

BEFORE THE PUBLIC SERVICE COMMISSION

Civil No. 17-035-61

PUBLIC HEARING DAY 3

October 01, 2020

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801-746-5080 | office@advancedrep.com | advancedrep.com

SALT LAKE | 159 West Broadway, Broadway Lofts, Suite 100 | Salt Lake City, Utah 84101

PROVO | 3507 North University Avenue, Suite 350-D | Provo, Utah 84604

ST. GEORGE | 20 North Main Street, Suite 301 | St. George, Utah 84770



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 3
TAKEN THROUGH ADVANCED REPORTING SOLUTIONS

Taken on October 1, 2020

9:00 a.m. to 4:43 p.m.

Reported by: Michelle Mallonee, RPR, CCR

APPEARANCES

FOR ROCKY MOUNTAIN POWER:

EMILY WEGENER, ESQ.

JACOB A. MCDERMOTT, ESQ.

PACIFICORP

1407 West North Temple, #320

Salt Lake City, Utah 84116

(801) 220-4526

emily.wegener@pacificorp.com

jacob.mcdermott@pacificorp.com

FOR THE DIVISION OF PUBLIC UTILITIES:

JUSTIN C. JETTER, ESQ.

UTAH ATTORNEY GENERAL'S OFFICE

160 East 300 South, 5th Floor

Salt Lake City, Utah 84114

(801) 366-0260

jjetter@agutah.gov

FOR THE OFFICE OF CONSUMER SERVICES:

STEVEN W. SNARR, ESQ.

UTAH ATTORNEY GENERAL'S OFFICE

160 East 300 South, 5th Floor

Salt Lake City, Utah 84114

(801) 366-0260

stevensnarr@agutah.gov

FOR VOTE SOLAR:

JENNIFER SELENDY, ESQ.
PHILIPPE Z. SELENDY, ESQ.
JOSHUA S. MARGOLIN, ESQ.
LAUREN ZIMMERMAN, ESQ.
SHELBY ROKITO, ESQ.
SPENCER GOTTLIEB, ESQ.
SELENDY & GAY PLLC
1290 Avenue of the Americas
New York, New York 10104
(212) 390-9000
jselendy@selendygay.com
pselendy@selendygay.com
jmargolin@selendygay.com
lzimmerman@selendygay.com
srokito@selendygay.com
sgottlieb@selendygay.com

FOR UTAH CLEAN ENERGY:

HUNTER H. HOLMAN, ESQ.
UTAH CLEAN ENERGY
1014 2nd Avenue
Salt Lake City, Utah 84103
(801) 244-9227
hunter@utahcleanenergy.org

FOR VIVINT SOLAR, INC.:

STEPHEN F. MECHAM, ESQ.
STEPHEN F. MECHAM LAW, PLLC
10 West 100 South, Suite 323
Salt Lake City, Utah 84101
(385) 222-1618
sfmecham@gmail.com

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P R O C E E D I N G S

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CHAIRMAN LEVAR: Okay. We'll begin.

We are here on Thursday, October 1st, 2020, for Public Service Commission Hearing 17-35-61, the Phase II hearing of the application of Rocky Mountain Power to establish export credits for customer generated electricity.

And at this point, we are ready to move to Mr. Holman for your witness.

MR. HOLMAN: Thank you, Chairman Levar. Utah Clean Energy calls Kate Bowman.

THE WITNESS: Good morning.

CHAIRMAN LEVAR: Good morning, Ms. Bowman.

Do you swear to tell the truth?

THE WITNESS: Yes, I do.

CHAIRMAN LEVAR: Okay. Thank you.

KATE BOWMAN,
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. HOLMAN:

1 **Q. Good morning, Ms. Bowman.**

2 A. Good morning.

3 **Q. Can you please state your name and title for the**
4 **record.**

5 A. My name is Kate Bowman, and I'm the renewable
6 energy program manager for Utah Clean Energy.

7 **Q. And are you testifying on behalf of Utah Clean**
8 **Energy this morning?**

9 A. Yes, I am.

10 **Q. Can you please state your business address.**

11 A. It's 1014 East Second Avenue, Salt Lake City,
12 Utah 84105.

13 **Q. Thank you. Did you submit direct testimony,**
14 **rebuttal testimony, and surrebuttal testimony in this**
15 **docket, Ms. Bowman?**

16 A. Yes, I did.

17 **Q. Do you have any questions to that testimony?**

18 A. Yes, I do. And I've circulated a redlined
19 version of those corrections earlier this morning, so
20 hopefully that's available to everyone who'd like to
21 follow along. But I'll describe those corrections as
22 well.

23 I'd like to make some corrections to sections of
24 my rebuttal and my surrebuttal testimony that relate to
25 my recommendation for a glide path for the export credit

1 rate. There are a handful of lines in my testimony where
2 I'd like to make corrections to clarify that
3 recommendation.

4 So first, I'd like to correct one statement
5 that's repeated four times. It's in rebuttal testimony,
6 Lines 65 to 66 and 1158 to 1159. It's also in
7 surrebuttal testimony, Lines 98 to 99 and 787 to 788.

8 And so I'd to strike the statement: "I
9 recommend that the transition program rate be maintained
10 until the transition program cap has been reached" to
11 read: "I recommend that the solar export credit rate be
12 set at the value of the transition program rate until
13 rooftop solar capacity equivalent to the transition
14 program cap has been installed." That statement is
15 repeated twice in each set of testimony, and so I'd like
16 to make that change, the same change to all four
17 statements.

18 My next change is in my rebuttal testimony,
19 Lines 1059 to 1061. I'd like to amend the statement,
20 "maintain use of the transition program cap and implement
21 the new export credit program when the transition program
22 cap has been reached" to read, "close the transition
23 program to new customers and set the initial export
24 credit rate equal to the transition program rate until
25 rooftop solar capacity, equivalent to the transition

1 program cap, has been installed."

2 So in its entirety, this statement would now
3 read: "If the Commission approves an export credit value
4 that is lower than the current transition program rate, I
5 recommend that the Commission close the transition
6 program to new customers and set the initial export
7 credit rate equal to the value of the transition program
8 rate until rooftop solar capacity equivalent to the
9 transition program cap has been installed."

10 And then finally, in my surrebuttal testimony,
11 Lines 282 to 285, I would like to amend this statement
12 beginning with: "I recommend that the transition program
13 rate be maintained until the transition program cap has
14 been reached," to read, instead, "I recommend that the
15 transition program be closed to new customers and that
16 the Commission set the initial export credit rate equal
17 to the transition program rate until rooftop solar
18 capacity equivalent to the transition program cap has
19 been installed."

20 And these lines of testimony -- the lines of
21 testimony surrounding these statements describes my
22 proposal to phase in the export credit rate gradually.
23 And this correction more precisely describes the glide
24 path I have proposed.

25 And in referencing the transition program rates

1 and caps, my intent is to use those existing rates and
2 capacity caps that are already in place as a logical
3 starting point for the glide path for the new export
4 credit rate that I've proposed.

5 Q. Great. Thank you, Ms. Bowman. Are those all of
6 the corrections that you want to make in your testimony?

7 A. Yes.

8 Q. All right. If I were to ask the same questions
9 as those that appear in your testimony today, would your
10 answers be the same, noting that you've made a few
11 corrections today?

12 A. Yes.

13 Q. All right.

14 MR. HOLMAN: At this point, Mr. Chairman, I'd
15 like to move to admit Ms. Bowman's direct, rebuttal, and
16 surrebuttal testimony with the corrections she just went
17 over into the record.

18 CHAIRMAN LEVAR: Thank you, Mr. Holman.

19 If anyone objects to that motion, please unmute
20 yourself and indicate your objection.

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

23 MR. HOLMAN: Thank you, Mr. Chairman.

24 Q. (BY MR. HOLMAN:) Ms. Bowman, I have one more
25 question for you before proceeding to your statement

1 today.

2 There's been some comments made in a few
3 parties' surrebuttal testimony and a few comments made in
4 some witness statements during the hearing related to
5 Utah Clean Energy's comments on net metering.

6 Do you now, or have you ever in this docket
7 supported a return to net metering?

8 A. No. I have responded to recommendations
9 provided by Vote Solar that relate to net metering in my
10 rebuttal and surrebuttal testimony.

11 But Utah Clean Energy's position in this
12 proceeding is that the Commission should determine an
13 export credit rate, and that's been my recommendation
14 throughout.

15 Q. Okay. Thanks, Ms. Bowman.

16 You have prepared a summary of your testimony
17 here today; have you not?

18 A. Yes, I have.

19 Q. Please provide that summary.

20 A. Good morning, Chairman Levar, Commissioner Clark
21 and Commissioner Allen. Thank you for taking the time to
22 carefully consider the evidence and recommendations that
23 parties have put forward related to the costs and
24 benefits of exported solar energy.

25 The outcome of this proceeding will have

1 long-term impacts that shape Utah's energy landscape and
2 determine whether one of the sunniest states in the
3 country remains a viable market for rooftop solar or
4 whether all Utahans miss out on the benefits associated
5 with continued private investments in distributed
6 generation resources.

7 Rocky Mountain Power's proposal dramatically
8 undervalues exported solar energy by considering only the
9 value of avoided fuel costs and line losses.

10 It also saddles potential solar customers with
11 untenable regulatory uncertainty about the value of
12 exported energy. The combined effect is that few, if
13 any, Utah homes and businesses will be able to justify
14 the upfront investment in solar.

15 I recommend an export credit rate that is
16 derived from the utility-based costs and benefits of
17 rooftop solar, all of which are commonly included in
18 valuation resources developed by entities like NARUC, the
19 Interstate Renewable Energy Council, Rocky Mountain
20 Institute, and the National Renewable Energy Laboratory.
21 An export credit rate that does not include these
22 benefits does not fairly compensate solar customers for
23 the energy they export to the grid.

24 In my surrebuttal testimony, I frame my
25 recommendation in terms of the values that witnesses for

1 Vote Solar had quantified for these benefits in their
2 rebuttal testimony equaling a total value of 10.19 cents.
3 Some witnesses have made revisions to their calculated
4 values, and so I'd like to clarify that my recommendation
5 is that the Commission approve a methodology for the
6 export credit rate that includes the utility-based
7 benefits presented in Vote Solar's most recent analysis.

8 I recommend that avoided energy costs be
9 calculated based on forward-looking market data that is
10 transparent and accessible to stakeholder. I support
11 Vote Solar's quantification of avoided energy costs,
12 which uses the Company's official forward price curve,
13 the best available forecast of the Company's own
14 expectations regarding the long-term cost of energy.

15 I also recommend that the export credit rate
16 includes compensation for the capacity value that
17 aggregated rooftop solar installations provide to the
18 system.

19 Exported energy from aggregated rooftop solar
20 offsets customer load locally, which can defer
21 investments in generation, transmission, and distribution
22 infrastructure. Exported energy from aggregated rooftop
23 solar installations can be forecasted. And distributed
24 geographically diverse rooftop solar installations are
25 less vulnerable to disruption.

1 Rocky Mountain Power already evaluates the
2 capacity of aggregated rooftop solar resources in their
3 IRP to develop a preferred portfolio.

4 Further, Rocky Mountain Power, the Office, and
5 the Division have all acknowledged that the capacity
6 value provided by exported solar energy is likely not
7 zero.

8 I do not agree with the Company's
9 characterization that the capacity contribution of
10 rooftop solar should be lowered to account for future
11 solar resource additions that are called for in later
12 years of the Company's IRP. It is discriminatory to
13 discount the value of capacity that rooftop solar
14 customers provide to the system today by using a capacity
15 contribution value that assumes construction of solar
16 planned for the future. I support inclusion of Vote
17 Solar's proposed values for capacity.

18 I also recommend that the export credit rate
19 include a calculation of avoided carbon compliance costs.
20 Ms. Carolyn Berry calculated a carbon compliance benefit
21 based on the high carbon price scenario from Rocky
22 Mountain Power's IRP in her rebuttal testimony, and
23 another value based on the medium carbon-priced scenario
24 in surrebuttal.

25 This medium-priced scenario is actually the

1 lowest of three carbon-priced scenarios considered in the
2 Company's IRP because the scenario labeled "low" actually
3 just represents zero carbon costs in perpetuity. The
4 medium-priced scenario is also the one the Company uses
5 for its own planning purposes. And so I support the use
6 of Ms. Berry's calculated value for the medium-priced
7 scenario.

8 I also recommend that the Commission include
9 placeholders for two categories of value -- grid support
10 services, and reliability and resilience -- so that these
11 benefits can be quantified in the future.

12 It is also appropriate to weigh the significant
13 value of the health, social, environmental, and economic
14 benefits of exported solar energy that accrue to all
15 Utahans. In light of these benefits, it is reasonable to
16 consider whether the export credit rate design as a whole
17 is just and reasonable. My testimony also addresses
18 considerations for the design of a just and reasonable
19 rate that is understandable and actionable to customers.

20 Rooftop solar customers are not wholesale power
21 producers. They are individuals, families, small
22 businesses, companies. An export credit rate must be
23 comprehensible to those households and businesses and
24 should not saddle them with untenable uncertainty that
25 will make it impossible for them to evaluate whether they

1 can afford the upfront investment in solar.

2 The initial cost of rooftop solar is much higher
3 than most consumers expect to spend on their energy costs
4 in a year or 5 years or even 10 or more years. And so
5 choosing to invest in rooftop solar requires a careful
6 evaluation of both the cost of solar panels and the
7 customer's anticipated savings in order to determine how
8 long it will take a customer to pay off their upfront
9 investment. To complete that evaluation, customers must
10 have some certainty about their rates over an extended
11 period of time.

12 Rocky Mountain Power's proposal to update the
13 export credit rate each year is simply unworkable for the
14 vast majority of potential customers. If the export
15 credit rate is updated annually, it's impossible for a
16 potential solar customer to reasonably forecast their
17 savings with solar or even to determine whether they can
18 ever expect to save any money over the life of the
19 panels. No responsible solar installer could honestly
20 provide a prospective customer with an estimate of their
21 savings.

22 It is reasonable to update the export credit
23 rate regularly in order to ensure that it keeps pace with
24 changes to the value of exported energy over time. I
25 support Vote Solar's proposal to update the export credit

1 rate for new solar customers as part of future rate case
2 proceedings. However, it's essential that individual
3 solar customers be provided some certainty about the
4 future value of their investment, which is why I
5 recommend that individual customers remain on the export
6 credit rate current at the time of their interconnection
7 application for 20 years.

8 Just as the utility or a QF developer may commit
9 to a long-term power purchase agreement or recover costs
10 associated with investments in generating resources over
11 a long time period, it's reasonable to provide solar
12 customers who are providing energy from a resource
13 they've purchased upfront with sufficient certainty about
14 the long-term value of their investment to permit them to
15 reasonably invest in rooftop solar in the first place.

16 Regarding the netting interval, I recommend that
17 the export credit rate be netted no more frequently than
18 hourly in order to ensure that it is comprehensible and
19 actionable to customers. Instantaneous netting would
20 result in more than 80,000 instances of instantaneous
21 exports and purchases each day. And customers don't
22 currently have access to instantaneous usage data, so it
23 would be impossible for a prospective solar customer to
24 know how much solar energy they would be exporting to the
25 grid to estimate their long-term financial savings.

1 Rocky Mountain Power has proposed that the value
2 of the export credit rate be differentiated by on-peak
3 and off-peak periods. However, the value proposed during
4 both periods is so low that customers will be discouraged
5 from ever exporting energy, regardless of the time of
6 day. The time-differentiated rates do not send customers
7 a meaningful price signal to change their behavior. And
8 they further complicate a rate that is already difficult
9 for customers to understand and evaluate. And so I
10 recommend that the Commission reject Rocky Mountain
11 Power's proposed on- and off-peak rates.

12 Rocky Mountain Power has also proposed that new
13 solar customers pay a \$160 metering fee. All customers
14 have electrical meters which must be replaced as they
15 wear out or become obsolete. And the cost of replacing
16 meters accrues to all customers through rates. Rocky
17 Mountain Power plans to begin replacing 175,000 meters
18 with new AMI meters in 2021. And Rocky Mountain Power is
19 not proposing to exempt solar customers from the
20 rate-based cost of those upgrades. By requiring
21 customers to also pay a metering fee, the Company is
22 effectively asking them double pay for a single new
23 meter. This is discriminatory against rooftop solar
24 customers, and I recommend that the Commission reject the
25 Company's proposed metering fee.

1 If the Commission does approve an export credit
2 that is less than the value of the current transition
3 program, I recommend that the Commission employ
4 gradualism by approving a glide path for the value of the
5 export credit rate. If Rocky Mountain Power's rate is
6 implemented, Utah will be one of the least affordable
7 places for rooftop solar in the country.

8 Rocky Mountain Power asserts that solar
9 companies should have known that changes to Utah's solar
10 rate are coming, and therefore, there's no need for
11 gradualism. However, solar companies could not have
12 known the contents of Rocky Mountain Power's proposal
13 before it was filed in February of this year. And
14 further, over the course of the last 7 years, Rocky
15 Mountain Power has proposed a higher monthly charge for
16 solar customers and then a three-part rate structure,
17 neither of which was ever implemented.

18 The most recent proceeding was resolved by a
19 settlement that created this proceeding to finally
20 determine what the export credit rate will be. And at no
21 point throughout this time could a solar installer or a
22 solar customer have reasonably predicted what the export
23 credit will ultimately be.

24 The transition program has already significantly
25 reduced the growth of rooftop solar in Utah, and Rocky

1 Mountain Power's proposal will almost certainly bring
2 Utah's solar market to a halt. Under Rocky Mountain
3 Power's proposal, it could take 25 years or longer for
4 most customers to see any savings from an upfront
5 investment in rooftop solar, even at the current state
6 and federal tax incentive levels, which are scheduled to
7 decline.

8 It is not in the best interest of the state to
9 implement a sudden change in policy that will have a
10 dramatic negative effect on a market that has been
11 carefully cultivated by state policy choices over the
12 course of more than two decades.

13 Should the Commission approve a rate below the
14 current rate, I recommend that the final value of the new
15 rate be considered a floor and that the rate phase down
16 incrementally. I have proposed a glide path based on the
17 one used by Nevada, which is outlined in Figure 4 of my
18 rebuttal and surrebuttal testimonies.

19 Finally, in rebuttal testimony, Mr. Meredith has
20 proposed that battery storage be included in the new
21 Schedule 137 tariff. Although I generally support the
22 creation of tariffs and programs that incentivize
23 customer-sited batteries and use them to provide benefits
24 to the grid, introducing this recommendation in rebuttal
25 testimony did not provide parties with sufficient time to

1 analyze his proposal. And considering the significant
2 disagreement regarding the export credit rate, it's a
3 disservice to the Commission's investigation to introduce
4 a new element so late in the proceeding. So I recommend
5 that export credit rates for battery storage be addressed
6 separately.

7 Determination of a just and reasonable export
8 credit rate will determine the trajectory for the growth
9 of distributed solar resources in Utah. Given the
10 significant disagreement in this proceeding, I recognize
11 that it is challenging to simultaneously determine both
12 the value for the rate and a rate design for the export
13 credit rate. Yet, both of these elements are critical
14 components of a rate design that is in the best interest
15 of the well-being of Utah.

16 And I appreciate the Commission's careful
17 consideration of this matter. That concludes my
18 statement.

19 **Q. Thank you, Ms. Bowman.**

20 MR. HOLMAN: Ms. Bowman is available for
21 questions from other parties and the Commissioners.
22 Thank you.

23 CHAIRMAN LEVAR: Thank you, Mr. Holman.

24 Mr. Mecham, do you have any questions for
25 Ms. Bowman?

1 MR. MECHAM: I do not.

2 CHAIRMAN LEVAR: Does anyone from the Vote Solar
3 team have any questions for Ms. Bowman?

4 MS. ZIMMERMAN: Good morning. Lauren Zimmerman
5 for Vote Solar. No questions at this time.

6 CHAIRMAN LEVAR: Okay. Thank you.

7 Mr. Jetter, I'll go to you next. Do you have
8 any questions for Ms. Bowman?

9 MR. JETTER: Thank you, Mr. Chairman. Good
10 morning. I do have a few questions.

11 CHAIRMAN LEVAR: Good morning.

12
13 CROSS-EXAMINATION

14 BY MR. JETTER:

15 Q. I guess I'd just like to start by asking you a
16 few questions about some of the components of the export
17 credit value that you've supported. And this is going to
18 sound a little similar to some questions I asked
19 Dr. Worley yesterday.

20 If there is a wholesale solar power purchase
21 agreement engaged in by PacifiCorp and an independent
22 power producer, would you agree that that solar facility
23 would, in a typical power purchase agreement, provide
24 capacity benefits?

25 A. I think -- you know, I'm not necessarily an

1 expert on the details of power purchase agreements. I
2 think that's a fair characterization. Although, I
3 believe that there are solar developers that specialize
4 in providing capacity benefits in different ways. And
5 so, you know, I think that the terms of those -- some
6 solar developers have -- you know, do specialize in
7 providing solar farms that offer services, such as, for
8 example, curtailing the solar during certain times of day
9 in order to have it available on an as-needed basis.

10 So I think that there are different types of
11 PPAs that offer different types of services from utility
12 scale solar.

13 **Q. Okay. And a utility scale solar PPA that**
14 **includes a battery system, would that include presumably**
15 **more capacity value?**

16 A. I think it would depend on how the battery --
17 you know, the purpose for which the battery was being
18 dispatched. But generally, batteries can provide a wider
19 variety of capacity services.

20 **Q. Okay. And if the battery control was -- as part**
21 **of a PPA, the utility were able the control that battery,**
22 **would that provide a dispatchable capacity value for the**
23 **utility?**

24 A. If the utility were able to control the battery,
25 it would be, presumably, dispatchable by the utility.

1 Q. Okay. And you would also agree with me,
2 wouldn't you, that that utility scale solar facility
3 would provide energy benefits?

4 A. Yes, I agree.

5 Q. And would you agree with me, then, that if we
6 compare the cost and we add up the various components
7 that you've included in your testimony that are related
8 to Vote Solar's study -- and I believe you've drawn them
9 from their various witnesses' testimonies -- that the
10 cumulative sum of a power purchase agreement for a
11 utility scale solar and then added in the calculated
12 capacity benefits, transmission, and grid benefits that
13 you've drawn from their testimonies, that that would be
14 lower than 10 cents?

15 A. Trying to follow the question.

16 So, I mean, I think you're asking if a typical
17 PPA agreement for a utility scale solar farm plus the
18 benefits that have been calculated in this proceeding
19 which that solar farm does not -- are provided by
20 distributed solar and are valued for distributed solar
21 would equal more or less than 10 cents?

22 And, you know, I think trying to follow this
23 hypothetical, you know, one of the things that is
24 challenging about this comparison to me is that I think
25 it does show that utility scale solar and rooftop solar

1 are resources with very different characteristics. And
2 so it's -- I think that we could go through the math
3 exercise of how those numbers add up.

4 But one of the things of this -- the caveats of
5 this hypothetical point out to me is that it is really
6 challenging to compare the characteristics of aggregated
7 distributed solar resources that have different
8 characteristics by nature of the fact that they're
9 providing energy close to load. Their export credit
10 profile is obviously, you know, the energy produced by
11 the panels net of the customer's on-site usage; whereas,
12 a utility solar farm does not have that, you know, is
13 providing all of the energy to the grid.

14 And so, I mean, I think that that -- this
15 exercise shows that it is really difficult to compare the
16 resources on an apples-to-apples basis.

17 **Q. Well, let me ask you this question, then.**

18 **If a non-solar customer can purchase the**
19 **electricity energy -- excuse me. I'm going to strike**
20 **that question and re-ask it.**

21 **If a nonparticipating or non CG customer can --**
22 **has the opportunity to purchase the energy commodity**
23 **portion of their service from a lower cost source, they**
24 **would generally prefer to do that, wouldn't they?**

25 **A. I mean, I think in, you know, the kind of**

1 isolated instance of comparing two energy resources that
2 are otherwise identical, the customer would prefer to
3 purchase the lower-priced one. I think that that's, you
4 know, not necessarily relevant to the question of how to
5 value distributed solar.

6 But I agree that given two identical options,
7 generally a customer would prefer, you know, in a given
8 instance to purchase the lowest priced energy.

9 From a broader perspective, if the utility, for
10 example, always made resource decisions based on the
11 absolute lowest-priced energy available, then I think
12 that wouldn't result in -- that's not how the Company
13 chooses to build up a portfolio of resources. And, you
14 know, from that perspective, long-term resource planning
15 wouldn't be necessary. But also, I think you wouldn't
16 have a least-cost/least-risk portfolio of, you know,
17 low-cost resources but also more expensive resources that
18 provide different capabilities that, as a portfolio, are
19 the lowest-cost alternative for customers -- the
20 lowest-cost portfolio for customers.

21 **Q. Okay. And you would agree with me if there were**
22 **two sellers of natural gas peaking energy and one was**
23 **less expensive than the other, presumably, most customers**
24 **would prefer the less-expensive option?**

25 A. I mean, again, if that customer were purchasing

1 energy from a natural gas plant themselves and have those
2 two choices, I agree.

3 **Q. Okay. And would you say the same for two**
4 **utility scale solar installations?**

5 A. So the question is whether a solar customer
6 purchasing energy from two utility scale solar
7 installations would prefer the cheaper option?

8 **Q. Yes?**

9 A. I think, again, if the product being offered is
10 identical, then yes.

11 **Q. Okay. I'd like to ask a little bit of a**
12 **question that's kind of addressing something that's been**
13 **asked of other witnesses earlier in this proceeding.**

14 **Would you agree with me that energy as a**
15 **commodity is different from retail electric service as a**
16 **service?**

17 A. I think -- I think I would agree with that. I
18 mean, energy -- there's different types of energy
19 commodities. And certainly, when customers, you know,
20 take service from the utility there, you know, they're
21 not purchasing a commodity -- they're not behaving in a
22 way that they're purchasing a commodity on the market.
23 They also expect that service to be reliable, for
24 example. So they are purchasing a service as opposed to
25 a commodity directly.

1 Q. And a wholesale energy purchase is typically
2 along the lines of a commodity. If Rocky Mountain Power
3 is purchasing 10 megawatt hours on the market at, let's
4 say, \$20 per megawatt hour, that's a different thing than
5 selling a service of 20 megawatt hours to a customer; is
6 that correct?

7 A. Sure. I think, I mean, the utility is
8 purchasing a variety of energy commodities and packaging
9 them into a service that customers subscribe to -- or
10 customers, you know, purchase through their consumption.

11 Q. Okay. And that explains why there's a fairly
12 substantial difference between the wholesale commodity
13 price of a kilowatt and the residential retail rate for
14 delivery of a service that includes -- that's measured by
15 and billed by kilowatt hours; is that correct?

16 A. I mean, at a high level, I think the retail rate
17 is higher than the wholesale rate because of the total
18 cost of, you know, the infrastructure the utility has to
19 build to deliver that service to the customer, you know,
20 the cost of administrative billing, and the other
21 costs -- you know, costs that accrue because the utility
22 is providing that as a service.

23 Q. Okay. Thank you. And so is it fair, then, to
24 say that a customer generation export kilowatt hour of
25 energy is the commodity of that energy primarily?

1 A. I mean, a kilowatt hour of energy, I think --
2 you know, following this conversation, the kilowatt hour
3 in isolation is a commodity. And from the, you know, the
4 perspective of, like, broader utility planning processes,
5 it's -- you know, a kilowatt hour of energy is one
6 commodity that a -- you know, one of many commodities the
7 utility packages and delivers to customers.

8 **Q. Okay. So when a customer exports a kilowatt**
9 **hour and their neighbor consumes a kilowatt hour of**
10 **energy, the neighbor who is consuming the energy is**
11 **provided the full range of services that are included in**
12 **the full retail rate; is that correct?**

13 A. I mean, I think they're provided the services
14 that are provided by that kilowatt hour of energy. I'm
15 not sure. Maybe you could ask the question differently.

16 **Q. The customer generator who is exporting a**
17 **kilowatt hour of energy is not providing the neighbor who**
18 **might be consuming or might be using through their demand**
19 **that kilowatt hour of energy. The customer generator**
20 **isn't providing 24-hour support. And by that, I mean**
21 **voltage support, phase balancing, maintenance of the**
22 **distribution system, maintenance of the transmission**
23 **system, backup generation for nighttime energy loads.**

24 **The customer generator isn't providing those**
25 **services, are they?**

1 A. No. And, you know, I don't think any generator
2 on the system in isolation is providing those services.

3 Q. Okay. And that's why the wholesale price of
4 commodity energy is quite a bit less than the retail rate
5 for a kilowatt hour?

6 A. That's certainly -- that's certainly why -- the
7 value of those services incorporated into the retail rate
8 is certainly one of the reasons it's higher.

9 Q. Okay. Thank you. I'm going to change gears a
10 little bit to another line of questioning.

11 You've asserted in your testimony, is it
12 correct, that you oppose using the forecast future solar
13 generation that PacifiCorp intends to add to the
14 generation fleet; is that correct? And by that, I mean
15 you've opposed using that for the calculation of the
16 capacity value?

17 A. Yeah, that's right. I think the Company has
18 made statements regarding sort of the future -- related
19 to the IRP forecasting -- regarding the future projected
20 capacity contribution of solar resources following the
21 addition of resources that are called for in a preferred
22 portfolio. And I think it's not fair to solar customers
23 who install today to receive -- and provide capacity
24 benefits to the grid today -- to receive a value for that
25 capacity, assuming the construction of resources that

1 haven't been built and don't exist and could ultimately
2 never be built.

3 **Q. To the extent that those resources are**
4 **contractually obligated to be built, would that provide**
5 **you enough certainty to rely on the existence of those in**
6 **the near future?**

7 A. I think if they were, you know, if looking at --
8 if by the near future those resources are projected to
9 come online in, you know -- knowing that, you know,
10 customers who use this solar export credit tariff will be
11 installing gradually over the course of the time the
12 tariff's developed, it's hard to say whether -- I think
13 that if a solar customer's resources are reasonably
14 expected to be online before a utility scale resource,
15 then it should receive credit for the capacity value it
16 provides when it's added to the system.

17 You know, utility scale resources do take longer
18 to build than a rooftop solar installation. And so for
19 resources in the very near term that are, say, under
20 construction, I think there's probably a reasonable
21 window of time where you can assume those resources will
22 be built. And yes, it would be appropriate to account
23 for them.

24 **Q. Okay. And when PacifiCorp is forecasting the**
25 **installation of various generation facilities on a**

1 going-forward basis, do you think that they also should
2 be treated similarly in the sense that they should not --
3 not account for any expected future generation
4 installations?

5 A. Well, I think I'm struggling a little bit
6 because, you know, specific to -- when we're talking
7 specifically about the solar export credit, the capacity
8 contribution in this proceeding is directly related to
9 the value that that resource provides. But I don't --

10 Maybe you could repeat the question. I'm
11 struggling to understand exactly what you mean.

12 Q. Well, so would you agree with me that the
13 capacity value that you would assign to a rooftop solar
14 export credit is the value in deferring or eliminating
15 the need for future generation?

16 A. Yeah, I think that's fair.

17 Q. Okay. And if there's a high probability or near
18 certainty that certain future generation facilities will
19 be built and will be added to this system, shouldn't you
20 take those into account?

21 A. Yes. I think, you know, a resource that's, like
22 I said, under construction, you know, in planning for, as
23 a utility does long-term planning, resources that are
24 existing are accounted for. And I think it's reasonable
25 to assume that a resource that is certainly going to be

1 built in the near future is -- or going to be online in
2 the near future, that the -- that those are accounted
3 for.

4 **Q. Okay. And you testified that it's your position**
5 **that these customers should be locked in for a 20-year**
6 **rate; is that correct?**

7 A. Yeah. That an individual customer should be
8 able to receive the rate that's current when they
9 interconnect -- or when they apply to interconnect for 20
10 years.

11 **Q. Okay. And you've recommended using an official**
12 **forward price curve; is that correct?**

13 A. I recommend using forward-looking market prices.
14 And I've supported the evidence -- or the recommendation
15 that Vote Solar's provided.

16 But I think, you know, the important components
17 are that the price curve is forward-looking to capture
18 the best available forecasts about what the future price
19 of energy will be.

20 **Q. Okay. And to calculate an official forward**
21 **price curve or any type of a forward price curve, you**
22 **don't simply assume that current fleet of generation, the**
23 **current natural gas prices, et cetera, are fixed, would**
24 **you?**

25 A. I mean, I think this might be getting a little

1 bit beyond what I've -- what I've discussed in detail.
2 And, I mean, I know there's different ways of calculating
3 forward price curves and predicting -- you know,
4 reasonably accounting for a variety of different factors
5 to estimate what future electricity prices will be. But
6 I don't -- I haven't calculated forward price curves.

7 **Q. Okay. Let me maybe simplify this question.**

8 **If we're estimating the -- one of the components**
9 **of the value of an export credit forecasting into the**
10 **future, we would assume -- wouldn't we try to get the**
11 **most accurate forecasts of actual future conditions by**
12 **taking our best guess of what the world of generation**
13 **looks like in the future?**

14 **A. Yeah, I think that makes sense.**

15 **Q. Okay. But you don't think that we should do**
16 **that for the other components like capacity value?**

17 **A. Well, I don't think that -- no, I don't think**
18 **that a solar customer who, again, installs today and is**
19 **providing that capacity value should receive a -- they**
20 **should receive a payment that doesn't pay them for that**
21 **capacity value because forecasts call for it to be**
22 **provided by another resource in the future.**

23 **Q. Okay. And so even if the forecast of the future**
24 **suggests that there will be a limited avoidance of**
25 **generation capacity cost in the future, we shouldn't**

1 consider that?

2 A. Could you repeat that?

3 Q. So, if the best forecast of the future suggests
4 that an export credit will have a limited or lesser value
5 in terms of avoiding generation capacity costs in the
6 future, we shouldn't consider that now unless those are
7 known resources in the very near future?

8 A. Well, I think there are certainly other
9 witnesses in this proceeding who can provide a more
10 in-depth discussion of this than I can.

11 But I think that energy and capacity are -- and
12 capacity contribution are different. And the Company's
13 pointed this -- you know, discussed this in testimony
14 where, you know, a kilowatt hour of energy, the -- you
15 know, say today I purchase 10-kilowatt hours of energy
16 and tomorrow I purchase 10-kilowatt hours of energy. You
17 know, the fact that I'm purchasing energy, that
18 10-kilowatt hours are purchased today and 10-kilowatt
19 hours are purchased tomorrow doesn't necessarily impact
20 the value of those.

21 But the way that the Company's discussed
22 calculating capacity contributions for new resources,
23 when -- as resources are added, that additional new
24 resource is given a lower-capacity contribution just by
25 nature of the fact that it was completed after a previous

1 resource. And so, you know, the order in which resources
2 are added is very important to compensating them for the
3 value that they're providing to the grid.

4 And so the kind of purpose of my recommendation
5 here is just to ensure that if a solar customer is
6 providing -- installs solar today, they're providing
7 capacity to the grid, they should be compensated for what
8 that value of the capacity -- for the capacity that
9 they're providing today and for the foreseeable future
10 rather than be compensated as if a future resource that
11 hasn't yet been constructed has been.

12 Q. Okay. I think I'm -- I think we'll move on to
13 another line of questioning. Thank you.

14 You testified that you think it is more
15 comprehensible -- is that the correct word? -- to net on
16 a 15-minute interval instead of a no netting?

17 A. No. I have -- I've recommended hourly netting.

18 Q. Hourly netting?

19 A. Or hourly -- netting no more frequently than
20 hourly.

21 Q. Okay. And I guess is it your testimony that you
22 think that customers don't understand the difference
23 between -- or can't understand what a no netting means,
24 or that they simply don't have the ability to calculate
25 the value that they would receive in the two different

1 **scenarios?**

2 A. I think -- I think both of those are issues. I
3 mean, one issue is that it is much more challenging to
4 calculate the value under instantaneous netting. But
5 when I say it's not comprehensible to customers, what I
6 mean is that, first of all, customers don't have
7 instantaneous data about their energy usage. And so a
8 customer couldn't look at their bill, for example, and
9 understand how they might change their behavior in order
10 to have an impact on their bill.

11 And so, you know, while they may understand the
12 concept that, you know, energy is being netted in
13 realtime, I think it's not -- what's not understandable
14 to customers is whether there's something that they can
15 do to say -- you know, look back at their bill and notice
16 that under "hourly netting," for example, you know, you
17 might notice that your energy bill -- you've used more
18 energy at 9:00 and connect that with the fact that you
19 plugged in your car at 9:00 and make a mental note to
20 plug in your car at noon during the day when your solar
21 panels are producing, for example.

22 So you can -- you know, it's reasonable to
23 expect, say, a residential customer to kind of review
24 that information and make changes to their behavior;
25 whereas, with instantaneous netting, I think -- you know,

1 first, customers don't have the data to do that. But if
2 they did, it's a pretty overwhelming amount of data. And
3 customers just can't make energy usage decisions in
4 realtime. I mean, a customer isn't going to notice a
5 cloud coming and run to turn off their dishwasher in
6 realtime, for example.

7 **Q. And so, I guess are you suggesting that**
8 **customers would try to add up everything they've got**
9 **plugged in over the course of an hour and how many**
10 **minutes each one ran, and then they would compare that to**
11 **their generation over that hour, and that would be easier**
12 **than understanding my current load is higher than my**
13 **current generation?**

14 **A.** I'm sure that some solar customers would, but
15 most, likely, will not. You know, I think they would
16 review their -- like I said, review their data over the
17 course of maybe a day to notice patterns and make
18 decisions about how to use energy, you know, based on the
19 high, probably the higher-usage appliances in their house
20 that they do have control over, like an electric car, air
21 conditioning, things like that and make decisions about
22 how they'll use those appliances in the future.

23 **Q. And are you aware of customers -- do you know if**
24 **customers have hourly usage information now?**

25 **A.** I'm not certain if customers do currently have

1 hourly usage. I thought that they did, but that's
2 something that I'd have to confirm or the Company could
3 confirm.

4 But I believe that the upgrades to existing AMR
5 meters do provide customers with an opportunity to review
6 their hourly usage data online. I think there is a delay
7 associated with getting that data. And I'll admit that
8 I'm not sure if that's something customers can do today
9 or something that this technology will provide customers
10 with the ability to do in the near future, or if that
11 applies to all types of customers, or if that's dependent
12 on the meter they have.

13 **Q. And without that information, it would be**
14 **practically impossible for a customer to make the**
15 **decision to install a solar system or not based on their**
16 **netting amount.**

17 **And I guess what I'm trying to ask here is they**
18 **wouldn't have any more information in that scenario than**
19 **they would in an instant netting scenario if they don't**
20 **have hourly data, do they?**

21 **A. If they don't have hourly data then -- you know,**
22 **I think -- I'm not sure I follow. I mean, yeah, if they**
23 **don't have instantaneous or hourly data, then in either**
24 **case, they're going to have to rely on their monthly bill**
25 **or daily estimate of, you know, average, daily average**

1 estimate or something like that.

2 Q. Okay. Those are all of my questions.

3 Thank you for your time this morning,
4 Ms. Bowman.

5 A. Thank you.

6 CHAIRMAN LEVAR: Thank you, Mr. Jetter.

7 I think we'll go to Mr. Snarr next.

8 Do you have any questions for Ms. Bowman.

9 MR. SNARR: Yes, I do. Thank you.

10
11 CROSS-EXAMINATION

12 BY MR. SNARR:

13 Q. Good morning, Ms. Bowman, how are you?

14 A. Good morning. Good. How are you?

15 Q. Good. I'd like to focus on just some of the
16 testimony you have to get clarification on your position.
17 You represent UCE; is that correct?

18 A. Correct.

19 Q. And UCE was an active participant in the Docket
20 14-035-114 net metering proceedings; is that right?

21 A. Umm-hmm, that's correct.

22 Q. And you're familiar with the settlement
23 stipulation that was entered in in September of 2017; is
24 that correct?

25 A. Umm-hmm. That's right.

1 Q. And UCE was a signator to that, right?

2 A. Yes, that's correct.

3 Q. Okay. With respect to that settlement, am I
4 correct that the existing net metering customers were
5 grandfathered into a continuation of their net metering
6 rates until December of 2035?

7 A. Yes.

8 Q. And similarly, the transition customers, as it
9 was defined there, were grandfathered into their rates,
10 but the expiration of their rates would be December of
11 2032, or approximately 15 years from the date of the
12 settlement; is that correct?

13 A. December 31st, 2032. Yeah, that's right.

14 Q. All right. And isn't it true that for those net
15 metering customers, there would be no major change to
16 their rates that might affect their payback calculations
17 through 2035?

18 A. No change to their rates pertaining to their
19 solar installation.

20 Q. Right. And the same is true for the
21 transmission customers but through December 31st of 2032;
22 is that right?

23 A. Correct.

24 Q. So for both these groups, the grandfathering
25 largely preserved to them the economics that they relied

1 upon as they invested in their solar facilities; is that
2 true?

3 A. Yeah, I think that's fair to say. Well,
4 regarding -- again, regarding their -- regarding their --
5 the rates that pertain to their exported energy.

6 Q. Right. Now, you talk about a glide path or
7 using gradualism in a couple places in your testimony.

8 Am I correct that at least as to these two
9 groups of customers we've talked about -- the net
10 metering customers, the transition customers -- that we
11 don't have to worry about the use of a glide path or
12 gradualism as it affects them and the rates that will be
13 applying to them for many years; is that right?

14 A. I haven't proposed any changes to the net
15 metering program which is closed, or the treatment of
16 current transition program customers.

17 Q. Okay. Now, I'd like to focus on the glide path
18 or gradualism as it might apply to those customers who
19 might sign up in the future based upon the export credit
20 rate that this Commission will decide for the future.

21 Now, if -- once that decision is made, while it
22 might be favorable or unfavorable towards investment,
23 what kind of a glide path would you suggest for that
24 group of customers?

25 A. So this is for new customers who install under

1 the new solar export credit rate?

2 Q. Yes. Hypothetically, if the new export credit
3 rate was set at 12 cents, what kind of a glide path would
4 you suggest for those customers who might consider
5 installing solar with an export credit reimbursement rate
6 of 12 cents for what they give back to Rocky Mountain?
7 What kind of glide path do we need for that group?

8 A. I haven't proposed a glide path for an export
9 credit rate that's higher than the current program rate.
10 And my proposal is specific to anything lower than the
11 current transition program rate. So I haven't
12 recommended a glide path for a higher rate.

13 Q. And if it was a lower rate, let's say a 5-cent
14 rate, what kind of reassurance can we give those people?
15 Let's give you a 5-cent rate long term, but don't worry,
16 we're going to give you a 9-cent rate for year or two
17 before we knock you down to 5.

18 What kind of assurance will they have as a glide
19 path or gradualism as they work their way into a brand
20 new contract?

21 A. That's a good question. And to clarify, I've
22 proposed the glide path to -- I proposed the glide path,
23 but the individual customers would remain on the rate
24 current at the time that they applied to interconnect.
25 So an individual customer would have certainty about

1 their rate enough to know -- you know, to know that for a
2 certain number of years, their rate will be what it was
3 when they signed up and they made the decision to install
4 solar. And the glide path would be for new customers,
5 who -- so that as the rate steps down over time, once a
6 certain capacity of solar has been installed, then the
7 transition to a new step in the glide path would occur.
8 And then those customers would have the same certainty
9 about the future value of their export credits but at a
10 different rate. So they could use the information
11 available at the time to make a decision and evaluate --
12 probably work with a solar installer to evaluate their
13 savings with solar.

14 **Q. But if this Commission, through all the**
15 **contributions and participation of various parties, can**
16 **determine what the real cost and benefits are as it**
17 **relates to exported energy, once they determine what that**
18 **is, presumably that would be the right answer for the**
19 **first year, for the fifth year, for the tenth year, and**
20 **maybe the 20th year if they do their job correct to set**
21 **the rate.**

22 **So in that case, you don't need a glide path, do**
23 **you?**

24 **A. Well, I think the glide path itself is really --**
25 **like I said, for individual customers, the value is in**

1 the certainty about their rates. And so the glide path
2 is really tied to a value that is -- the selection of an
3 export credit rate value that is so much lower than the
4 current value, as Rocky Mountain Power has proposed, that
5 it would have a really disruptive impact on Utah's solar
6 industry and on the -- you know, the jobs and the
7 economic development that comes along with that.

8 And so the glide path and the reason for phasing
9 in the rate over time is more to avoid severe negative
10 impacts from phasing in a rate that's, say, 85 percent
11 lower than the current value overnight.

12 **Q. And you indicated in that answer, I think, that**
13 **that glide path is primarily to ease the effect upon the**
14 **industry and those people who support the industry**
15 **through various jobs; isn't that correct?**

16 A. It's also to ease the effect on, you know,
17 Utah's economy from businesses potentially closing their
18 doors, from the drop in private investments, in resources
19 here in the state. And so I think it's broader than just
20 those companies. But it is related to the economic
21 impact that comes from a solar industry as a whole.

22 **Q. Right. And you were -- were you present for**
23 **Mr. Worley's testimony yesterday?**

24 A. I was.

25 **Q. And do you recall that he testified that once**

1 the stipulation and the transition program is put in
2 place, that basically, at least representing Vivint
3 Solar, that they basically took their work elsewhere and
4 left the state already.

5 Do you recall that discussion?

6 A. I remember that he said that they don't
7 currently install solar in Utah. And, you know, I do
8 know that there have been -- I believe the solar
9 industry's association -- 700 jobs lost since the
10 transition program was put in place.

11 Q. All right. In your testimony, you also advocate
12 the recognition of some value to be associated with the
13 use of solar energy that would lead to a reduction of
14 carbon emissions; is that correct?

15 A. I've supported the carbon compliance value
16 proposed by Vote Solar.

17 Q. And do you understand -- isn't it true today
18 that there are no CO2 taxes or cap and trade costs that
19 are embedded in the utility's cost of service as it
20 currently stands?

21 A. There aren't explicitly. You know, I will note
22 that the IRP does, I believe, use the medium carbon price
23 forecast in selecting of resources. And so, you know,
24 the utility is not specifically purchasing carbon
25 compliance benefits, or purchasing those benefits

1 specifically from resources. But they are considered in
2 the resource planning process, which ultimately
3 determines what resources are purchased and what
4 customers will pay.

5 Q. But in the -- like, for example, in the current
6 rate case, as the Commission is charged to do its job to
7 find just and reasonable rates, in looking at the costs
8 and seeing where there's prudent costs incurred and
9 looking at how to spread those costs between customers,
10 there's really no costs related to carbon emissions at
11 this time; isn't that right?

12 A. That's true for today. And I think the --
13 because I've recommended that customers be permitted to
14 remain on their rate for 20 years, I think it's important
15 to include a reasonable forecast of what those costs will
16 be over the lifetime of that customer's investment.

17 Q. And that might be applicable if we are trying to
18 determine a lump sum to be paid today with our best guess
19 for what future costs to the utility might be; is that
20 right?

21 A. I don't think that -- I'm not proposing that
22 future -- that solar customers would receive a lump sum
23 based on the future costs of carbon compliance.

24 Q. All right. At Lines 374 and 375 of your
25 rebuttal testimony, you've indicated that you do not

1 oppose the use of historical EIM data to aid in
2 determining the avoided energy costs for purposes of
3 determining an appropriate export credit rate; isn't that
4 true?

5 A. That -- I'm just pulling up my testimony, but
6 that sounds correct.

7 Q. Okay. You also provide examples -- I believe
8 it's in your rebuttal testimony -- of how solar customers
9 go about making that decision to invest in solar panels.
10 Let me just focus on that a little bit. I believe it's
11 at Line 950. You continue with an example, or you show
12 an example indicating that a typical customer might spend
13 \$17,000 on rooftop solar and a paid -- a state and
14 federal tax savings of \$4,500; is that correct?

15 A. Is this in rebuttal testimony?

16 Q. Yes, I believe it is.

17 A. Could you repeat the lines?

18 Q. 950 is where you start, or at least where I
19 found it.

20 A. Yeah, that sounds correct. I'd just like to
21 find that line.

22 Q. So the numbers you're using -- and again, by way
23 of example -- is 17,000 for the installation of solar
24 system on the roof and a \$4,500 tax credit; is that
25 right?

1 A. I'm looking at the value 17,000 minus 12,500 is
2 \$4,500.

3 Q. All right. And I think in that example you also
4 **presumed \$875 for export credit revenue; is that right?**

5 A. Yes. I'm trying to remember where that came
6 from specifically. But it looks like -- so that's based
7 on the 9.2 cent credit through the transition program and
8 the first year.

9 Q. Now, you also indicate, I believe in a footnote,
10 **that the \$4,500 in tax credits will expire in 2024; isn't**
11 **that correct?**

12 A. Federal tax credits expire in 2022, the state
13 tax credit expires in 2024.

14 Q. Okay. Appreciate that correction.

15 So those tax credits are going to go away. And
16 **that's a fairly significant number; isn't that true?**

17 A. Yeah, that's correct.

18 Q. What do you anticipate might be the cost savings
19 **that might be available to future customers with a**
20 **continued decrease in the cost of the installation of**
21 **solar systems?**

22 A. Could you repeat the question? A decrease in
23 the cost of the solar installation, or the decrease in
24 the number of solar installations?

25 Q. The \$1,700, is that a good figure for next year

1 or the years thereafter?

2 A. You know, I think that's a better question for
3 someone who represents the solar industry and is attuned
4 to actual solar prices today. So, you know, I don't
5 know. I think that was based on -- I can take a look at
6 my footnote. But that's the average price for
7 residential solar in 2019, according to the solar energy
8 industry's association. And I don't feel prepared to
9 kind of make a statement on whether that cost will be the
10 same in the near future.

11 Q. All right. Just hypothetically, if there was a
12 10 percent decrease because of improved technology or
13 whatever, a 10 percent decrease in the cost of installing
14 a solar system, wouldn't that 10 percent decrease
15 represent a number that's twice as big as the number
16 you're presuming the customer might get back through
17 export credit revenue based upon the transition customer
18 level?

19 A. A 10 percent decrease in the value of -- or cost
20 of a \$17,000 system would be \$1,700.

21 Q. Which is about twice the amount that they're
22 anticipating they might get on revenue credits?

23 A. On the revenue credits as they were in this
24 example.

25 Q. Right. And with that significant decrease in

1 the federal tax/state tax that we're anticipating in the
2 next few years, isn't that the biggest hit in terms of
3 the economic dynamics that would go into decision making
4 for a customer?

5 A. I mean, that dollar amount certainly is a big
6 hit.

7 When it comes to the tax credits themselves, I
8 think, you know, solar customers aren't generally
9 familiar with how they're phasing down over time, but
10 they are aware of how much they're expecting to get back.

11 And the -- you know, the solar industry is
12 obviously very aware in pricing -- pricing the cost of a
13 solar installation and determining, you know, what
14 customers will pay for that, you know, is very aware that
15 the tax credits are decreasing. And, you know, so I know
16 that's something that's a concern to the solar industry,
17 and that they, solar companies, do put a lot of thought
18 into figuring out, you know, whether or how to mitigate
19 those impacts for customers. So that someone who is
20 maybe expecting to install in December 2019 and then has
21 to push that out a few months, that customer does
22 experience, you know, a lower savings because of the tax
23 credit because the calendar year has changed.

24 And, you know, I know that's something that
25 solar customers certainly take into consideration and

1 that solar companies, you know, again, in figuring out
2 overall how to price their products, especially the
3 customers using financing, for example, think about how
4 to mitigate those impacts for customers.

5 **Q. All right. Isn't it true that no matter what**
6 **the Commission decides to do in this proceeding that**
7 **fewer customer will be inclined to install rooftop solar**
8 **systems because of the diminishing tax credits, and that**
9 **the real economic factors that will affect their decision**
10 **in the future are more focused on the tax credits and the**
11 **possible reductions in the cost of the installation of**
12 **solar systems?**

13 **A.** I'm not sure that I agree with that. I think,
14 you know, solar customers look at an investment in solar
15 different ways. And some customers do purchase that
16 upfront, and so they are very aware of what the sticker
17 price is. Some customers, you know, purchase their solar
18 through sort of a financing agreement where, over the
19 long term, you know, the stepdown of the tax credit
20 certainly brings up the price, but it may not be an
21 immediate concern. You know, it's not something that's
22 immediately reflected in their upfront costs for the
23 solar, and so it might be of lesser concern.

24 And again, you know, solar prices have generally
25 gone down over time. But, especially over the last few

1 years, certain policies have caused the cost of solar
2 panels to go up. And so, you know, I think that the
3 continued price declines would offset the increased cost
4 as the solar tax incentives phase out.

5 **Q. Thank you. Thank you for your participation and**
6 **your answers today.**

7 A. Sure. Thank you.

8 MR. SNARR: That's all I have.

9 CHAIRMAN LEVAR: Thank you, Mr. Snarr.

10 Why don't we take a 15-minute recess, and then
11 we'll move to any cross-examination of Ms. Bowman from
12 Ms. Wegener.

13 (A break was taken from 10:14 a.m. to 10:30 a.m.)

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

15 Ms. Wegener, do you have any questions for
16 Ms. Bowman?

17 MS. WEGENER: I do. Thank you.

18 Good morning, Ms. Bowman.

19 MR. HOLMAN: Ms. Wegener, Ms. Bowman is plugging
20 in her computer quickly, so it will be just a few
21 seconds, if you don't mind.

22 MS. WEGENER: Okay. Thank you.

23 THE WITNESS: Hello. Sorry about that.

CROSS-EXAMINATION

BY MS. WEGENER:

Q. No worries.

To start out today, I want to go to Figure 1 of your direct testimony. Do you have that in front of you? It's Line 115.

A. Yes, I do.

Q. Okay. And this is a chart.

Can you tell me what this chart demonstrates or what it's intended to show?

A. Sure. So this chart is taken from a Rocky Mountain Institute report talking about the ways in which variable resources and demand side resources can work together to better leverage the benefits of both types of resources by aligning demand side resources with the generation profile of flexible resources, in this case solar, to better align load and generation.

Q. So you would agree with me that aligning consumption with renewable generation, in this case solar, is an important policy objective?

A. You know, I'm not sure about policy objective.

I do think aligning generation with the times when energy is least expensive is important to ensure the costs of energy are low in the future.

Q. Okay. So it's more the cost of energy and not

1 the renewable resources that are more likely to be
2 consumed during this time?

3 A. It has more to do with the fact that renewable
4 resources have no fuel costs and so they are -- you know,
5 when they're generating the most affordable resources
6 available. And so to the extent that load is aligned
7 with the times when the lowest-cost resources --
8 renewables are very low-cost resources -- are generating,
9 then, you know, in the long term, moving towards a -- you
10 know, moving towards a paradigm where load is aligned
11 with times when zero cost resources are generating will
12 keep energy costs low in the long run.

13 Q. Okay. Thank you. This second part of the
14 figure, the lower part of the figure, that shows how
15 certain types of energy use can be fit during those times
16 of low-cost production, right?

17 A. Yeah, that shows, you know, appliances, home
18 appliances, like dryers or a battery, that a customer has
19 varying levels of control over to -- you know, when
20 they're used and could shift their usage during times
21 when they know that the sun is shining.

22 And, you know, I'll admit I'm not sure if this
23 is an actual example based on, like, say actual customer
24 data, or if it's sort of illustrative based on estimates
25 of the energy usage profiles of those appliances.

1 Q. That makes sense. Well, as I look at it, it
2 looks like it is moving things that you can put in the --
3 under the solar production curve into that curve and then
4 leaving a few other things out.

5 So would you agree with me that it's possible
6 for customers to, to some extent, align their consumption
7 with the times when those prices are low because the sun
8 is shining?

9 A. Yeah, I mean, I think there are certainly
10 certain -- some appliances more than others -- but it's
11 possible for customers to make decisions about energy
12 consumption that shifts their energy usage to certain
13 times of day.

14 Q. Now, under Schedule 135, the net metering
15 program, is there any incentive for customer generators
16 to align their usage, their consumption of energy with a
17 time when their on-site generation is producing?

18 A. There isn't a financial incentive. I mean, I
19 think solar customers sometimes want to do that because
20 they know that it increases the amount of energy that
21 they're -- from their own rooftop that they're using.
22 So, yeah, I wouldn't say there's no incentive because
23 some customers want to be making use of the energy
24 they're generating on their own rooftop.

25 But, you know, the monthly netting, there isn't

1 a financial incentive to do that.

2 Q. Okay. And under 136, the export credit rate is
3 about a cent, 1 cent less than the retail rate; isn't
4 that right, approximately?

5 A. For residential customers.

6 Q. Exactly.

7 So would you say that would give customers an
8 incentive to align their usage with their generation?

9 A. It gives them a slight incentive.

10 Q. Maybe a small incentive. But 1 cent a kilowatt
11 hour out of, if you're looking at 9 cents to 10 cents,
12 probably isn't enough to really drive any consumer
13 behavior; wouldn't you agree?

14 A. I don't know about that. I mean, it's certainly
15 a pretty minimal value. But, you know, I can't speak to
16 that.

17 Q. You proposed an export credit rate in
18 surrebuttal of about 10.2 cents; is that right?

19 A. Yeah, that's right.

20 Q. And that's approximately the same -- the same
21 rate as the current residential retail rate?

22 A. The average residential retail rate.

23 Q. So your proposal also would not encourage
24 customers to align their consumption, their usage with
25 their on-site generation; isn't that right?

1 A. The value, I mean the value of the credit alone,
2 again, you know, for residential customers is similar to
3 the retail rate. And so, you know, absent some other --
4 for example, a time-of-use program where a customer's
5 energy usage varied during different times of the day,
6 then I think a customer -- you know, it would take some
7 sort of time-of-use program with time-differentiated
8 rates to send customers a signal that they should --
9 yeah, that they should make decisions in that regard.

10 **Q. Okay. Thank you. I heard you talking to**
11 **Mr. Jetter, and it sounded like you agreed with him that**
12 **the retail rate that customers pay includes more than**
13 **just the energy component of the rate, the energy that**
14 **they receive. There's other services that they get or**
15 **other costs the company incurs besides energy; is that**
16 **right?**

17 A. Yeah, that's correct.

18 And I think the larger point is that customers
19 aren't buying energy, they're buying electricity service
20 and certainly don't think of that as the same as
21 purchasing energy on the market.

22 **Q. Right. Does the Company's proposed export**
23 **credit rates charge the customer for these additional**
24 **costs?**

25 A. Sorry, what additional -- what additional costs?

1 Q. Beyond the cost of energy. The cost of
2 administrative billing, or the cost of maintaining the
3 grid, or those things.

4 Does the export credit rate itself take into
5 account or propose a discount or a charge or anything
6 related to those additional services?

7 A. Does the Company's proposal do that? Is that
8 the question? I think the Company's proposal includes an
9 integration charge.

10 Q. Thank you.

11 I apologize. Mr. Jetter and Mr. Snarr took some
12 of my questions, so I'm going to have to shuffle for a
13 second.

14 You would agree with me, and I think it's in
15 your testimony, that the Commission should seek a rate
16 structure that's easy for customers to understand, right?

17 A. Yeah. I think if customers don't understand it,
18 then they won't use it or won't use it correctly.

19 Q. And if I read your testimony right, you're
20 opposing our no netting proposal on the grounds that it
21 doesn't send an actionable price signal, right? Not that
22 it's hard to understand?

23 A. I think it's a fine distinction, I suppose.
24 But, you know, I think it's more than whether customers
25 understand the construct of how their energy is being

1 netted. It's whether they understand and have
2 information available to do anything about it.

3 **Q. But you would agree that the no netting concept**
4 **is simpler to explain?**

5 A. I don't think so. Just in the responses I've
6 seen to the transition program, it seems like net
7 metering is a very -- is something that is easily
8 understandable to customers. It's also more common
9 throughout the country, and so customers, especially
10 who've lived in another state, are already familiar with
11 it. And just --

12 **Q. And I think -- I think actually -- sorry to**
13 **interrupt. I think I was unclear. I'm comparing no**
14 **netting to 15-minute netting or hourly netting, not to**
15 **net metering because I believe the parties have agreed --**
16 **the parties to the stipulation have agreed that net**
17 **metering's been capped and we're moving to the export**
18 **credit, right?**

19 A. Oh, maybe I misunderstood your question. I
20 thought you said -- I thought you were asking about the
21 monthly netting construct.

22 But, you know, I think the netting construct
23 over a short time period in particular is confusing, and
24 so I'm not sure that the instantaneous netting is easier
25 for customers to understand than 15-minute or hourly

1 netting.

2 Q. In your testimony, you say, though, it's simpler
3 to explain. Are you changing that? And I just point
4 you --

5 A. Will you turn me to the specific statement
6 you're referencing?

7 Q. It's Line 997, and I think I'm in your rebuttal.
8 And the point that I want to make is that -- and
9 I guess it's just to clarify your position -- is that
10 your opposition to no netting is on the grounds that you
11 think the price signal is less actionable, not that you
12 think it's more difficult to explain.

13 A. Sure. And what I say here is -- you know, what
14 I say is perhaps it's simpler to explain. But I don't
15 know that that means it's easier for customers to
16 understand.

17 Q. Okay. Thank you.

18 Would you say that netting or any period of
19 netting is going to incentivize customers to shift their
20 consumption generally to the sunnier time of day?

21 A. Just to be sure I understand the question
22 correctly: I mean, to the extent that there's a --
23 customers can get an improved financial incentive for
24 using energy during times when their panels are
25 generating? Then I would say yes, it is going to

1 incentivize to shift them, again, to times of day when
2 their panels are generating, not necessarily times when
3 system costs are higher, for example.

4 Q. Thank you. You talked to Mr. Snarr a good bit
5 about the proposed glide path, and I just have one
6 question left on that subject. You talk a lot in your
7 surrebuttal about your position that the Commission
8 should not enact discriminatory rates, right?

9 A. Yeah.

10 Q. You shouldn't charge one group of
11 similarly-situated customers one thing and another group
12 of customers that is very similar a different amount for
13 their electric service?

14 A. Yeah. I mean, I agree. I think that that --
15 yeah, I agree with that generally.

16 Q. What if the glide path that you're proposing
17 created a situation where similarly-situated customers
18 are receiving different compensations for their export
19 credit?

20 A. It would create a situation where customers who
21 installed during different steps in the glide path are
22 receiving different compensation for their export credit.
23 But part of the purpose of that glide path is to avoid
24 creating a situation where those customers are charged
25 extremely differently for -- similar customers are

1 treated extremely differently. I mean, I think an
2 immediate and, say, significant reduction of the export
3 credit rate creates a really severe difference in how
4 customers are treated based on whether they installed
5 under the transition program or under a new, much lower
6 export credit.

7 And so, again, to reiterate, I'm only proposing
8 the glide path if the export credit rate is lower than
9 the current transition program rate. And part of the
10 purpose of that is to make sure that the differences
11 between customers who install is more minimal than it
12 would be if the lower rate were put into effect entirely
13 immediately.

14 **Q. You -- you admitted to Mr. Snarr that the**
15 **Company does not currently pay a carbon tax or a cost of**
16 **carbon compliance; is that right?**

17 A. Yeah. It's used in development of long-term
18 resource planning. But as far as I'm aware, it's not a
19 component of current rates.

20 **Q. So if the Company were to develop a solar**
21 **resource today, you'd agree that it wouldn't be fair for**
22 **the Company to recover avoided carbon compliance costs**
23 **relating to that solar resource?**

24 A. I mean, I think the Company -- if the Company
25 were to develop a solar resource, it would be because the

1 IRP calls for that, calls for the development of that
2 resource. And the carbon costs are one of many inputs
3 that goes into the IRP planning process, and it's used to
4 select kind of an optimal portfolio of resources.

5 So if the Company was to develop a solar
6 resource today, then that resource, it has been selected
7 presumably because of the characteristics that it
8 provides, one of which could be -- you know, could be its
9 ability to avoid carbon compliance costs.

10 **Q. But the Company couldn't recover something extra**
11 **on top of the cost of the resource to account for a**
12 **carbon compliance cost at this time, right?**

13 A. I think the Company would cover the cost of that
14 resource as it's priced.

15 **Q. Okay. And if a carbon compliance cost came into**
16 **effect sometime in the future, the Company could recover**
17 **that from customers because they would be required to pay**
18 **it as part of their generation portfolio. But that would**
19 **be separate from the solar resource that was developed?**

20 A. I think it would depend on how the policy was
21 structured and whether, you know, the Company -- I could
22 envision a policy where the Company paid an actual carbon
23 compliance cost. You know, I could also envision a
24 policy construct where the Company recognizes that cost
25 and forecasts for it and then chooses to take actions to

1 build a certain portfolio in order to avoid that cost.
2 And so, in that case, then the cost wouldn't be charged
3 to customers because the Company wouldn't have a line
4 item for carbon compliance costs but would have made a
5 decision to purchase, you know, a resource portfolio as a
6 whole in order to minimize those costs.

7 **Q. Do you think that it would be fair for**
8 **noncustomer generators to pay for avoided carbon**
9 **compliance costs that the Company does not actually**
10 **incur?**

11 A. I think, you know, to the extent that there
12 aren't carbon compliance -- I mean, I think that
13 customers, you know, pay for a variety of costs that --
14 pay for service from a portfolio of resources that's been
15 developed based on a variety of assumptions about future
16 costs. And so, you know, to some extent, customers
17 are -- you know, customers are paying for resources that
18 the Company has chosen based on a forecast of the future.

19 And, you know, it becomes really difficult to
20 parse out how each factor of -- you know, for example,
21 different carbon price scenarios affect the prices of
22 those resources, although the Company does try to do that
23 in long-term resource planning through scenarios.

24 **Q. So is your answer that, yes, it would be fair**
25 **for noncustomer generators to have to pay a cost that the**

1 Company doesn't incur? Or is it no, that's not fair?

2 A. When it comes to setting rates, no, it's not
3 fair to include costs in rates that the Company doesn't
4 incur as a direct line item cost.

5 Q. Okay. Thank you. You made some corrections to
6 your testimony this morning, and you said those were to
7 more precisely describe your proposal; is that right?

8 A. Yeah, that's right.

9 Q. And UCE is a signatory to the stipulation that
10 ended the 114 docket and opened this docket; isn't that
11 right?

12 A. Yeah, that's correct.

13 Q. So isn't it true that those corrections that you
14 made this morning were actually a modification of your
15 proposal because your original proposal violated that
16 settlement stipulation -- or was not consistent -- I
17 don't mean violated -- was not consistent with the terms
18 of the settlement stipulation?

19 A. I don't think so. You know, the purpose of my
20 proposal wasn't to delay implementation of the export
21 credit. And I've supported -- and actually, my primary
22 recommendation is regarding the creation of an export
23 credit rate.

24 And so the purpose of my glide path
25 recommendation wasn't to undermine terms in the

1 settlement, it was to ensure, as I've described already
2 this morning, a gradual transition to a new rate in order
3 to treat similar customers more fairly in order to ensure
4 a more -- a less disruptive transition to a lower rate.

5 And, you know, in reviewing -- I chose to make
6 corrections because in reviewing the language that I
7 used -- in the specific instances where I made
8 corrections, I felt that my language has been -- was
9 imprecise, and it would be helpful to clarify that, you
10 know, I recognize the settlement stipulation calls for
11 the Commission to close the transition program either on
12 the date the transition program cap is reached or when
13 the Commission makes an order. And so I felt it was
14 helpful to update the language to clarify that I wasn't
15 intending to imply that the Commission -- I wasn't
16 intending to delay the implementation of the transition
17 program. And my recommendations really are pertaining to
18 the new export credit rate. And I support creation of
19 that rate.

20 And so, no, I don't think so.

21 **Q. Okay. Thank you.**

22 MS. WEGENER: That's all the questions I have.

23 CHAIRMAN LEVAR: Thank you, Ms. Wegener.

24 We'll go back to Mr. Holman.

25 Do you have any redirect for Ms. Bowman?

1 MR. HOLMAN: I do have a few questions. Thank
2 you, Mr. Chair.

3
4 REDIRECT EXAMINATION

5 BY MR. HOLMAN:

6 Q. Ms. Bowman, can I just ask you generally, in
7 response to some of the questions and the subject matter
8 of Mr. Jetter's questions, in your mind, what is the
9 purpose of the export credit proceeding?

10 A. The purpose of the proceeding, as I understand
11 it, is to determine a just and reasonable rate for export
12 credits based on the costs or benefits or other
13 considerations that are relevant to determining that
14 rate.

15 Q. Okay. So identifying whether or not rooftop
16 solar is directly comparable to a wholesale power
17 purchase agreement contract does not fill up the entire
18 scope of that purpose; would you say that?

19 A. Yeah, I think that's correct. And I think the
20 way it's defined acknowledges that rooftop solar, the
21 costs and benefits that distributed rooftop solar
22 provides are different from what a utility scale solar
23 generation resource would.

24 Q. Okay. Mr. Jetter also asked you about whether
25 or not it would be appropriate to assume that certain

1 resources are already online for purposes of calculating
2 things like capacity contributions of rooftop solar.

3 Are you familiar with what resources he was
4 referencing in his questions?

5 A. I don't know specifically. My guess would be
6 resources that are called for in utility plans to procure
7 in the near next few years, possibly through the IRP
8 action plan.

9 Q. And has the Commission approved any resources
10 that came out of the 2019 IRP action plan or ruled that
11 any of those resources would be prudent to recovery in
12 Utah rates?

13 A. As I understand it, the Commission did not
14 acknowledge the action plan resources.

15 Q. Okay. Mr. Jetter also asked you a few questions
16 about whether or not it would be, for lack of a better
17 word, unfair -- and sorry if I'm mischaracterizing your
18 question, Mr. Jetter -- but whether it would be unfair to
19 not update capacity contributions or capacity values as
20 circumstances change through time.

21 Do you recall that question, Ms. Bowman?

22 A. Yes.

23 Q. Okay. Is it -- your position is that individual
24 rooftop solar customers under Schedule 37 will have a
25 rate that will be locked in for 20 years but that the

1 factors and the actual values that make up that export
2 credit rate could be updated in rate cases; is that
3 correct?

4 A. Yeah, that's right. I've supported Vote Solar's
5 proposal to update the export credit rate during future
6 rate cases.

7 Q. Okay.

8 A. For new customers.

9 Q. Okay. Thank you, Ms. Bowman.

10 MR. HOLMAN: That's all of my redirect,
11 Mr. Chairman.

12 CHAIRMAN LEVAR: Thank you, Mr. Holman.

13 Mr. Mecham, any recross based on those
14 questions?

15 MR. MECHAM: No, thank you.

16 CHAIRMAN LEVAR: Thank you.

17 Ms. Zimmerman, anything else from you?

18 MS. ZIMMERMAN: No, thank you, Chair.

19 CHAIRMAN LEVAR: Okay. Thank you.

20 Mr. Jetter?

21 MR. JETTER: Yes, Mr. Chair. Just very briefly.

22
23 RECROSS EXAMINATION

24 BY MR. JETTER:

25 Q. Addressing the point of updating things like the

1 capacity value in future rate cases, as you've just
2 discussed with Mr. Holman.

3 Would you assume, then, that that would create a
4 new class of customer for each -- at each rate case,
5 there would be a successor class of 137B and C and D and
6 so on? Is that how you envision that happening?

7 A. You know, I'm not sure exactly how -- I think
8 that would be kind of a billing and administrative
9 question as to how it -- how it would facilitate billing,
10 if there's a way to bill those, bill customers, and it's
11 more sensible to keep them within the same rate class
12 with different rate structures or have a new -- you know,
13 like you said, 137B, C, and D, so I'm not sure.

14 Q. Okay. And do you think that that might be
15 potentially confusing to -- let's say the example where a
16 customer is a residential retail customer, and they sell
17 their home. And the home sale includes a rooftop solar
18 system.

19 Then the new buyer would have to sort out
20 whether that's 137D or 137E, and they would need to then
21 track back and find out under what rate schedule they
22 came in under to make a decision on the value of that
23 component of the sale or the purchase of the house.

24 A. I think the rate structure of the solar -- well,
25 the savings from the solar would certainly be relevant to

1 the buyer. I'm not sure that they would really, you
2 know, to be honest, look into the details of the rate
3 structure. And I think what they would probably want to
4 know is what the potential -- what the anticipated
5 monthly savings are, and they might do that through
6 reviewing a year's worth of bills, for example. I think
7 that's something that the seller would want to provide to
8 the buyer to kind of demonstrate the value of that
9 system.

10 So I think the understanding as a whole, you
11 know, what the expected savings are, is probably of more
12 interest to the buyer than what the specific rate
13 structure is.

14 **Q. Okay. And to the extent that there were an**
15 **update, however many updates -- so if the update is every**
16 **3 years, as time goes on, at any given time there would**
17 **be something in the range of seven or eight different**
18 **classes within 137. Is that kind of how you envision**
19 **this?**

20 **A.** I think that, you know, as the rates were
21 updated, if existing customers were allowed to keep their
22 rates for 20 years, then there would need to be some way
23 to differentiate between those customers and -- based on
24 when they installed.

25 **Q. And to clarify for the record: I used bad math.**

1 It would be six or seven owe on a 3-year basis. That's
2 not a question.

3 Thank you.

4 MR. JETTER: That's all of the recross that I
5 have.

6 CHAIRMAN LEVAR: Thank you, Mr. Jetter.

7 Mr. Snarr, do you have any recross for
8 Ms. Bowman?

9 MR. SNARR: No, I have no recross. Thank you.

10 CHAIRMAN LEVAR: Okay. Thank you.

11 Ms. Wegener?

12 MS. WEGENER: Nothing from me, thanks.

13 CHAIRMAN LEVAR: Okay. Thank you.

14 I will go to Commissioner Clark next.

15 Do you have any questions for Ms. Bowman?

16 COMMISSIONER CLARK: I do have a question.

17
18 CROSS-EXAMINATION

19 BY COMMISSIONER CLARK:

20 Q. It's a hypothetical question.

21 Good morning, Ms. Bowman.

22 A. Good morning. And, you know, I'm so sorry to do
23 this. But could I have one minute just to plug in my
24 computer? It shouldn't take me more than a minute.
25 Thank you.

1 CHAIRMAN LEVAR: I think we won't go into
2 recess, we'll just all hold on and wait for her to come
3 back.

4 (Pause in the proceedings.)

5 THE WITNESS: I am so sorry to do that. The
6 video uses my battery much more quickly than I expected,
7 and I didn't want to cut out in the middle of your
8 question.

9 Q. (BY COMMISSIONER CLARK:) That's quite all
10 right. Welcome back.

11 Imagine -- and this question will be
12 hypothetical because I'm going to imagine that it's the
13 year 2025, and we have a Schedule 135 customer, Schedule
14 136 customer, and a Schedule 137 customer.

15 I believe you would say that each of those
16 customers is contributing capacity value to the
17 PacifiCorp system; is that correct?

18 A. Yeah, that's correct.

19 Q. And now imagine that in that year, 600 megawatts
20 of utility scale solar generation comes online in
21 Southern Utah.

22 Will that event, all other things being equal,
23 have an impact on the capacity contribution values of
24 those three residential rooftop generators?

25 A. I think, as I understand it, it's kind of a math

1 question as to how the capacity contribution for those
2 resources is determined.

3 The solar customers on different tariffs will
4 still be providing the same capacity benefit when the new
5 resource comes online. And so I don't think that
6 changes.

7 You know, I think -- and I'm recommending that
8 you -- that as a Company that's currently in the IRP, the
9 capacity contributions of future resources is based on
10 assumptions about the resources that are already in
11 existence. And so, you know, the capacity contribution
12 of the resource, the new solar resource, would be
13 affected by the composition of the portfolio of existing
14 resources that exist already at that time.

15 **Q. I'm not quite sure I understood your answer.**

16 But I'm addressing the capacity -- any change in
17 the capacity contribution value of the residential
18 rooftop solar customers, will that change if the resource
19 mix -- of PacifiCorp's resource mix in 2025 -- and we're
20 in the year 2025 in my hypothetical -- if that resource
21 mix changes because 600 megawatts of utility scale
22 generation, solar generation, comes online in Southern
23 Utah?

24 So I'm asking if there is a change to the
25 contribution -- capacity contribution value of the

1 residential solar generation. And if there is a change,
2 what's the direction of the change? I don't expect you
3 to be able to compute any value. But just looking for
4 directionally -- and again, all other things being
5 equal -- is that value going to change up or down?

6 A. I think I hopefully understand your question and
7 can provide a more helpful answer.

8 I think the average capacity contribution of
9 solar resources as more solar resources is added to the
10 grid will go down. And the capacity contribution for a
11 given resource is going to depend on the order in which
12 you calculate the contribution for that resource.

13 Q. Thank you. I understand your answer better, and
14 I appreciate your clarification.

15 Would the change, the relative change between
16 the Schedule 135, 136, and 137 customers be different, or
17 would the relative change be the same?

18 A. So the question is whether the relative change
19 in capacity contribution would be different among those
20 different customer --

21 Q. Right. And we have to assume that they have the
22 same nameplate capacity, obviously. But assuming they
23 do, is the relative change going to be the same among the
24 three of them?

25 A. Sure. I think, if I'm understanding correctly,

1 I would say it's probably dependent on the export
2 profiles of each of those types of customers. And the --
3 you know, the value of the export credit will certainly
4 impact whether customers choose to export electricity if
5 they can avoid it.

6 So to the extent that Schedule 137 customers are
7 very different from Schedule 135 customers in terms of
8 the size of system that they choose to put on their
9 house, for example, or how they choose to use energy in
10 order to consume more of that during certain times of the
11 day, then their export credit profiles -- or their export
12 profiles could look different. And that's certainly a
13 relevant factor in determining the capacity contribution.
14 So I think they could be different.

15 **Q. Sure. So let's assume that not only is the**
16 **nameplate capacity the same, but that their profiles are**
17 **the same. If we assume those parameters, then, are they**
18 **going to be -- is their capacity contribution value going**
19 **to be similarly affected by the introduction of new**
20 **utility scale solar generation?**

21 **A. I think if you had average -- sorry.**

22 If the export profile of customers on those
23 resources were hypothetically the same in all situations,
24 then the average capacity contribution attributable to
25 each of those customer rate schedules and the change

1 across the average would be the same because their export
2 profiles are the same. I think there's other witnesses
3 who can provide a much better and more detailed opinion
4 on that. But that would be my assumption.

5 **Q. Thanks very much, Ms. Bowman.**

6 **A.** Thank you.

7 COMMISSIONER CLARK: That concludes my
8 questions.

9 CHAIRMAN LEVAR: Thank you, Commissioner Clark.
10 Commissioner Allen, do you have any questions
11 for Ms. Bowman?

12 COMMISSIONER ALLEN: Thank you, Chair Levar.
13 You know, I had a few questions when we started out this
14 morning, but they've been answered. So thank you for
15 everyone's participation.

16 CHAIRMAN LEVAR: Thank you, Commissioner Allen.

17
18 CROSS-EXAMINATION

19 BY CHAIRMAN LEVAR:

20 **Q. I just have one or two questions for you,**
21 **Ms. Bowman, and they're similar to Commissioner Clark's**
22 **much less nuanced because -- well, I'll just start.**

23 **If you were to compare the aggregate capacity**
24 **contribution value of customer generated solar across the**
25 **system to a utility scale fixed solar, non-tracking --**

1 again, assuming everything else equal, assuming the same
2 resources in the stack online applicable to those two --
3 would you expect any difference between aggregate CG
4 capacity contribution value and a utility scale fixed
5 solar?

6 A. Yeah, that's a good question. And, you know,
7 like I said before, I think some of the other witnesses
8 are probably better equipped to answer that question.

9 But I think that in the aggregate, you know, the
10 profile of rooftop solar customers, even just looking at
11 the energy they exported net of their own load, is going
12 to look fairly similar to a utility scale resource. I
13 mean, it's going to start low in the morning, rise
14 throughout the day to a peak when it's sunniest, and kind
15 of gradually fall back towards -- you know, down as the
16 sun goes down.

17 I think Mr. Worley brought up an interesting
18 question which I hadn't thought of before as to whether
19 the -- because solar -- residential solar installations,
20 or distributed solar installations, are geographically
21 diverse, so some of them are facing south, some of them
22 are facing east, some of them are facing west, whether
23 that does look potentially more like a tracking resource
24 than a fixed south-facing resource. So I think there's
25 probably some difference, but I think it would probably

1 look pretty similar.

2 **Q. Thank you. That's my only question for you.**

3 CHAIRMAN LEVAR: Thank you for your testimony
4 this morning, Ms. Bowman.

5 THE WITNESS: Thank you.

6 CHAIRMAN LEVAR: Mr. Holman, anything else from
7 Utah Clean Energy at this point?

8 MR. HOLMAN: No. Ms. Bowman was our only
9 witness. Thank you, Chair Levar.

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

11 I think we'll go to Mr. Mecham next for the Utah
12 Solar Energy Association.

13 MR. MECHAM: Yes, thank you.

14 The Utah Solar Energy Association calls Ryan
15 Evans, and he's prepared to be sworn, Mr. Chair.

16 CHAIRMAN LEVAR: Thank you.

17 Good morning, Mr. Evans. Do you swear to tell
18 the truth?

19 THE WITNESS: I do.

20 CHAIRMAN LEVAR: Okay. Thank you.

21 Mr. Mecham.

22
23 RYAN EVANS,
24 was called as a witness, and having been first duly
25 sworn to tell the truth, the whole truth, and nothing

1 but the truth, testified as follows:

3 DIRECT EXAMINATION

4 BY MR. MECHAM:

5 Q. Thank you, Mr. Evans. Would you state your full
6 name and your position with the association, please.

7 A. Ryan Evans, president of the Utah Solar Energy
8 Association.

9 Q. And did you file direct, rebuttal, and
10 surrebuttal testimony in this proceeding?

11 A. Yes, I did.

12 Q. Do you have any corrections that you would like
13 to make to any of that testimony?

14 A. I do not.

15 Q. And if I were to ask you the same questions that
16 are in that testimony, would your answers be the same
17 today?

18 A. They would.

19 Q. Okay. Thank you.

20 MR. MECHAM: We would move the admission of
21 Mr. Evans' direct, rebuttal, and surrebuttal testimony.

22 CHAIRMAN LEVAR: Thank you.

23 If anyone opposes that motion, please unmute
24 yourself and indicate your opposition.

25 And I'm not seeing or hearing any opposition, so

1 the motion is granted. Thank you.

2 MR. MECHAM: Thank you.

3 Q. (BY MR. MECHAM:) Mr. Evans, do you have a
4 summary of your testimony.

5 A. I do.

6 Q. Would you provide it, please.

7 A. Yes.

8 To summarize my testimony throughout this
9 docket -- and I should start -- I apologize.

10 Good morning, Chair Levar, Commissioner Allen,
11 and Commissioner Clark. It's a pleasure to be with you
12 this morning.

13 To summarize, my testimony throughout this
14 docket is that I have attempted to represent the impact
15 on the solar industry by the Company's proposal, provide
16 my personal experience on how proposed changes might
17 impact the industry and associated jobs, and to provide
18 some suggestions on the timing of any shift from the
19 transition program.

20 Additionally, I called attention to Governor
21 Herbert's request in 2016 at a meeting at the Capitol
22 with the CEO of Rocky Mountain Power, Dr. Laura Nelson,
23 representatives of the solar industry, regulators, Utah
24 Clean Energy, myself, and a few others to find a
25 win-win-win solution. Governor Herbert asked us all to

1 find a long-term agreement that was a win for the
2 utility, a win for the solar industry, and for customers,
3 whether they choose to have solar on their homes or not.

4 And that -- I do not believe the Company's
5 proposal honors that request by the Governor because, if
6 the Company's proposal were to be accepted as is, what
7 value is something that any of the solar-supportive
8 parties in this docket would see as a reasonable outcome?
9 Not the export rate, not the annual shift in rate, not
10 the instantaneous netting, not the immediate
11 implementation of a new rate in a few months to name a
12 few. And that concludes my summary of my testimony.

13 **Q. Thank you.**

14 MR. MECHAM: Mr. Evans is available for
15 cross-examination.

16 CHAIRMAN LEVAR: Thank you, Mr. Mecham.

17 I'll go to Mr. Holman next.

18 Do you have any questions for Mr. Evans?

19 MR. HOLMAN: I have no questions. Thank you,
20 Chair Levar.

21 CHAIRMAN LEVAR: Thank you.

22 Does anyone from the Vote Solar team have any
23 questions for Mr. Evans?

24 MR. GOTTLIEB: Thank you, Chair Levar. This is
25 Spencer Gottlieb. Vote Solar has no questions.

CHAIRMAN LEVAR: Thank you, Mr. Gottlieb.

I'll go to Mr. Snarr next.

Do you have any questions for Mr. Evans?

MR. SNARR: The Office of Consumer Services has
no questions of Mr. Evans.

CHAIRMAN LEVAR: Thank you.

Mr. Jetter, do you have any questions for this
witness?

MR. JETTER: I have no questions. Thank you,
Mr. Chairman.

CHAIRMAN LEVAR: Thank you, Mr. Jetter.

Ms. Wegener, do you have any questions for
Mr. Evans?

MS. WEGENER: Yes, I have a few questions for
Mr. Evans.

CHAIRMAN LEVAR: Okay. Go ahead.

CROSS-EXAMINATION

BY MS. WEGENER:

Q. Good morning, Mr. Evans.

A. Good morning.

**Q. You acknowledge in your testimony that the
Company's rates are among the lowest in the country,
right, the retail rates for electricity?**

A. Yes. I don't know exactly where they fit, but

1 typically, historically, my understanding is that the
2 electricity rates have been in the top 10 for lowest.

3 Q. And your background, you worked at the Salt Lake
4 Chamber of Commerce for a while, right?

5 A. I did.

6 Q. And you were involved in economic development
7 initiatives there, I think is what your resume says; is
8 that right?

9 A. Yes.

10 Q. Would it be logical that a Company that has a
11 choice about where to locate their business might choose
12 to locate in an area that has lower rates for
13 electricity.

14 A. Absolutely. Certainly not all of the decision
15 making, but it's certainly one of the factors.

16 Q. So you agree that low electricity rates can
17 drive economic growth in an area?

18 A. I do.

19 Q. And that growth would be among a variety of
20 industries. Lots of different industries care about
21 their electric rates, correct?

22 A. Correct.

23 Q. And those industries if they relocated in Utah,
24 they would provide more jobs in Utah, right?

25 A. Assumingly, yes. I mean, that's pretty broad,

1 but I generally agree with that.

2 Q. Most likely, most businesses if they locate
3 somewhere bring at least some jobs when they come?

4 A. Yes.

5 Q. And relocating a business or expanding a
6 business in Utah would also result likely in an increase
7 in sales and property taxes, right?

8 A. Yes.

9 Q. And an increase in capital investment, right?

10 A. Yes.

11 Q. So there is a value in having a utility that is
12 trying to keep its rates low for all customers; isn't
13 that right?

14 A. Correct.

15 Q. Okay. And you'd agree with me that the Company
16 should not make uneconomic choices to support the broader
17 economy. So it shouldn't purchase more expensive
18 electricity in order to support the broader economy?

19 A. I don't know that I can answer that question in
20 the affirmative completely. There may be a question of
21 purchasing a resource that may be more expensive that
22 could benefit the broader economy in different ways.
23 That's a pretty broad question to ask that I don't
24 know --

25 Q. Sure. Let me talk about another kind of

1 economic choice that relates to jobs in particular.

2 The Company's improved metering technology has
3 resulted in the Company employing far fewer meter readers
4 than they did 20 or 30 years ago. And I'll just say that
5 that's accurate.

6 A. I will (inaudible).

7 Q. Would it be appropriate for the Commission to
8 take into account those job losses when deciding on the
9 Company's proposal to install AMI or AMR or any of the
10 other advanced technologies?

11 A. I would imagine, but I'm not really a rate
12 expert in the sense of understanding why or why not the
13 Commission might approve something or what they may or
14 may not factor into. So I'm not so sure that I'm the
15 best person to answer that question.

16 Q. Okay. Well, let me ask maybe a more general
17 question.

18 Do you think it would be fair for customers to
19 pay for meter readers that the Company didn't actually
20 need to provide electric service?

21 A. No.

22 Q. Thank you. In part of your testimony, you talk
23 about three examples where you believe the Company has
24 engaged in behavior to, I think your words were "cycle
25 competition." Do you remember that?

1 A. I do.

2 Q. And two of those examples are pieces of
3 legislation, correct?

4 A. Correct.

5 Q. And I believe one line in your testimony says
6 that Rocky Mountain Power passed legislation.

7 But that's not possible, right? Rocky Mountain
8 Power can't pass legislation?

9 A. Correct. That's probably not the -- that was
10 definitely not a best use of the phrase in that
11 particular --

12 Q. Right. I assumed that you meant that we could
13 not pass legislation. It was the legislature that passed
14 that legislation, correct?

15 A. Our initiated legislation.

16 Q. Well, the Company can't initiate legislation.
17 They can't draw up a bill. They have to have someone in
18 the legislature that agrees with their proposal and
19 agrees to put forward a bill.

20 A. Yes, they went to a legislator, whoever it was
21 at the time, and asked and thought this might be a good
22 proposal for that legislator to carry forth a bill.

23 Q. Right. And in order for that legislation to
24 actually get passed, Rocky Mountain Power can't pass that
25 legislation. Only a majority of the legislature can pass

1 the legislation, right?

2 A. Correct.

3 Q. So if anyone is stifling competition here, it
4 would be the legislature; isn't that right?

5 A. Certainly the -- so I wouldn't necessarily say
6 that's true. And I will go back to saying that each of
7 the bills that you reference have many, many components
8 to them. And so in that regard, where maybe the Company
9 started out with their legislation, it had changed over
10 time. Not all legislators are possibly going to
11 understand every little ramification of that.

12 So, you know, ultimately I think the bills did,
13 in effect, lead to potential stifling of competition.

14 Q. And let me be clear: The Company does not think
15 the legislature was stifling competition.

16 The organization that you work for is a lobbying
17 group, right?

18 A. We're actually a nonprofit advocacy group for
19 solar energy.

20 Q. And so you have activities up on Capitol Hill
21 and interact with legislators concerning objectives of
22 your nonprofit advocacy organization?

23 A. At times. Primarily, we watch. We primarily
24 engage by watching to see what outcomes might impact the
25 solar industry and rely on other lobbyists to engage on

1 our behalf.

2 **Q. Did you provide any input into the two bills**
3 **that you cite in your testimony -- you as an**
4 **organization, not you individually?**

5 A. Yes.

6 **Q. Did you issue any public statements opposing**
7 **that legislation?**

8 A. Not public statements opposing the legislation;
9 however, we did have discussions with Rocky Mountain
10 Power representatives and other representatives that
11 would be involved in the cases.

12 When you say a public, you know, statement that
13 disagrees or takes an opponent stance to that, it's a
14 nuance thing at the legislature where it's not such an
15 easy thing to say that you just stand up and say we don't
16 agree with it. At some point, we just step back and let
17 the legislation pass without any further objection.

18 **Q. But you didn't ask your organization's members**
19 **to contact their Congress -- or their Representatives to**
20 **ask them not to support these bills, right?**

21 A. I may have. I don't know. I can't recall in
22 this particular -- in these two cases. And, you know, we
23 have conversations with our members all the time. So I
24 can't recall that offhand.

25 **Q. Okay. Thank you.**

1 In your rebuttal, you say that the ability of
2 RMP to own solar resources stifles competition because
3 that's the objective of these bills, right, is to allow
4 RMP under some circumstances to own solar resources.
5 Would you agree with that?

6 A. I would agree that both of those pieces of
7 legislation in some way does allow them to own solar
8 resources, yes.

9 Q. And sorry, that question was confusing. I
10 started with one and went into another question.

11 But your position is that by allowing the
12 Company to own some resources that that reduces
13 competition, correct?

14 A. It can.

15 Q. But isn't it true that it actually just adds
16 another competitor to the RFP process to develop solar
17 projects?

18 A. Not necessarily. So, for example, in H.B. 411,
19 there is at least a clause in there that allows the
20 Company to own any resource developed. And, again, I
21 don't have the exact language in front of me of H.B. 411
22 that allows the Company to acquire any resource that is
23 developed to meet the needs of the communities involved
24 in that program.

25 And I would say that there is a competitive RFP

1 process through that, but I don't believe that that
2 competitive RFP process is as competitive as it could be.
3 There are many developers who would not and will not
4 submit RFPs into potential resources requested in the RFP
5 that would -- where they would be forced to sell the
6 resource to the Company. So it is not allowed,
7 potentially, for as many developers to, let's say,
8 provide proposals to any RFP associated with that, or
9 would not in the future, perhaps.

10 **Q. But there's nothing in there that limits the**
11 **developers from submitting an RFP?**

12 A. No. But if it does not work for their models
13 and their models of financing projects and the amount of
14 time that it takes to recover the investment they make in
15 that, then that would keep them out of it voluntarily.
16 And that's why I simply said that it's not necessarily
17 restrictive. However, it does cut back on the potential
18 amount of RFP proposals submitted.

19 **Q. But wouldn't that be an issue with the RFP and**
20 **not the fact that RMP is allowed to submit a bid?**

21 A. Certainly, I believe. But is it not RMP that
22 generates the RFP? And forgive me if I didn't understand
23 your question.

24 **Q. No, I don't have anything else on that topic.**
25 **The other example that you use of behavior that**

1 you're saying stifles competition is the Company's
2 proposal to the Commission in 2016 relating to net
3 metering, correct?

4 A. Yes.

5 Q. But again, this isn't an action that the Company
6 can take on its own, right? It's an application for the
7 Commission to approve an action; isn't that right?

8 A. Yes. I believe the Company would understand
9 their intentions across the board, whatever all those
10 intentions may or may not be -- because I don't work for
11 the Company, I don't understand their motives -- would be
12 in bringing forth that proposal.

13 Q. But you'd agree with me that the Company can't
14 end a program like net metering without the Commission's
15 approval?

16 A. Of course.

17 Q. And you'd agree with me that the Commission has
18 a statutory obligation to act in the public interest;
19 isn't that right?

20 A. As far as I understand it, yes.

21 Q. Thank you. And one final topic I want to talk
22 about, and that is the 20-year fixed terms.

23 You would agree with me that customer electric
24 rates, retail electric rates, are subject to change over
25 time?

1 A. Yes. Not annually, but yes, they are subject to
2 change over time.

3 Q. And actually, a component of their rates, a
4 component of variable fuel costs does change annually.

5 Were you aware of that?

6 A. I guess it is. So yes, I guess that would
7 factor in. Again, I'm not a rate expert that way, so I
8 will --

9 Q. That makes sense. I under- --

10 A. -- your -- you know, your statement on that,
11 yes.

12 Q. Isn't it true that the fact or the possibility,
13 I suppose -- the possibility of rate increases is
14 actually a selling point that solar installers use to
15 encourage customers to install rooftop solar; is that
16 fair?

17 A. It is one of the many factors involved in a
18 transaction. And we've done, what I consider to be
19 trying to be a very upfront proactive organization to
20 make sure that that's a reasonable calculation by a
21 developer or by an installer for a customer. But yes, I
22 would agree that that is one of the many selling points
23 of solar energy.

24 Q. And developers in their marketing tools
25 typically project a certain amount of rate increase over

1 time because, in their view, it's logical to believe that
2 retail electric rates are going to increase over time; is
3 that right?

4 A. That would be my understanding. You know, it's,
5 again, their factors and calculations. And I'm not, you
6 know, aware of how each installer comes up with those
7 calculations, nor how they portray them necessarily in a
8 proposal.

9 Q. And if they can project the increase in electric
10 rates over time, isn't it logical to assume that they
11 could also project what the potential export credit rate
12 might be over time?

13 A. Potentially, but that requires an entirely
14 different valuation and another level of complexity for a
15 rate structure that already, you know, is comprised of
16 certain unknowns and certain uncertainties, so --

17 Q. So your answer is yes, they could develop a
18 projection?

19 A. I'm sorry? Repeat that?

20 Q. So your answer is yes, they could develop a
21 projection? It might be difficult for some reasons that
22 you've stated, but it would be possible for them to
23 develop a projection just like they project retail
24 electric rates?

25 A. My assumption would be in some way it's

1 possible. I don't know how to do that. I wouldn't know
2 how to do it.

3 Mr. Hayet actually alluded to the fact that it
4 would take potentially an economic consultant of high
5 caliber degree to figure that out. So I don't know
6 exactly how or what their abilities or with what
7 certainty that would be there without necessarily any
8 historical value to this export rate shifting on an
9 annual basis. There's certainly historical value in
10 looking at increases to electricity charges to
11 residential customers over time, for example.

12 So, again, I wouldn't know how to make that
13 assumption -- or that calculation, and I don't know
14 that -- what the process would entail for them to try to
15 come up with such a factor.

16 **Q. Okay. Thank you. That's all the questions I**
17 **have.**

18 A. Thank you.

19 CHAIRMAN LEVAR: Thank you, Ms. Wegener.

20 Mr. Mecham, do you have any redirect for
21 Mr. Evans?

22 MR. MECHAM: I do not, no.

23 CHAIRMAN LEVAR: Okay. Thank you, Mr. Mecham.

24 Commissioner Allen, I'll go to you next. Do you
25 have any questions for Mr. Evans?

1 COMMISSIONER ALLEN: No questions, thank you.

2 CHAIRMAN LEVAR: Thank you, Commissioner Allen.
3 Commissioner Clark, do you have any?

4 COMMISSIONER CLARK: I have no questions. Thank
5 you very much.

6 CHAIRMAN LEVAR: Thank you, Commissioner Clark.

7
8 CROSS-EXAMINATION

9 BY CHAIRMAN LEVAR:

10 Q. I'm just going to ask one follow-up question on
11 House Bill 411 from 2019, Mr. Evans.

12 Are you aware of whether any parties to this
13 docket other than Rocky Mountain Power expressed public
14 positions on that legislation?

15 A. To this -- sorry, can you repeat that again?
16 Sorry, Chair Levar. Can you repeat it one more time?

17 Q. Are you aware of whether any current parties to
18 this docket here today, besides Rocky Mountain Power,
19 took public positions on House Bill 411?

20 A. The only one that I can think of that might have
21 taken that would be Utah Clean Energy.

22 But I would also just say that H.B. 411 I don't
23 think necessarily impacts this particular docket. It was
24 more of an example on -- one example of a few where I
25 felt that they have tried to, you know, widen their

1 monopoly a little bit. So you know, I wouldn't
2 necessarily say that that particular legislation impacted
3 this explicit docket. So but, yeah, as far as I know,
4 only Utah Clean Energy may or may not have issued a
5 statement.

6 **Q. Okay. Do you know whether Salt Lake City**
7 **Corporation did?**

8 A. Actually, yes. Thank you. I didn't even think
9 about that. But I would imagine they were very
10 supportive, considering they were one of the signatory --
11 or one of the driving forces behind that.

12 CHAIRMAN LEVAR: Okay. That was my only
13 question. Thank you for your testimony today, Mr. Evans.

14 THE WITNESS: Thank you.

15 CHAIRMAN LEVAR: Anything further, Mr. Mecham,
16 on behalf of Utah Solar Energy Association?

17 MR. MECHAM: No, that's it. Thank you.

18 CHAIRMAN LEVAR: Okay. Thank you.

19 We will move to Mr. Holman now, if you want to
20 assist Salt Lake City Corporation with their witness.

21 MR. HOLMAN: Yeah, thank you, Chair Levar.

22 Salt Lake City calls Christopher Thomas.

23 Mr. Thomas?

24 THE WITNESS: Hello, yes. Good morning.

25 MR. HOLMAN: Good morning.

1 CHAIRMAN LEVAR: Good morning, Mr. Thomas. Do
2 you swear to tell the truth?

3 THE WITNESS: Yes, I do.

4 CHAIRMAN LEVAR: Thank you.
5

6 CHRISTOPHER THOMAS,
7 was called as a witness, and having been first duly
8 sworn to tell the truth, the whole truth, and nothing
9 but the truth, testified as follows:
10

11 DIRECT EXAMINATION

12 BY MR. HOLMAN:

13 Q. Good morning, Mr. Thomas.

14 A. Good morning.

15 And good morning, Chair Levar and Commissioners.

16 Q. Mr. Thomas, could you please state your name and
17 title for the record.

18 A. Yes. My name is Christopher Thomas, and I work
19 for Salt Lake City Corporation. And my title is senior
20 energy and climate program manager.

21 Q. Did you submit testimony in this docket?

22 A. Yes, I did. I submitted surrebuttal testimony.

23 Q. Do you have any corrections to that testimony
24 today?

25 A. Yes, I would like to offer some corrections.

1 And let me just -- there are five total corrections.

2 The first begins in Line 41, and that statement
3 should be changed to "allow transition program rates to
4 be maintained until a capacity equivalent to the
5 remaining transition program cap has been reached."

6 The next change starts on Line 45. And it will
7 be changed to read, "Coincident system peak prior to the
8 adoption of a significantly lower export credit rate."

9 The next change is on Line 186, and that change
10 will be -- sorry, let me start on Line 185. "Therefore,
11 I hope the Commission will adopt a new program that does
12 not result in a dramatic and sudden reduction to the
13 export credit rate."

14 And then there are just two remaining, and
15 they're very similar to the corrections I noted as No. 1
16 and 2. So on Line 206, I amend the testimony to say:
17 "Allow the transition program rates to be maintained
18 until a capacity equivalent to the remaining transition
19 program cap has been reached."

20 And the last one is on Line 210, and let me just
21 start reading it at Line 208 for context. "Require
22 further analysis on the interplay on the export credit
23 rate, the adoption of distributed generation, the timing
24 of incremental transmission, and coincident system peak
25 prior to the adoption of a significantly lower export

1 credit rate."

2 And Mr. Holman, I do plan to submit this
3 corrected -- redlined and corrected testimony later
4 today.

5 Q. Great. Thank you, Mr. Thomas.

6 Taking into consideration the changes that you
7 just walked through, if I were to ask you the same
8 questions as those that appear in your testimony, would
9 your answers be the same today?

10 A. Yes, they would.

11 Q. Great.

12 MR. HOLMAN: Chair Levar, I would move to admit
13 Christopher Thomas's surrebuttal testimony as corrected
14 today into the record.

15 CHAIRMAN LEVAR: Thank you, Mr. Holman.

16 If any party objects to that motion, please
17 unmute yourself and indicate your objection.

18 And I'm not seeing or hearing any objection, so
19 the motion is granted. Thank you.

20 MR. HOLMAN: Thank you, Chair Levar.

21 Q. (BY MR. HOLMAN:) Mr. Thomas, have you prepared
22 a summary of your testimony for us today?

23 A. Yes, I have.

24 Q. Please provide that summary.

25 A. Great. Well, thank you very much for the

1 opportunity to provide information in this matter.

2 A large portion of my job is spent trying to
3 fulfill renewable energy goals that are set forth in
4 joint mayoral and city council resolutions on behalf of
5 Salt Lake City Corporation. And we have appreciated
6 working with many of the stakeholders in this proceeding
7 toward reaching those goals.

8 In my surrebuttal testimony, I rebut the
9 assertion of Mr. Davis from the Division of Public
10 Utilities that, quote, "It is plausible that rooftop
11 solar in Utah has reached maturity."

12 I cite as evidence a private generation
13 assessment produced by Navigant as part of PacifiCorp's
14 integrated resource plan. This assessment says that the
15 "simple payback period is a key indicator of customer
16 uptake." The assessment projects continued growth in
17 Utah residential and commercial private solar generation
18 of about 406 megawatts between 2021 and 2038 under
19 current policies.

20 Importantly, however, the authors note that the
21 projected Utah private generation market decreased
22 substantially from the 2016 version of its assessment and
23 cite reduced solar PV incentives and reduced net metering
24 rates as key drivers.

25 Given that this assessment appears in

1 acknowledged electric system planning, I recommend that
2 the Commission not find that the rooftop solar market in
3 Utah has reached maturity. Instead, I hope the
4 Commission will agree that a sudden and dramatic
5 reduction to the export credit rate will predictably lead
6 to a significant reduction in the adoption of distributed
7 solar.

8 I also rebut the assertion of Ms. Steward from
9 Rocky Mountain Power that gradualism is an important rate
10 design principle that guides the Company's current export
11 credit proposal. As evidence, I contrast the Company's
12 proposed reduction of the residential export credit rate
13 by 84 percent in 1 year against the Company's Utah
14 general rate case, which proposes to phase in a rate
15 increase of 4.8 percent over a period of 3 years.

16 Should the Commission adopt the lower export
17 credit rate, I recommend that the lower rate be phased in
18 gradually to avoid a sudden shock to the Utah solar
19 installer industry at a time when unemployment and
20 economic uncertainty are already high because of the
21 global pandemic.

22 Finally, in relation to the rebuttal testimony
23 of Ms. Bowman from Utah Clean Energy, I assert that Rocky
24 Mountain Power's proposal does not address two possible
25 benefits conferred by customer generation: Reducing

1 coincident system peak, and reducing or deferring the
2 need for incremental transmission.

3 At evidence, I point to low and high customer
4 generation sensitivity performed as part of PacifiCorp's
5 2019 integrated resource plan.

6 Taken together, these sensitivities suggest that
7 increased customer generation results in reduced system
8 costs, deferred or avoided transmission, and lower
9 coincident system peak.

10 I recommend that before implementing a new, and
11 especially a significantly lower export credit rate,
12 Rocky Mountain Power and stakeholders should analyze the
13 interplay between various levels of export credit rate,
14 customer generation, and the timing of incremental
15 transmission and coincident system peak.

16 For example, reducing the export credit rate
17 below a certain level could have the unintended
18 consequence of advancing the date of incremental
19 transmission, causing additional system costs.

20 In conclusion, Salt Lake City Corporation
21 recommends that the Commission -- I apologize. I'm
22 distracted by a phone call that I'm receiving.

23 In conclusion, Salt Lake City Corporation
24 recommends that the Commission not approve Rocky Mountain
25 Power's proposed export credit rate at the proposed

1 effective date; allow rates that are similar to those in
2 the current transition program to be maintained until a
3 capacity equivalent to the remaining transition program
4 rate has been reached; require further analysis on the
5 interplay among the export credit rate, the adoption of
6 distributed generation, the timing of incremental
7 transmission, and coincident system peak prior to the
8 adoption of a significantly lower export credit rate;
9 create placeholders that allow for additional benefits of
10 customer generation to be quantified, including ancillary
11 services, reliability, and resilience. And should a
12 lower export credit rate be adopted, adopt a gradual
13 glide path using capped tiers, similar to NV Energy's
14 program.

15 And concludes my statement.

16 MR. HOLMAN: Thank you, Mr. Thomas.

17 Chair Levar, Mr. Thomas is available for
18 questions.

19 CHAIRMAN LEVAR: Thank you, Mr. Holman and
20 Mr. Thomas.

21 I'll go to Mr. Mecham next.

22 Do you have any questions for this witness?

23 MR. MECHAM: Thank you, Mr. Chair. At this
24 moment, I do not.

25 CHAIRMAN LEVAR: Thank you.

1 Does anyone from the Vote Solar team have any
2 questions for Mr. Thomas?

3 MR. GOTTLIEB: Thank you, Chair. Spencer
4 Gottlieb. Vote Solar has no questions.

5 CHAIRMAN LEVAR: Thank you, Mr. Gottlieb.
6 I'll go next to Mr. Jetter.

7 Do you have any questions for Mr. Thomas?

8 MR. JETTER: I do have a few questions.

9
10 CROSS-EXAMINATION

11 BY MR. JETTER:

12 Q. Good morning, Mr. Thomas. How are you?

13 A. Good morning, Mr. Jetter.

14 Q. I guess I'd just, I'd like to -- let's see. If
15 I could start out addressing the community renewable
16 program.

17 Are you familiar with the community renewable
18 program?

19 A. Yes, I am.

20 Q. And is it accurate that the goal of that program
21 is for communities, primarily cities and most likely
22 unincorporated counties or towns, to reach an agreement
23 with Rocky Mountain Power such that the residents of
24 those cities or those communities who choose not to opt
25 out would be served with 100 percent net renewable

1 electric service; is that correct?

2 A. Yes, subject to -- my understanding is that
3 subject to being able to form required agreements and
4 Commission approval, yes, that would be the goal of that
5 program.

6 Q. Okay. And it's correct that that program is
7 sort of in process right now; is that right?

8 A. Yes, it is.

9 Q. And so if a resident of Salt Lake City, for
10 example, installed a rooftop solar system, and within two
11 or three years from now the community renewal program
12 becomes effective and all of that customer's load under
13 the community renewable program would have otherwise also
14 been served by a renewable source, is it fair to say that
15 the addition of that rooftop solar installation would not
16 affect the carbon emissions either way in that scenario?

17 A. I apologize, Mr. Jetter. Could you please just
18 rephrase that?

19 Q. Sure. Maybe I'll simplify the question a little
20 bit.

21 In the event that a community is served by
22 100 percent renewable energy, adding a rooftop solar
23 installation would not make a customer, that customer who
24 adds it, more renewable, would it?

25 A. Well, I don't believe I actually made any

1 comments in my testimony regarding carbon emissions or
2 the community renewable program. But let me try to
3 answer your question.

4 I think it would be very -- I think that if a
5 customer today would like to reduce their carbon
6 emissions, probably their best option today is to install
7 rooftop solar panels. And the reason I say that is that
8 while we do expect additional Rocky Mountain Power
9 utility investment in renewable sources, those resources
10 take time to build.

11 I appreciate that there are a lot of new
12 renewable resources in Rocky Mountain -- PacifiCorp's
13 preferred portfolio. Some of those are uncertain whether
14 they will be built or not or when they'll be built.

15 In the community renewable program, while I do
16 agree with you that it provides a great opportunity and
17 one that we're very excited about for customers within
18 our boundaries to receive net 100 percent renewable
19 energy, that program is also somewhat uncertain in terms
20 of its mechanics, exactly how much renewable energy it
21 will bring on, and what its cost will be, and its timing.

22 So I think that while we continue to work on the
23 program, while we continue to see the incorporation of
24 new resources in the PacifiCorp system, there is a
25 distinct benefit in my mind for a customer who would

1 choose to install rooftop solar today to reduce their
2 personal carbon emissions.

3 Q. Okay. And thank you for that.

4 And my question really is once -- let's assume
5 that that program is, in fact, implemented and, in fact,
6 the residential customers of Salt Lake City who have not
7 opted out are being served with 100 percent renewable
8 sources.

9 Once that occurs, an incremental addition of one
10 of those customers exiting that 100 percent renewable
11 tariff schedule and installing their own on-site
12 renewable generation, in both cases those would be
13 100 percent net renewable, presumably; is that correct?

14 A. Yes. I believe that in 2030 that a customer
15 could be part of the community renewable program and have
16 on net 100 percent renewable energy, or they could
17 install rooftop solar to also be 100 percent net
18 renewable. I think both of those would be possible in
19 2030.

20 Q. Okay. And in both cases, there would, as a
21 result, be no carbon emissions from either scenario for
22 the electricity generation?

23 A. Well, actually -- I mean, I think in actuality
24 there would be carbon emissions likely in either scenario
25 because customers who would be part of the community

1 renewable program would still be part of Rocky Mountain
2 Power's system. And so they would be able to rely on the
3 system, as a whole, operating in an economic dispatch
4 model, which is the way that I understand Rocky Mountain
5 Power/PacifiCorp operates its system.

6 So there still would be carbon emissions, and I
7 think that's an important distinction of what net -- and
8 I apologize. I may not have made this distinction
9 previously. But because it's a net 100 percent renewable
10 goal, what that means is that if you take all of the
11 electric consumption of all the participating customers
12 over a year and you say, okay, that's the electric
13 consumption, the goal is that that total consumption
14 would be offset by an amount of renewable energy. So
15 it's a net program rather than a sole source program, if
16 that makes sense.

17 **Q. Absolutely. And that's also true for most**
18 **rooftop solar customers, that they use energy from the**
19 **grid that's generated by various thermal resources that**
20 **emit carbon and that the renewability of it is a netting**
21 **process at some level?**

22 A. Yes, that's my understanding.

23 **Q. Okay. Thank you. I'd like to, you know, change**
24 **gears just a little bit here.**

25 You have said that you are in charge of the

1 renewable energy goals for Salt Lake City; is that
2 correct?

3 A. That's a (inaudible) of my responsibility is
4 trying to see that goals are reached, yes.

5 Q. Okay. And part of your testimony addresses the
6 economic impact of various rate structures and fees that
7 would potentially be imposed at the -- the result of --
8 the conclusion of this process in Phase II; is that
9 correct?

10 A. I'm not sure I offered testimony on fees. I
11 think I made recommendations regarding the size and
12 timing of a new export credit rate. But I'm happy to
13 address a specific section of my testimony.

14 Q. Okay. Well, what I'd like to, I guess, ask you
15 about it is: You're familiar with the proposal for
16 metering fees and application renewal fees?

17 MR. HOLMAN: Mr. Chairman, if I could just step
18 in quickly. If Mr. Thomas hasn't provided testimony on
19 fees, I don't think it's appropriate to ask him questions
20 about them. So if Mr. Jetter has a specific line or
21 statement from Mr. Thomas's testimony that he's
22 referencing with this line of questioning, I'd be fine
23 moving forward with that. But absent some showing that
24 this is based on Mr. Thomas's filed testimony, I would
25 object to this line of questioning.

1 CHAIRMAN LEVAR: Thank you, Mr. Holman.

2 Mr. Jetter, do you dispute that this is outside
3 the scope of Mr. Thomas's testimony?

4 MR. JETTER: I think it may be within the scope.
5 But if you'll provide me just a moment to find a specific
6 location in the testimony.

7 CHAIRMAN LEVAR: Certainly. If you need a
8 moment or two to do that, that's fine.

9 MR. JETTER: Okay. I can direct to a specific
10 line.

11 Q. (BY MR. JETTER:) And what I'm looking at here
12 is surrebuttal testimony at Lines 73 through 75.

13 A. Yes.

14 Q. And it says, "In other words, policy decisions,
15 like reducing incentives and reducing export credit rate,
16 are expected to drive down technology adoption"; is that
17 correct?

18 A. I apologize. For some reason -- oh, there we
19 go. Yes. Yes, sir. I'm with you.

20 Q. (Inaudible) fees; is that correct?

21 A. I apologize. You suddenly blipped out, and I
22 didn't hear you.

23 Q. I apologize. Can you hear me okay?

24 A. Yes, I can.

25 Q. Okay. Would you say it's correct that reducing

1 incentives would include increasing things like
2 application fees?

3 A. I mean, it's -- yes, it's possible.

4 I think in context, what I was referring to in
5 Lines 73 through 75 were the conclusions of a consultant
6 named "Navigant" who prepared a private generation
7 assessment for PacifiCorp as part of its 2019 integrated
8 resource plan. And so I was referring specifically to
9 drivers such as those listed by Navigant, and they
10 identified incentives and indium (phonetic) reduction to
11 around 90 percent of full rates. So I'm not sure I fully
12 considered fees.

13 Q. And I don't intend to ask you, actually, about
14 the specific fees.

15 What I wanted to ask you about is, as a
16 representative of a city, you also charge -- and by
17 "you," I mean Salt Lake City charges fees for solar
18 installation; does it not?

19 A. Yes. I believe there is a permitting fee,
20 although I must confess that I am not familiar with what
21 those fees are, and I don't personally administer them.

22 Q. Okay.

23 CHAIRMAN LEVAR: Mr. Jetter, I'm going to jump
24 in. I think I'm going to rule on Mr. Holman's motion
25 that I don't believe that line you've referred to on

1 reducing incentives is specific enough to open up
2 questioning about fees, either metering -- either the
3 fees proposed in this docket or fees charged by Salt Lake
4 City. I think we're beyond the scope of his testimony on
5 that issue. I just can't read the phrase "reducing
6 incentives" in a way to open that issue up for
7 questioning.

8 MR. JETTER: Okay. I'll withdraw that question.
9 And I think I will conclude my questioning there. Thank
10 you.

11 THE WITNESS: Thank you, Mr. Jetter.

12 CHAIRMAN LEVAR: Thank you, Mr. Jetter.

13 Why don't we go ahead and take a break and
14 reconvene at 1:00 p.m. We'll move to Mr. Snarr, if he
15 has any questions for Mr. Thomas, at that point. So
16 we'll be in recess until 1:00 Utah time. Thank you.

17 (A break was taken from 11:54 a.m. to 12:59 p.m.)

18 CHAIRMAN LEVAR: Good afternoon. I think we're
19 ready to go back on the record and begin.

20 Before we continue with cross-examination, I'll
21 just inform everyone we have discussed the conversation
22 that was had this morning about closing arguments, and so
23 we want to make a couple of statements.

24 First, we want to reiterate that we will not
25 evaluate anyone's testimony based on the length of their

1 summary of that testimony in closing arguments. At the
2 same time, we recognize that some parties have more
3 material to cover in closing arguments than others do.

4 So to help ensure that the focus is on the
5 substance of the arguments and not on the clock, we're
6 going to allow each party up to 30 minutes for closing
7 arguments. And we will decide when those will occur when
8 we're closer to the end of the presentation of the
9 witnesses.

10 And with that, we will go -- I think next is
11 Mr. Snarr to ask any questions he has of Mr. Thomas.

12 MR. SNARR: Thank you.

13
14 CROSS-EXAMINATION

15 BY MR. SNARR:

16 Q. Good afternoon, Mr. Thomas.

17 A. It's nice to meet you, Mr. Snarr.

18 Q. I'd like to focus on some of the testimony you
19 have filed to get clarification on your position in
20 representing Salt Lake City.

21 First, Salt Lake City was an intervenor in the
22 earlier docket, Docket 14-035-114; is that right?

23 A. That is my understanding, yes.

24 Q. Okay. And I believe Salt Lake City was a
25 signator to that settlement stipulation that was

1 submitted back in 2017; is that right?

2 A. Yes, that is correct.

3 Q. Now, I'm just going to talk about a couple of
4 features of that settlement with you, if I might.

5 First, my understanding is, is the settlement
6 established rates for the existing net metering customers
7 basically grandfathering them into the net metering
8 situation, and those rates would continue through
9 December 31 of 2035; is that correct?

10 A. That is my understanding, yes.

11 Q. Okay. And in a similar way, the transition
12 customers, those who were applying after November 2017
13 but prior to the expiration of this date, the transition
14 customers would also be treated on kind of a
15 grandfathered basis under net metering, but that their
16 rates were essentially 90 percent of what the other
17 retail rates might otherwise be.

18 Is that consistent with your understanding?

19 A. Yes, that's generally consistent with my
20 understanding.

21 Q. Okay. So I'm interested in your comments about
22 a glide path. I believe that's referenced in your
23 surrebuttal testimony at Line 189. But just conceptually
24 here, isn't it true that for existing net metering
25 customers there will be no major change to their rates

1 that might affect their payback assumptions or
2 calculation, at least not through 2035?

3 A. Yes, that is my understanding.

4 Q. And in a similar fashion, isn't it true that for
5 the transition customers, there will be no major change
6 to their rates that might affect their payback
7 assumptions or calculations, at least not through
8 December of 2032?

9 A. Yes. Relative to the export credit rate, yes,
10 that's my understanding.

11 Q. All right. So with respect to notions of glide
12 path or gradualism, isn't it true that for these two
13 classes of customers, that the settlement has basically
14 put in place something that they can rely on through the
15 presumed payback period of time associated with each
16 group?

17 A. Yes, sir.

18 Q. And as to them, we don't need to worry about
19 tinkering with their rates or moving it up or down in a
20 glide path or gradualism way; isn't that correct?

21 A. Yes, I agree with that.

22 Q. Okay. Thank you.

23 Let me focus on one other area. You've talked
24 somewhat about renewable resources and the importance
25 they are to Salt Lake City; is that correct?

1 A. Yes.

2 Q. I have a couple of questions about Schedule
3 34 -- a Schedule 34 contract.

4 I understand that Salt Lake City and some other
5 customers have entered into a contract as it relates to
6 renewable resources for a substantial period of time, 15
7 years or more for renewable energy; is that correct?

8 A. Yes. That is correct, although I'm not sure
9 that I offered an opinion regarding a Schedule 34
10 resource in this docket.

11 Q. Yeah, I'm not going to go into the details of
12 that, but just want to ask, with that contract in mind
13 for long-term, presumably reliable resources of renewable
14 energy and that kind of commitment to the city, I have
15 one question here: With your current contract for
16 renewable energy in mind, I would like to ask whether
17 Salt Lake City would be willing to contract for solar
18 energy where the energy would be provided only if there
19 is an excess energy in excess of what the generators
20 might use without any commitment for a term of years and
21 at a price in the range of 24 cents per kilowatt?

22 A. Let me make one correction to my earlier answer,
23 Mr. Snarr, which is that there is a contract, but it is
24 subject to Commission approval.

25 Q. I am aware of that, and I don't really want to

1 get into other dockets. But it's the notion of a
2 renewable contract for long-term from reliable resources.
3 And I want you to keep that in mind as you might consider
4 entering into a purchase of excess energy from a solar
5 generator for a term of years if they would offer it at a
6 price as high as 24 cents?

7 A. I apologize, Mr. Snarr. When you say 24 cents,
8 is that 24 cents per kilowatt hour?

9 Q. Yes.

10 A. I'm not sure that Salt Lake City would enter
11 into that contract if it were offered. I'm not sure that
12 we've offered testimony that we would like to do that.

13 Q. I understand. And that concludes my questions
14 of you. Thank you.

15 A. Thank you, Mr. Snarr.

16 CHAIRMAN LEVAR: Thank you, Mr. Snarr.

17 Ms. Wegener, do you have any questions for
18 Mr. Thomas?

19 MS. WEGENER: No questions for Mr. Thomas.
20 Thank you.

21 CHAIRMAN LEVAR: Okay. Thank you.

22 Mr. Holman, do you have any redirect for
23 Mr. Thomas?

24 MR. HOLMAN: I just have one quick question for
25 Mr. Thomas.

REDIRECT EXAMINATION

BY MR. HOLMAN:

Q. Mr. Thomas, Mr. Jetter was asking you a few questions comparing rooftop solar to the community renewable energy program.

Do you recall those questions?

A. Yes, sir.

Q. And my recollection of that conversation was that he was making the analogy or drawing the conclusion that both of those instances of generation or programs provide net 100 percent renewable energy to customers.

Is that your recollection of the question as well?

A. Yes. My recollection is that I agreed that either arrangement could result in a net 100 percent effective renewable energy consumption.

Q. Could a customer, a rooftop solar customer, potentially one with a battery, actually satisfy its entire demand with energy generated on site?

A. Yes, they could. Yes, they could.

Q. And would that be a net 100 percent situation or an actual 100 percent situation?

A. You raise a good -- a good issue of comparison in that. Yes, with an appropriately-sized solar array and battery, I believe a customer could achieve

1 100 percent renewable energy consumption that would not,
2 in fact, be net.

3 **Q. Thank you, Mr. Thomas. Those are all my**
4 **questions for redirect.**

5 A. Thank you, Mr. Holman. I'm sorry, Mr. Chair, I
6 can't hear you.

7 CHAIRMAN LEVAR: Sorry. I was muted. Thank
8 you.

9 I think I'll just ask any party who has recross
10 based on Mr. Holman's questions to unmute yourself and
11 indicate to me that you do, and I'll just give a few
12 seconds to see what we have.

13 MR. JETTER: I do have one recross question.

14 CHAIRMAN LEVAR: Okay. Let me just see if
15 anyone else has any. I'm not seeing recross from anyone
16 other than Mr. Jetter.

17 So Mr. Jetter, why don't you go ahead.
18

19 **RE CROSS EXAMINATION**

20 BY MR. JETTER:

21 **Q. Just to follow up on that last question,**
22 **Mr. Thomas.**

23 If the customer had sufficient battery and solar
24 on site to provide 100 percent of the customer's load
25 directly, wouldn't it make sense for that customer to

1 **disconnect from Rocky Mountain Power and no longer be a**
2 **Rocky Mountain Power customer?**

3 A. I think that's a possibility that a customer
4 might consider.

5 MR. JETTER: That's my only question. Thank
6 you.

7 CHAIRMAN LEVAR: Thank you, Mr. Jetter.

8 Commissioner Clark, do you have any questions
9 for Mr. Thomas?

10 COMMISSIONER CLARK: I don't have any questions
11 for Mr. Thomas.

12 Mr. Thomas, thank you for bringing Salt Lake
13 City's perspective to our proceeding.

14 THE WITNESS: Thank you, Commissioner.

15 CHAIRMAN LEVAR: Thank you.

16 Commissioner Allen, do you have any questions
17 for Mr. Thomas?

18 COMMISSIONER ALLEN: I have one question.
19

20 **CROSS-EXAMINATION**

21 **BY COMMISSIONER ALLEN:**

22 **Q. Hi, Mr. Thomas. How are you today?**

23 **A. Hello, Commissioner.**

24 **Q. Good to see you again.**

25 **You mentioned earlier as you got started today**

1 that the solar market is not yet mature, or something to
2 that effect, and basing some of your observations about
3 where we're headed with solar.

4 And I would just ask the question: Does Salt
5 Lake City have a metric or a goal or some idea of when
6 the market will be mature that you're promoting or you
7 understand you have?

8 A. So we do have an adopted resolution between the
9 mayor and the city council to achieve 100 percent
10 renewable energy by 2030. And so I imagine that -- I'm
11 sorry, strike that. I don't think I'm answering your
12 question. Could you just rephrase that one more --

13 Q. I'll rephrase the question.

14 When will we have enough consumer-generated
15 locations in Salt Lake City where you'll consider, at
16 least in that jurisdiction, that you've reached market
17 maturity?

18 A. I don't know that I would be able to opine as to
19 when the industry would reach maturity. I believe in the
20 assessment that I referenced earlier by Navigant, I
21 believe they offer a guidepost for what maturity might
22 mean. But I'm not an expert on that.

23 Q. Okay. So you haven't had any overt
24 conversations, metrics that's come out of the city or
25 policymakers as to what their goal is for the ratepayers

1 **themselves?**

2 A. Oh, right. I'm sorry. That's why I mentioned
3 the community goal.

4 So yes, there is broad goal for 100 percent
5 renewable energy by 2030 for the community. I do not
6 believe that it includes a distributed generation target
7 within it.

8 **Q. Okay. That's helpful. Thank you very much.**

9 A. Thank you.

10 CHAIRMAN LEVAR: Thank you, Commissioner Allen.

11 And I don't have any additional questions for
12 you, Mr. Thomas. So thank you for your testimony today
13 and bringing your perspectives.

14 THE WITNESS: Thank you, Mr. Chairman.

15 CHAIRMAN LEVAR: Mr. Holman, anything further
16 from Salt Lake City Corporation?

17 MR. HOLMAN: No, Chair Levar, that's all we have
18 for Salt Lake City.

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

20 We will go to Vote Solar, then, for your first
21 witness.

22 MS. SELENDY: Thank you, Mr. Chairman Levar.
23 Jennifer Selendy for Vote Solar.

24 And we would call Mr. Sachu Constantine as our
25 first witness.

1 CHAIRMAN LEVAR: Mr. Constantine, do you swear
2 to tell the truth?

3 THE WITNESS: I do.

4 CHAIRMAN LEVAR: Okay. Thank you.

5 Ms. Selendy.

6 MS. SELENDY: Thank you, Chair.

7
8 SACHU CONSTANTINE,
9 was called as a witness, and having been first duly
10 sworn to tell the truth, the whole truth, and nothing
11 but the truth, testified as follows:

12
13 DIRECT EXAMINATION

14 BY MS. SELENDY:

15 **Q. Mr. Constantine, would you please state your**
16 **full name and business address for the record.**

17 A. Yes. My name is Sachu Constantine. My business
18 address is 360 22nd Street, Suite 730, Oakland,
19 California 94612.

20 **Q. Have you reviewed and analyzed the testimony**
21 **submitted by the other parties to this case, sir?**

22 A. Yes, I have.

23 **Q. Have you prepared and submitted direct,**
24 **rebuttal, and surrebuttal in this case?**

25 A. Yes, I have.

1 Q. Do you have any changes to that testimony that
2 you would like to offer at this time?

3 A. No. Thank you.

4 Q. If you were asked the same questions included in
5 your written testimony here today, would you give the
6 same answers?

7 A. Yes, I would.

8 MS. SELENDY: Mr. Chairman, Vote Solar moves for
9 the admission of the testimony of Mr. Constantine into
10 the record.

11 CHAIRMAN LEVAR: Thank you, Ms. Selendy.

12 If any party has any objection to the motion,
13 please unmute yourself and indicate your objection.

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

16 Q. (BY MS. SELENDY:) Mr. Constantine, have you
17 prepared a summary of your testimony that you would like
18 to present to the Commission today?

19 A. I have.

20 Q. Please proceed.

21 A. Thank you. And if you will indulge me for 10
22 seconds, I have to turn the fan off that is blowing
23 through the vent here. It will interfere in my sound.
24 One moment.

25 (Reporter interruption.)

1 THE WITNESS: I will happily speak up so that
2 you can hear me. And I do hope I will speak slowly
3 enough for you, so please let me know if I'm not.

4 Good morning, Mr. Chairman, Commissioners Allen
5 and Clark. Thank you for allowing me to testify on this
6 matter. I am the managing director for regulatory for
7 Vote Solar. Vote Solar is an independent 501(c)(3)
8 nonprofit, working to repower the U.S. with clean,
9 affordable energy, including solar energy. We have over
10 100,000 members nationally, including in Utah.

11 The outcome of these proceedings will have a
12 long-lasting impact on the entire state of Utah. Setting
13 a just and reasonable rate will allow the continued
14 growth of CG solar, a technology that provides numerous
15 benefits to all parties. Setting an unjust rate that
16 undervalues or penalizes CG exports will effectively halt
17 future CG development in Utah, and these benefits will be
18 lost.

19 Vote Solar is here to advocate for a fair rate,
20 not a rate that depends on subsidies, but a rate that
21 compensates customer generators for the substantial value
22 provided to RMP and all of RMP's customers.

23 RMP, on the other hand, does not seek a fair
24 rate. CG is a threat to RMP's ability to build new
25 generation, transmission, and distribution capacity.

1 RMP's proposed ECR would effectively destroy future CG
2 development in Utah. My testimony today will demonstrate
3 that Vote Solar's calculation of the value of CG exports
4 at 24.17 cents per kilowatt hour is well-supported.

5 We advocate, however, primarily for a new net
6 metering program based on a reasonable and fair export
7 rate of 10.2 cents per kilowatt hour. RMP's assessment,
8 by contrast, is deeply flawed.

9 Vote Solar recommends that this Commission adopt
10 a new net metering program where the CG export rate is
11 equal to the current residential retail rate and not
12 adopt any alternative rate structure until it has
13 evaluated on the evidence the threshold question of
14 whether costs exceed benefits or vice versa. Until the
15 Commission resolves that threshold question, the
16 Commission cannot determine whether there are subsidies
17 among consumers and RMP or in which direction subsidies
18 may run.

19 Neither RMP nor the DPU nor the OCS has provided
20 any quantifiable data that would allow the Commission to
21 make a determination that costs exceed benefits.
22 Therefore, there is no basis in the record to conclude
23 that net metering creates any subsidy in favor of CG
24 customers.

25 Vote Solar is the only party that has provided

1 valid data as to the total amount of CG production.

2 Further, Vote Solar has presented the only systematic
3 quantification of costs and benefits relative to
4 calculating the value of CG exports.

5 Because there is no basis to conclude that the
6 costs of net metering exceed benefits, and because the
7 quantified value of CG exports exceeds the current RMP
8 retail rate, the Commission should reinstate a net
9 metering program.

10 As other experts and I will discuss, Vote Solar
11 rigorously assessed the quantifiable benefits of CG
12 exports. CG exports allow RMP to generate less energy
13 and to avoid maintenance and construction of capacity and
14 transmission and distribution resources.

15 CG exports also allow RMP to purchase and burn
16 less natural gas, and thus spend less money to hedge
17 against price fluctuations or to pay compliance costs for
18 carbon emissions. Vote Solar has also quantified
19 benefits that will accrue to all citizens of Utah;
20 namely, the reduction of carbon emissions, the increase
21 in health benefits, and the creation of a tremendous
22 number of jobs within the state.

23 Not included in Vote Solar's calculations are
24 the additional substantial benefits that accrue to RMP
25 and Utah from behind-the-meter consumption of CG energy.

1 On the flip side, RMP's proposed ECR of 1.53 up to 2.22
2 cents per kilowatt hour either undervalues or entirely
3 disregards these benefits. In effect, RMP seeks to treat
4 its residential and commercial retail CG customers as if
5 they were unreliable merchant wholesalers selling
6 marginal generation into the western energy imbalance
7 market.

8 But CG exports, with all the benefit-producing
9 attributes that I have just described, are not the same
10 as exports flowing from distant utility scale plants. In
11 reality, CG exporters are located close to load, perform
12 just as predictably and reliably as energy efficiency or
13 demand response, and are entirely captive to RMP for the
14 20- to 30-year lifetime of their investment.

15 RMP's calculations also ignore the quantifiable
16 health and economic benefits of this customer-financed
17 capacity. Adopting RMP's proposed ECR would create a
18 massive subsidy from CG exporters to RMP and its non CG
19 customers.

20 I will now briefly walk through the wide
21 disparity and value of CG export calculations conducted
22 by Vote Solar and RMP.

23 In general, RMP discounts or ignores benefits
24 while assessing additional, subjective costs that no
25 other resource is saddled with. This approach is

1 inconsistent with PacifiCorp's own IRP, which found that
2 a high CG penetration scenario would lead to significant
3 savings for ratepayers.

4 RMP's ECR proposal would effectively stop future
5 CG development and maintain the Company's profitable
6 monopoly advantages to the detriment of ratepayers, the
7 state, and, indeed, the planet.

8 As you will hear, Dr. Milligan calculates
9 avoided energy costs for the next 20 years, using
10 PacifiCorp's official forward price curve, or OFPC.
11 PacifiCorp itself acknowledges that the OFPC is the best
12 representation of future market prices because it is
13 forward-looking and accounts for future changes to the
14 grid. By contrast, RMP calculates an artificially low
15 avoided energy cost by using historical prices and a
16 model that RMP acknowledges will shortly be replaced.

17 RMP further concedes that CG exports lead to
18 avoided capacity costs. While Dr. Milligan calculates
19 these costs, RMP refuses to credit them based on a
20 misleading argument that CG exports are non-firm. The
21 truth is that CG customers and their exports are entirely
22 captive and can sell power only to RMP.

23 CG customers also make substantial long-term
24 investments in solar, and the suggestion that they would
25 abandon their investment and stop exporting has no basis

1 in economic reality. CG generation provides the same
2 avoided capacity, whether consumed behind the meter or
3 exported to the grid. And the presence of a contract is
4 irrelevant to this value.

5 Mr. Volkmann and Dr. Yang calculate avoided
6 transmission and distribution costs, the costs that CG
7 exports help RMP to defer or avoid in its T&D assets.

8 RMP argues that there should be no credit given
9 here because it is too hard to quantify. This argument
10 ignores that RMP itself calculates avoided T&D capacity
11 costs for energy efficiency programs. Moreover, in every
12 other state that has a value of solar tariff, a value for
13 avoided T&D costs is provided.

14 RMP attempts to impose integration costs that
15 are not grounded in the facts or its own practices.
16 Dr. Milligan and Mr. Volkmann have explained why this
17 cost is unjustified. But in short, there is no evidence
18 demonstrating that at current penetration levels, CG
19 exports cause any integration costs.

20 Ms. Berry quantifies the extent to which CG
21 exports provide a fuel price hedging benefit by reducing
22 RMP exposure to natural gas price volatility. The less
23 natural gas that RMP's ratepayers consume, the less gas
24 RMP must supply, and thus, the less they must spend on
25 hedging programs. That is a clear monetary benefit from

1 CG exports to RMP, recognized by the commissions, which
2 RMP simply ignores.

3 Dr. Berry also calculates the value of avoided
4 carbon costs, environmental health, and economic benefits
5 from CG exports.

6 For avoided carbon costs, Dr. Berry uses RMP's
7 own projected costs of carbon from the PacifiCorp IRP.
8 Dr. Berry also calculates the health benefits CG exports
9 provide by using a technical report published by the
10 Environmental Protection Agency. CG exports displaced
11 traditional fossil fuels which contributed to, among
12 other things, premature mortality, child asthma,
13 pneumonia, miscarriage, heart disease. Dr. Berry
14 calculates benefits from reduced carbon emissions by
15 using RMP's own CO2 compliance costs and the social cost
16 of carbon. Dr. Berry calculates the benefits to the Utah
17 economy from CG solar by using monetary flows published
18 by the National Renewable Energy Laboratory.

19 RMP, on the other hand, ignores all such
20 benefits; and thus, places no value on the physical or
21 economic health of its captive ratepayers.

22 Importantly, Vote Solar's calculation is
23 conservative in that it does not take into account other
24 benefits from CG exports, such as ancillary services,
25 reliability and resiliency value, avoided fossil fuel

1 life cycle costs, reduced security risk, and market price
2 impacts. Nor does Vote Solar consider the substantial
3 additional benefits resulting from customer generators'
4 behind-the-meter use of the energy they produce.

5 Vote Solar proposes that the Commission
6 reinstate a net metering program, despite the fact that
7 this would undervalue CG exports based on the
8 quantification of benefits and costs in the record. A
9 return to net metering would be a just and reasonable
10 outcome for all parties, adheres to principles of good
11 rate design, and ascribes a value to CG exports that will
12 properly promote the growth of solar.

13 If the Commission elects to maintain the general
14 structure of the transition program currently in place,
15 however, it should adopt an export credit rate of 24.17
16 cents per kilowatt hour.

17 Under either the net metering program or Vote
18 Solar's ECR, Commission would be sending important
19 messages to the market that customers should make
20 efficient, rational economic decisions, including by
21 investing in CG solar.

22 Importantly, not only does RMP advocate a value
23 of solar so low that it would end the installation of new
24 CG, it also proposes program features that drive
25 consumption to peak periods, create a needlessly

1 confusing rate structure, and make the ECR unpredictable.

2 In fact, we have heard from RMP, DPU, and OCS
3 witnesses earlier in this proceeding that in order to get
4 any real value out of this ECR proposal, that is the RMP
5 ECR proposal, CG solar customers must additionally invest
6 in batteries and expensive new smart appliances,
7 virtually assuring that only wealthy households could
8 participate. This is all contrary to Vote Solar's
9 proposal that is designed to make CG solar a viable
10 option for all customer classes and subgroups within
11 those classes.

12 In particular, RMP proposes to treat customer
13 generators like qualifying facilities entitled only to an
14 avoided cost rate of compensation for their exports.
15 This ignores the specific benefits of distributed
16 generation. Even worse, RMP would deny customer
17 generators the rate certainty afforded to QFs under
18 PURPA, subjecting all would-be new solar customers to
19 paralyzing uncertainty regarding compensation for their
20 exports over the life of their solar systems.

21 Vote Solar proposes that a customer's ECR be
22 fixed for a period of 20 years and that the ECR itself
23 only be updated during RMP's general rate cases, if
24 needed.

25 RMP's contrary proposal to reset the ECR each

1 year, unlike other customer rates, would create
2 unnecessary burdens for the Commission and deprive
3 customers of the ability to even roughly calculate the
4 impact that an investment in solar would have on their
5 personal finances.

6 The impact of financial incentives on the
7 behavior of households or businesses is a matter of
8 economics expertise. And Vote Solar is the only party to
9 offer competent testimony from a qualified witness. The
10 effect of the transition program rate on Vivint Solar's
11 conduct of business in Utah confirms the validity of the
12 Vote Solar testimony.

13 Vote Solar also proposes that CG customers'
14 excess export credits roll over at the end of each year
15 so that the compensation earned by CG customers is not
16 redistributed to RMP and non CG customers. If there is a
17 concern on system sizing, that should be addressed
18 directly by setting caps rather than forfeiting credits.
19 The threat of forfeiture would simply encourage
20 inefficient energy usage to avoid the loss of earned
21 credits.

22 RMP proposes a time-varying ECR based on the
23 season and time of day, but readily admits that the ECR
24 is not designed to drive customer behavior. Instead, RMP
25 acknowledges that the gross disparity between export and

1 consumption rates will drive customers to consume rather
2 than export, including during periods of high demand. An
3 ECR structure that drives inefficient consumption,
4 incentivizes consumption during peak periods, and
5 discourages exports should not be adopted.

6 By contrast, Vote Solar's single-rate structure,
7 together with hourly netting, provides an actionable
8 signal to consumers to understand their usage and export
9 patterns, and that will encourage exports and benefit the
10 grid.

11 RMP also seeks to impose various fees on CG
12 customers that can only be described as punitive. RMP
13 would subject all new CG customers to a \$150 application
14 fee and a \$160 metering fee. No other RMP program
15 imposes such fees on customers, whether fees for
16 applications, meter upgrades, new meters, or meter
17 reprogramming.

18 Significantly, Dr. Lee will outline how these
19 fees, when combined with the low ECR RMP advocates, make
20 it so customer generators would, for several years, be
21 paying RMP for the privilege of exporting energy back to
22 the grid, which RMP would then sell to other ratepayers
23 at full retail rate.

24 In summary, the evidence supports reinstating a
25 net metering program or setting an ECR that exceeds RMP's

1 current retail rate. The quantifiable benefits of CG
2 exports exceed 24 cents per kilowatt hour. The evidence
3 in the record does not support the assumptions of RMP
4 that any subsidies run to CG generators. The DPU and the
5 OCS rely upon the assumptions and conclusions of RMP
6 without independent analysis. Likewise, there is no
7 justification for this Commission to adopt the
8 unreasonable rate features RMP proposes.

9 Adopting RMP's proposal would lead to a massive
10 subsidy flowing from CG customers and would put the
11 future of CG energy in Utah in jeopardy.

12 Vote Solar has supported its proposal with
13 substantial expert evidence, and its rate comports with
14 the principles of equitable rate design.

15 My opinion is that the Commission should
16 determine whether the benefits of net metering exceed its
17 costs, conclude that they do, and accordingly, restore a
18 net metering program.

19 I thank the Commission for its time, and I am
20 ready for questions.

21 **Q. Thank you.**

22 MS. SELENDY: Mr. Chair, Vote Solar tenders
23 Mr. Constantine for cross-examination at this time.

24 CHAIRMAN LEVAR: Thank you, Ms. Selendy.

25 I'll go to Mr. Holman first.

1 Do you have any questions for Mr. Constantine?

2 MR. HOLMAN: I have no questions. Thank you,
3 Chair Levar.

4 CHAIRMAN LEVAR: Thank you, Mr. Holman.

5 I'll go to Mr. Mecham next.

6 Do you have any questions for Mr. Constantine?

7 MR. MECHAM: I don't. Thank you.

8 CHAIRMAN LEVAR: Okay. Thank you.

9 I will go to Mr. Snarr next.

10 Do you have any questions for Mr. Constantine?

11 MR. SNARR: Yes, thank you. I have just a few
12 questions, if I might.

13

14 CROSS-EXAMINATION

15 BY MR. SNARR:

16 Q. Good afternoon, Mr. Constantine.

17 A. Good afternoon, sir.

18 Q. You're familiar with the prior net metering
19 docket that gave rise to this exported energy credit
20 proceeding, aren't you?

21 A. I am familiar with it, yes. I was not a
22 participant.

23 Q. Okay. But you are familiar that in connection
24 with that proceeding, there was this settlement
25 stipulation that was submitted and approved by the

1 Commission; is that right?

2 A. Yes, I am.

3 Q. And I am aware that Vote Solar was not a
4 signator of that settlement; is that correct?

5 A. That is correct.

6 Q. Isn't it true that Vote Solar did not appeal or
7 legally challenge that Commission order?

8 A. Subject to check, I believe we did challenge the
9 elements of it. But the order itself, no, I don't
10 believe we appealed or challenged that.

11 Q. Okay. So you recognize that this proceeding is
12 being conducted consistent with the findings made by the
13 Commission in approving that settlement stipulation;
14 isn't that correct?

15 A. Yes, that is my understanding.

16 Q. Okay. Let me look -- I apologize. I've got
17 Line 539, and I don't recall now which version of your
18 testimony. But you talk about the principle of
19 gradualism. Let me just focus on that with you.

20 Isn't it true that no existing customers who are
21 provided energy -- who are providing energy exports to
22 the Rocky Mountain system will see any rate change from
23 this proceeding?

24 A. Yes, and that's consistent with good rate design
25 principles. Absolutely.

1 Q. Okay. In your surrebuttal testimony at Lines
2 174 through 180 -- I'll let you get to that.

3 A. You said Lines 174 to 180 in the surrebuttal?

4 Q. Yes, that's right.

5 A. Sorry. I was looking at rebuttal. 174 to 180.
6 I believe I am there.

7 Q. Okay. You make some comments there that I'm
8 just going to summarize. But you state that the value of
9 CGT exports meets or exceeds average retail rates by as
10 much as 600 percent; is that right?

11 A. That is in the -- are you referring to the table
12 or to a particular line?

13 Q. I thought it was in the lines that I referenced
14 there.

15 And that even under net metering, it is customer
16 generators who produce at least 24.17 cents of benefits
17 per exported kilowatt hour, thereby subsidizing Rocky
18 Mountain and other ratepayers.

19 Are those statements consistent with your
20 testimony there?

21 A. One moment. I'm just reviewing them to make
22 sure.

23 Yes, those are consistent in my testimony, yes.

24 Q. All right. Your proposal is that customer
25 generators should be paid at least twice as much as --

1 well, some customers are paying in their rates; is that
2 correct?

3 A. No, that is not correct. Our primary proposal
4 is to return to net metering in retail.

5 Q. Okay. I appreciate that clarification.

6 You indicate at Line 184 of your surrebuttal
7 testimony, you quote a report that indicates that if
8 solar plus storage were allowed to compete in an
9 all-source RFP, they could bid in lower net cost to the
10 utility; is that correct?

11 A. That is correct.

12 Q. Are you aware of any solar plus storage
13 providers who have tendered a bid in one or more of Rocky
14 Mountain's RFPs?

15 A. I don't believe that I have offered any
16 testimony in regards to that. I'm vaguely aware that
17 that is true. But if you have specific instances, I
18 would be happy to research them. But that is not --

19 Q. I'm just wondering if you are aware of any
20 source plus storage providers that have participated in
21 past Rocky Mountain Power RFPs or the one they have
22 currently outstanding?

23 A. I am not.

24 Q. Okay. Is it your contention that if someone, a
25 storage plus -- a solar plus storage resource were to bid

1 into one of those RFPs at 24 cents that you think they
2 would become a winning bidder?

3 A. It would depend on the attributes that the RFP
4 was seeking.

5 Q. All right. Now, when a Rocky Mountain customer
6 moves to solar energy, there's a decline in the kilowatts
7 that Rocky Mountain is allowed to charge for; is that
8 correct?

9 A. I'm sorry. Could you repeat that question?

10 Q. When a Rocky Mountain customer goes with solar
11 energy, there's a decline in the kilowatts that Rocky
12 Mountain is allowed to charge for in its rates; isn't
13 that correct?

14 A. I believe you mean there's a reduction in the
15 kilowatt hours that that customer would consume and would
16 therefore have to pay RMP for.

17 With that understanding, I would agree. The
18 customer is able to reduce their demand from the system
19 and also consequently reduce the cost of serving that
20 customer.

21 Q. All right. And yet, the Rocky Mountain system,
22 which is composed of transmission, distribution, and
23 generation facilities, must still be maintained in order
24 to serve its customers generally, and including the
25 customer who has now gone to solar; isn't that correct?

1 A. That is correct. The system must be maintained
2 over a long period of time with many, multi-decadal
3 assets.

4 Q. All right. Let me have you -- I reference now a
5 comment you made at Line 121 of your surrebuttal
6 testimony.

7 A. Still in the surrebuttal, sir?

8 Q. Yes.

9 A. 121, you said?

10 Q. Yes.

11 A. Thank you. I'm there.

12 Q. You assert that the OCS has unbending loyalty to
13 Rocky Mountain and its shareholders.

14 Have I characterized that phrase right?

15 A. That is what it says in the testimony, yes, sir.

16 Q. All right. Isn't it true that in this
17 proceeding, the OCS has moved away from its use of the
18 Rocky Mountain GRID modeling to accept the EIM data that
19 was initially suggested as an alternative by Vivint
20 witness, Mr. Worley?

21 A. They have certainly suggested changes in their
22 testimony in response to other participants.

23 Q. And isn't it also true that OCS has accepted
24 Vote Solar's suggestion in this proceeding that secondary
25 transformer losses ought to be considered in determining

1 the export credit rate?

2 A. I think it would be hard to not accept that
3 position. In any case, it doesn't speak to any of the
4 characterizations in my testimony.

5 Q. It distinguishes the OCS's position from the
6 Rocky Mountain position, and that's the point I'd like to
7 make here.

8 Let me move to another point here. Isn't it
9 true also that in this proceeding, the OCS has suggested
10 that in valuing energy export during peak daytime hours
11 that the market caps that Rocky Mountain has
12 traditionally used ought to be removed?

13 A. I believe -- it's not my testimony, but I
14 believe that that is correct subject to check.

15 Q. Are you aware of the position that OCS has taken
16 in Rocky Mountain's currently-filed general rate case
17 proceeding?

18 A. No, I am not.

19 Q. Would you be surprised to understand that Rocky
20 Mountain has requested a rate increase of some
21 \$98.4 million, including a 10.2 rate of return on equity?

22 A. That would be new information. I don't know if
23 I would characterize my reaction as surprised.

24 Q. Well, would you be surprised that the OCS has
25 requested, instead, a rate decrease of \$59.3 million and

1 a suggested 9.0 rate of return in that rate proceeding
2 instead?

3 A. Again, new information. But I'm -- surprised or
4 not surprised is irrelevant. It's not -- it's not how I
5 would characterize my reaction. There's always new
6 information to be had. And there are plenty of reasons
7 why those recommendations might be made that still
8 comport with returns to RMP shareholders or not.

9 Q. All right. Do you think that a difference of
10 \$157.7 million -- I'll let you think about that subject
11 to check -- in positions in the general rate case really
12 supports your assertion that OCS has unbending loyalty to
13 Rocky Mountain?

14 A. Again, I fail to see how the specific numerical
15 swing one way or the other affects the loyalty to RMP's
16 shareholders. I also don't think this is a material part
17 of the evidence that we're presenting about the value of
18 ECR in this case.

19 Q. That concludes my question. If you're more
20 comfortable, I'll let you retract the statement that you
21 made in your surrebuttal on Line 121.

22 MR. SNARR: And with that, I'll submit it.

23 THE WITNESS: Thank you.

24 CHAIRMAN LEVAR: Thank you. For your questions,
25 Mr. Snarr.

1 I'll go to Mr. Jetter next.

2 Do you have any questions for Mr. Constantine?

3 MR. JETTER: I do have a brief set of questions
4 for Mr. Constantine.

5
6 CROSS-EXAMINATION

7 BY MR. JETTER:

8 Q. Good afternoon, Mr. Constantine.

9 A. Good afternoon, Mr. Jetter.

10 Q. You testified in a variety of places within your
11 testimony that your conclusion, or the conclusion of the
12 Vote Solar witnesses as a group, is that the value of the
13 exports exceeds the residential retail bundled rate; is
14 that correct?

15 A. That is correct.

16 Q. And the conclusion that you draw from that is
17 that the benefits to the system exceed the cost?

18 A. That is correct.

19 Q. And for that reason, you conclude that the net
20 metering program should be reinstated; is that correct?

21 A. That is correct. That is one of the reasons
22 that we think the net metering program should be
23 reinstated.

24 But I think we also believe it comports well
25 with good rate design, with gradualism, with

1 transparency, simplicity, actionability, and a number of
2 other attributes.

3 Q. Okay. And how did you reach a conclusion that
4 the value of exports were less than the residential
5 retail rate? That would also necessitate a conclusion,
6 would it not, that the net metering program would not
7 be -- would not -- the value of the net metering program
8 would exceed the benefits?

9 A. I believe you used the word "necessarily," and I
10 would not agree with that.

11 But I think, in part, your question is if the
12 value of solar was significantly lower than the retail
13 rate, and if there weren't additional attributes of that
14 rate design that the Commission decided were important to
15 maintain, then you would -- you would expect us and would
16 expect any reasonable advocate to advocate for something
17 less than a retail NEM, I think the intent of that is
18 correct, and I would agree to that.

19 But I dispute that any value below the retail
20 would automatically disqualify or discount advocacy of a
21 retail net metering rate. I think there are a number
22 attributes and factors that go into deciding what the
23 rate design is for a particular customer demand on the
24 system or contribution to the system.

25 Q. Okay. And if you consider all of the attributes

1 that you've suggested and concluded that of the ones that
2 were going to be considered as part of the consideration
3 you could reach that conclusion, that the value of an
4 exported kilowatt hour or the value of a generated
5 kilowatt hour from a customer was less than the retail
6 rate?

7 A. Certainly. Based on evidence in the record and
8 qualified analysis, if that was the conclusion and that
9 was the preponderance of the evidence --

10 Q. Okay. Thank you. I'm going to shift gears just
11 a little bit here.

12 You're aware, are you not, that utility scale
13 solar facilities exist?

14 A. Yes.

15 Q. And that it's fairly consistent with recent
16 practice throughout the United States that --

17 I guess, would you dispute that if Rocky
18 Mountain Power were to open a request for proposal for
19 utility scale solar facilities that they would receive
20 competing bids for those facilities?

21 A. I think that's a -- I think that's a defensible
22 position, yes.

23 Q. Okay. And would it be fair to also -- would it
24 be accurate that as a general practice in power purchase
25 agreements, as a result of those requests for proposal,

1 the solar facility would sell energy to Rocky Mountain
2 Power?

3 A. That might be one of the elements of the RFP or
4 the proposal, certainly.

5 Q. And certainly the utility scale solar facility
6 could provide energy?

7 A. Absolutely.

8 Q. Okay. And it could also provide generation
9 capacity; is that correct?

10 A. Certainly. And both of those would be at a
11 long-term set rate established in their bid with a
12 certain amount of ability to predict that over time.

13 Q. Okay. And something like the energy and the
14 generation capacity give a reason to believe that a
15 utility scale solar facility would differ in generation
16 meaningfully from a rooftop solar installation adjusted
17 for size?

18 Either I'm frozen, or I think you're frozen.
19 But I'm not sure which one.

20 A. (Inaudible).

21 CHAIRMAN LEVAR: We're losing the connection.
22 If there's a way you could possibly reset your connection
23 and start your answer again, Mr. Constantine, that would
24 be helpful.

25 THE WITNESS: Can you hear me now?

1 MR. JETTER: Yes, I can.

2 MS. SELENDY: We are trying to reach out to
3 Mr. Constantine off line --

4 THE WITNESS: Can you hear me now?

5 MS. SELENDY: We can but you're still frozen?

6 CHAIRMAN LEVAR: And I'll just mention, if we're
7 unable to resolve this, there is a call-in, audio-only
8 number by phone line if we can't resolve this in a
9 minute. But we should take a little time first to see if
10 we can get it resolved.

11 THE WITNESS: I do apologize. I am able to call
12 in, if that's necessary. But if you can hear me now and
13 see me, I will just continue.

14 MR. JETTER: For what it's worth, you're
15 streaming very well for me.

16 THE WITNESS: Okay. I can see all of you and
17 hear all of you, so I don't know what's happening on my
18 end. And I do apologize.

19 But if -- Mr. Jetter, if you would repeat the
20 question, I believe I understood it, and I believe I
21 repeated it back in my garbled Internet fashion. But
22 just let's make sure that I'm answering the question that
23 you asked.

24 Q. (BY MR. JETTER:) Yeah. And maybe I'll
25 rephrase to a simpler question.

1 Would you expect the generation profile of a
2 fixed solar array to be roughly comparable to the
3 generation profile of a rooftop solar array?

4 A. Yes.

5 Q. And you would also agree with me that the
6 utility scale solar array would provide similar carbon
7 compliance benefits as well as hedging benefits for fuel?

8 A. Not entirely. Do you want to parse those into
9 two different questions, or ...?

10 Q. Yeah. We can do that. I will ask those
11 individually.

12 Would you assume that a utility scale solar
13 generation facility would have no carbon compliance costs
14 associated with it?

15 A. For the energy generation?

16 MR. JETTER: Yes, that's what I'm asking, if you
17 can hear me. I lost your video stream.

18 MS. SELENDY: I think we'll ask Mr. Constantine
19 to dial in.

20 THE WITNESS: Again, my apologies. Can you all
21 hear and see me now?

22 MR. JETTER: I can. I don't know about the rest
23 of the participants, but yes.

24 MS. SELENDY: I can.

25 THE WITNESS: I don't know what happened. I'm

1 not showing any signal interference, so I apologize.

2 Shall I continue?

3 CHAIRMAN LEVAR: Do we need to repeat the
4 question? Do we need to have Mr. Jetter repeat his
5 question?

6 THE WITNESS: No. I believe we're breaking an
7 initial question into two parts. He was asking about the
8 carbon compliance cost of a utility scale solar plant as
9 compared to the carbon compliance avoidance of a rooftop
10 solar plant.

11 And I think as a broad question, yes, they both
12 are carbon-free resources. However, it is our contention
13 that the -- the costs, the carbon costs of balancing
14 resources at the grid level are often affected by other
15 carbon assets, spending reserves or other things, that
16 are needed to help deliver the solar energy to the load
17 pockets to balance that load. And those carbon assets
18 should count towards the carbon cost of the solar plant.
19 They're minor. They're probably small, but they're
20 there.

21 And at the distribution level, the inverters and
22 the very functioning of the system itself can actually
23 reduce the dependence on some of those other kinds of
24 ramping up of (inaudible) --

25 (Court reporter interruption.)

1 THE WITNESS: -- evaluated for this proceeding,
2 but it is, in fact, there. So they are largely the same,
3 I will concede that, but they are analytically different.

4 CHAIRMAN LEVAR: Mr. Constantine, we'll need you
5 to repeat some of that last answer. We lost you for part
6 of it.

7 It might be time for you just to call into the
8 phone number and continue that way.

9 THE WITNESS: Yes, sir. I will do that, and I
10 do apologize.

11 CHAIRMAN LEVAR: We understand it's out of your
12 control. These things happen in this environment.

13 THE WITNESS: So I'm going to -- if you will
14 give me just one moment, I will switch to the phone call,
15 the dial-in for this. But I will maintain this video
16 connection for now.

17 CHAIRMAN LEVAR: Ms. Selendy, I think I just cut
18 you off inadvertently. Were you trying to say something
19 to me?

20 MS. SELENDY: No, I was going to say the same
21 thing, Mr. Chair. I think that will make things go more
22 smoothly. I know that these things happen. But I think
23 with the phone, and if he can keep the video on, that
24 should work fine.

25 CHAIRMAN LEVAR: Okay. I'll just say that we're

1 fortunate that that this has happened so infrequently the
2 last three days. So we'll deal with this one. Thank
3 you.

4 THE WITNESS: I do apologize. It has not
5 happened in any previous tests of all of this up until
6 now. So one moment. I'm dialing in.

7 CHAIRMAN LEVAR: And probably you need to
8 mute -- once you're connected on the phone, make sure you
9 mute your Internet connection.

10 (Pause in the proceedings.)

11 THE WITNESS: Okay. Again, apologies. And I
12 will repeat the answer as succinctly as I can.

13 What I was trying to say is that there is a --
14 it is technically a slight difference in the carbon
15 impact of a central utility scale plant in a portfolio
16 that includes carbon assets for balancing services as
17 opposed to an on-site, close-to-load solar resource. You
18 will avoid some of those balancing and integration costs
19 by having the solar close to load. But I believe that
20 that difference is very small.

21 And so, in effect, I will agree with you that
22 the carbon cost of the energy generated at a utility
23 scale plant is probably similar to that of a rooftop.

24 **Q. (BY MR. JETTER:) Okay. And to the extent that**
25 **the utility scale solar facility might have a battery**

1 associated with it or combined with it, that would
2 potentially even reduce the difference between the two
3 in that respect of the balancing emissions?

4 A. Batteries, in general as an enhancement to solar
5 production, are certainly valuable and can perform a
6 number of functions that help.

7 Q. All right. Thank you.

8 And then with respect to the question of a fuel
9 price hedge, a utility scale solar facility would have a
10 zero marginal fuel cost; is that accurate?

11 A. That is accurate.

12 Q. Thank you. Those are all of my questions.
13 Thank you for your time today. I appreciate it.

14 A. Thank you, Mr. Jetter.

15 CHAIRMAN LEVAR: Thank you.

16 We'll go to Ms. Wegener now.

17 Do you have any questions from Rocky Mountain
18 Power?

19 MS. WEGENER: I do. Thank you.

20
21 CROSS-EXAMINATION

22 BY MS. WEGENER:

23 Q. Good afternoon, Mr. Constantine.

24 A. Good afternoon, Ms. Wegener.

25 Q. I think I heard you earlier tell Mr. Snarr that

1 you agree that the 114 order, the order that closed the
2 114 docket, has some language in there that controls the
3 scope of this proceeding; is that right?

4 A. That is correct.

5 Q. And specifically -- and I am reading from
6 page 20. I don't know that it's necessary for you to go
7 there. I just wanted you to know that's what I'm reading
8 from, or quoting from.

9 A. Page 20 of the --

10 Q. Of the order.

11 A. -- Commission order? Yes, thank you.

12 Q. Where it says that, "the Company will file an
13 application to initiate the export credit proceeding" --
14 and I would represent that's this proceeding -- "seeking
15 findings from the PSC to determine the compensation rates
16 for exported power from customer generation systems,
17 including all customers after the expiration of the
18 grandfathering period and transition periods,
19 respectively."

20 Does that sound right? Looks like you've got it
21 in front of you.

22 A. I do not have it in front of me, but I --
23 subject to check, that sounds right to me.

24 Q. Okay. I notice in your direct testimony on
25 Lines 173 to 174 -- and again, I'm just going to have a

1 very brief reference to this. But you're welcome to look
2 it up. You state that this docket is limited to the
3 appropriate compensation method for CG export.

4 So you're talking about the compensation method
5 in your testimony, and that's what you view the scope of
6 this docket to be; is that right?

7 A. It is both the method and the value, to be
8 clear.

9 Q. Okay. I believe, though, if the -- would you
10 agree with me that if we're setting the compensation
11 rates, that would just be the value component that you
12 just mentioned, not the method?

13 A. That is correct. The rate would be the value
14 component, and the rate design would be the method.

15 Q. Okay. Thank you. I want to talk a little bit
16 about Vote Solar's research, load research study, and
17 that's in your direct testimony. I believe you adopted
18 that testimony from your predecessor; is that right?

19 A. Yes, that is correct, in large part. Although
20 that testimony was not -- I believe you're referring to
21 our revised affirmative testimony?

22 Q. That is what I'm referring to, your revised
23 affirmative testimony.

24 A. Yes.

25 Q. So if you are less familiar with this and need

1 to kick it to Dr. Lee, let me know.

2 Vote Solar conducted its own load research study
3 to determine the export profile of customer generators,
4 didn't it?

5 A. That was one of the objectives of that load
6 research study, yes.

7 Q. Okay. And you did that because you weren't
8 satisfied with the Company's proposal about the load
9 research study; is that right?

10 A. That is correct. In Phase I, Vote Solar and its
11 experts offered criticisms of that design of that study.
12 And since both of those efficiencies in the first load
13 research study continued in the one that is
14 appropriate -- or that is being used here, I believe we
15 advocated for our own load research study that better
16 addressed those deficiencies.

17 Q. You are aware that, ultimately, Rocky Mountain
18 Power just used the entire participant pool production
19 data from Schedule 136 customers; is that right? You're
20 aware of that?

21 A. I'm aware that the Company has claimed that
22 their use of census data from the 136 customers somehow
23 justifies the other results. As other witnesses, other
24 expert witnesses on the Vote Solar team can testify to,
25 we still maintain there are deficiencies of that load

1 research study and the way that it was characterized.

2 Q. So you dispute that the Company used the 136
3 production data? Or you dispute that it was proper to
4 use that data?

5 A. I dispute neither of those things, except the
6 second, we don't know that that led to a proper study
7 design or conclusions.

8 Q. Okay. But you would agree that Rocky Mountain
9 Power did not use the analysis that Mr. Davis performed
10 in creating its profile?

11 A. Which profile are you referring to?

12 Q. The export profile that we used as the basis for
13 the rates.

14 A. Could you clarify what you're asking me to agree
15 to?

16 Q. Just that the Company did not rely on Mr. Davis'
17 analysis of the data.

18 A. If the Company says it does not rely on the
19 data, then I would not dispute that.

20 Q. Thank you. To get your sample for your load
21 research study, participants received a mailer; isn't
22 that right? That was the first step? And then after
23 they received the mailer, they were directed to the
24 website; is that right?

25 A. That is my understanding, yes.

1 Q. And then they had to sign up and provide some
2 information on the website?

3 A. Also subject to check, but correct.

4 Q. Is it possible that only customers that were
5 particularly enthusiastic about solar might have gone to
6 sign up for the study?

7 A. That is well outside of my area of expertise.
8 We didn't do any kind of public research to determine
9 whether they were certain -- a certain profile of
10 customer. Our attempt was to reach all solar customers.

11 Q. Okay. Right. And the mailer went out to all
12 customers, right?

13 A. Yes.

14 Q. But only certain customers responded?

15 A. Well, in excess of 3,000 customers, yes.

16 Q. But 3,000 out of about, like, 34,000, 35,000,
17 somewhere in that, responded to the mailer?

18 A. It's more than 3,000.

19 Q. More than 3,000?

20 A. Closer to 4,000.

21 Q. Okay. And so I'm saying those that responded
22 may have been more enthusiastic about solar.

23 And isn't it possible that if that were the
24 case -- I'm not saying that is the case. It sounds like
25 you didn't do any research to determine whether there was

1 a particular -- particular characteristics associated
2 with the type of person who might respond to a mailer.

3 But if it were true that it was enthusiastic
4 customers that responded, isn't it possible that that
5 group might share some characteristics, such as larger
6 solar systems or a desire to manage their on-site
7 consumption in a different way than the broader group of
8 solar customer generator -- customer generation -- I'm
9 sorry, of customers who generate their own electricity?

10 A. I would not be in a position to make any kind of
11 judgment on that.

12 Q. Okay. And it's true Vote Solar wasn't able to
13 study all of the data from the opt-in customers who
14 responded; isn't that right?

15 A. I'm sorry, could you repeat that question?

16 Q. Vote Solar wasn't able to analyze all the data
17 for all of the opt-in customers?

18 A. It is true that we did not use every customer's
19 data because we experienced not only problems with the
20 corresponding data from RMP, which was sent to us
21 mislabeled initially, but we also faced difficulty
22 matching each customer to a significant customer load
23 profile from RMP data. And only where the information
24 was complete could we viably and reliably include that
25 information.

1 But I do have to say that the expertise on this
2 matter on how that information was used and processed is
3 not mine. It is that of our other expert witness,
4 Dr. Lee. And I think that question would probably be
5 best put to him, if you're seeking clarification on how
6 the customers were selected.

7 Q. Okay. Thank you. My question actually -- just
8 one more question on this, and you can kick this to
9 Dr. Lee if it's appropriate.

10 But what I was getting at is, isn't it true that
11 you could only analyze data from customers that had a
12 specific type of inverter on their system?

13 A. No, that is not true.

14 Q. Okay. I thought it said in your testimony that
15 there were three major producers of inverters, and you
16 could only read the data from two of them.

17 Did I misread that?

18 A. That doesn't have to do with the inverter, it
19 has to do with communications and API and other issues.

20 Q. Okay. So you could only get the data from
21 customers that had those two types of inverters, but
22 it -- I'm sorry, I don't think I understand your
23 clarification.

24 A. So your first comment was that it was only one
25 type of inverter; and, in fact, that's not true. You

1 just clarified that there were two inverter
2 manufacturers. And we're not talking, therefore, about
3 the type of inverter but an inverter manufacturer and --
4 instead of customers who had data through various portals
5 or API, the interface that we could use to match the
6 information. And that was the issue, not the issue of
7 the type of inverter.

8 I'm clarifying that you're asking about the type
9 of inverter, trying to make the connection, I believe --
10 and I don't want to put words in your mouth -- but trying
11 to make a connection between a certain type of
12 installation and the profile of that generation and the
13 conversion through the inverter. But I don't believe
14 that has anything to do with the sampling that was
15 available in our load research study.

16 **Q. Well, if you excluded all of the customers who**
17 **had a certain manufacturer, one certain manufacturer of**
18 **inverter, then that would exclude a set on a criteria**
19 **that's sort of outside the scope of a customer use**
20 **profile, and you'd need to account for that in your**
21 **study; is that right?**

22 **A.** I believe the premise of your question is
23 incorrect, that the usage pattern, the generation
24 patterns would be materially affected by the brand of
25 inverter that is required -- all of these inverters are

1 required to comply to certain standards and largely
2 function in the same way, and would not, by any
3 reasonable observer, produce distinction between the
4 profiles that are useful and the load research study
5 that we're talking about.

6 Q. Well, what if two different solar companies sent
7 out a fleet of summer salespeople. And one fleet went to
8 one particular location in Utah, one area neighborhood
9 that had -- and had a very good success rate in that
10 neighborhood. And they used one manufacturer. And they
11 were just sort of the neighborhood for those salespeople.

12 And another manufacturer, or another -- another
13 installer that typically used a different manufacturer
14 went to a different area.

15 Then might it be that the inverter could be more
16 represented in one geographic area that has a different
17 profile than in another geographic area?

18 A. Are you presenting a hypothetical? Is there a
19 question?

20 Q. I am. Yes, I'm presenting a hypothetical.

21 So we've got two solar providers that send out
22 their summer sales fleet, but they go to different
23 neighborhoods. And one of them is in northern Utah, and
24 one of them is in a more central location in Utah.

25 And each of these installers uses a different

1 brand of inverter. So say one of them uses the Solar
2 Edge inverter, manufactured inverter. There may be a few
3 different kinds of inverters, but they like Solar Edge,
4 and they're in northern Utah.

5 But the sales force that goes to a more central
6 Utah location that possibly has more sun uses the SMA
7 brand inverter. And they each have a lot of success in
8 their respective areas.

9 Isn't it possible that the brand of inverter
10 could affect your sample, if my hypothetical were right?

11 A. Only if you ignored the geographic distribution
12 of the systems that you put into your sample. If you
13 didn't properly weight the strata, the geographic
14 distribution, all of the different factors that were
15 weighed in a load research study. If you deliberately
16 chose to mask a portion of the state or a certain profile
17 of customer, then your hypothetical might be valid.

18 No evidence is presented here that that happened
19 or that it would happen or that your hypothetical is even
20 probable in a random distribution of customers who chose
21 to join in the LRS.

22 Q. Thank you. So you're saying that there could be
23 an effect, but it's a hypothetical that isn't in evidence
24 here?

25 A. That's correct.

1 Q. Is that right? Thank you.

2 Yesterday, did you hear Mr. Worley's testimony?

3 A. I did.

4 Q. And did you hear him testify that the primary
5 purpose of customer generation is for customers to offset
6 their own usage?

7 A. Subject to check, I believe that was one of the
8 general themes.

9 Q. And would you agree with that assertion?

10 A. I would agree. The primary purpose is to offset
11 their energy bills, yes.

12 Q. And you're familiar with Utah's net metering
13 program, correct?

14 A. I am. In a general sense.

15 Q. Okay. So you might not be aware of this, but
16 are you aware that the statutory definition of "customer
17 generation systems" in Utah includes that it is intended
18 primary to offset part or all of the customer's
19 requirement for electricity?

20 A. Yes. That is a standard definition of "customer
21 generation."

22 Q. Would you agree that a rate of \$24.17 a kilowatt
23 hour would incentivize customers to oversize their
24 systems?

25 A. If it was \$24.17 per kilowatt hour, yeah.

1 **Q. Yeah, I'm sorry. No, obviously, I got -- 24**
2 **cents. I got my numbers wrong, units wrong. Got it.**

3 A. It's quite all right. I'm sorry. I don't mean
4 to laugh at your expense. On that case, it's an easy --

5 **Q. Well, they're laughing in the room I'm in, too,**
6 **if it makes you feel better.**

7 A. Okay. Fair enough. Then I'm not as jaded as I
8 might seem.

9 Do I think that that would cause them to
10 oversize their system? Absent any cap or control at the
11 point of interconnection, they would still be subject to
12 the size of their roof, the size of their property, the
13 amount of cash they had to invest in the capital
14 infrastructure that a solar plant represents with only
15 the hope of recouping or recovering those costs over the
16 long life of their system.

17 I would say that an over price on any asset
18 would encourage overconsumption of that asset, and we
19 don't assert anything different here.

20 **Q. So, I'm sorry. Was your answer the 24 --**

21 A. -- cents a kilowatt hour.

22 **Q. Now I'm looking at my notes and trying to get**
23 **it -- 24.17 cents a kilowatt hour would not incentivize**
24 **customers to oversize their system or would?**

25 A. I don't believe that it would on its own.

1 **Q. Okay.**

2 A. They would need to have the resources to
3 oversize their system. They would need to -- you would
4 need to prove that the 24 cents was beyond the value of
5 that solar system, the generation from that solar system.
6 And we believe we set a fair value on that.

7 But I would note that that's not our primary
8 recommendation. You seem to want to focus on that. That
9 is our value stack, which we have introduced evidence to
10 support. And each of those pieces of evidence is before
11 the Commission for consideration.

12 But our primary intention is to link the size of
13 the system to the customer load, to link the operation
14 and the consumption in the household to the consumption
15 signal, and to make sure that proper rate making design
16 and rate design is in place. That's why we recommend the
17 return to a net metering program, which is our primary
18 recommendation. It is not primarily 24.17 cents per
19 kilowatt hour.

20 **Q. Would you agree that historically about half of**
21 **a customer's generation is consumed on site?**

22 A. Historically, I think that's a good ballpark
23 number. That number varies. It depends on weather, it
24 depends on building types, all sorts of things. But
25 somewhere between 40 and 50 percent is probably a typical

1 export profile. Again, we have data in the record which
2 our experts have testified to what that export profile
3 looks like.

4 Q. And you'd agree that a customer offsets the same
5 amount of their utility bill for generation consumed on
6 site, whether they're on Schedule 135, 136, or the
7 proposed Schedule 137?

8 A. Sorry. Could you repeat that question? You're
9 asking me about the kilowatt hour consumption?

10 Q. Yes. You'd agree that a customer offsets, so
11 they don't -- they don't receive from the system and
12 don't pay the Company -- the same amount solar-wise under
13 each of the three schedules that are at issue? So the
14 135 net metering schedule, the current transition program
15 in effect, and the proposed 137?

16 A. I can partially agree to that. We believe that
17 Schedule 137 would actually distort consumption, would
18 distort the customers' incentives, and might lead to
19 overconsumption during some periods contrary to the
20 beneficial and efficient operation of those systems and
21 in combination with their load. So no, I can't --

22 Q. I understand your position. But what I'm saying
23 is that if a customer offsets generation at 3:00 in the
24 afternoon under any schedule. If they use their own
25 energy and so they don't have to purchase from Rocky

1 Mountain Power, it's the same effect on their bill, which
2 is no retail rates for that electricity because they
3 generated it themselves?

4 A. Yes.

5 Q. Okay.

6 A. So you're asking me if on-site consumption is
7 valued the same in all three proposals?

8 Q. Umm-hmm.

9 A. Is that what you're asking me? Yes.

10 Q. Yes.

11 A. I agree with that, yeah.

12 Q. And so absent maybe some distortions that it's
13 your position takes place under Schedule 137, the
14 proposed export credit rate only affects the part of the
15 bill that relates to exports, not on-site consumption?

16 A. I think theoretically that's true. The feedback
17 mechanism to how people would size their load, but would
18 there even be a solar industry available for them to
19 partake? Those are all open questions that are part of
20 our testimony here.

21 But yes, the ECR is -- the ECR is about the
22 exported credits, the credit for exported electrons, most
23 of which flow directly to neighbors on the same circuit.

24 Q. Okay. You'd agree with me that customer retail
25 electric rates are subject to change over time; is that

1 right?

2 A. Consumption rates, yeah.

3 Q. Umm-hmm. But the rates that customers pay the
4 utility changes over time as well?

5 A. It does. According -- if we're doing our job
6 correctly as participants in this sector, gradually and
7 transparently and with good foresight.

8 Q. That changes over time.

9 And customers don't get to lock in their retail
10 rates?

11 A. I think as a general rule, that's a fair
12 assertion.

13 Q. And in your experience -- and I know it was
14 mentioned yesterday Vote Solar doesn't sell solar panels
15 itself.

16 But in your experience, isn't it true that
17 solar -- rooftop solar installers will often project what
18 rate increases might go into effect to help customers to
19 calculate their savings from installing a system?

20 A. It is true that a -- based on
21 nationally-available models, based on commonly-available
22 information, you can make a spreadsheet projection, a
23 simple calculation about expected increase in retail
24 rates over time. You cannot make minute or granular
25 distinctions about wholesale markets or other kinds of

1 pricing that all bundle together to make that future
2 projection true or close to true or accurate.

3 **Q. Okay. But you can make a projection?**

4 A. You can make a simple projection about retail
5 rates, yes.

6 **Q. And similarly, although it might be a more**
7 **complicated projection, it would be possible to make a**
8 **projection about the price of energy going forward,**
9 **right?**

10 A. Are you asking me about the average price of
11 energy or about the annual prices in a particular
12 clearing market?

13 **Q. Well, let's just talk about the average price of**
14 **energy first.**

15 **You'd agree that we can make projections based**
16 **on what we know now about what the price of energy might**
17 **be going forward?**

18 A. It would be possible for a sophisticated analyst
19 to do that. I think it's beyond the ken of most
20 residential participants in the CG program, or really
21 most residential consumers in general. They rely on the
22 utility to do exactly that. That's the utility's job is
23 to provide insight and foresight into the price of energy
24 and to make a stable rate for those customers. That's
25 why we have the regulated system that we do. We've

1 decided that it's not really the place of individual
2 consumers to make granular analyses and determinations
3 about the future price of energy.

4 **Q. So assuming we have a simple formula for how to**
5 **figure out what the export credit rate is and the avoided**
6 **energy is, couldn't a manufacturer apply that formula and**
7 **make some sort of projected forecast about what the**
8 **future avoided cost of energy might be?**

9 A. What do you mean by a "simple formula"? What
10 would that look like? I'm sorry, could you clarify that?

11 **Q. Well, the formula proposed by Mr. MacNeil in**
12 **this case, for instance, looking back at the EIM prices.**

13 A. So I would not consider that to be a simple
14 formula that is acceptable by retail customers or retail
15 installers necessarily. So no, I guess my answer would
16 be no, if that's your example of a simple formula.

17 **Q. Okay. Say we were able to come up with a simple**
18 **formula by whatever your definition is. Assuming it was**
19 **simple enough, a solar manufacturer could help make**
20 **similar projections like they make for the retail rates**
21 **for the avoided energy costs?**

22 A. They could make projections, I'm sure they
23 could. But the risk bands, all of the technology risk,
24 the financial risk, the regulatory risk, would now be
25 directly on the customer if that was the path that they

1 had to go. So you could make a projection, but your
2 error bands would be much larger than for what we would
3 expect just around the retail rate.

4 Q. All right. Thank you. We talked a little bit
5 earlier about incentives in 137, or at least you
6 mentioned it in answer to an earlier question.

7 You would agree with me that an increase in
8 solar production across the grid, so rooftop solar,
9 utility scale solar, means that it is important to
10 incentivize customers to use energy when the sun is
11 shining, right?

12 A. I'm sorry, where -- could you point me to where
13 I said that or where we discussed this sentence so far in
14 this proceeding?

15 Q. Oh, I'm just asking if you agree to the
16 statement that I just made.

17 A. Okay. Could you make it again? I'm sorry.

18 Q. Yes. That an increase in solar production,
19 either utility scale or rooftop, but an increase in solar
20 production as part of the resource mix on the system
21 means that it is important to incentivize customers to
22 use energy when the sun is shining when there's higher
23 solar production?

24 A. I think on an aggregate basis, that's true, and
25 that signal should be sent through a consumption rate.

1 That's right. And that's why we have peak and off-peak
2 rates. Off-peak rates are during the day when energy is
3 generally plentifully available. Peak rates, time-of-use
4 rates for consumption, in the evening to reduce strain on
5 the system when there's super-high demand.

6 Vote Solar would agree those are appropriate.
7 Individual consumption, the movement of individual demand
8 is really not the question here.

9 **Q. Okay. So you'd agree that incentivizing overall**
10 **to have consumption during times of production --**
11 **aligning consumption with production is an important goal**
12 **when it comes to solar-produced energy?**

13 **A.** I think flexible load is very important. It
14 should respond to signals from the grid. The issue is
15 not alignment with solar production, the issue is aligned
16 with the peaks and strains on the grid -- sorry, periods
17 of low peak and low strain on the grid. That's really
18 the big issue for rate design.

19 **Q. I've got an article. I emailed it to your**
20 **counsel right before lunch called, "Changes in utility**
21 **time-of-use rates for homeowners creates urgency for new**
22 **policies."**

23 **Did your counsel provide you with that at all,**
24 **or do you want me to put it up on the screen?**

25 **A.** I believe you're referring to a blog piece from

1 2017, and I have it. That's fine. You'd be welcome to
2 put it on the screen, if you'd like, but I do have it in
3 front of me.

4 **Q. And you said you co-authored this, right?**

5 A. I am listed as a co-author, yes. That is --
6 that refers to the fact that I made some contributions to
7 that article, yes.

8 **Q. Okay. So you're a co-author, but you might**
9 **abdicate full responsibility for the entire content?**

10 A. No, I have no reason to abdicate any
11 responsibility for that content.

12 MS. WEGENER: Okay. I would like to move to
13 admit this article as evidence in this. Would it be
14 Exhibit 1, Rocky Mountain Power Exhibit 1?

15 CHAIRMAN LEVAR: Ms. Selendy, do you have any
16 objection to that motion?

17 MS. SELENDY: We have no objection, Mr. Chair.

18 CHAIRMAN LEVAR: Okay. The motion is granted,
19 Ms. Wegener.

20 (Exhibit RMP Exhibit 1 was marked for identification.)

21 MS. WEGENER: Thank you.

22 **Q. (BY MS. WEGENER:) I want to focus on the**
23 **third page. There's a chart that I really liked. I**
24 **don't know if that was part of your contribution to this**
25 **article. But I thought this chart was helpful, the**

1 "Residential Energy Use Profile." So it's on page 3 of
2 the document that I sent out.

3 Do you have it in front of you?

4 A. I do.

5 Q. Let's go ahead and put that on the screen.
6 We're going see if we can get it on the screen. We'll
7 see how our technology works.

8 CHAIRMAN LEVAR: You know, why don't we go ahead
9 and take a break right now anyway, Ms. Wegener.

10 MS. WEGENER: Okay.

11 CHAIRMAN LEVAR: Why don't we recess for 10
12 minutes, return at approximately 2:40 Utah time.

13 MS. WEGENER: Okay. Thank you.

14 CHAIRMAN LEVAR: Thank you.

15 (A break was taken from 2:28 p.m. to 2:40 p.m.)

16 CHAIRMAN LEVAR: Okay. I think we'll go back on
17 the record and continue with Ms. Wegener's
18 cross-examination of Mr. Constantine.

19 Q. (BY MS. WEGENER:) Okay. I've got the chart
20 from page 3 of your article up for reference. And I just
21 wanted to confirm that the yellow part of that chart,
22 that's a typical solar production profile, right? The
23 typical times of day when solar is producing and the
24 amount that it's producing.

25 Would you agree with that?

1 A. Yeah, that's a smooth curve to represent that
2 profile.

3 Q. Okay.

4 A. Can you hear me okay, Ms. Wegener? I reoriented
5 my microphone. Am I still coming through clear?

6 Q. You are. For some reason, I can't see you
7 because the display has stopped projecting your picture
8 on the display that I have. But I think you're showing
9 up somewhere else. It works.

10 A. Okay.

11 Q. And the black line at the bottom is the typical
12 consumption of just your average Joe Schmoe, and it's an
13 illustrative assumption -- I know it's not like a profile
14 like what we've got in this case -- but the consumption
15 one might see with a residential customer; is that
16 accurate?

17 A. Correct.

18 Q. Okay. And this article in general --

19 A. In California.

20 Q. In California. Sure.

21 This article in general is supportive of
22 California's time-of-use pricing that encourages
23 customers to shift their consumption to when the sun is
24 shining, to this orange period; is that right?

25 A. I might characterize it slightly differently.

1 California's time-of-use rates are designed to
2 encourage customers not to consume during periods of peak
3 usage on the grid, peak strain on the grid.

4 It so happens that there is a solar resource
5 available and that many -- many, many solar customers
6 have solar generation during the day. It's also the case
7 that this is all in the context of a greater than
8 20 percent penetration of solar on the California grid.

9 **Q. Sure. And so you're saying that the way you'd**
10 **characterize it is to discourage consumption during peak**
11 **periods rather than to encourage consumption when the**
12 **price of electricity is lower?**

13 A. Well, it really depends on your perspective,
14 right? The Commission and grid operators want to
15 discourage consumption when it costs them the most to
16 provide for that consumption or when the strain is
17 greatest. So the intent of those time-of-use rates is to
18 discourage consumption during peak time.

19 The effect of those time-of-use rates is to
20 encourage customers to use energy when it is least
21 expensive. But we have to keep in mind that customers
22 use energy when it's convenient for them. They exercise
23 their own utility in this case. And typically, as you
24 can see from the spike there, in the dinner hours and the
25 post-school hours, that's when household consumption

1 tends to go up.

2 We should effectively look at commercial and
3 industrial use profiles on here as well, which tend to
4 have a slightly different profile that better matches all
5 of that solar production.

6 **Q. And you'd agree with me that -- I lost my train**
7 **of thought -- that with that high amount of solar**
8 **penetration in California that there is lower-cost**
9 **energy, and it happens to be cleaner solar energy during**
10 **this orange time on the graph, right?**

11 A. In general, it costs less to serve customers
12 during that midday peak. Of course, there are seasonal
13 variations. But I think as a general principle, what
14 you're suggesting is correct, that the more we get solar
15 and low marginal-cost resources into the mix, both
16 utility and customer, that we can provide customers with
17 lower-cost energy. I think that is a true idea that we
18 support, and solar is a part of that, solar batteries, as
19 this article was talking about.

20 **Q. And I notice on this chart -- and I know it's an**
21 **illustrative chart. But I notice that on this chart, the**
22 **time when there's a lot of solar production available,**
23 **the simple orange curve doesn't have a whole lot of**
24 **overlap with the time when customers are generally using,**
25 **when the peak load happens.**

1 **Would you say that's a fair characterization?**

2 A. Well, if you're talking about that peak and the
3 customer demand, it actually does occur within the period
4 of solar generation.

5 **Q. Within the period of solar generation, but at a**
6 **lower amount than peak solar generation?**

7 A. Yes. Yes. The late afternoon, especially for
8 south-facing systems, in the late afternoon, we'll start
9 to see it tail off in solar production, that is correct.

10 **Q. And so in the article, you are proposing**
11 **incentives -- or supporting, not proposing -- supporting**
12 **the time-of-use rates that would incentivize customers to**
13 **consume energy during the orange time period rather than**
14 **during this discharge blue hash period, right?**

15 A. We are incentivizing consumption signals,
16 time-of-use consumption rates, that is correct. The
17 context of this paper is part of the SGIP program, the
18 self-generation incentive program, which is a
19 long-standing program subject to many years of analysis.
20 And it is specifically designed to deploy assets like
21 batteries.

22 So this article is not in any way intended to
23 specifically advocate for or submit into testimony
24 anything about time-of-use consumption rates other than
25 that we think they are beneficial.

1 Q. Okay. Thank you.

2 Would you agree with me that the Company's
3 proposed Schedule 137 incentivizes customers to shift
4 their consumption to when the sun is shining?

5 A. No.

6 Q. Wouldn't it -- wouldn't it be a better deal for
7 a customer generator to use energy during times of high
8 production versus receiving the avoided costs for that
9 energy?

10 A. Yes. It would be -- under the proposal that RMP
11 put forward, customers would be better off self-consuming
12 the energy when and where it was applicable to their
13 daily lives.

14 Q. Okay. But the net metering in Vote Solar
15 proposals don't have any sort of incentives for customer
16 generators to consume energy during times of high
17 production; is that right?

18 A. Sorry. The net metering proposal is the Vote
19 Solar proposal. The value stack in our -- in the ECR
20 value stack is the other. So I just want to make that
21 distinction.

22 Q. Okay. But neither of those proposals,
23 regardless, would incentivize customers to shift their
24 consumption to high production time?

25 A. Well, to the extent that a net metering rate is

1 tied to a retail rate, and a retail rate, such as
2 Schedule 2 under RMP's service which is time-of-use
3 oriented and, in fact, peaks out at 18 cents a kilowatt
4 hour, yes. Anything tied to the retail rate, that --
5 that, in turn, retail rate encourages consumption at a
6 certain time or at the convenience of the grid, that
7 would, in fact, have that effect.

8 And that's precisely why we think the NEM
9 construct is so elegant, because it allows rate makers,
10 like this Commission, to set consumption rates that do
11 incentivize proper, efficient, economic, and
12 environmental consumption patterns on the part of
13 consumers, a clear, easy signal for them to follow.

14 **Q. Okay. So what you're saying is that the NEM**
15 **program would allow future rate design, but you would**
16 **acknowledge that NEM, by itself, doesn't provide any sort**
17 **of incentive for customers to shift their usage pattern?**

18 A. Net metering tied to retail rates is simply an
19 add-on to the rate. It's part of good rate design, yes.

20 **Q. Okay.**

21 A. In a nutshell --

22 **Q. But you do agree with what I'm saying on that**
23 **last, that -- that the NEM program --**

24 A. I would agree --

25 **Q. -- incentivized a shift of consumption to align**

1 with production?

2 A. On its own, net metering does not provide that.

3 Q. Thank you.

4 A. Yes.

5 Q. Okay. I heard in your summary that you
6 mentioned that the Company's IRP shows that high
7 penetration means lower rates for customers; is that
8 right?

9 A. I was referring to PacifiCorp's IRP, the
10 Sensitivity Scenario 5, which showed a net lower-cost
11 portfolio in the presence of high penetrations of, they
12 call it "private generation," but it's really customer
13 generation in that case.

14 Q. Are you aware that the IRP does not identify
15 customer generation as a least-cost resource?

16 A. Am I aware of that? I would have to check that.

17 Q. Okay. And you weren't involved in developing
18 the IRP, right?

19 A. I was not.

20 Q. And so maybe you're not as familiar with the IRP
21 as, say, some of our witnesses are. So perhaps these
22 questions are actually better addressed by a Company
23 witness.

24 But I will say that to the extent -- to the
25 extent a scenario shows a lower-revenue requirement, so

1 an overall amount of revenue that the Company is required
2 to get, would that necessarily mean lower rates for
3 customers? And if you don't know the answer, I can think
4 about putting it on rebuttal. But I just -- I'm just
5 checking to see if you are aware.

6 A. Well, mathematically, a lower revenue
7 requirement would lead to lower needs for a collection,
8 which would then be allocated to customer classes. And
9 if it was a smaller amount of revenue allocated across
10 those classes, the logical conclusion would be that it
11 would lead to lower rates.

12 The specific mechanics, or instance, that you
13 might be referring to, I don't know. But that is -- that
14 is a generalized conclusion that one could make, that
15 lower revenue requirements would lead to lower rates.

16 Q. Well, isn't it true, though, that if there is a
17 high amount of -- of solar penetration so that certain
18 customers are no longer paying retail rates, that
19 actually a lower revenue requirement could result in a
20 higher rate for non customer generators?

21 A. No, that is not necessarily true.

22 Q. Well, could it be true?

23 A. Is it possible that the revenue requirements
24 spread over fewer kilowatt hours?

25 Q. Yes.

1 A. And you're asking in the long-term?

2 Q. I'm asking if --

3 A. Or are you asking -- are you asking today?

4 Q. No. I'm asking if there's a high level.

5 Because the scenario that you referred to in your
6 summary, I believe, is the high customer generation
7 penetration scenario.

8 So in that scenario, even if there's a lower
9 revenue requirement, isn't it possible that the overall
10 rate for non customer generators end up higher?

11 A. I think it's verily unlikely because the revenue
12 requirement is made up of all the assets that are
13 required, including energy generation, to provide the
14 level of service. And if the total requirements for that
15 service are lower -- and that means that the price would
16 have to be spread out over each kilowatt hour; that is,
17 the sum of all of those services would be lower, then
18 that should lead to lower rates. And if it doesn't, then
19 there must be some other contributing factor.

20 Q. Okay. Thank you. That's all the questions I
21 have.

22 A. Thank you.

23 CHAIRMAN LEVAR: Thank you, Ms. Wegener.

24 Ms. Selendy, any redirect for Mr. Constantine?

25 MS. SELENDY: I have no redirect, Mr. Chairman.

1 Thank you.

2 CHAIRMAN LEVAR: Thank you, Ms. Selendy.

3 I'll go to Commissioner Allen next.

4 Do you have any questions for Mr. Constantine?

5 COMMISSIONER ALLEN: No questions. Thank you.

6 CHAIRMAN LEVAR: Thank you, Commissioner Allen.

7 Commissioner Clark, do you have any questions
8 for Mr. Constantine?

9 COMMISSIONER CLARK: No questions.

10 Thank you, Mr. Constantine.

11 THE WITNESS: Thank you.

12 CHAIRMAN LEVAR: I don't think I have any
13 further, either. So thank you for your testimony this
14 afternoon.

15 THE WITNESS: Thank you, Mr. Chair.

16 CHAIRMAN LEVAR: Thank you for being flexible
17 with us on the technology. It worked out great once we
18 made that change.

19 THE WITNESS: I should thank you for that
20 because the problem was most likely at my end. I do
21 apologize, and I thank you -- thank you for this time and
22 for your consideration of all of this.

23 CHAIRMAN LEVAR: Thank you.

24 We'll go to Vote Solar for your next witness.

25 MS. ZIMMERMAN: Good afternoon. Vote Solar

1 calls Dr. Carolyn Berry as our next witness.

2 CHAIRMAN LEVAR: Good afternoon, Dr. Berry.

3 Do you swear to tell the truth?

4 THE WITNESS: I do.

5 CHAIRMAN LEVAR: Okay. Thank you.

6 Ms. Zimmerman, go ahead.

7 MS. ZIMMERMAN: Thank you.

8
9 CAROLYN BERRY,
10 was called as a witness, and having been first duly
11 sworn to tell the truth, the whole truth, and nothing
12 but the truth, testified as follows:

13
14 DIRECT EXAMINATION

15 BY MS. ZIMMERMAN:

16 Q. Please state your full name and business address
17 for the record.

18 A. Carolyn Ann Berry, 2001 K Street NW, Washington,
19 DC, 20006.

20 Q. Dr. Berry, have you reviewed and analyzed the
21 testimony submitted by the other parties to this case?

22 A. Yes.

23 Q. Have you prepared direct, rebuttal, and
24 surrebuttal testimony in this case?

25 A. Yes.

1 Q. Do you have any changes to offer to any of that
2 testimony?

3 A. No.

4 Q. If you were asked the same questions included in
5 your written testimony here today, would you give the
6 same answers?

7 A. Yes.

8 MS. ZIMMERMAN: Mr. Chairman, Vote Solar moves
9 for the acceptance of the testimony of Dr. Berry into the
10 record in this proceeding.

11 CHAIRMAN LEVAR: Thank you.

12 If anyone objects to that motion, please unmute
13 yourself and indicate your objection.

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

16 Go ahead.

17 MS. ZIMMERMAN: Thank you.

18 Q. (BY MS. ZIMMERMAN:) Dr. Berry, have you
19 prepared a summary of your testimony that you would like
20 to present to the Commission?

21 A. Yes.

22 Q. Please go ahead.

23 A. Good Morning, Chairman Levar, Commissioners.
24 Thank you for allowing me to testify on this matter.

25 My name is Carolyn Berry. I am a principal with

1 the economic consulting firm of Bates White, LLC. I am
2 testifying on behalf of Vote Solar. I have submitted
3 direct, rebuttal, and surrebuttal testimony in this
4 proceeding.

5 CG exports provide an important and quantifiable
6 value in the form of avoided capacity and generation
7 costs, fuel price hedging, carbon compliance, and local
8 economic and environmental benefits. RMP undervalues or
9 wholly disregards the benefits CG exports provide to
10 RMP's customers and to Utah's economy, environment, and
11 population's health.

12 RMP's motives for doing so are clear. RMP is a
13 vertically-integrated monopoly, such that the growth of
14 CG solar directly and negatively impacts its sales and
15 profits from power generation assets. RMP has every
16 motive to block one of the few sources of competition to
17 RMP-owned sources of power generation.

18 RMP has tried to call into doubt the capacity
19 value of CG exports by characterizing solar as non-firm.
20 RMP claims that, absent a contractual obligation, it
21 cannot rely on CG solar to avoid such costs.

22 But that characterization is inaccurate. CG
23 customers are both captive customers and captive
24 producers. Whether or not CG customers make a
25 contractual commitment to the utility, they must export

1 to RMP.

2 PV installation is not a fly-by-night
3 investment. Becoming a CG generator is expensive and
4 long-term. The PV panels have a 20-plus year life span.
5 Taking these benefits for free and, in fact, proposing
6 that CG customers pay for the privilege of providing them
7 creates a subsidy in favor of RMP at the expense of CG
8 customers, not the other way around.

9 RMP's profit motive is further confirmed by the
10 illogical rate structure it proposes. NEM hit all the
11 hallmarks of good rate design. It's easy to understand
12 and provided a fair, consistent value for CG exports.

13 RMP's proposed ECR is the exact opposite. It is
14 discriminatory, confusing, and intentionally drives
15 consumption towards peak times, preventing CG exports
16 from benefiting the grid as well as the local environment
17 and economy.

18 RMP also disregards the avoided carbon
19 compliance costs and local, economic, and environmental
20 benefits that reliable data demonstrates CG solar
21 provides and which I have quantified.

22 Given the many proven benefits CG solar provides
23 to RMP and its customers, the Commission should set an
24 ECR that encourages long-term investment in CG solar,
25 just as the Commission encourages long-term investment in

1 DSM programs. The alternative would put a hard brake on
2 CG development in Utah, which has been previewed by the
3 sharp decline in the growth of CG solar following the
4 2017 change from NEM to Schedule 136.

5 I, along with Vote Solar's other expert
6 witnesses, collectively analyzed the avoided energy
7 capacity costs, fuel price hedging, carbon compliance,
8 and economic and environmental benefits CG solar provides
9 in RMP's territory.

10 As I will explain, we calculated a specific
11 value for each of these benefits which total, by
12 conservative estimation, 24.1 cents per kilowatt hour.
13 That high value supports instituting a new net metering
14 program in which the value of solar exports are netted
15 against the consumption based on the applicable RMP
16 retail rates. I will at a high level explain these
17 benefits and the data supporting Vote Solar's valuations
18 of them.

19 There is no question that CG exports provide
20 measurable value in the form of avoided capacity costs.
21 Electricity generated from CG solar reduces the
22 electricity that RMP must generate from its power plants
23 or purchase from the wholesale market. CG energy
24 provides value in the form of avoided and delayed costs
25 of maintaining and upgrading generation transmission and

1 contribution infrastructure. When CG exports are
2 produced at the point of consumption during times of peak
3 hours on the system, RMP requires less capacity to serve
4 its demand.

5 Although RMP acknowledges these benefits, RMP
6 zeros them out by making the unfounded claim that CG
7 solar is non-firm in nature; and thus, RMP cannot rely on
8 CG exports when planning the grid. This argument is
9 entirely misplaced.

10 First, the CG customers can only export energy
11 to RMP, so they are locked into selling their excess
12 energy to RMP even without a contractual obligation.

13 Second, given the large expense and the 20-year
14 plus life span of PV panels, CG solar is a long duration
15 obligation, and therefore, a long-term source of power
16 for RMP.

17 Finally, the argument that the power is non-firm
18 because customers can choose whether to consume or export
19 CG solar is misguided because all of CG solar, whether
20 consumed or exported to RMP, will reduce peak load
21 demands and reduce capacity requirements, and thus,
22 generation, transmission, and distribution expenses.

23 Vote Solar witnesses have calculated a total
24 levelized value for avoided energy, line losses,
25 generation capacity, and transmission and distribution

1 capacity costs associated with CG solar of 9.15 cents per
2 kilowatt hour. This value should be accounted for in
3 setting the ECR for CG solar.

4 CG solar provides a fuel price hedging benefit
5 by reducing RMP's exposure to natural gas price
6 volatility. PacifiCorp's 2019 integrated resource plan,
7 or IRP, shows that RMP expenses fuel natural gas hedging
8 costs to reduce exposure to the volatility of natural gas
9 prices. The fuel price hedging benefit CG solar provides
10 to RMP is quantifiable, but RMP completely disregards its
11 value. CG replaces costly gas-fired generation that RMP
12 would otherwise have purchased to generate electricity.
13 That reduction in natural gas purchases decreases cost
14 variability and, in turn, the cost of hedging.

15 In the IRP process, RMP has calculated a hedging
16 benefit for energy efficiency -- a resource that does not
17 incur variable fuel costs like CG solar -- of .474 cents
18 per kilowatt hour. The hedging benefit CG solar provides
19 to RMP and its customers should be included in the ECR.

20 The Oregon PUC has acknowledged that a hedge
21 value exists and adopted a value equal to 5 percent of
22 avoided energy costs based on a study by E3 Economics.
23 Based on that approach, I have calculated a total
24 levelized value for fuel price hedging of 1.9 cents per
25 kilowatt hour.

1 Although RMP does not currently have a mandate
2 to reduce carbon emissions, RMP recognizes that carbon
3 costs are imminent, and it accounts for this in its 2019
4 IRP, which includes carbon prices starting in 2025.

5 Using their IRP's own prices and Dr. Milligan's
6 avoided carbon calculations, I've calculated RMP's
7 avoided carbon compliance cost at 2.8 cents per kilowatt
8 hour.

9 CG solar also provides indisputable
10 environmental and health benefits through the reduction
11 of fossil fuel-based generation that emits dangerous
12 carbons that negatively affect Utah's environment and
13 public health.

14 Using RMP's own prices and Dr. Milligan's
15 avoided carbon calculation, I determined a reduced carbon
16 emissions value of 6.5 cents per kilowatt hour.
17 Additionally, using the U.S. Environmental Protection
18 Agency's 2019 findings regarding the value of health
19 benefits associated with CG solar, I calculated a 2.09
20 cent per kilowatt hour value for CG's reduction of
21 adverse health effects through reduced air pollution.
22 RMP, however, attached a zero value to environmental and
23 health benefits.

24 CG solar exports also provide several economic
25 benefits in the form of job creation, economic growth,

1 and increased tax revenue. According to the Bureau of
2 Labor Statistics, the fastest growing occupation in the
3 U.S. is solar PV installer, with expected growth of
4 63 percent from 2018 to 2020 -- excuse me, to 2028.

5 OCS asserts that the measurable benefits of
6 Utah's local economy should be ignored because the pace
7 of future CG related local economic benefits is
8 speculative. However, my estimate of local economic
9 benefits does not assume that the same level of rooftop
10 solar investment will continue into the future. In fact,
11 if no further investment were ever made, the local
12 economic benefit calculation would still be correct.

13 These quantifiable local economic benefits for
14 which I have calculated a 3.37 cent per kilowatt hour
15 valuation should be accounted for in setting the export
16 credit rate for CG solar. RMP attaches no value to these
17 societal benefits.

18 CG solar also provides value in the form of
19 ancillary services, system reliability and resiliency,
20 and avoided fossil fuel life cycle costs. While I did
21 not provide specific valuations for these benefits --
22 they are considerably difficult to quantify -- the
23 Commission should consider these benefits in determining
24 the ECR.

25 At current penetration levels, there is no

1 evidence that CG exports or the NEM program imposed any
2 additional costs to RMP's system. Additionally, because
3 the scope of the docket is limited to the evaluation of a
4 just and reasonable rate to compensate for exported CG, I
5 did not include in my analysis the benefits of energy
6 produced and consumed on site from a customer's CG
7 system, which are substantial.

8 RMP characterizes these benefits as accruing
9 solely to CG customers, when, in fact, they accrue to all
10 of RMP customers, just like the system-wide benefits
11 calculated for individuals that participate in the Cool
12 Keeper and Wattsmart programs.

13 Therefore, based on the benefits I have been
14 able to specifically quantify, a conservative estimate
15 for the 20-year levelized value of CG exports is 24.1
16 cents per kilowatt hour.

17 In addition to proposing a rate that undervalues
18 or ignores many of CG solar's measurable benefits, RMP
19 proposes a number of measures that will inefficiently
20 drive consumption to peak periods, treat CG customers
21 differently than RMP's other customers, and
22 disincentivize investment in CG solar.

23 RMP admits that its proposed time-varying and no
24 netting rate structure is not intended to encourage
25 efficient energy consumption but simply to reflect the

1 market value of CG solar.

2 RMP acknowledges that because its proposed ECR
3 is a small fraction of the retail rate, the ECR will
4 cause CG customers to consume rather than to export solar
5 energy during periods of high demand, including peak
6 periods. By increasing consumption during hours of peak
7 load on the system, RMP's proposed ECR will increase
8 system inefficiencies by increasing generation costs and
9 the need for additional infrastructure investment.

10 Moreover, RMP recently conceded that its
11 instantaneous netting proposal will not provide useful
12 price signals because customers' ability to shift energy
13 use, quote, "is not dictated by the method of netting
14 used."

15 This position change is not surprising. CG
16 customers do not have the capability to see export or
17 import quantities on a moment-by-moment basis, and
18 realtime price signals do not exist. RMP's only
19 remaining justification for no netting is the reduction
20 of administrative costs. But RMP has provided no
21 evidence to support the assertion that no netting will
22 minimize such costs.

23 RMP proposes that export credits on CG
24 customers' bills roll over and expire at the end of the
25 fiscal year. This proposal is based on the assertion

1 that eliminating outstanding credits will encourage
2 customers to appropriately size their solar generation
3 systems to match their usage.

4 However, RMP has provided zero evidence of the
5 effect that credit expiration has on system sizing.

6 Moreover, RMP fails to acknowledge that by canceling CG
7 solar customers' export credits and transferring them to
8 the energy balancing account, it provides a subsidy to
9 all RMP customers derived from the energy CG customers
10 produce but for which they do not get compensated.

11 Eliminating remaining credits at the end of the
12 year also promotes wasteful inefficient energy use. To
13 avoid losing credits that customers have legitimately
14 earned, customers will be incentivized to increase their
15 energy use rather than pursue efficiency to get through
16 their credits before they're eliminated.

17 RMP's proposed one-time nonrefundable
18 application fee of \$150 for all CG customers regardless
19 of the size of their installation is inconsistent with
20 its treatment of non CG customers and past CG customers,
21 making it a discriminatory practice. Non CG customers
22 under Schedules 2, 23, 6, 6a, 6b, 8, and 23 are not
23 charged an application fee. Grandfathered net metering
24 customers under Schedule 135 were not charged an
25 application fee.

1 RMP's proposed application fee is well in excess
2 of the fees that PacifiCorp charges to CG customers in
3 all other states, further calling into question its
4 proposal in this proceeding.

5 I propose that RMP keep the same application
6 fees for Level 2 and 3 customers as is currently charged
7 to Schedule 136 customers and that the Commission
8 consider reducing to zero the application fee for Level 1
9 customers, since the cost of processing their
10 applications is relatively small and evidence shows that
11 these costs can be substantially reduced.

12 RMP's proposal to update the export credit rate
13 annually is discriminatory. RMP's witness, Mr. MacNeil,
14 claims annual rate updates will ensure export credit
15 rates remain consistent with RMP's avoided costs and that
16 they are consistent with the non-firm nature of the
17 output. However, CG customers are the only RMP customers
18 that the Commission intends to expose to
19 annually-changing rates, as non CG customers experience
20 rate adjustments only every 4 years or so.

21 While Mr. Meredith points to Schedules 9, 498
22 and 193 as examples of residential customers being
23 subject to annual updates, those schedules are tariff
24 riders, which only apply to small subcategories of
25 customer bills. CG customers remain the only RMP

1 customers whose rates RMP intends to change from the
2 ground up each year.

3 Annual update also undermines rate stability.
4 The uncertainty that annual rate updates creates will
5 stifle CG investment. PV installation is a long-term
6 investment that carries a large price tag. Annually
7 changing rates will make it impossible for potential CG
8 investors to gauge the likely return on their investment;
9 and thus, deter future CG growth.

10 Vote Solar proposes that the Commission fix the
11 ECR for 20 years for the post transmission -- excuse me,
12 the post transition period vintage of CG customers and
13 then update the ECR in each general rate case for the
14 subsequent vintages.

15 In summary, RMP severely undervalues CG exports
16 in Utah and has failed to address the cost and benefits
17 of the NEM program. RMP's ECR proposal is based upon
18 flawed logic and a monopolistic motive that should be
19 rejected by the Commission.

20 While a conservative, yet accurate, valuation of
21 CG exports is 24.17 cents per kilowatt hour, the
22 alternative approach of adopting a new net metering
23 program in which the value of solar exports are netted
24 against consumption based on the applicable RMP retail
25 rates would accomplish the Commission's goal of setting a

1 just and reasonable export credit rate that is easy to
2 understand and implement. Thank you.

3 **Q. Thank you, Dr. Berry.**

4 MS. ZIMMERMAN: Vote Solar now tenders Dr. Berry
5 for cross-examination.

6 CHAIRMAN LEVAR: Thank you, Ms. Zimmerman.

7 I'll go to Mr. Holman next.

8 Do you have any questions for Dr. Berry?

9 MR. HOLMAN: I have no questions. Thank you,
10 Chair Levar.

11 CHAIRMAN LEVAR: Thank you.

12 Mr. Mecham, do you have any questions for
13 Dr. Berry?

14 MS. WEGENER: Nor do I. Thank you.

15 CHAIRMAN LEVAR: Okay. I will go to Mr. Snarr
16 next.

17 Do you have any questions for Dr. Berry?

18 MR. SNARR: Yes, just a very few. Sorry.

19 CHAIRMAN LEVAR: Go ahead.

20
21 CROSS-EXAMINATION

22 BY MR. SNARR:

23 **Q. Good afternoon, Ms. Berry.**

24 A. Good afternoon.

25 **Q. You discussed the positive economic**

1 developments, development benefits of rooftop solar; is
2 that correct?

3 A. Yes.

4 Q. And you suggest that such benefits be recognized
5 through the derivation of an appropriate export credit
6 rate for customer generators; is that correct?

7 A. Yes.

8 Q. Isn't it true that you've not included any
9 negative economic development disbenefits that other
10 energy resources will experience by being displaced by
11 customer-owned generation?

12 A. That's -- there are none associated with my
13 analysis.

14 Q. Would it be fair to say that some of the
15 economic development that Utah's experienced in the past
16 with natural gas resources might be displaced with the
17 onslaught of solar customer owned generation?

18 A. The focus of the economic benefits analysis that
19 I did was based on CG solar. It's a forward-looking
20 analysis. And it's based on considering whether you have
21 investment in CG solar or investment by RMP.

22 And the investment I compare it to is
23 out-of-state generation. It's an analysis that looks at
24 in-state versus out-of-state investment. And the fact
25 that RMP invests substantial amounts of assets outside of

1 the state of Utah -- and when it does that, it's
2 exporting jobs out of the state. And that -- that
3 investment is increasing. And so there's a leakage
4 essentially from -- there's a leakage of economic
5 activity out of the state associated with RMP's
6 investment strategy.

7 **Q. So your comparative look was limited to what RMP**
8 **was doing within state or out of state in terms of its**
9 **investment activities?**

10 A. Yes. It was a comparison of a CG investment
11 versus RMP investment.

12 **Q. Okay. But to the extent that geothermal might**
13 **be developed in-state by other providers outside of RMP,**
14 **or natural gas facilities might be developed to help**
15 **support gas-fired generation to support RMP, those things**
16 **were not within the purview of your research assignment;**
17 **is that right?**

18 A. To the extent that the investment was outside if
19 it was a gas-fired generation, I didn't -- it could have
20 been a gas-fired generation unit that was invested
21 outside of the state. But essentially -- so, it's not --
22 it's not generation type specific. It's simply an
23 acknowledgment that when RMP invests, its investment
24 strategy, its generation investment strategy is not to
25 build generation in the state of Utah for Utah load, it's

1 to build a portion of that generation outside of the
2 state. And CG is all in-state. And that's where
3 you'll -- it's the out-of-state investment that causes
4 the leakage.

5 Q. So your research was really in-state versus
6 out-of-state development dollars being spent by RMP; is
7 that right?

8 A. That's right.

9 Q. And so it really disregards the possibility of
10 other energy resources being a factor in here. You
11 didn't look at that either in state or out of state, did
12 you?

13 A. The resources that I focused on were simply
14 looking at CG solar, attributing an economic benefit to
15 CG solar. So the way the analysis was conducted is to
16 look at CG solar and the investment of CG solar within
17 the state but to discount that by economic activity that
18 would be -- it would replace within the state. So I
19 understand that there's some replacement. And I didn't
20 take value for that. I only took the value for the
21 amount of investment that would have occurred outside of
22 the state.

23 Q. And when you were looking at the amount of
24 investment outside the state, were you considering
25 investment, that it might be going to customer generation

1 in Nevada or Idaho where there may be different policies
2 than the state of Utah?

3 A. Customer generation is not an RMP investment. I
4 was focused on RMP's investment and generation assets as
5 a -- well, PacifiCorp's as a Company.

6 Q. All right. Let's move on from there.

7 Does your proposal contemplate calculating the
8 societal and health benefits associated with other
9 generation resources that are already included in base
10 rates?

11 A. Is the assumption of your question, I'm sorry,
12 that there are health benefits included in the base rate?

13 Q. Well, I'm asking whether or not you're
14 suggesting that we ought to include health benefits that
15 might be associated with other forms of generation
16 resources that might have already been purchased and are
17 included in base rates.

18 A. I'm suggesting that CG investment creates these
19 benefits and that they should be acknowledged and
20 compensated for.

21 Q. And to the extent that there are similar
22 investments that are being made by Rocky Mountain, let's
23 say it's in a large solar facility that would have
24 similar health benefits and that those have already been
25 invested in and are currently in base rates, are you

1 suggesting that the base rates ought to be adjusted to
2 also contemplate the health benefits associated with
3 those assets?

4 A. I'm not -- let me step back for a second.

5 To the extent that Rocky Mountain
6 Power/PacifiCorp is advocating policies, clean energy
7 policies -- let me step back.

8 I'm just not sure exactly what you're saying. I
9 don't understand the question. You're saying that RMP --

10 Q. I'm sorry.

11 A. We should pay RMP for the benefits? It seems
12 circular to me.

13 Q. Let me ask the question perhaps another way with
14 some simpler questions.

15 You ascribe certain health benefits associated
16 with customer generation; is that right?

17 A. I do, yes.

18 Q. And certain societal benefits, as you describe
19 them?

20 A. Yes.

21 Q. And you're asking this Commission to consider
22 those benefits in the way they establish export credit
23 rates for customer generation in this proceeding; is that
24 correct?

25 A. Yes.

1 Q. Now, to the extent that Rocky Mountain has made
2 investments in other facilities -- and I'm going to
3 suggest other solar facilities so we have a comparison
4 here that's somewhat the same.

5 To the extent that Rocky Mountain has already
6 invested in other solar facilities --

7 A. Yes.

8 Q. -- where the same health and societal benefits
9 might attach, would you suggest that those -- that the
10 health and societal benefits associated with the already
11 invested-in facilities, that they ought to be considered
12 in the establishment of Rocky Mountain's overall rates?

13 A. Well, therein is the problem with your question,
14 and that is that you're saying should you collect money
15 from customers for this and then return it to customers?

16 Q. All right. I understand that problem.

17 So we're talking about the cost of service that
18 the utility currently has; is that correct?

19 A. We are.

20 Q. And would you agree with me that the societal
21 benefits or health benefits that may or may not attach to
22 existing investments are not included in that cost of
23 service?

24 A. No.

25 Q. You agree that they are not, right?

1 A. I agree that there are investments that RMP
2 makes that have health benefits and that there are other
3 investments that RMP -- or generation assets that RMP has
4 that, you know, create adverse health effects.

5 So I think focusing on the health benefits -- or
6 the -- I'm sorry, the solar investment is not the right
7 focus. It's really that we should focus on, you know,
8 the coal plants. Okay, so those investments, which are
9 creating pollution and causing adverse health effects, I
10 think the question would be: Should there be something
11 in rates to reduce those negative health effects? And
12 the answer is: In my opinion, yes, there should be.

13 **Q. Now, if the negative effects of coal production**
14 **resulted in a line item in cost of service that says we**
15 **will pay every miner \$10 a month because of negative**
16 **health effects, would you recognize that as something**
17 **that might be included in Rocky Mountain's rates**
18 **dollar-wise?**

19 A. Yes.

20 **Q. And if that kind of a payment does not exist,**
21 **would you also recognize that as far as cost of service**
22 **is concerned, there is no negative or positive**
23 **contribution to cost of service as it relates to the**
24 **health benefits, negative or positive, for existing**
25 **assets?**

1 A. Well, in the sense that RMP invests lots of
2 money in scrubbers and carbon sequestration and various
3 other investments to reduce pollution and puts all that
4 in rates. So there is -- you know, there are amounts in
5 rates that are, you know, giving their -- they give a
6 health benefit, and RMP customers are paying for that.

7 Q. All right. To the extent that RMP would pay --
8 is there anything that RMP is going to pay for the health
9 benefits? Is there a cost being incurred as it is
10 associated with using solar energy?

11 A. It's an avoided cost.

12 Q. All right. If different generating resources
13 are treated differently in recognizing their societal and
14 health benefits, won't that lead to unintended
15 consequences in the establishment of rates?

16 A. I don't -- you would have to define "unintended
17 consequences." I don't know what you're referring to.

18 Q. All right. Would you agree with me that that
19 disparate treatment between different generating rate --
20 different generating resources would also violate
21 fundamental principles of rate design?

22 A. I'm not agreeing that there are fundamental
23 differences in rate treatment.

24 Q. Well, wouldn't you agree that there's
25 fundamental differences in rate treatment if we're

1 ascribing intangible health benefits and putting that in
2 rates on the one hand, and only recognizing the tangible
3 health costs on the other hand that might be associated
4 with other forms of resources?

5 A. I think that they're tangible. You can see CG
6 solar is displacing, say, coal generation or gas
7 generation. And so to the extent that RMP is expending
8 money to reduce emissions from these generation sources,
9 RMP is saving that -- saving that money. And so that's a
10 tangible cost savings. And that is made possible by CG
11 solar.

12 Q. All right. And to the extent you say that's a
13 tangible cost benefit, wouldn't you say that that, then,
14 will be automatically recognized in the cost of service
15 of the utility? If, indeed, solar replaces certain coal
16 or other dirty forms of energy such that there will be no
17 more costs on those other forms of energy, don't those
18 costs go away, and aren't they recognized in the cost of
19 service?

20 A. I'm not following your question.

21 Q. Well, to the extent there's a decrease in the
22 expenses associated with coal or carbon-related
23 activities that Rocky Mountain engages in, to the extent
24 those costs go away, then the elimination of those costs
25 gets reflected in the cost of service for the utility; is

1 that right?

2 A. Yes.

3 Q. But to the extent that you suggest that solar
4 creates a separate positive benefit, there's no costs or
5 dollars associated with that that can be recognized
6 directly in cost of service; isn't that correct?

7 A. You're saying that the export credit rate is not
8 in the cost of service?

9 Q. I'm saying the export credit rate is in cost of
10 service, but it would be inappropriate to put a rider on
11 top of that export credit rate to recognize something
12 that is not reflected in the costs or expenses associated
13 with the utility's cost of service.

14 Do you agree with me on that?

15 A. No. This is a trade-off. You're going to
16 reduce the costs of abatement, and then you're going to
17 compensate CG solar, and that's a neutral position.
18 You've accomplished the goal at, actually, no cost to
19 ratepayers because it's been canceled out.

20 Q. Who writes the bill for CG generators that says,
21 Please pay me 5 cents for each unit because I'm saving
22 you health benefits and you expect the utility to pay
23 that?

24 A. The utility doesn't have to pay anything. It's
25 a neutral proposition. The ratepayer is not affected,

1 RMP is not affected.

2 Q. What you're telling me is that there will be no
3 cost or expense recognized by a utility for moving
4 towards CG solar. So there's nothing to be recognized in
5 the reshuffling and rate design of the utility's cost of
6 service rates; is that right?

7 A. I'm saying that CG solar is properly compensated
8 for a benefit that it's providing.

9 Q. But it doesn't result in anything that's
10 recognized in the utility's cost of service; isn't that
11 right?

12 A. We come back to the same question, and I think
13 we're speaking past each other.

14 When you ask that question, I'm struggling to
15 understand what your point is because, of course, the
16 export credit rate, which is the payment to CG solar, is
17 in the cost of service. It's in -- as RMP has proposed,
18 they want to put it into the energy balancing account and
19 spread that cost out to all RMP customers.

20 Q. Thank you for your help.

21 MR. SNARR: That concludes my questioning.

22 THE WITNESS: Thank you.

23 CHAIRMAN LEVAR: Thank you, Mr. Snarr.

24 We'll go to Mr. Jetter next.

25 Do you have any questions for Dr. Berry?

1 MR. JETTER: I do have some questions. Thank
2 you, Mr. Chairman.

3
4 CROSS-EXAMINATION

5 BY MR. JETTER:

6 Q. Good afternoon, Dr. Berry.

7 A. Good afternoon.

8 Q. I guess I'd like to start out discussing the
9 expiration of the credits and that issue.

10 You suggested that those roll over from year to
11 year; is that correct?

12 A. Yes. I think I might have also said that they
13 could be monetized at the end of the year, too.

14 Q. Okay. And let's say if those were monetized and
15 paid out, and as a result of that, the customer would
16 receive a 1099 from Rocky Mountain Power each year. And,
17 following my hypothetical here, if the cost of the
18 accounting to generate the 1099s along with the payout of
19 those relatively small, in most cases, checks exceeded
20 the value of those kilowatt hours, would you still
21 support that?

22 A. That's not the way the payout works. There are
23 no 1099s. That's just a credit on the bill that you
24 carry forward, just like any other bill credit you might
25 get. You know, from natural gas -- you know, from time

1 to time, utilities distribute credits. For example, in
2 the energy balancing account rider, you might get credit.
3 So it's the same sort of thing. There's no separate 1099
4 issue here.

5 Q. And so if a customer is selling energy to the
6 utility, you don't think that that would be an item that
7 would be subject to a 1099?

8 A. No.

9 Q. Okay. And let's say, hypothetically, the IRS
10 determines that yes, that is the case --

11 A. Just as a note, I had solar when I lived out in
12 California. And that's not the way it works.

13 Q. And you received checks from the utility?

14 A. No, you get a credit on your bill.

15 Q. Okay. So you were never --

16 A. I'm sorry. I'm sorry. I did get a check. That
17 is true, sorry. I did get a check at some point from the
18 Pacific Gas & Electric Company.

19 Q. Okay. And you don't think that they accounted
20 for that check as one of their costs of goods sold?

21 A. I didn't get a 1099. I don't know about how
22 that squared up with the utility, but it just never
23 was -- there was never a tax issue involved with the IRS.

24 Q. Okay. And if there were -- and maybe just go
25 with my hypothetical, then -- if that were the case and

1 the cost of that exceeded the value of those credits,
2 would you suggest doing something else with those
3 credits, or would you still suggest paying that out, even
4 though it cost more to make that payment than the payment
5 was worth?

6 A. I would suggest something else if the cost -- if
7 there was some massive administrative tax issue that had
8 to be dealt with that was costly, yes, that would -- if
9 that overrode the benefit, then I would rethink a better
10 way to deal with the credits.

11 Q. Okay. And would you say that potentially that
12 might not be fair to accrue that to the shareholders of
13 PacifiCorp?

14 A. A tax cost?

15 Q. No. No. If there's an excess credit, would you
16 agree that it would be more fair for that excess credit
17 to go to a low-income program rather than, for example,
18 shareholders of PacifiCorp?

19 A. That would be a -- that would be a Commission
20 determination.

21 Q. Okay. I'd like to discuss the question of
22 whether -- change gears a little bit -- the question of
23 whether alternative markets for the sale of all of the
24 attributes of rooftop solar, including potentially carbon
25 credits, grid-related services, as well as energy and

1 capacity. And you've testified that it's improbable that
2 that will ever exist over the lifespan of a typical CG
3 customer's installation.

4 Am I accurately summarizing your testimony?

5 A. What will never exist over the lifetime of the
6 customer's ...?

7 Q. Alternative markets to sell either energy or
8 ancillary services.

9 A. In Utah?

10 Q. Yes.

11 A. You're talking about retail access?

12 Q. Yes.

13 A. You know, I don't know. Based on the, you know,
14 sort of the current progress in Utah toward competition
15 in state, I think it will be a while.

16 Q. Okay. And are you familiar with FERC Order
17 2222?

18 A. Yes.

19 Q. Okay. And you would agree with me that that
20 directs regional transmission operators -- excuse me,
21 I'll rephrase that.

22 That directs regional grid operators to revise
23 their tariffs to establish CG aggregators as a type of
24 market participant in those markets?

25 A. Yes. And also that the states have control over

1 how they want to implement that.

2 Q. Okay. And you would agree that that may be an
3 avenue available in the future, depending on a variety of
4 circumstances. But it's certainly possible that in the
5 future that that would be an avenue to sell the excess
6 energy from a rooftop solar through an aggregator?

7 A. Yes.

8 Q. And customers under Schedule 137, is it correct
9 that they would not be obligated to remain on 137 in the
10 instance that a market such as that were more favorable?

11 A. That -- you know, that would be up to -- that
12 would be a rule, probably, that would -- that would
13 probably be a proceeding in front of the Commission.
14 They would look at that issue and decide it. Yeah.

15 I don't know about -- I don't even know about
16 switching between rates and so forth. Typically you've
17 got a lot of regulatory rules around what customers can
18 do.

19 Q. Okay. But you're not aware of any prohibition
20 and undoing that, are you?

21 A. Doing a hypothetical that doesn't exist?

22 Q. Let me ask you this: Would you support a
23 regulatory bar for customers to exit 137 to a -- to join
24 an aggravated sale in a wholesale market?

25 A. It would depend on the circumstances. I

1 don't -- there would be many things to consider, and I'd
2 have to look at the cases presented.

3 **Q. If a Schedule 137 customer is paid a capacity**
4 **value that's based on a 20-year period of contemplated**
5 **generation and exports, would it be fair to pay that**
6 **capacity value where a customer is purchasing that energy**
7 **and also allow customers to exit the program at their**
8 **will?**

9 A. Let me see if I can follow your question.

10 That the customer is being paid a capacity value
11 for the solar, and can they just drop out of Schedule 137
12 and go to this new aggregation program?

13 **Q. Yes.**

14 A. You know, I have to think about it.

15 But, you know, the idea of capacity value is
16 because the asset is installed and providing this
17 capacity value. So if the customer moves, then they're
18 obviously not getting paid on 137 anymore. They would be
19 part of a new organization.

20 But the asset would still be there. The
21 capacity value of that asset would still be there. It's
22 just being transferred and perhaps paid for in a
23 different way.

24 **Q. And if another market purchaser was buying the**
25 **capacity, wouldn't it be fair to conclude that Rocky**

1 Mountain Power at the same time could not also be taking
2 credit, if you will, or using that capacity value?

3 A. You know, you're talking about capacity value
4 like it's a tradeable -- like it's a tradeable REC or
5 something. But the capacity value is based on -- you
6 know, the asset -- you know, the balancing area and the
7 contribution it has to the balancing area.

8 So I would agree with the proposition you would
9 only want to pay somebody for their capacity value once.
10 But I don't know about trading that. Maybe I'm not --
11 maybe I'm not following.

12 Q. I actually think you answered the question I was
13 seeking, which was: The capacity should only be paid for
14 one time; is that accurate?

15 A. Yes.

16 Q. Okay. Would you agree with me that energy as a
17 commodity and electricity as a service are two different
18 things?

19 A. Yes.

20 Q. And would you also agree with me that the
21 residential retail rate from Rocky Mountain Power serving
22 customers is an electric service that includes a variety
23 of things, and energy is only one component of that?

24 A. Yes.

25 Q. I'd like to, I guess, change gears here now a

1 little bit and direct you to your surrebuttal testimony.
2 And I'm looking specifically at Line 99, and this is
3 Table 1A. And this is, I believe, the summary of the
4 valuation from Vote Solar.

5 A. Okay. One second. Okay. So Table 1A.

6 Q. Yes, that's correct.

7 A. Yes.

8 Q. Okay. And this may sound a little bit
9 repetitive, but we'll go through this.

10 If there were a utility scale solar installation
11 that Rocky Mountain Power purchased the output from under
12 a power purchase agreement, would you agree that that
13 solar facility would provide energy?

14 A. Yes. And I'd like to sort of -- I think we're
15 going to go through these characteristics, and I -- just
16 before we do that, I'd just like to make a couple points,
17 which is: There's a -- you know, people in this
18 proceeding already have said that there is a big
19 difference between utility scale solar that's
20 interconnected up into the transmission grid and CG
21 solar.

22 And, in fact, there is. Utility scale
23 generation is a generation asset. CG solar is a demand
24 side resource, so it's -- it involves demand. Utility
25 scale solar does not involve demand, it's purely a

1 generation asset.

2 Two, the difference is that utility scale
3 generation, a PPA, for example, is defined entirely by
4 the contract. There is no relationship between a
5 provider of utility scale solar through a PPA and RMP
6 other than the contract. That's it.

7 But for the CG customer, that is entirely
8 different. That is an RMP customer who is served by RMP
9 through its monopoly franchise. And there are
10 expectations, and there are relationships within that
11 covenant of that agreement.

12 And so that -- those two items on their face
13 make those two -- that -- the comparison, a cost-by-cost
14 comparison, it makes it fall short of what the underlying
15 dynamics of those two resources are.

16 **Q. Okay. Let me break that down maybe a little**
17 **bit.**

18 **Do you think that the energy from -- the**
19 **exported energy from a CG customer is different from the**
20 **exported energy from a utility scale solar?**

21 A. It's different in the sense that the energy from
22 a utility scale solar, when you put it on the grid and by
23 the time you get it to the customer, you know, some
24 percentage of it -- let's say, for example, 10 percent --
25 dissipates as heat. So you can't compare 1 megawatt of

1 CG with -- or 1 megawatt hour or 1 kilowatt hour of CG
2 with 1 kilowatt hour with utility solar scale. You have
3 to scale up that energy amount to make the proper
4 comparison.

5 Q. And you've done that, haven't you, in, in fact,
6 in Line 2 under the "Energy" heading in your Table 1A,
7 "Avoided Line Losses"?

8 A. Yes.

9 Q. And that is precisely what you were discussing,
10 the losses due to thermal loss across the -- from the
11 resistance of the wires?

12 A. Yes.

13 Q. Okay. And is the capacity materially different
14 from a utility scale solar versus a rooftop solar CG
15 customer's exports?

16 A. No. I think they're roughly the same.

17 Q. And what about the fuel price hedging? Would
18 you agree with me that the fuel price hedging is roughly
19 equivalent between the two?

20 A. Yes.

21 Q. And the carbon compliance costs, would you agree
22 with me that those are equivalent between the two?

23 A. Yes.

24 Q. Okay. And how about the health benefits from
25 reduced air pollution?

1 A. Yes.

2 Q. Are the health benefits the same?

3 A. Yes.

4 Q. And, similarly, the benefits of reduced carbon
5 emissions, would those be the same?

6 A. Yes.

7 Q. Okay. And would you agree with me that, then,
8 that the combination of line losses at 0.31 cents per
9 kilowatt hour and the avoided transmission capacity that
10 you've included in your calculation of 1.34 cents per
11 kilowatt hour and the distribution capacity avoidance
12 value of 0.52 cents per kilowatt hour sum to a total of
13 2.27 cents per kilowatt hour?

14 A. I'm sorry, can you just -- you did transmission
15 distribution and ...?

16 Q. And line losses.

17 A. Line losses.

18 Q. And avoided transmission capacity.

19 A. Yeah.

20 Q. And avoided distribution capacity.

21 A. Yes. Two-point -- I'll have to write it down.
22 What was your -- it's the lower 2 cents a kilowatt hour.

23 Q. I calculated 2.27 cents per kilowatt hour.

24 A. Yes.

25 Q. Okay. And let's say we assume, which I don't

1 know that -- my client's testimony doesn't do this -- but
2 we assume for the purposes of this question that the
3 local economic benefits, we include the entire 3.37 cents
4 per kilowatt hour.

5 Would you agree with me that that sum in
6 addition to the 2.27 cents per kilowatt hour sums to 5.5
7 (inaudible)?

8 A. Yes.

9 Q. Okay. And if we added 30 cents to that per
10 kilowatt hour for a power purchase agreement, would you
11 agree with me, then, that we arrive at -- excuse me, did
12 I say 30 cents per kilowatt hour? 3 cents per kilowatt
13 hour, that we arrive at a price, a value of 8.54 cents
14 per kilowatt hour?

15 A. I'll accept your math.

16 Q. And let's say I'm thinking about a customer who
17 is -- there's -- you have a low-income customer who can't
18 afford rooftop solar, lives in multi-family housing, and
19 is struggling with their various bills.

20 Do you think they would rather pay something
21 like 24 cents per kilowatt hour for a kilowatt of
22 electricity or 8.54 cents per kilowatt hour?

23 A. I think that's an unfair comparison because
24 they're not going to pay -- you don't pay for a
25 particular asset, you pay a rolled-in rate.

1 Q. Do you think that they would rather have a
2 portion of their bill made up by 24 cents per kilowatt
3 hour energy or 8 cents per kilowatt hour energy?

4 A. I think that people want to pay less than more.

5 Q. Okay. And that is the end of my questions.
6 Thank you, Dr. Berry.

7 A. Thank you.

8 CHAIRMAN LEVAR: Thank you, Mr. Jetter.

9 Why don't we take a 10-minute break, and then
10 we'll come back and see if Rocky Mountain Power has any
11 questions for Dr. Berry.

12 (A break was taken from 3:53 p.m. to 4:05 p.m.)

13 CHAIRMAN LEVAR: Okay. I think we'll go back on
14 the record.

15 We'll go to Ms. Wegener.

16 Do you have any questions for Dr. Berry?

17 MS. WEGENER: I sure do.

18 CHAIRMAN LEVAR: Okay. Go ahead.

19
20 CROSS-EXAMINATION

21 BY MS. WEGENER:

22 Q. Good afternoon, Dr. Berry.

23 A. Good afternoon.

24 Q. You mentioned in your summary that solar
25 installer is one of the faster growing jobs in the

1 country, right?

2 A. Yes.

3 Q. Do you think it's appropriate for utility
4 customers to pay higher retail electric rates to create
5 jobs?

6 A. I think that policy should take into account the
7 broader economic benefits provided by certain activities.
8 And so, yes, I do think that CG solar is providing -- is
9 benefiting the state. It's benefiting the public
10 interest. And through the rates, that should be
11 encouraged.

12 Q. Okay. And the public interest that we're
13 talking about here is the creation of solar installer
14 jobs, correct? I'm just talking discreetly about whether
15 it's appropriate for customers to pay higher rates to
16 create jobs.

17 And you're saying yes, as a policy, it's
18 appropriate for customers to pay higher rates to create
19 jobs in the community -- or could be?

20 A. I guess let me step back for a second.

21 You're talking about higher rates, but you can't
22 look at the rate without also examining the benefits.
23 So, again, you need to do the full analysis on the
24 benefit side. And so

25 Q. So, I mean, I just want to know -- so what

1 you're saying is under some circumstances, it might be
2 appropriate for utility ratepayers to pay a higher rate
3 to create jobs in the economy?

4 A. I think that -- let's see. I'm just trying to
5 think through the higher rate part.

6 I think that yes, there are some externalities
7 that CG solar provides. And that if the state is
8 pursuing a policy that benefits the public interest
9 generally, then yes, I think that -- that that is
10 appropriately rolled into the retail rate.

11 Q. Okay. So if the Company innovates the utility
12 and installs metering technology, for instance, that
13 requires fewer employees -- so the Company will have
14 fewer employees -- is it appropriate for the Commission
15 to take into account those job losses when deciding
16 whether those costs to employ this new innovative
17 technology are prudently incurred?

18 A. I take issue with the first premise here about
19 less meter readers means that there are less jobs. I
20 don't think utilities do that. I think that if they
21 don't have meter reading jobs, they relocate the
22 employees within the Company.

23 Q. Okay. Well, let's say in this case it results
24 in layoffs because there aren't any other jobs.

25 In that case, would it be appropriate for the

1 Commission to consider that in whether the costs for the
2 metering program are prudently incurred?

3 A. Well, I suspect that RMP would raise that with
4 the Commission if they thought that they were going to
5 lose employees because of some policy that was being
6 pursued. So I think that -- I think that RMP would make
7 it an issue.

8 Q. So RMP would make it an issue because it would
9 want to keep those employees. And it would say: Even
10 though this technology is going to save us this money in
11 FTEs, in full-time equivalents, the Commission should
12 continue to reimburse us for those FTEs even though we
13 don't need them anymore because it's good for the
14 economy?

15 A. I guess I think the problem is more complicated
16 than that. But I don't think that RMP should be
17 reimbursed for employees that it doesn't need.

18 Q. Okay. Would it be fair to require customers to
19 pay more for metering service so that the Company could
20 keep those meter readers employed?

21 A. In other occupations within the firm?

22 Q. No, just to keep them employed. We don't need
23 them. I mean, perhaps we could do some make-work or
24 something in this hypothetical scenario. But we don't
25 need them. We don't need their contributions anymore.

1 Would it be appropriate for customers to
2 continue paying for their services just so that jobs
3 could be created or maintained? I guess not created.

4 A. No.

5 Q. Okay.

6 A. You shouldn't be paying for jobs that aren't
7 needed.

8 Q. Okay. Thank you. I'm going to turn really
9 briefly to Line 331 of your direct testimony. And you're
10 talking about some of the additional benefits that
11 distributed generation provides to the system or can
12 provide to the system.

13 Do you see that?

14 A. I'm sorry, what line was that again, please?

15 Q. 331. I think it's your -- yeah, it's your
16 direct.

17 A. Okay. Let's see. Is 326, "What additional
18 benefits can DG provide?"

19 Q. I have it as 330, but yeah, I think we're in the
20 right spot here. It's where the question is.

21 I notice that you are citing two studies as
22 examples, one in the northeast and New England region,
23 and the other in New York.

24 Is that right?

25 A. One in California and --

1 Q. And one in California.

2 A. Yeah, okay. And New England.

3 Q. So I guess there are three. It looks like
4 there's a New England, a New York, and California; is
5 that right?

6 A. Yes.

7 Q. Do you happen to know how the rates for
8 electricity and energy in those regions compare to the
9 rates in RMP's service territory?

10 A. Not off the top of my head, but I would assume
11 they're higher.

12 Q. They're higher? Do you think that that could
13 influence the type of savings that distributed generation
14 provides to those systems?

15 A. No, because the avoided costs are the costs of
16 transmission. So I don't think the cost of transmission
17 is different across the country. I think that's about
18 the same. So avoiding a transmission asset would -- that
19 would be the same avoided cost, regardless of its
20 location.

21 Q. Okay. So, in your opinion, these costs would be
22 equally applicable, even though the rates -- or the costs
23 to provide service in Rocky Mountain Power is much lower
24 than the costs to provide service in those other regions?

25 A. I think that the -- one of the primary reasons

1 the costs are lower in the Rocky Mountain Power region is
2 because of the coal assets not because of the
3 transmission.

4 Q. Okay. And you're just -- you are just guessing
5 this based on your experience at this point. It's kind
6 of a hypothetical. You haven't looked at these studies
7 or -- specifically to answer this question?

8 A. Well, transmission, I can answer the question
9 about transmission.

10 Transmission doesn't -- you know, siting and
11 building of transmission is -- you know, it's pretty
12 uniform across the country. Obviously, there are
13 geographical variations. But, you know, it's a billion
14 dollar industry.

15 Q. Okay. One of the concerns that you've mentioned
16 with updating the ECR annually is that, according to you,
17 no other customers are subject to annual differences in
18 their retail electric rates, and so there shouldn't be an
19 annual difference for the compensation for export credit.

20 Is that a fair characterization?

21 A. I might have limited that to retail, but yes.

22 Q. Okay. And it sounded like earlier you mentioned
23 our EBA. Are you familiar with the Company's EBA?

24 A. I've read through the docket.

25 Q. Okay. And so are you aware that that EBA

1 changes the cost to customers for variable fuel costs
2 each year?

3 A. I'm sorry the EVA is the -- what is that
4 acronym? What does "EVA" stand for?

5 Q. It's the -- what's the E? It's the energy
6 balancing accounts.

7 A. Oh, EBA. I'm sorry. I misheard.
8 I am familiar with the energy balance account.
9 I worked at Pacific Gas & Electric. I'm familiar with
10 those kind of accounts.

11 Q. So you're aware that each year, the EBA
12 determines the amount of net power costs that the Company
13 has incurred and passes those on to customers?

14 A. Yeah, I think they can be both positive and
15 negative. But yes, it's the balancing, whatever the
16 balance is.

17 Q. So they create a fluctuation in a customer's
18 retail rate annually, am I right?

19 A. Yes.

20 Q. Okay. So retail rates do actually adjust
21 annually for Rocky Mountain Power customers?

22 A. There are small adjustments.

23 Q. The disadvantage of going last is I get to --
24 well, the advantage of going last is I get to cross
25 things off my outline. So sometimes it takes me a

1 minute. I apologize.

2 Another concern that you identify and that I've
3 heard identified by your counsel in some of the
4 cross-examination is an idea that people will leave the
5 grid because of the ECR program design.

6 Is that one of the concerns that you identify in
7 your testimony?

8 A. I did. And I brought up that issue in my
9 affirmative upfront about leaving the grid.

10 I think the point is that you don't want people
11 to leave the grid, really. That's not the optimal
12 arrangement here. You want them to stay online because
13 they're an asset that can be integrated and benefit
14 everyone.

15 Q. The Company agrees with you. We don't want
16 people to leave the grid, either.

17 Do you have any evidence of customers leaving
18 the grid because their export credit compensation is too
19 low?

20 A. You mean outside of Utah? Generally in the
21 U.S.?

22 Q. Yes, generally.

23 A. I don't have any evidence of that, no.

24 Q. Okay. And inside Utah?

25 A. Nope.

1 Q. Isn't it true that customers have a pretty
2 strong incentive to stay connected to the grid so that
3 they can have the benefits that the grid provides them?

4 A. Yes.

5 Q. You also talked a bit about hedging, and you
6 talked about it with Mr. Jetter as well. So I hope I
7 don't retread the same ground too much.

8 But your position in this case is that the
9 Commission should include a component for hedging risk
10 because solar energy reduces fuel volatility; is that an
11 accurate characterization?

12 A. Yes.

13 Q. And hedging reduces the risk of paying more for
14 energy in the future, right?

15 A. No. Hedging isn't about how much you pay, it's
16 about volatility of rates. And also, you know, trying to
17 guard against worst-case outcomes.

18 Q. Right. It reduces the risk of paying more?

19 A. Not -- okay. "More," meaning in total, no; but
20 to have swings in the amounts you have to pay.

21 Q. Okay. And you agreed with Mr. Jetter that the
22 reduction in fuel volatility would apply to any type of
23 solar resource?

24 A. Yes.

25 Q. Not just customer generation?

1 A. I agree. Any solar resource you put into the
2 portfolio that doesn't have a variable fuel cost
3 associated with it, a gas cost, is going to reduce the
4 risk in -- the fuel risk in the portfolio.

5 **Q. Would you say that solar generated electricity**
6 **also has its own built-in volatility? In the sense --**
7 **and let me clarify. In the sense it generates less when**
8 **it's cloudy or when there's wildfire smoke. And it**
9 **doesn't -- you can't get solar generation at night,**
10 **absent storage?**

11 A. You'd have to compare that to something. So I
12 would say, for example, CG solar is less variable than,
13 say, a utility scale solar facility that's located in one
14 spot. So because CG is diverse and spans, you know, a
15 larger geographical region, that is risk-reducing because
16 events like clouds or, you know, cloudy days, they will
17 only affect a portion of that asset.

18 However, if you have utility scale solar that's
19 all together, then a weather event would take down the
20 whole asset.

21 **Q. So it's risk-reducing. But if there is a big**
22 **wildfire, there could be a significant drop in solar**
23 **production across a wide geographic area of customer**
24 **generators.**

25 Would you agree with me?

1 A. Yes.

2 **Q. And no customer generators are generating at**
3 **night. They might be storing and using at night, but**
4 **they're not generating at night because there's no sun?**

5 A. That's right.

6 **Q. So would an increase in solar as a generation**
7 **source for the grid reduce its effectiveness to hedge**
8 **against volatility?**

9 A. Yes.

10 **Q. Okay. And it looks like I'm looking at --**

11 A. Wait a minute. Let me come back there.

12 Reduce its effectiveness? What's the baseline?
13 So the point is that CG reduces -- it reduces the
14 variability of the fuel portfolio, so you have less to --
15 you know, you have less to hedge.

16 So you're saying that somehow the hedging
17 benefit from CG solar is less than the hedging benefit
18 from other resources?

19 **Q. No. What I'm suggesting is the hedging benefit**
20 **from CG solar is less when there's more solar on the**
21 **grid, on the system.**

22 A. Oh, gosh. I can't answer that question. That
23 would be built into the hedging model that PacifiCorp
24 uses.

25 **Q. But it's possible that the increased solar**

1 **penetration could reduce the hedging benefit that you've**
2 **identified?**

3 A. Well, a hypothetical. Let's say all your
4 generation is solar. No. Then the answer is no. In
5 fact, you just reduced your risk to zero. So it's not --
6 I think that calculation is -- you know, in the capacity
7 area, you've got one thing, but I don't think you can
8 extrapolate that over to hedging.

9 **Q. And you don't think you can extrapolate it if --**

10 A. I was just pointing out that you have some
11 issues in capacity, in the capacity side where, when you
12 add more solar, then the incremental benefit decreases.
13 That relationship does not hold on the hedging side
14 because you can take it to the extreme that you could
15 reduce your hedging value to zero.

16 So those incremental amounts of solar that you
17 put on the system all have value. They all have value
18 until you don't have a hedging risk anymore.

19 **Q. So it's your position that an increased amount**
20 **of solar penetration would not affect the hedging**
21 **benefit?**

22 A. Again, I --

23 (Court reporter interrupted due to technical issues.)

24 MS. WEGENER: Okay. So remind me what the last
25 question you have is, Ms. Mallonee.

1 THE COURT REPORTER: QUESTION: "But it's
2 possible that the increased solar penetration could
3 reduce the hedging benefit that you've identified?"

4 Q. (BY MS. WEGENER:) So Dr. Berry, can you just go
5 ahead and respond to that question again.

6 A. Sure.

7 No. But I will, again, say that the impact on
8 the hedging value is dependent upon the model used. So
9 that is -- you know, that is some built-in assumption
10 within the PacifiCorp hedging model.

11 Q. So if the PacifiCorp hedging model involves
12 backing down the most expensive resources first, that
13 could have some effect on whether solar penetration
14 affects the hedging value?

15 A. It's not the most expensive, but it's fuel type
16 that matters.

17 Q. Okay. I want to look at Footnote 52. It's Line
18 530, and it's the solar study that you, I believe, are
19 basing your hedging estimate on; is that right?

20 A. Footnote -- can you repeat the footnote number?

21 Q. It's 52. It's on Line 531.

22 A. Okay. I think I might have pulled up a wrong
23 version of this. But it's -- let's see. It's the --
24 it's the Bolinger and Wiser paper?

25 Q. No.

1 A. Let's see. What's the name of the paper?

2 Q. It is --

3 MS. ZIMMERMAN: Ms. Wegener, could you tell us
4 whether it's Dr. Berry's rebuttal, affirmative, or
5 surrebuttal? I think that might be

6 MS. WEGENER: It's Dr. Berry's affirmative.

7 THE WITNESS: Okay. So you said Footnote 53?

8 Q. (BY MS. WEGENER:) Fifty-two.

9 A. Fifty-two. Let's see. I have Footnote 52 as
10 Benjamin L. Norris. Is that the footnote you're
11 referring to?

12 Q. Umm-hmm. And the footnote that that's appended
13 to says that a 2014 study estimated the value of \$26 a
14 megawatt hour of fuel-hedging price benefits.

15 Is that what you're basing your hedging benefit
16 on?

17 A. No, I'm basing it on the E3 paper that was used
18 by the Oregon Public Utilities Commission.

19 Q. Okay.

20 A. That's in Footnote 57.

21 Q. Thank you. One of your criticisms of Rocky
22 Mountain Power's on-peak/off-peak rate that we've
23 proposed in this docket is that they are not different
24 enough to drive behavior. That's right?

25 A. Yes.

1 Q. Okay. And that's because you say they're not
2 2 to 1, which doesn't provide enough of an incentive to
3 change behavior?

4 A. I think that's sort of -- you know, it's a
5 sliding scale, it's not does or doesn't. It's sort of
6 magnitude of the effect that you get. And generally,
7 from experience out there for utilities that have
8 implemented it, the consensus is you need something at
9 least 2 to 1 to get a significant enough movement in
10 consumption to make it work.

11 Q. Okay. And you'd also agree with me that the
12 difference between the full retail rate under net
13 metering, 10.2 cents, and the current transition program
14 export credit rate, which I think is 9.2 cents, is not
15 2 to 1. It doesn't meet that criteria for driving
16 behavior. The difference is smaller?

17 A. Those are two separate -- oh, okay. So you're
18 talking about a customer in the transition program that
19 is paying the retail rate, and then the credit is 9.2
20 cents, does that drive behavior? That's a -- you know,
21 it's a weak driver of behavior.

22 Q. Okay. And the difference between the two
23 programs' ending date uncertainty and the certainty
24 relating to the two programs is that with net metering,
25 the program ends in 2035, and with the transition

1 program, the rate is certain through 2032.

2 You'd agree with me?

3 A. Yes.

4 Q. And that's not a substantial difference in a
5 number of years of certainty, would you agree?

6 A. Are we talking -- you're talking about, is the
7 original NEM 20 years and the transition 15 years? Is
8 that the difference you're talking about?

9 Q. Umm-hmm, and it's 2032 and 2035 are the two
10 ending dates.

11 A. Right. So the question is ...?

12 Q. Is that a substantial difference in the amount
13 of certainty that customers have under the two programs?

14 A. The certainty that they need is -- you know, has
15 to coincide with their investment. So I wouldn't compare
16 the end dates, I would just compare the number of years
17 they got for the fixed term under the program. So 20
18 years on one and 15 on the other.

19 Q. The programs aren't substantially different.
20 You'd agree with me on that?

21 A. By 5 years, they're different.

22 Q. Okay. And you believe that it is the transition
23 program that has just this end date -- the end date
24 difference is 3 years, though, right? The end date. So
25 customers that enroll in the -- in the transition

1 program, their end date is 2032?

2 A. Three years earlier than the NEM program.

3 Q. So it's a 3-year difference.

4 And you believe that it's -- a 3-year difference
5 in duration, and a 10 percent less rate has driven a
6 significant reduction in solar installations in Utah?

7 A. I'm noting that under the transition program
8 that installations have decreased substantially.

9 Q. And you're drawing a conclusion that it's
10 because of the terms of the transition program that the
11 installations have decreased, right?

12 A. Well, it's because of the uncertainty
13 surrounding the whole treatment of CG solar. You know,
14 the whole climate, investment climate has been shaken
15 because folks don't know what's going to happen in Utah.
16 Is there going to be support for this program or not?
17 And so it's -- it's just there's a chilling --

18 Q. You'd agree --

19 A. -- effect on investment.

20 Q. You'd agree that under the transition program,
21 customers have their rates locked in through 2032, right?

22 A. The ones that signed up under the transition
23 program, yes, they do.

24 Q. Okay. Have you or anyone that you know of in
25 this case talked to any customers about why they might be

1 choosing not to install solar at this time?

2 A. I have not talked to any customers, no.

3 Q. Do you know of anyone in this case who has?

4 A. Sure. The solar representatives that have given
5 testimony and talked about -- for example, yesterday, I
6 guess it was Mr. Worley. He's from Vivint, I think. And
7 he was saying that they can't do business because they
8 can't get customers to sign up.

9 Q. Well, I believe -- and I don't want to misstate
10 Mr. Worley's testimony -- but I believe that what he
11 stated is that they are not doing business, that he did
12 not state, in my memory, that it was due to customer
13 demand. But I could be wrong.

14 Isn't it more likely, given the slight reduction
15 in retail rate and the slight reduction in certainty,
16 that some other factors are influencing the reduction in
17 solar installation?

18 A. I wouldn't agree that's a slight reduction in
19 uncertainty. I will agree that the rate, it's a -- it
20 appears to be a minor reduction, although that's not the
21 feedback that the solar providers are giving. So I guess
22 I'll -- I'll refrain from analyzing the impact of the
23 rate reduction, but -- in terms of impact.

24 But yes, there are other things that are
25 impacting the rate, yes, that are impacting the solar

1 industry.

2 Q. And isn't it possible that the large amount of
3 rooftop solar installed prior to the end of the net
4 metering program might contribute to a reduction in
5 demand in the Utah market?

6 A. No.

7 Q. That couldn't contribute at all to a reduction
8 in demand in the Utah market?

9 A. Because there was a large growth, you're saying
10 that a large amount of growth is contributing to the
11 reduction in growth?

12 Q. Yes. I'm saying that leading up to the end of
13 the net metering program, there was a heavy marketing
14 effort focused on the docket that was ending the net
15 metering program, or sought to end the net metering
16 program, and instead capped it, and that that could have
17 contributed to a lot of customers enrolling before that
18 docket was resolved and less demand after the docket was
19 resolved.

20 Is that possible? I know you haven't looked at
21 the data on that. I'm just asking if that's a possible
22 contributing factor.

23 A. Well, I did look at the data. It's in my
24 surrebuttal testimony. I sort of looked at everything
25 month by month to try to track that argument. And you do

1 see a large increase through '16 and '17. But then in
2 '17, you see it starts declining, but it's before
3 anything has happened. It's before anybody knows what's
4 going to happen with the transition program. So it
5 starts declining.

6 And then you can see in the data when people
7 understood what was happening with the transition period
8 that there was a surge in signups, but that's just for a
9 couple of months. And it actually laps over into 2018.

10 So you can identify that effect in the data.
11 But, you know, what's going on in the rest of, you know,
12 '16 and '17 is a separate issue.

13 **Q. Is it possible that installations have gone down**
14 **because installers like Mr. Worley's company are focusing**
15 **on other areas of the country that have higher retail**
16 **electric rates where they might be able to demonstrate a**
17 **better return because of that higher retail electric rate**
18 **and, therefore, get more customers?**

19 A. Yes. I think that because of the move to the
20 transition program and the essential loss of profits that
21 any company is going to look to put business where they
22 can make the most money. So if they can't make money in
23 Utah, then yeah, they would try and move to more
24 lucrative markets.

25 **Q. And I'm asking if maybe the reason for that is**

1 that other regions have higher retail electric rates, and
2 so customers can get a quicker payback in those other
3 regions?

4 A. Well, I'll just tell you from experience, I
5 lived in San Francisco, and I installed solar panels.
6 Their rates are very high, but the costs are
7 astronomical. So there's kind of a -- both things are
8 going up, rates and costs. So the payback period wasn't
9 shorter.

10 Q. All right. But you'd agree with me that there
11 could be other factors contributing to the reduction in
12 solar installations other than the transition program?

13 A. Yes.

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

15 A. Thank you.

16 CHAIRMAN LEVAR: Thank you, Ms. Wegener.

17 Ms. Selendy, do you have redirect for Dr. Berry?

18 MS. ZIMMERMAN: No, thank you very much.

19 CHAIRMAN LEVAR: I'm sorry. Ms. Zimmerman, not
20 Ms. Selendy.

21 MS. ZIMMERMAN: It's a compliment. Don't worry
22 about it. Thank you very much.

23 CHAIRMAN LEVAR: I'm sorry, I didn't hear your
24 answer because I talked over you.

25 MS. ZIMMERMAN: Not at this time. Thank you.

1 CHAIRMAN LEVAR: Okay. Thank you, Ms.
2 Zimmerman.

3 I'll go to Commissioner Clark, then.

4 Do you have any questions for Dr. Berry?

5 COMMISSIONER CLARK: No questions. Thank you.

6 CHAIRMAN LEVAR: Thank you.

7 Commissioner Allen?

8 COMMISSIONER ALLEN: I also have no questions.
9 Thank you.

10 CHAIRMAN LEVAR: Okay. Thank you.

11
12 CROSS-EXAMINATION

13 BY CHAIRMAN LEVAR:

14 Q. I have maybe one or two follow-ups on this -- on
15 the hedging price issue.

16 You've sited this E3 study that the Oregon
17 Public Service commission relied on; is that right?

18 A. Yes.

19 Q. And the study was published in 2011; is that
20 correct?

21 A. Yes, the analysis that was done -- oh, are
22 you -- did -- it could be. I have to look at the paper
23 to see. But that strikes me as being one I just read,
24 so.

25 Q. I just pulled the 2011 date from Footnote 57.

1 **That's all I did.**

2 A. Oh, okay. Great. Yes.

3 **Q. But my follow-up question to that is: Do you**
4 **know the study period that the study was based on?**

5 A. Yes, it's a 7-year period. I believe it's -- it
6 starts in 2006.

7 **Q. And do you know what utilities were included in**
8 **the study?**

9 A. There's no utilities included in the study.
10 It's looking at -- it's comparing forward prices to
11 estimated feature spot prices to see the difference there
12 and if they can -- by doing that comparison, if they can
13 tease out what a risk premium is.

14 **Q. Was it focused on areas within organized markets**
15 **or areas without organized markets?**

16 A. It was focused up in the Pacific northwest.

17 **Q. Okay. So focused on the hubs, the hubs in the**
18 **Pacific northwest?**

19 A. Yes, mid-C in particular.

20 CHAIRMAN LEVAR: Okay. That answers all my
21 questions. Thank you for your testimony today.

22 THE WITNESS: Thank you.

23 CHAIRMAN LEVAR: I think that it's a good time
24 for us to recess for the day. So we will do that, and
25 then we will start at 9:00 a.m. Utah time tomorrow with

1 Vote Solar's next witness.

2 Thank you, everyone, for your participation
3 today.

4 (The matter adjourned at 4:43 p.m.)
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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 15th day of October, 2020.



Michelle Mallonee, RPR, CCR
Utah CCR #267114-7801
Expires May 31, 2022

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