveries from these customers. And, in addition, when we procure power or gas on a forward basis, or on a day-ahead basis, the exact amounts that will be available or needed as a result of CG exports are quite uncertain.

Q. When you talk about the lack of certainty, are you talking about the fact that there's variability in the weather or something else?

A. There's variability in weather. There's variability in customer consumption.

Q. Okay. All right. So let's take those two things separately.

First, focusing on variability in the weather. There are standard methods to address that variability and assign a percentage capacity, notwithstanding weather variability, to resources like solar and wind, correct?

A. Certainly. When we have the entire output of a winter solar resource in our IRP, we do attribute a

generation capacity credit to them when we're doing that analysis.

Q. Okay. And so let's go to the only other issue you identified, which is that RMP doesn't know how much a homeowner may consume versus export, and therefore, the amount of exports may have some variability. That's the second issue, right?

A. Yep.

Q. All right. Now, one thing that we do know, since we discussed that earlier today, is that all of the power generated by a homeowner's CG system is going to be defraying the requirement for power from RMP, whether it's consumed or sold. Because the only place that power is going to be consumed or sold is in RMP's service territory, right?

A. That's the expectation.

Q. Right. So there's nothing, in fact, uncertain about what's going to happen to the power generated by these rooftop solar systems. They're not going to get up and walk out of the service territory, right?

A. They may not, but they could, you know, turn on the heat pump, or the pump in their pool. They can take a really long shower to use that electricity. You know, and to the extent the customers are not taking retail service, yes, they are not drawing from our system.

That's true.

Q. Right. Whether the consumer is consuming or exporting, it's power that otherwise would be drawn from RMP and is, instead, being generated on a fixed, long-term basis by the solar system, correct?

A. It is true. But I would just note to the extent they are not drawing from RMP, they are avoiding the costs of the hedging programs and the costs that we, you know, use to secure power for all of our customers.

Q. But it's better than if they disconnected from the system altogether, right?

A. I don't know whether it's better or worse.

Q. Okay. Mr. MacNeil, you're recommending a rate of between 1.53 and 2.2 cents per kilowatt hour, right?

A. Yes.

Q. And you're aware that it wasn't that long ago when RMP, instead, was advocating a different just and reasonable export credit rate, correct?

A. I believe as a -- I believe you're referring to the 9.2 cents in the Schedule 136?

Q. We can use that, yes. RMP stood by that figure as a just and reasonable export credit rate, right?

A. As we transitioned a net metering program to a different program which is more cost based, that's a fine step to make along the way.

Q. So isn't it fair to say, Mr. MacNeil, that RMP is committed to the position that any rate between 2.2 cents and 9.2 cents per kilowatt hour is just and reasonable. And indeed, as you said, the Commission has great flexibility to take additional factors into account beyond those evidenced by RMP.

A. I would note that that 9.2 cent rate was established in 2017. A lot has happened since then. I mean we, by the end of this year, expect to have in the vicinity of 2,000 megawatts of solar resources, of utility scale resources. Back in 2016, we had very, very few, just a few QFs signed and not yet online.

So the idea that the value of solar resources, and in particular the customer generation export component, has gone down a lot in 3 years, it's surprising, but conditions have changed quite a bit.

Q. RMP has continuously charged its Schedule 2 TOU customers 18.8 cents per kilowatt hour during the peak periods above a certain threshold of use for the last 3 years and, indeed, for longer than that; isn't that right?

A. That's my understanding.

Q. Yeah. No further questions.

CHAIRMAN LEVAR: Thank you, Mr. Selendy.

MR. SELENDY: Thank you, Mr. Chairman.

CHAIRMAN LEVAR: Mr. Holman, do you have any questions for Mr. MacNeil?

MR. HOLMAN: Yes, Mr. Chair, I do have a few.

CROSS-EXAMINATION

BY MR. HOLMAN:

Q. Good afternoon, Mr. MacNeil.

A. Good afternoon.

Q. I have a few questions today that relate to the 2019 IRP, specifically the fifth sensitivity in the 2019 IRP. And I am going to share a screen with you so you can follow along to what I'm looking at, if that's okay.

Let me know when you can see that, Mr. MacNeil.

A. I see it.

Q. All right. So I'd like to ask you specifically, as I said, about Sensitivity No. 5.

But first, can I just clarify that the sensitivities run in the 2019 IRP were based on the preferred portfolio; is that correct?

A. It's the starting point, so a lot of the assumptions related to -- that were used in the preferred portfolio are also carried over in these sensitivities.

Q. Okay. So the starting point is the preferred portfolio, and then the sensitivity component is you change one feature and see how that affects the preferred

portfolio; is that correct?

A. Yes.

Q. And for Sensitivity 5, the component that you changed is the amount of private generation assumed on a system. Specifically in Sensitivity 5, you assumed that there's a high level of private generation on the system; is that correct?

A. Yes.

Q. Okay. I'm going to move down to the details associated with Sensitivity 5 quickly.

So looking here at Table 8.28, this table reflects that the results of your sensitivity, assuming a high level of private generation, resulted in $238 million of benefits to customers relative to the preferred portfolio, correct?

A. Yes.

Q. Okay.

A. But I would note that that $238 million does not include the cost to individual customer generators for installing all the systems that were there.

Q. Sure.

A. In either cases, the medium or the high private generation sensitivity, it's just a given that the load is, you know, one value or reduced value because there's higher customer generation. And the portfolio there

isn't evaluating whether customers as a whole or the society or anything like that are better off as a result of that change.

Q. But this does represent that as a result of changing that one parameter, specifically increasing the amount of private generation of the system relative to the preferred portfolio, your IRP modeling produced $238 million in benefits, correct?

A. So that means that because there's more customer generation there, it indicates there's 300 megawatts less renewable capacity across there. So because there's private generation, perhaps we add less solar generation. So, yeah.

Q. We'll get to that. We'll get to the graph down below in a few moments. But I just want to confirm one more thing here before we move on to that.

I'd like you to confirm that the primary driver behind these benefits is that with an increase of private generation on the system, you decrease the net load on the system which, in turn, decreases system costs.

Would you agree with that?

A. Yes. I mean, typically, serving customer load has a cost, a variable cost. It can also have a fixed cost related to capacity. And if there is less load, there are less costs. There is, of course, also less

retail revenue.

Q. Great. Thank you, Mr. MacNeil.

And I just scrolled down to another graph representing what I assume, and I'd like you to confirm, is the change in resources in Sensitivity 5 relative to the preferred portfolio; is that correct?

A. That's what that says, yes.

Q. Okay. Isn't it true that these purple sections right here, starting in 2026 and going through 2029 represent a deferred gas plant as a result of increasing the amount of private generation on the system.

Is that what that represents?

A. Yes. One of the portfolio changes that occurred when we had a lower -- or a higher private generation was a gas plant could be deferred by 4 years there.

Q. All of my other questions were covered by Vote Solar's questions, so I think I'll end there.

Thank you, Mr. MacNeil.

CHAIRMAN LEVAR: Thank you, Mr. Holman.

Mr. Mecham, do you have any questions for Mr. MacNeil?

MR. MECHAM: No, we don't. Thank you.

CHAIRMAN LEVAR: Okay. Thank you, Mr. Mecham.

Ms. Wegener, do you have any redirect?

MS. WEGENER: I do, just a bit.

REDIRECT EXAMINATION

BY MS. WEGENER:

Q. Mr. MacNeil, Mr. Selendy talked to you about RMP owning generation and earning a return on that generation.

If the Company identifies a resource need, does it automatically have the opportunity to build that resource?

A. No. We would -- sorry, I'm getting an echo.

Sorry, no. We would first have to procure a resource, identify, you know, what the most cost-effective solution would be, you know. And, you know, go out and find -- find what that is, likely through our competitive process.

Q. And then Mr. Selendy talked to you a lot about the AURORA model versus the grip model.

Is that the primary difference between your method of evaluating energy and Vote Solar's?

A. That's the -- a lot of the difference between the values for energy. Vote Solar goes on to add a large number of other components taken separately rather than as part of a consideration of the other options that the Company has to serve customers and also provide those benefits.

Q. Does your proposed method of calculating avoided

costs take into account that the Company may transition to AURORA in the future?

A. Certainly. I mean, our proposal is to use the avoided cost methodology that's approved by the Commission. To the extent that that methodology gets modified over time to incorporate a new model or other changes, such as greenhouse gas emissions or other things, we would certainly be incorporating those as well.

Q. Mr. Selendy also talked quite a bit about smart inverters.

Does any customer generator who decides to put rooftop solar in the system, do they all get smart inverters?

A. I'm not sure. I believe at the moment it is not required under the rules, but I'm not versed in those.

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

CHAIRMAN LEVAR: Thank you, Ms. Wegener.

Mr. Jetter, I'll go to you next. Do you have any recross based on her questions?

MR. JETTER: I have no further questions. Thank you.

CHAIRMAN LEVAR: Thank you, Mr. Jetter.

Mr. Snarr, do you have any recross?

MR. SNARR: No, I do not. Thank you.

CHAIRMAN LEVAR: Okay. Thank you.

Mr. Selendy?

MR. SELENDY: No, I do not. Thank you, Mr. Chairman.

CHAIRMAN LEVAR: Mr. Holman?

MR. HOLMAN: I have no recross. Thank you, Mr. Chairman.

CHAIRMAN LEVAR: Okay. Mr. Mecham?

MR. MECHAM: No. Thank you, Mr. Chair.

CHAIRMAN LEVAR: Mr. MacNeil, I have a few questions, and then I'll go to the other commissioners. Mine shouldn't take long.

CROSS-EXAMINATION

BY CHAIRMAN LEVAR:

Q. My first question, I think, is repetitive. I think Mr. Jetter already covered this in his cross-examination, but just to be redundant.

You referred to a storage and solar project that's in the 2019 IRP, and you gave us a per kilowatt hour price for that project. That number you gave us did not include transmission costs that would be associated with that resource.

Am I stating that correctly?

A. I believe it includes some relatively small

transmission upgrades necessary to interconnect new resources in that area. But it would not include all the transmission potentially necessary to deliver that to customers. It includes all the costs related to it in the IRP.

Q. So the energy costs, the generation costs?

A. It's the capital fixed and so on that is part of that resource.

Q. Okay. Thank you. This is a hypothetical, and I believe I asked Ms. Steward the same hypothetical.

You know, Rocky Mountain Power is asking for annual updates to the export credit rate. Some parties have advocated for the export credit rate to be locked in on a 20-year basis. If -- and again, this is hypothetical.

If the Commission were to consider updates only occurring at general rate cases, would that modify how the rate should be calculated at the outset? Would you recommend any adjustments to the calculation under a scenario like that?

A. There's a lot of flexibility there. There are some different ways that it could be interpreted. If you know you're going to be doing it for a potentially extended length of time -- it's not really known how long it might be until another rate case -- so there could be

a pile of errors in the price relative to the actual value that accrue over time. One could relatively easily true it all up every time that the rate gets changed or just have a forecast and live with it.

You know, I would say there is some ties to what happens in a general rate case. Typically in a general rate case, we add new resources to the system. You know, the addition of new resources, new transmission, new other things tends to move our costs around and could have a relatively larger impact on what export credit rates might be.

So I would anticipate the biggest jumps in export credit rates would occur at the times of rate cases, except for the fact that a lot of solar and solar plus storage can be procured as a PPA, and that could happen outside and get past the energy balancing account, so less incentive.

I don't know. I'm not opposed to not having to come before you every year. But, you know, there is going to be a difference in whether we feel like living with it in between. Up to you.

CHAIRMAN LEVAR: Okay. Thank you. I think I understand your answer.

A couple more questions that may or may not be within your expertise, so feel free to say it's not.

If CG generation in the system opened up transmission capacity that PacifiCorp no longer had to use, is there a market into which PacifiCorp can sell that capacity on a short-term basis?

A. So generally, our rights to use PacifiCorp's transmission system are related to the peak usage of the transmission system. So we have a 10-year forecast, and baked into that is all the changes that we anticipate. To some extent, I think private generation, customer generation, is embedded in there to some extent.

But there's a lot of other pieces moving around in that to the extent that, you know, the transmission system is not reserved for PacifiCorp, it's also available to the other parties that make use of our transmission system. It could be sold on a long-term basis to them or short-term and potentially non firm. If there is space available, that is possible.

Q. Okay. Thank you. I just want to ask a couple more questions about capacity contribution values.

You've pointed to a particular value from the latest IRP for the Milford Solar Farm, correct? And that's a tracking solar facility?

A. It's a proxy resource located in Milford, Utah. But it's a potential new resource that could potentially be acquired in the future by the Company.

Q. Okay. Sorry. I misstated that.

You have assigned, when you weight summer and winter capacity contribution values, you weight those together and come up with an 11 percent; is that correct?

A. Yes.

Q. Okay. Has the capacity contribution value at that level ever been incorporated and adopted by the Commission into Schedule 37?

A. The capacity contribution of -- I don't know if it's that resource, but a similar resource. A Utah north resource has been incorporated in Schedule 37, you know, as the proxy that could be avoided by a solar asset.

The capacity contribution of tracking and fixed solar in the current Schedule 37 adopted a month or two ago, it does incorporate those same levels of capacity contribution. I'm not sure if it's the exact one, but that same methodology.

Q. Close to the Milford proximity that you've discussed?

A. Yeah.

Q. Okay. That's all of my questions. Thank you, Mr. MacNeil.

CHAIRMAN LEVAR: Commissioner Clark, do you have any questions for Mr. MacNeil?

COMMISSIONER CLARK: Thank you. I don't have

any questions of Mr. MacNeil.

CHAIRMAN LEVAR: Commissioner Allen, do you have any questions for him?

COMMISSIONER ALLEN: I have one question.

CROSS-EXAMINATION

BY COMMISSIONER ALLEN:

Q. I want to make certain I heard something that I thought I heard earlier a couple of hours ago. So let's see if I've got this straight.

You were talking briefly about, you mentioned wholesale prices. And did I hear you say that customer generation is playing a role in keeping wholesale prices down or that it's unknown? It was a very brief discussion.

A. You now, the marginal price on the system is dependent on the next resource that has to be deployed. So any reduction in what needs to get called upon could drive prices down. But, generally speaking, when we're setting up to procure enough power to serve customers next year or tomorrow, we're going to make sure that we have enough, inclusive of a very good margin to ensure that we can cover everything.

Q. Okay. But would it be true, then, that as customer generation grows, it could be something that

affects the macroeconomics of pricing on the general wholesale market?

A. I guess the more likely outcome is that the macroeconomics of wholesale pricing during the daytime will be impacted by utility scale solar. But, you know, the 350 megawatts of customer generation -- I believe I heard that number today -- existing in Utah has a contribution to the wholesale market, as does the thousand megawatts of QFs that we have and, you know, ongoing additional projects that are being added. Those all contribute.

Q. Okay. Great. That helps. Thank you.

COMMISSIONER ALLEN: That's all.

CHAIRMAN LEVAR: Thank you, Commissioner Allen.

And I think that completes your testimony, Mr. MacNeil. Thank you.

THE WITNESS: Thank you.

CHAIRMAN LEVAR: Just for procedural -- well, nevermind. I don't think I need to go into that issue at this point. That would be preliminary.

Ms. Wegener, do you have anything further from Rocky Mountain Power?

MS. WEGENER: Nothing further at this time. That concludes the Company's case-in-chief.

CHAIRMAN LEVAR: Okay. I think my inclination

at this point would be to take about a 10-minute break and then plan to go about another hour with the Division of Public Utilities presenting their witnesses. If anybody objects to that plan, let me know; but otherwise, I think we'll do that.

So why don't we adjourn for about 10 minutes and come back then and start with the Division of Public Utilities. I said adjourn, I meant recess. Sorry.

(A break was taken from 3:44 p.m. to 3:54 p.m.)

CHAIRMAN LEVAR: We'll be back on the record.

And I will go to Mr. Jetter for the Division of Public Utilities to call your first witness.

MR. JETTER: Thank you, Mr. Chairman. The Division would like to call and have sworn in Mr. Robert A. Davis.

CHAIRMAN LEVAR: Good afternoon, Mr. Davis.

Do you swear to tell the truth?

THE WITNESS: I do.

CHAIRMAN LEVAR: Okay. Thank you.

Go ahead, Mr. Jetter.

ROBERT A. DAVIS,

was called as a witness, and having been first duly sworn to tell the truth, the whole truth, and nothing but the truth, testified as follows:

DIRECT EXAMINATION

BY MR. JETTER:

Q. Good afternoon, Mr. Davis. Would you please state your name and occupation for the record.

A. I'm Robert A. Davis. I work for the Division of Public Utilities as a utility technical consultant.

Q. Thank you. And in the course of your employment for the Division as a utility technical consultant, have you had an opportunity to participate in the net metering dockets beginning in 2014 up until today? And along with your participation, have you had an opportunity to review the filings made by the various parties in this docket?

A. Yes, I have.

Q. And in the course of your employment, have you created and caused to be filed with the Commission a variety of filings, including direct, rebuttal, and surrebuttal testimony along with the attached exhibits to those three prefiled testimonies?

A. Yes.

Q. Do you have any corrections you'd like to make to any of those?

A. No, I don't.

Q. If you were asked the same questions contained in those three sets of prefiled testimony today, would your answers remain the same?

A. Yes.

Q. Thank you.

MR. JETTER: With that, I would like to move to introduce into the record of this hearing the prefiled testimony, direct, rebuttal and surrebuttal, along with the exhibits filed by Mr. Davis.

CHAIRMAN LEVAR: If anyone objects to that motion, please unmute yourself and indicate your objection.

I'm not seeing or hearing any objections, so the motion is granted. Thank you.

MR. JETTER: Thank you.

Q. (BY MR. JETTER:) Mr. Davis, have you prepared a brief summary of your testimony and the position of the Division of Public Utilities in this docket?

A. Yes, I have.

Q. Would you please go ahead.

A. Yes. Good afternoon, Chairman Levar and Commissioners Clark and Allen.

The Division appreciates the time and effort performed by the parties to develop a sustainable rate and rate structure that reasonably compensates CG customers for generated exports. Docket No. 14-035-114 and ensuing settlement, was necessary to (inaudible) unsustainable net metering program and open a docket with

customer generated exports to be valued (inaudible).

(Court reporter interruption.)

CHAIRMAN LEVAR: Maybe it's best if you just go ahead and start over.

THE WITNESS: Okay. Let me try a little different setup here.

The Division appreciates the time and effort put forth by the parties to develop a sustainable rate and rate structure that reasonably compensates CG customers for generated exports.

Docket No. 14-035-114 and the ensuing settlement was necessary to end the unsustainable net metering program and open a docket where customer generated exports could be valued in a reasonable and sustainable way.

The purpose of Docket No. 17-035-61 was to determine the amount and timing of customer generated exports and use that information to infer a rate or rate structure for exports that would be fair to everyone, participants and nonparticipants alike, as customer and other distributed generation expands.

My testimony focuses on the amount and timing of exports and supports a rate that reasonably compensates customer generators for their exports. Dr. Abdinasir Abdulle explains the Division's load research rationale

in greater detail.

Based on statutes enacted by the Utah Legislature and Utah Code Annotated 54-4a-6, the Division is taxed with determining rates that are stable, simple, understandable, and acceptable to the public to be economically efficient to promote fair apportionment of costs among individual customers within each customer class with no undue discrimination, and to protect against wasteful use utility services.

In adherence to the statute, the Division has developed and follows a set of guiding principles in rate design. These principles are: Cost causation, simplicity, correct price signals, rate structures, gradualism, marginal and embedded costs, and customer charges. The Division uses these guiding principles to determine whether or not a rate or rate structure is just and reasonable and in the public interest.

Appropriately, the Commission's Phase 1 order in this docket directed parties to focus their attention on the timing and amount of exports customer generators send to the grid. The amount and timing of exports is a function of production, usage, and other system characteristics.

The Commission left it up to the parties to use a reasonable method to determine the amount and timing of

exports, collectively or in isolation.

Rocky Mountain Power designed a load research study based on sample strata representing Schedule 135 residential and non-residential customers and the full population of Schedule 136 residential and non-residential customers.

Vote Solar ultimately designed its own study, largely based on Rocky Mountain's study, which studied the individual customer's production, usage, and other system characteristics to determine the amount of exports. Nevertheless, the Commission found that Rocky Mountain Power's modified load research study would provide a reasonable basis on which to determine an appropriate export credit rate.

The Division developed its analysis over the course of the study period using simple averages and summations for each 15-minute interval. Vote Solar's analysis was primarily based on regression methods.

The analysis of both the Division and Vote Solar witness Dr. Lee produced hundreds of millions of interval point data over the course of the study period. Regardless of how the analysis arrived at the respective conclusions, the Division's analysis and Vote Solar's analysis resulted in reasonably similar results for amount and timing of exports pushed to the grid by

customer generation, as illustrated in my surrebuttal, Division Exhibit 1, at Line 137, and Vote Solar's "Figure 3: Production by Hours (2019)," including exports at Line 139.

The outcome of the load research study has been informative, even as exports to the grid continue to increase. And the Division's analysis illustrates other topics for future discussion.

While the amount of exports increases in terms of megawatts at the interval or megawatt hours over time, the timing only varies slightly, depending on the time of the year. The Division's analysis opened a debate over potential additional wear and tear on the system as a result of variability added to the system by customer generation that the Division believes needs further study.

The proposed export rate and rate structure component of the docket is widely varied across the parties. The Division did not design its own rate or rate structure. The Division analyzed the rates and rate structures proposed by the other parties based on their own merits in relation to the guiding principles I spoke of previously.

Ultimately, the Division supported Rocky Mountain Power's rate structure as it better aligns with

the Division's relevant guiding principles. Rocky Mountain Power's rate sets the lower limit of what has been proposed, while Vote Solar's proposed rate sets an extreme upper limit with other proposals in the middle at approximately the original net metering rate.

Vote Solar's proposal is based on the value stacked method. As with any model, the value stacked method relies on accurate assumptions and inputs. Unfortunately, the method attempts to disaggregate a complex interdependent system and, as a result, is easily manipulated by small variations to each component or by adding value components that are not accurately quantifiable, not relevant to the utility's costs, or out of the utility's control.

This is the case with Vote Solar's export credit rate revised proposal of $241 per megawatt hour. Vote Solar's rate is not within a realm of reasonableness when the market costs of energy, and in particular, known development or purchase costs of solar energy are so much lower. It does not reflect cost causation. Inputs are not only overstated, but also the stacking method ignores alternatives that are known to exist, and in any normal market, would set an upper limit on utility costs.

When any method calculates a value that exceeds what the utility can otherwise buy solar energy for on

the market by an order of magnitude, it calls into question the validity of the calculation or the method.

If the stacked value of a gallon of gasoline, for example, calculated to be $30 per gallon, while it is commonly known that the station on the corner is selling it for $3 per gallon, would represent a similar scenario.

Valuing exports at over $200 per megawatt hour when wholesale prices are closer to $20 would harm nonparticipating customers who bear the burden of subsidizing decisions of distributed generation customers. Those captive customers expect that the utility will provide energy on a least cost/least risk basis. Such a high value --

(Court reporter interruption.)

(A discussion was held off the record.)

CHAIRMAN LEVAR: It sounds like an improvement to me.

Do you need him to go back any? Do you need him to repeat any of what he said, Ms. Mallonee?

THE COURT REPORTER: I think he can go with where he stopped.

THE WITNESS: Let's see. I'm trying to remember. Okay. I'll start right after the analogy of the price per gallon of gasoline.

Valuing exports at over $200 per megawatt hour

when wholesale prices are closer to $20 would harm non-participating customers who bear the burden of subsiding decisions of distributed generation customers. Those captive customers expect that the utility will provide energy on a least cost/least risk basis. Such a high value will send an unsustainable price signal that could lead to statewide and utility economic issues. And because it is not a representation of the value that the exports provide to the system, it does not offer a sustainable rate, and we will end up back here again and again until we set an export credit at a fair rate.

A fair and sustainable rate is one that is competitive with available alternatives, fully compensates exporters for the value they provide, and does not shift costs to non-participating customers.

The Division understands the importance of gradualism to usher in rate changes and mitigate rate shock. This matter has been widely publicized for the past 6 years, and current customers are grandfathered to protect their investments. Future customers have more than enough information to make informed decisions whether to install a system or not.

Rocky Mountain Power's proposed rate of approximately $20 per megawatt hour follows the Division's guiding principles more substantially. First,

this is not a buy-all/sell-all model. All of the energy that the customer generates and actually uses in their own home has no charges applied for that energy, and the customer will reduce its billed energy directly. Additionally, Rocky Mountain Power's rate structure is based on commission-approved avoided cost methods that consider cost causation and compensates for avoided line losses. It offers simplicity, a higher rate during peak loading and less during off-peak loading, a sustainable rate structure that is reviewed annually, embedded costs, and associated customer charges.

Finally, Rocky Mountain Power's rate is reasonable when compared to market rates for solar energy.

The utility serves and has obligations to more than just the customer generation population. Governor Herbert directed the parties to find a win-win-win solution for the utility, customers, and solar providers in this matter, which included protecting the broader population of utility customers from excessive subsidization of predominantly wealthy rooftop solar customers and the industry that promotes it.

A win for the utility in this context is reliable recovery of the costs it incurs to serve customers.

A win for the customers is safe, reliable electric service at the least reasonable cost.

And a win for customer generators is the same safe, reliable electric service at the lowest reasonable cost and the ability to export energy at its value to the system.

According to Bonbright, rate regulation of a commodity product along with a delivery service is a terrible platform for social programs. The breadth and depth of inequity of the results is significant. On an individual level, customer generation is generally reserved for single-family homeowners and predominantly owned by higher wealth and higher income customers. And even those customers appear to claim that they can only afford it if subsidized by the other non-participating customers.

On a carbon reduction and emissions reduction basis, if the utility can purchase wholesale solar energy with better load serving qualities for a small fraction of the cost of customer generation, the utility could buy many more megawatt hours of emission-free energy for the same dollars.

The Division fully supports customer choice. Rooftop solar and other customer generation and storage devices can and will provide meaningful benefits both to

the customers who install them and to the utility and other customers. But that relationship of fair bilateral transaction relies on fair treatment for both sides. Shifting costs to other customers through excessive export rates as a tool for making the installation of the generation economic for a subset of customers is unjust and unreasonable.

The export credit rate that is valued such that no costs are transferred to other customers is the just and reasonable rate.

The Division recommends the Commission approve Rocky Mountain Power's Schedule 137 Net Billing proposal, subject to annual review. The Division recommends the Commission direct Rocky Mountain Power to open a docket to study distributed generation's cost and benefits to its distribution system.

Finally, the Division recommends that the Commission reject the proposals set forth by Vote Solar, Vivint, and Utah Clean Energy.

Thank you.

Q. And Mr. Davis, I'd like to ask you one follow-up question on that.

When you referred to Rocky Mountain Power's proposal of being approximately $20 per megawatt hour, did you intend that to mean approximately a mid point

between the two proposals of one that would be about $15 per megawatt hour and $22 per megawatt hour?

A. Yes.

Q. And that also is simply a translation calculation for 1.5 cents or 2.2 cents per kilowatt hour?

A. Yeah.

Q. Okay. Thank you.

MR. JETTER: With that, I have no further questions, and Mr. Davis is available for cross-examination and questions from the Commission. Thank you.

CHAIRMAN LEVAR: Thank you, Mr. Jetter.

I will go to Ms. Wegener next.

Do you-all have any questions for Mr. Davis?

MS. WEGENER: I don't. Thank you.

CHAIRMAN LEVAR: Thank you.

I'll go to Mr. Snarr next. Do you have any questions for Mr. Davis?

MR. SNARR: We have no questions. Thank you very much.

CHAIRMAN LEVAR: Okay. Thank you.

I'll go to the Vote Solar team next, then. Does someone from your team have any cross-examination questions for Mr. Davis?

MR. MARGOLIN: Yes, we do, Commissioner. This

is Joshua Margolin for Vote Solar.

CHAIRMAN LEVAR: Go ahead. Thank you.

MR. MARGOLIN: Thank you, sir.

CROSS-EXAMINATION

BY MR. MARGOLIN:

Q. Mr. Davis, good afternoon.

A. Good afternoon.

Q. I wanted to go right into some of your testimony.

You're aware that Dr. Lee has pointed out that the sampling weights in your work were incorrect, right?

A. Yes.

Q. And you don't respond to that at all in your surrebuttal, correct?

A. Not really, no.

Q. Sorry?

A. No. Sorry. Am I not coming across again?

Q. No, it's a little difficult to hear you, sir.

A. Is it better now?

Q. Not particularly. I'm happy to soldier on for a bit.

A. I'm sorry about that. I know it's -- how about now?

Q. It's all about the same. Why don't we proceed,

and we'll see if we can get --

A. Okay. Sorry.

Q. That's fine, sir. I'd like to hear the answer to the last question.

You did not respond to Dr. Lee's criticism that your sampling weights were incorrect; is that right?

A. I didn't respond to that, no.

Q. And you understand that if your sampling weights are incorrect that there are various charts and illustrations in your affirmative testimony that would be incorrect; isn't that right?

A. If they are actually incorrect. Some of that will be responded to by my colleague, Dr. Abdinasir Abdulle.

Q. Did Dr. Abdulle do the work that backs up your affirmative report?

A. No, he didn't. I did.

Q. So you were the one who extrapolated the export load research study from the 135 customers, right?

A. Yes.

Q. And you were the one who put together the sampling weight; isn't that right?

A. I didn't put together the sampling weight. Those came from RMP.

Q. So are you saying that RMP extrapolated the load

research study data for you?

A. No. I misunderstood the question.

Are you asking me who came up with the strata weights, or how I extrapolated -- used those weights to do my analysis?

Q. I'm asking you how you came up with the weights that you applied to the results from each strata to come up with your export totals for the Section 135 load research study sample.

A. So the weights came from Rocky Mountain Power, and I used those to come up with the 15-minute interval data.

Q. So when Dr. Lee criticizes the sampling weights that are applied in your work papers, your testimony is that that was done by Rocky Mountain Power?

A. Those weights were determined by Rocky Mountain Power.

Q. And how did they end up in your work papers, sir?

A. I pulled those weights from data requests sent to Rocky Mountain Power by Utah Clean Energy.

Q. Did you check them?

A. I believe I compared them to Rocky Mountain Power's load search study and verified those weights.

Q. But did you do the calculation yourself?

A. No. I don't have the depth of knowledge to do that.

Q. So since Dr. Lee's criticism, you haven't gone back to check if, in fact, the sampling weights that you relied upon for certain tables and data in your report were correct; is that right?

A. Dr. Lee used a different method than I used, and I left it at that.

Q. Well, I'm a little confused. So Dr. Lee's criticism was based upon your work papers. So he's not using a different method, he's just assessing your method, right?

A. He assessed my method, and he then he also offered how it should have been done.

Q. Well, I understand that. And what I'm curious about is if you've looked into how it should have been done and if you've come to a conclusion.

A. I did look at how it was done. I didn't come to a conclusion. I just moved forward.

Q. So you don't know if it's right or wrong; is that right?

A. All's I know is Dr. Lee's results as far as total exports and my total exports were very similar. So however we got to those conclusions, the results are similar.

Q. I just want to be clear: Your understanding is that your extrapolation of the 135 data leads to export curves that are similar to Dr. Lee's?

A. Yes.

Q. Isn't the export data that you're relying on to compare with Dr. Lee's just the flat export data that you got from RMP that wasn't part of any load research study?

A. Say that again? I didn't follow that.

Q. All right. Let me back up.

The data that you compare to Dr. Lee's to show that the export curves are similar, what you're looking at there is the census data, if you will, that -- excuse me, not the census data. It's the RMP export data that was provided for roughly 34,000, 35,000 different customers in this proceeding, right?

A. Well, it wasn't that many customers. It was the raw data from the meters for each of the sample set. And I used that strata weighting to determine what the interval was, whether it was exports, deliveries, or production off of the 135 samples and the full consensus for the 136 customers.

Q. And in looking at the 135 samples, you had to apply a sampling weight, right?

A. Correct.

Q. And tell me how you did that, please.

A. So out of the strata weights -- and this also is in response to a Vote Solar data request -- I used Excel functions to find where each meter fit into the four different stratas [sic]. And from those strata numbers -- which there was three different sets: One for the original 35, one for 135 residential, and a set for 135 commercial. And using Excel functions, then I could determine which strata those meters were in. And then from a VLOOKUP cable, it pulled from those strata for each of those meters that fit into the strata. And then I multiplied the raw data for each interval times that strata weight and divided it by the average of the total strata for the sample set. And that's --

Q. Now let -- sorry, go ahead.

A. I was just going to say, that's how I created all of the different intervals for each month.

Q. And you said the strata weight. And again, I want to be clear: That's something that you believe RMP put together, and you haven't checked, right?

A. Correct. I mean, I believe I did go back and check that with Rocky Mountain Power's original load research study. It was in response, a Rocky Mountain response to Utah Clean Energy.

Q. So if I tell you -- and I'll represent to you that this is what your work papers show -- that the

sampling weight for Strata 1 was reached by dividing the total population size for Strata 1 against the total full population size of the 130 -- of the 135 customers that fit in that strata.

Does that sound right to you?

A. No. I don't think that sounds right to me.

So let me say it again. Through Excel functions, I could determine from the meter what strata that meter fell into. So after that, then multiplied each interval, raw interval, by that strata weight and divided it by the average of the total strata weights. So I basically come up with a weighted ....

Q. A weighted average?

A. Weighted average.

Q. So the weighted average would tell you what the average customer in that strata was exporting, right?

A. At that interval. And it looked at every -- that interval for every day of the month.

Q. But you wouldn't use that method in order to come up with a total for each 135 strata because then you're improperly weighting things, right?

A. Well, are we talking about the -- the exports, I also -- on the exports, I summed each of those intervals.

Q. Let me stick with what my initial question here was, which was how the formula for strata weight in your

work papers is incorrect. And if that's not a topic that you can opine on, I mean, you can say that, and we can move on. But if you have the depth of knowledge to speak about how that should be calculated, I'd like to pursue this line of questioning.

A. Are you asking me how to calculate the actual strata weight, or how I used that weight in my analysis?

Q. How to actually calculate the strata weight.

A. I don't know. That's outside of my expertise.

Q. Okay. And so if that's incorrect in your work papers, you've done nothing to check it, right? It's outside of your expertise?

A. Well, other than comparing it to the load research study that the Commission approved, no.

Q. But you wouldn't know if it was wrong, even if you looked at it, right?

A. No.

Q. Bear with me for a moment, Mr. Davis. Thank you.

Mr. Davis, it's also correct that the Elder study was supposed to have a reliability metric; isn't that right?

A. That's correct.

Q. And did you do anything to calculate whether or not Elder's study actually met that reliability metric?

A. I did not.
Q. Do you have the ability to do that, sir?
A. I would struggle to do that.
Q. So can I take that as a no?
A. Yes.
Q. Okay. So in addition to, I guess, performing in some way carrying over others' calculations to come up with your own extrapolations, you relied on the full scale export data from RMP; isn't that right?
A. What do you mean by "full scale"?
Q. I mean the data that RMP provided that has export data for roughly 38,000 customers.
A. I still don't know what you're referring to, sir. I'm sorry.
Q. Well, okay. How about I point you to a table in your report. And we're not going to put this up on the screen because it's confidential. But I think we can discuss it without revealing any information.
So if you could turn in your affirmative report, sir, to Illustration -- excuse me Table 15 on page 22.
A. Is that my direct?
Q. Yes, your affirmative testimony. Let me know when you're there, please.
A. Okay. And Table 15, correct?
Q. Yes, sir, page 22.

A. Okay. I'm there.

Q. So this table shows RMP export data for -- let's just pick December of 2019 -- 38,485 customers, right?

A. Yes.

Q. And you relied -- beyond the flawed load research study, you also evaluated the -- let's see, we'll call this the "full export data," okay. Is that right? You relied on this as well?

A. I relied on that, but I also compared it to Dr. Lee's and my own.

Q. Your own what?

A. I calculated this same type of number. Without talking confidential numbers, it's difficult. But I did look at this. And I compared Rocky Mountain Power's, this Table 15, Dr. Lee's, and my own.

Q. Mr. Davis, and this may be -- I'm not sure if this is confidential. But can you tell me what your extrapolated total of the Schedule 135 customer exports was?

A. That would be confidential. It would take me a minute to find it.

Q. No, I'm asking if you can tell me right now.

A. I can't tell you off the top of my head. It's a (inaudible) number.

Q. Can you ballpark it?

A. Is that appropriate?

Q. Not if you can't do it.

A. It will take me just a minute to find it.

So what was you asking me? 135, which original ...?

Q. No. No, sir. I don't want you to dig through your computer. I just wanted to know if you're available to give me that data right now, offhand, or even estimate it for me?

A. It also includes Schedule 136, but it's higher than Vote Solar's.

Q. So let me go back to this table, Table 15, which you didn't recall until we pointed you to it.

A. Well, I wasn't sure what you was asking me.

Q. Okay. You agree that the data for Schedule 136 customers better portrays CG exports for future customers than for Schedule 135 customers.

That's an opinion you have, right?

A. Yes, that's correct.

Q. And that's because the Schedule 136 customers, they have more productive systems?

A. They're more new. They're newer than 135 systems, so less standardization. Yeah, probably newer technology.

Q. They're better?

A. I would say so, yes.

Q. Okay. And so in your view, 136 customers are more likely to reflect the 137 customers than Schedule 135, right?

A. I would agree to that.

Q. Now, you'd agree with me that Table 15 here, which you rely upon in drawing your conclusions, actually includes about 80 percent of Schedule 135 customers; isn't that right?

A. Could be right. I don't know what the percentage is.

Q. Does it sound -- can you tell me around the end of 2019 how many Schedule 136 customers there were?

A. Around 4,000, I believe.

Q. Okay. So if your memory is correct, that would mean that 34,485 of these customers in Table 15 were Schedule 135 customers, right?

A. Sound reasonable.

Q. And your conclusion is that this chart shows the current level of CG solar exports that would be offset by a system load?

A. Yeah, I believe that's correct.

Q. So you're drawing your conclusion about the impact of CG exports on data that you acknowledge is not made up of the customers that you think are most

relevant, right?

A. I guess at the end of that study, that's correct.

Q. Now, Mr. Davis, there are some critiques, albeit high level, of Dr. Lee's study in your testimony, right?

A. Yes.

Q. And you've actually testified that the DPU has not been able to verify or reject Dr. Lee's conclusions because it lacks the software functionality to evaluate them, right?

A. That's correct.

Q. And that software is called Stata?

A. Yes.

Q. And do you understand what Stata is?

A. I've never worked with that program before.

Q. Have you ever heard of it before this?

A. I have.

Q. Okay. You don't have access to it now?

A. We don't.

Q. And you're aware that Dr. Lee pointed out in his rebuttal testimony that there are publicly available free translators to take data from Stata to other formats, right?

A. We did. And we have R installed on our systems, and we tried to use that to extrapolate the data and

could not do that, either. Mostly -- I'm sorry, go ahead.

Q. No. You, please.

A. I was just going to say that our machines were limited, and we were having random access memory issues trying to open that. So we were never successful.

Q. So, at bottom, you were never able to access Dr. Lee's models, right?

A. We were not.

Q. And you were never able to access any of the underlying data that he used to support his models, right?

A. That's correct.

Q. And just to be clear, when I say "you," that includes Dr. Abdulle, right?

A. That's correct, and other division personnel.

Q. Nobody could figure it out?

A. We couldn't get it to work.

Q. Okay. And so, really, all of your criticisms about Dr. Lee are made without looking at any of his underlying work, right?

A. That's correct. We couldn't verify whether any of it was correct or not correct.

Q. So when your colleague, Dr. Abdulle, calls Dr. Lee's work baseless, he actually has no basis to say

that because he hasn't seen any of the underlying materials, right?

A. I'll let Dr. Abdinasir Abdulle answer that.

Q. Well, do you think that you have any basis to conclude that any of Dr. Lee's work is baseless?

A. That's why I said we can't either deny or approve.

Q. So the answer is no, you can't draw a conclusion around it, right?

A. That's correct.

Q. Let's talk a little bit, sir, about avoided capacity costs.

You don't calculate these costs, do you?

A. I don't.

Q. And you don't propose a value that the Commission should adopt for them, right?

A. I'm not sure. Say that again? Sorry.

Q. There's no value for avoided capacity costs that you've calculated. There's no cost, there's benefit. You just haven't done the work, right?

A. Correct.

Q. And despite that, you claim that the fact that solar generation is an intermittent resource, it makes its capacity contribution low, right? That's from your testimony?

A. Yes.

Q. And you're aware that RMP gives capacity value to other intermittent resources, aren't you?

A. Yes (inaudible).

Q. Sorry, I couldn't hear that last answer other than yes.

A. I said utility scale, sure.

Q. All right. But intermittent resources like wind and hydro, right?

A. Yeah, that's correct.

Q. So there's certainly a way to calculate what the avoided capacity would be for an intermittent resource, you just chose not to do it, right?

A. I didn't choose not to do it. I didn't know how to do it.

Q. Okay. You also claim -- and I want to make sure I understand this -- that CG solar differs from solar qualifying facilities because those QFs, they have contracts with the utility, right?

A. There's more to it than that, yes.

Q. They have a contractual obligation to deliver energy, right?

A. Correct.

Q. Okay. And your position is that CG solar shouldn't be given capacity value because they don't have

a contract with RMP, right?

A. No, that's not correct.

Q. That's not correct?

A. No.

Q. So you agree that a CG producer should be given capacity value?

A. If it's there.

Q. Okay. And you just haven't calculated whether or not it's there, right?

A. Outside of the analysis I did, it doesn't show that there's enough penetration for it to have any substantial meaning. Doesn't mean that it's not there, it's just that we don't see enough of it.

Q. And, I'm sorry. What analysis did you do to determine whether or not there was sufficient CG penetration to equal a avoided capacity cost benefit?

A. The analysis I did off of Rocky Mountain Power's load research study.

Q. The analysis that you actually can't confirm if it's correct or not because you don't know whether or not the sampling weights are correct, right?

A. As I said earlier, I think it is correct because our results aren't much different than Dr. Lee's. So however we both got to them in different ways, they seem to be equivalent.

Q. Can you -- sorry. Can you point me in your affirmative testimony where your results are similar to Dr. Lee's? I see where in your affirmative testimony you have pointed me to where RMP's results are. And by that, I mean the full export study that I showed you at Table 15. I'm having a hard time finding where your results are actually close to Dr. Lee's. So if you could point me there, that would be great.

A. Yeah, let me get it here. (Inaudible).

Q. Sorry?

A. In my surrebuttal, and Line 137.

Q. Your surrebuttal, Line 137.

A. That's on page 9.

So the top graph is Division Exhibit 1.

Q. Umm-hmm.

A. See, that's the total exports that are all of the different sample set. And the next one, Vote Solar Figure 3, came from Dr. Lee's revised direct testimony.

Q. Umm-hmm.

A. And I'm looking at the red line on there. Exports are very similar in amplitude and also the timing as the Division's Exhibit 1.

Q. Now, it's -- I looked at your Exhibit 1, and the data that backs it up actually is the same data from Table 15, right?

A. No.

Q. Are you sure about that?

A. I am.

Q. So what went into your Table 1?

A. Into my Table 1 or --

Q. It's Table 1 in Exhibit 1 here, which I'm telling you we've looked at, and it relies upon the RMP Table 15.

A. It is -- it comes from all the months. I look at the exports for each month for each sample set. And I had to convert those from interval data to hourly data so I could make the comparison between Vote Solar's and Rocky Mountain Power's. And that's how that table was derived -- that exhibit, sorry.

Q. Okay. We'll come back to this.

Is there any other place in your testimony where you actually show what you think the full export is for 2019 that you calculated?

A. Hold on. Give a sec. In my exhibit --

Q. To which report?

A. This is in my surrebuttal.

Q. Okay. We're back in the surrebuttal.

A. And takes a while for these Excel files to open. And it's "17-035-61 System-Utah-Export Correlation by Month, Confidential DPU Exhibit 1.3 Davis SR. 9/15/20."

Q. All right. You're going to have to give me a little bit of time to look that one up.

Can you re-read the name, please?

A. Yeah. It's "17-035-61 Export Credit DPU 1.0 Phase II" -- I'm sorry. I'm reading that wrong. Let me start over.

Q. Thank you.

A. It's "17-035-61 System-Utah-Export Correlation by Month, Confidential DPU Exhibit 1.3 Davis SR."

Q. All right. We'll take a look at that and come back to you.

Let's talk about avoided generation costs. You don't calculate any avoided generation costs yourself, right?

A. That's correct.

Q. And you don't quantify what value they should have or not, you adopt RMP's methodology?

A. We -- I do analyze them. I don't create my own but I do look at them.

Q. Sorry, you do what?

A. I do look at them.

Q. Okay. But beyond looking at them, you didn't do any work to check it or create your own or figure out if you technically agree with how they're doing the calculations, right?

A. I don't calculate my own. I do try to decide if I technically agree or if it seems reasonable.

Q. Okay. You're aware that RMP proposes to charge $310 in application and metering fees to customer generators, right?

A. Correct.

Q. And you're not aware of any other RMP customers being charged application fees, right?

A. That's correct.

Q. And you're not aware of any other RMP customers being charged metering fees, right?

A. That's correct.

Q. And you're aware that RMP proposes that this metering fee be charged to all new customers, even if they have an AMI meter, right?

A. Correct.

Q. And just to be clear: That's a fee for a new meter for a customer that doesn't need a new meter, right?

A. Well, they -- maybe not need a new meter if they already have AMI. But there's programming that they have to do to make that work for bidirectional power flow, as we heard earlier today. That comes with a cost.

Q. Sure. And you make a good point. I believe we heard earlier today that that cost was $20, right?

A. That's what I recall, yes.

Q. Okay. But we're talking about $160 right now, right?

A. That's correct.

Q. Okay. So there's $140 that we can't account for in that scenario where a customer doesn't need a new meter?

A. Yeah, I believe Rocky Mountain Power witnesses explained that earlier.

Q. Can you explain it?

A. No.

Q. Okay.

A. I just know it's the weighted average of costs. I don't know the specific costs that go into that, but it's reasonable.

Q. It's a charge for a new meter that a customer does not need.

You agree that any cost that is not needed for customers is not in the public interest, right?

A. Without clarifying that cost, I don't know how to answer that. I would generally say yeah, if it's not needed, it's not in the public interest.

Q. Okay. But you support a meter fee where there is no new meter required. DPU supports a meter fee where there was no new meter required, right?

A. It's not just the new meter, it's the other things that go with that.

Q. Well, the only other thing that you can tell me is the making it bidirectional, which allegedly costs $20.

A. There's programming, and there's also -- I believe on the utility side there's other things that they have to do so it will read that meter.

Q. You don't know what those things are, right?

A. I don't.

Q. You don't know what they cost, right?

A. Not off the top of my head, no. I have seen that. I've seen how they calculate it.

Q. They surely cost less than a new meter, right?

A. Correct.

Q. And you're supporting a new meter charge uniformly apply to all new customers, again, regardless of whether that's a necessary expense?

A. For all new CG customers or customers in general?

Q. Well, I think you know that customers in general aren't being charged for new AMI meters, right?

A. That's correct.

Q. Right. So obviously, we're talking about new CG customers.

And you support that charge, right?

A. I do.

Q. Okay. Are you familiar with RMP's Cool Keeper program? There was a little bit of discussion about it earlier today.

A. I'm aware of it, but I don't deal with that program. So I can't really speak of it.

Q. All right. Well, as a general matter, you're aware that that program requires a tech to go to somebody's house, or you don't know that?

A. Yeah, I understand that.

Q. And do you know that, in fact, the customer is not charged for that tech visit, right?

A. I can't say if they are or not. Listening to the testimony earlier today, it's like no, they're not charged.

Q. Okay. And you also know because you've already told me that they don't pay a metering fee or an application fee, right?

A. I don't believe so based on prior testimony.

Q. Um-hmm.

A. I'm not familiar with the program, so.

Q. Okay. And do you know -- does the DPU support that program?

A. Yes, I believe so.

Q. Okay. And what about the Wattsmart program? Are you familiar with that?

A. A little bit.

Q. And again, as a general matter, you're aware, or at least you are now, that as part of that program there's a site visit to assess a customer's energy usage, right?

A. Sure.

Q. And you're aware that there is no application fee for that program, right?

A. So I'm told.

Q. And are you aware that there's also no charge for that site visit?

A. That's what I hear from prior testimony. I'm not familiar with that program. Just I know it's there.

Q. Are you familiar that actually all of RMP's customers bear the costs of those two programs?

A. I am.

Q. And that's kind of a subsidy, right, from RMP -- all of RMP's customers, those customers who are participating in the program?

A. I don't know if I would call it a subsidy because everybody benefits from it.

Q. Have you calculated those benefits?

A. No.

Q. So you're just taking RMP's testimony that everybody benefits from it. You don't know it for yourself, right?

A. I think my understanding of how the rate structures work and the purpose of the program, I can concur that everybody benefits from that because it reduces load.

Q. And I'm just asking you: Have you -- have you made any effort to calculate the costs versus benefits of these, what seem to be very labor-intensive programs?

A. I'm not familiar with the program, so therefore I would not have done any of those calculations.

Q. But yet, you don't believe those are a subsidy?

A. Not based on how those rate structures work. I don't think it's a subsidy.

Q. But to understand if something is a subsidy or not, you need to know the costs and the benefits of it, right, and where the costs are flowing, correct?

A. That's correct.

Q. And you can't do that for either of these programs, right?

A. I have not done it. I don't know if I can or can't. I have not done it.

Q. And while we're talking about that, you know, earlier you called the NEM program unsustainable, I

believe in your opening. You've done --

There's no calculation in any of your testimony in this proceeding that quantifies the costs of the NEM program, right?

A. That is correct.

Q. And there's absolutely nothing that quantifies the benefits, right?

A. Also correct.

Q. And where you've made the point also that the -- I believe I'm quoting this right. Again, it was a little hard to hear you -- but that you called -- you said there was a qualified -- you said that there was a subsidy going on between CG and non CG, right?

A. Yeah, I recall that.

Q. And you haven't, again, done any work to calculate the value of that subsidy, have you?

A. I haven't calculated the values. But it's somewhat intuitive in a net metering program when you're trading kilowatt hour for kilowatt hour, and there's tiered rates that include everything. And it seems reasonable that there's costs on the system that are not being paid by CG customers; therefore, that would be the shift to other customers.

Q. So intuitive, reasonable, but again, you haven't done the work to come up with the numbers, right?

A. No.

Q. And it's entirely possible that the benefits of the NEM program could outweigh its costs, right?

A. That's possible.

Q. So you just don't know?

A. I don't know because that wasn't the scope of work in this docket.

Q. Well, I mean, that's what you may say, but you also made a comment about subsidies and the NEM program, and I'm trying to establish the basis of that opinion.

And so it seems like you said it's intuitive and reasonable, but also it may just not exist, right?

A. Correct.

Q. Okay. You've said that future customers have had sufficient info for 6 years or so to understand whether or not to make an investment in solar under 137, right?

A. That's correct.

Q. So when was it that these future customers knew what the Commission was going to do out of this proceeding?

A. I have no idea. You'd have to ask them.

Q. Okay. So what's the information that they have that has allowed them to have enough info to plan to put in solar?

A. I think based on the number of public comments that we've had over the course of those 6 years, newspaper, other media resources, wherever it comes from, their own Google research, I think they should be well-aware of what's going on.

Q. So I think maybe we're conflating two concepts here. I'm not arguing with you that this proceeding has been pending for a while and that surely there's been press about it.

What I'm wondering is you suggested that customers had enough information about future rates to make a decision. And I'm trying to understand what information that is. Where is that certainty?

A. I don't know how to answer your question, but I do know how people look at projects. They look at it differently. It depends on what they're looking for, the level of detail. Somebody could say, Fine, I'm going to drop 20 grand on a system, when another customer might go into a lot deeper analysis. So I don't know how to answer your question on what they would need to make that decision.

Q. Well, you'd agree with me that right now, they don't even have an export rate, right? That's up in the air?

A. Correct.

Q. Okay. You mentioned in your opening also --

CHAIRMAN LEVAR: Mr. Margolin, can I cut in here for a second?

MR. MARGOLIN: By all means, please.

CHAIRMAN LEVAR: I wonder if this is a good time to recess for the day and start again in the morning, unless you can tell me that you're really close to being finished with your cross-examination.

MR. MARGOLIN: I think your suggestion is a good one. We should recess for the day, and we can pick up again in the morning.

CHAIRMAN LEVAR: Okay. Why don't we do that.

We'll be in recess until 9:00 a.m. tomorrow Utah time. Thank you, everyone. See you in the morning.

(The matter recessed at 4:58 p.m.)

CERTIFICATE

State of Utah)
ss.
County of Salt Lake)

I, Michelle Mallonee, a Registered Professional Reporter in and for the State of Utah, do hereby certify:

That the proceedings of said matter was reported by me in stenotype and thereafter transcribed into typewritten form;

That the same constitutes a true and correct transcription of said proceedings so taken and transcribed;

I further certify that I am not of kin or otherwise associated with any of the parties of said cause of action, and that I am not interested in the event thereof.

WITNESS MY HAND at Salt Lake City, Utah, this 19th day of October, 2020.

Michelle Mallonee, RPR, CCR
Utah CCR #267114-7801
Expires May 31, 2022

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