BEFORE THE PUBLIC SERVICE COMMISSION

Docket No. 17-035-61

VIRTUAL

PUBLIC HEARING

March 09, 2021

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BEFORE THE PUBLIC SERVICE COMMISSION OF UTAH

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

VIDEO CONFERENCED PUBLIC HEARING TAKEN

THROUGH ADVANCED REPORTING SOLUTIONS VIA ZOOM

on March 9, 2021

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Reported by: Michelle Mallonee, RPR, CCR

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I N D E X

WITNESS	PAGE
DANIEL J. MACNEIL	
Direct Examination by Ms. Wegener	10
Cross-Examination by Ms. Rokito	19
Cross-Examination by Mr. Holman	41
Cross-Examination by Mr. Mecham	51
Redirect Examination by Ms. Wegener	51
Cross-Examination by Hearing Officer Levar	77
ROBERT A. DAVIS	
Direct Examination by Mr. Jetter	54
Cross-Examination by Ms. Zimmerman	61
Cross-Examination by Mr. Holman	66
Cross-Examination by Mr. Mecham	72
Redirect Examination by Mr. Jetter	73
Cross-Examination by Commissioner Clark	74
KATE BOWMAN	
Direct Examination by Mr. Holman	78
Cross-Examination by Ms. Wegener	89

MICHAEL MILLIGAN

Direct Examination by Ms. Rokito 91

Cross-Examination by Ms. Wegener 100

Redirect Examination by Ms. Rokito 113

Recross Examination by Ms. Wegener 114

Further Redirect Examination by Ms. Rokito 116

SPENCER S. YANG

Direct Examination by Ms. Rokito 119

Cross-Examination by Ms. Wegener 127

P R O C E E D I N G S

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HEARING OFFICER LEVAR: Good morning. It is March 9, 2021, and we are here for the Public Service Commission rehearing in Docket 17-35-61, Application of Rocky Mountain Power to Establish Export Credits for Customer Generated Electricity.

My name is Thad Levar. We have Commissioner David Clark and Commissioner Ron Allen with us this morning.

For transparency's sake, I'll just make this announcement at the outset. My term on the Public Service Commission expired on March 1st. I have been reappointed by Governor Cox but not yet confirmed by the Utah State Senate. So for the purposes of this hearing today, Commissioner Clark and Commissioner Allen have appointed me as the hearing officer to conduct today's hearing, and I will be doing so in that capacity today.

So with that, why don't we go to appearances. And we'll go to Rocky Mountain Power first. If you'd like to make an appearance.

MS. WEGENER: Yes. Good morning. Emily Wegener on behalf of Rocky Mountain Power. And I have with me our witness, Mr. Dan MacNeil. Robert Meredith and Joelle Steward are also with me on the line.

HEARING OFFICER LEVAR: Thank you, Ms. Wegener.

I'll go to the Division of Public Utilities next.

MR. JETTER: And good morning. I'm Justin Jetter. I represent the Utah Division of Public Utilities, and I'm an assistant attorney general for the Utah Attorney General's office. Today, the Division will present one witness, Robert A. Davis.

HEARING OFFICER LEVAR: Thank you, Mr. Jetter.

Is anyone here from the Office of Consumer Services?

MR. MOORE: Yes. This is Robert Moore. Can you hear me?

HEARING OFFICER LEVAR: I can hear you fine. Thank you.

MR. MOORE: I represent the Office of Consumer Services. I'm with the Attorney General's office. The Office has not provided prefiled testimony and will not be presenting a witness. And we'll only be participating minimally in the hearing. Thank you.

HEARING OFFICER LEVAR: Thank you, Mr. Moore.

Is anyone here on behalf of Utah Clean Energy?

MR. HOLMAN: Yes. Good morning, Chair. My name is Hunter Holman for Utah Clean Energy. And our witness, Kate Bowman, is with me here today.

HEARING OFFICER LEVAR: Okay. Thank you, Mr. Holman.

I'll going to Vote Solar next.

MS. ROKITO: Hi, this is Shelby Rokito on behalf of Vote Solar. And our witnesses, Dr. Spencer Yang and Dr. Michael Milligan, will be testifying today.

HEARING OFFICER LEVAR: Thank you, Ms. Rokito.

Do you have anyone representing Vivint Solar in the hearing? Okay. I'm not seeing or hearing anyone representing Vivint.

What about the Utah Solar Energy Association?

MR. MECHAM: Mr. Chair, this is Steve Mecham. I'm not appearing as counsel but as interim director of the association. We filed a letter last Friday. I'm here to monitor to make sure that I understand what Rocky Mountain Power is proposing. And the letter outlines the fact that we have concerns about the proposal slashing through the kilowatt hour rate by perhaps two to two-and-a-half cents. So I'm monitoring. And like Mr. Moore, I don't anticipate participating that much, but I may have a question or two.

HEARING OFFICER LEVAR: Okay. Thank you, Mr. Mecham. So you would like me to come to you on cross-examination for each witness to see if you have questions; is that correct?

MR. MECHAM: I don't know that you need to do that. I may just insert myself, if that's okay. Otherwise, you can assume I have no questions.

HEARING OFFICER LEVAR: Okay. I can move forward that way, with the assumption that you can let us know if you have something.

MR. MECHAM: Oh, I will, thank you. Thanks.

HEARING OFFICER LEVAR: Okay.

Anyone from Salt Lake City Corporation? I'm not seeing or hearing anyone from Salt Lake City.

Western Resource Advocates? I'm not seeing or hearing anyone from WRA.

What about HEAL Utah? Do we have anyone from HEAL Utah making an appearance today? I am not seeing or hearing anything.

So does anyone have any other preliminary matters before we go to Rocky Mountain Power's first witness?

MR. HOLMAN: Chair, if I could, I have one issue. Vote Solar and Utah Clean Energy have spoken before this hearing, and we would like to ask whether it would be okay with the Commission and other parties if we retain the order of cross-examination and the order of witnesses from the last hearing. So Vote Solar would cross-examine witnesses before Utah Clean Energy, and

Utah Clean Energy's witness would appear before Vote Solar's.

HEARING OFFICER LEVAR: If any party today objects to that, please indicate your objection. I'm not seeing or hearing any objections, so we will plan to move forward that way.

I'll just restate to make sure I've got it right. Vote Solar will cross-examine before Utah Clean Energy, but Ms. Bowman will present her testimony prior to Vote Solar's witnesses; is that correct?

MR. HOLMAN: That's correct. Thank you, Chair.

HEARING OFFICER LEVAR: Okay. Thank you, Mr. Holman.

Anything further from anyone before we go to Rocky Mountain Power's first witness? I'm not seeing or hearing anything.

So, Ms. Wegener, if you would like to call your witness.

MS. WEGENER: Yes, the Company calls Dan MacNeil.

HEARING OFFICER LEVAR: Good morning, Mr. MacNeil.

THE WITNESS: Good morning.

HEARING OFFICER LEVAR: Do you swear to tell the truth.

THE WITNESS: I do.
HEARING OFFICER LEVAR: Okay.
Go ahead, Ms. Wegener.

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

DIRECT EXAMINATION
BY MS. WEGENER:
Q. Mr. MacNeil, can you please state and spell your name for the record.
A. Daniel MacNeil. D-A-N-I-E-L, capital M-A-C capital N-E-I-L.
Q. Thank you. What's your position with the Company?
A. I'm a resource commercial strategy advisor.
Q. And did you file -- prepare and cause to be filed the sur-surrebuttal testimony on February 22nd in this matter?
A. I did.
Q. And if I asked you the same questions in that testimony today, would your answers be the same?
A. Yes.

MS. WEGENER: I move to admit the testimony of Dan MacNeil and the associated exhibits.

HEARING OFFICER LEVAR: If anyone objects to that motion, please indicate your objection.

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

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

A. Yes.

Good morning, Chair Levar, Commissioner Clark, and Commissioner Allen. I guess you may not be the Chair at this moment, Mr. Levar, but nonetheless.

My sur-surrebuttal testimony addressed each of the six items identified in the rehearing order; specifically, the capacity contribution and carrying charge values for avoided generation, transmission, and distribution capacity costs.

There seems to have been some confusion about a variety of generation capacity contribution alternatives contained in my rebuttal testimony. The Table 2 on page 8 of my sur-surrebuttal testimony summarized the key assumptions in the scenarios that are currently before the Commission.

First, all of these scenarios relied on Vote Solar's customer generation, or CG, export profile based

on 2019 historical data. The generation capacity contribution approved in the October order was based on a value for 2021 of 28.96 percent from Dr. Milligan's surrebuttal. I would note that this value reflects an export profile that was grossed up for line losses, resulting in a higher value than in Dr. Milligan's initial proposal. This capacity contribution of losses was then grossed up again for losses when the avoided generation capacity cost was applied, resulting in a double count.

Dr. Milligan's methodology compares the CG export profile from 2019 to the top 10 percent load hours in the Company's load forecast for 2021.

While Dr. Milligan shifted the CG export profile so that the days of the week were aligned with the days in the 2021 load forecast, he made no attempt to account for the impact of weather. The result is an essentially random alignment between the historical weather in the export credit profile and the normalized weather in a load forecast.

For example, Dr. Milligan compares CG exports from the tenth highest load day in 2019 to the highest load day in 2021. But in 2019, CG exports on the 10th highest load day were 19 percent higher than on the highest load day. This makes sense because a higher than

average portion of CG production would be devoted to a customer's own needs during peak producing weather, resulting in lower CG exports. Lower CG exports under peak conditions would result in a lower capacity contribution.

And that is what I found when I prepared an analogous calculation using Vote Solar's CG export profile and the top 10 percent of Utah load hours for the same period, as shown in the 2019 Utah load scenario in Table 2, and which I presented in rebuttal.

Because it compares exports, the load on the same historical days, the scenario ensures that the same weather conditions are reflected in both CG exports and load.

I would also note utility scale solar generation has no bearing on the results of this scenario. It results in a capacity contribution before losses of 21.99 percent, which is somewhat lower than Dr. Milligan's proposal.

The next scenario I would like to highlight is entitled "2019 Utah Load Net of 2019 Solar." Because Utah customers were paying for and receiving the output from a number of utility scale solar resources in Utah during 2019, the risk of loss of load events was significantly reduced from what it would have otherwise

been during daylight hours when these resources were generating. When this existing supply is netted out of load, a number of daytime hours move out of the top 10 percent and are replaced by evening hours when utility scale solar and CG exports are reduced, resulting in a lower capacity contribution for CG exports of 11.83 percent.

At the time of my rebuttal, the Company had roughly 700 megawatts of signed contracts for solar resources in Utah that were not online in 2019. And I used that level of solar in the scenario "2019 Utah Load" that have contracted Utah solar, which produced a capacity contribution of 4.14 percent.

All of my scenarios thus far are based on 2019 hourly data for low CG exports and, where applicable, utility scale solar generation.

In contrast, the 2019 IRP forecast scenario uses IRP model results, specifically the timing and frequency of loss of load events in 2030 rather than the top 10 percent of load hours. This modeling identifies the risks of a specific portfolio of resources, in this case one that is close to the 2019 IRP preferred portfolio in 2030.

The capacity contribution in this scenario was 3.73 percent. While it has significantly higher solar

resources, those resources also support synergies with energy storage resources in the portfolio. In addition, the scenario does not reflect weather matching conditions because it compares actual CG exports forecasted.

In light of the focus on the 2021 rate effective period in the Commission's October order, my sur-surrebuttal testimony included a scenario that is in between the 2019 actual solar capacity and the total contracted solar capacity.

Instead, my proposal is limited to solar resources that have reached commercial operation or are expected to be in commercial operation before peak summer conditions in 2021. The generation capacity contribution of 6.49 percent in this scenario accounts for the effective weather on load and CG exports as well as the reliability benefits that contracted utility scale solar resources will provide to retail ratepayers this year and represents my recommended value for the generation capacity contribution of CG exports in this proceeding.

The October order adopted the same capacity contribution values for the generation, transmission, and distribution. However, the need for generation, transmission, and distribution upgrades is not necessarily driven by the same conditions. And these investments are also subject to different cost

allocation.

The October order adopted the Company's Open Access Transmission Tariff, or OATT, rates for avoided transmission capacity. Under the OATT, the cost of network integration transmission service used to serve Utah load is based on a transmission customer's hourly load coincident with PacifiCorp transmission's monthly transmission system peak.

In five months of 2019, mainly in the winter, the Vote Solar CG export profile was zero during the monthly transmission system peak and, thus, would not contribute to cost savings for other Utah customers.

Over the 12 monthly transmission system peaks, the average CG exports were 7.72 percent. This value more accurately reflects the transmission capacity contribution of CG exports rather than the average CG exports in the top 10 percent of Utah load hours.

Utah distribution system costs are allocated entirely to Utah customers, so the transmission allocation is not applicable. In addition, utility scale generation resources are typically delivered to retail customers across the distribution system. So unlike generation capacity contribution, it is not appropriate to net them out of the Utah load. When considering the highest load hours, they're likely to drive the need for

distribution system upgrades.

My 2019 Utah Load scenario meets these criteria and results in a distribution capacity contribution before losses of 21.99 percent.

With regard to carrying charges, I'd first like to address the two items (inaudible) myself and parties. The adjustments made by the Commission to the carrying costs of generation and transmission were not appropriate, as both proposals already reflected annual costs that included reasonable carrying charges.

More importantly, the weighted average cost of capital, or WACC, is not the same as the carrying charge for an asset. WACC represents the incrementable cost of the debt inequity obligations used to support capital investments over a single year. In contrast, the carrying charge for an asset is both the repayment of capital and the accrual cost of that capital spread over the life of the asset. As a result, the carrying charge is specific to the life of the asset.

The marginal cost of service study in the recent Utah general rate case assumes shorter lives for certain assets; for instance, a 20-year life for generation assets. While this can be informative for allocating costs and designing rates, this shorter life is not consistent with the revenue requirement the Company would

collect from customers. As a result, the marginal cost of service study is not an appropriate source of carrying charges for export credit capacity costs.

For distribution capacity, I recommend that the Commission adopt a carrying charge of 6.51 percent. This value was used to credit energy efficiency investments or avoided distribution capacity in the Company's 2019 Integrated Resource Plan, or IRP, and was provided in the revised direct testimony of Vote Solar witness Dr. Spencer Yang in Confidential Exhibit 2.

Tables 3, 4, and 5 in my testimony illustrate the calculations used to convert capacity costs to export credits, including the Vote Solar proposals underlying the Commission-ordered rates, the Commission-ordered adjustments, and my recommended export credits values.

Table 1 on page 4 of my testimony summarizes my recommendations. I recommended generation capacity credit of 0.62 cents per kilowatt hour based on a generation capacity contribution of 6.49 percent and a carrying charge of 6.96 percent.

I recommended a transmission capacity credit of 0.31 cents per kilowatt hour based on a transmission capacity contribution of 7.72 percent without any adjustment for carrying charges.

I recommend a distribution capacity credit of

0.21 cents per kilowatt hour based on a distribution capacity contribution of 21.99 percent and a carrying charge of 6.51 percent.

That concludes my summary.

Q. (BY MS. WEGENER:) Thank you.

MS. WEGENER: I have nothing further for this witness, and Mr. MacNeil is now available for cross-examination and questions from the Commission.

HEARING OFFICER LEVAR: Thank you, Ms. Wegener.

Ms. Rokito or anyone else from Vote Solar, do you have questions for Mr. MacNeil?

MS. ROKITO: I do, thank you.

CROSS-EXAMINATION

BY MS. ROKITO:

Q. Mr. MacNeil, you stated in your opening statement that the addition of utility scale solar would lower loss of load probability; is that right?

A. It would move the loss of load probability around. It would lower it during the day. When there are more resources during the day, the probability distribution would be shifted.

Q. So in other words, the addition of utility scale solar is not always going to lower loss of load probability.

A. Having one more megawatt of anything in a particular hour will lower loss of load probability in that hour.

Q. That proposition that you mentioned in your opening statement, that the addition of utility scale solar lowers loss of load probability, that also assumes perfect reliability from utility scale solar; isn't that right?

A. Even if we only have a 50 percent chance of getting utility scale solar in a given hour, that still is 50 percent of the time you would get a reduction in loss of load events. So, you know, any amount of resource that might occur will reduce the loss of load probability in that hour.

Q. Okay. 50 percent of the time?

A. Whatever the percentage happens to be, you know, however reliable your asset is, it will -- if there's a chance that you get a new asset, then when that asset shows up, your loss of load probability will be reduced.

Q. Okay. But it does depend on the reliability of the asset?

A. Certainly.

Q. Mr. MacNeil, you're proposing a generation capacity contribution for CG solar of 6.49 percent in this proceeding; is that right?

A. Yes.
Q. And that's based on the method that you refer to in your testimony as the "2019 Utah Load Net of 2021 Utah Solar." I believe that was on Table 2 that we just saw?
A. Yes.
Q. Now, you've netted out utility scale generation from RMP's load in that method; is that right?
A. I netted out utility scale solar resources in Utah from Rocky Mountain Power's Utah load, yes.
Q. Thank you. So, in doing so, you're assuming that utility scale solar is serving some portion of total demand in Utah; is that right?
A. Yes.
Q. So you subtract utility scale solar generation output from the total demand in all hours, including peak load hours, in performing that approach?
A. It -- the analysis looks at every hour in the year, and I subtract the utility scale solar generation in every hour of the year, yes. That includes peak hours.
Q. Did you cite any studies in your sur-surrebuttal testimony that support your method of netting out utility scale solar generation from Utah load hours?
A. I do not believe so.
Q. Okay. When you subtract that utility scale

generation, what you're left with is a set of top load hours that's different from the top peak load hours; isn't that right?

A. Yes, they are different.

Q. And during this new set of top load hours, the sun's less likely to be shining, right, during that time?

A. Yeah.

Q. Utility scale solar and CG solar, they both generate power while the sun is shining. Can we agree on that?

A. Yes.

Q. So when you reduce load by the amount of energy that utility scale solar's generating, what you're left with are top load hours where CG solar isn't going to be producing as much energy, correct?

A. Yes.

Q. You've created a scenario where CG capacity contribution is actually guaranteed to be lower than it would have been had you not netted out utility scale generation; is that right?

A. I created a scenario that better reflects the risk on the system because it accounts for the particular patterns of resources that are highly relevant to the capacity contribution of CG exports.

Q. So had you performed the same approach without

netting out utility scale solar resources, you actually would have arrived at a higher capacity contribution for CG solar?

A. Well, I did perform the same approach without netting out any capacity contribution for any of the utility scale resources, and it was higher. I mean, that's shown in Table 2.

Q. Okay. Thank you. Mr. MacNeil, you actually could have performed, had you wanted to, a variation of the method where you subtracted wind resources instead of utility scale solar resources.

A. Certainly I could have done that.

Q. And in that case, you might have come out with actually a higher capacity contribution for CG solar?

A. Perhaps higher than the version with all of the utility scale contracted solar resources. But there's not that much wind in Utah, so it wouldn't have been that significant of a change.

Q. You also could have performed some variation of the method where, instead of taking out utility scale solar resources, you're taking out peaking resources, right?

A. What do you mean by "peaking resources"?

Q. I'm talking about -- you know, I'm talking about any type of resource that's not utility scale solar. So,

you said you could do it by taking out wind resources. You could do it by taking out coal resources. You could perform this method that you've performed here, but you chose to do it with utility scale solar resources. So I'm asking whether you could have ran the same method but by taking out a different type of resource from the equation?

A. So the thing about coal resources, for example, or gas peakers or anything like that is that it's not the generation that you would take out. What is important in that analysis for those resources is how much is available. So if the coal resource is available in every single hour, it would reduce the, you know, the net load in every single hour. And it wouldn't shift around the hours in which, you know, the loss of load is expected to be higher. And it wouldn't shift around the top 10 percent. So, you know, coal, thermal resources, those would not typically affect the way in which the loss of load is ranked.

Q. Okay. But you are acknowledging, then, that netting out utility scale generation is going to shift around the hours?

A. Taking out a coal plant will generally not shift around the hours.

Q. I asked whether taking out utility scale

generation resources will shift around the hours?

A. So we discussed that solar will shift around the hours already, and wind will shift around the hours already. I do not believe that thermal resources are likely to shift around the hours.

Q. Okay. And your load method nets out at least some utility scale solar that's not operating today, correct?

A. There is one solar resource in my method in my proposed value that is expected to reach commercial operation in about a month.

Q. Okay.

A. But the rest are all operating today.

Q. Okay. Did you review any of the materials that PacifiCorp released in preparation for the 2021 IRP?

A. I am familiar with the inputs and materials for the 2021 IRP, yes.

Q. Did you review specifically the July 30th, 2020 presentation on capacity contribution that Dr. Milligan discussed in his testimony?

A. I produced that, much of that presentation on capacity contribution, so yes.

Q. Oh, you did. Okay.

So, in that presentation, PacifiCorp is proposing a portfolio contribution approach for

calculating capacity contribution; is that right?

A. Yes.

Q. And according to that presentation, the portfolio contribution approach recognizes that the order in which resources are accounted for in the capacity contribution analysis matters, correct?

A. The portfolio contribution does not acknowledge a quarter. The concept of the portfolio contribution is that a portfolio has a given amount of capacity and reliability that it provides. All of the pieces working together provide that. It doesn't say anything about allocating, you know, the capacity credit to individual components of that portfolio.

Q. Right. In fact, a direct result (phonetic) is by doing so would produce an arbitrary result, right?

A. Yes. The designation of which resources are providing capacity when in different hours, different resources are available and are contributing in different ways, there are many arbitrary aspects about that, yes.

Q. Okay. The method you propose in this proceeding is not the portfolio contribution approach; is that right?

A. That's correct.

Q. Instead, you're proposing a variation of the load approach that first subtracts utility scale

generation output?

A. I am. And the reason for that is that, you know, when we identified our 2030 values from the 2019 IRP that uses that portfolio approach, there were a lot of criticisms that it's too far in the future. It includes planned future resources and were thought that that was inappropriate. You know, the analysis necessary to conduct a portfolio evaluation is very complicated. It involves a lot of inputs and assumptions that are not transparent. And our 2021 IRP values are not ready yet.

The other key thing about the portfolio approach is that it's only good for one portfolio. So, you know, if you change the components within that portfolio, you're going to end up with different results.

So, you know, there's a lot of benefits to a portfolio approach in making sure that your system as a whole is reliable. But, you know, there's also a great deal of effort and complexity.

Q. When does the 2021 IRP come out?

A. It's been postponed. It's now scheduled to be released no later than September 1st of 2021.

Q. Thanks. Mr. MacNeil, the carrying charge that you recommend the Commission adopt in this proceeding for generation and distribution capacity comes from the 2019 IRP, right?

A. Yes.
Q. But you'd agree that the carrying charge the Commission adopts should accurately reflect RMP's current cost of equity and debt in Utah, correct?
A. It should reasonably reflect RMP's costs. I do not believe those are significantly different between the 2019 IRP and what the Commission recently approved.
Q. Okay. The "cost of debt," that means the rate the Company actually pays on its debt, right?
A. Well, the cost of debt, you know, there's the headline number on a bond, but there's also what the Company charges retail ratepayers for debt. And because, you know, the Company can credit against its income tax all of the cost of repaying debt, all the interest, retail ratepayers pay a lower value. So the after-tax cost of debt is lower than the headline rate for debt.
Q. We can agree that the cost of debt changes over time, right?
A. Certainly.
Q. So if the Company's credit rating, for example, changes, that could impact the cost of debt?
A. Yes.
Q. And the Company's cost of equity also does not stay exactly the same from year to year, correct?
A. That's true.

Q. So wouldn't you agree that the cost of debt inequity in Utah identified in the current rate case, PacifiCorp's current rate case that was filed in May 2020, would better reflect the current cost of debt inequity than the value identified in the 2019 IRP?

A. Well, I agree that, for Utah, it would be appropriate to use the cost of debt inequity. I would also just note that the cost of capital after tax from the most recent Utah GRC is actually lower than the 2019 IRP cost of cap.

So, I would support a reduction to the carrying charges for the various assets. I don't know how big of a change that would be. And I -- you know, the math is quite complicated on calculating carrying charges, so I wouldn't be able to provide a calculation or a number.

Q. So you're no longer recommending that the Commission adopt the values that were actually presented in the 2019 IRP?

A. The best values that I have available are based on the 2019 IRP. I believe they are reasonable. But to the extent the Commission wanted to adopt a more exact value based on the Utah GRC, some level of analytical work would be necessary to calculate what the appropriate values would be and to apply those. But I don't have those today.

Q. PacifiCorp has already done that, right? They've presented the marginal cost of service study for the 12 months ending December 31st, 2021?

A. I'm not aware of the -- of that study. And I don't believe that there are carrying charges in there that would be appropriate to apply to this proceeding, the export credit values.

Q. You're not aware of PacifiCorp's marginal cost of service study from its general rate case?

A. I'm -- sorry, I thought you said ending 2020. I'm not sure. I haven't reviewed those details. I'm -- I'm aware of the marginal cost of service study that I reference in my testimony, but -- I don't know.

Please repeat the question.

Q. My question was whether you would agree that the cost of debt inequity in Utah that's presented in PacifiCorp's current rate case in which it filed its marginal cost of service study for the period ending December 31st, 2021, would better reflect the current cost of debt inequity in the value identified in PacifiCorp's 2019 IRP?

A. That's a big question. The -- I agree that the cost of capital, you know, the cost of debt, the cost of equity, the balance of debt inequity that were approved in the Utah GRC, could be appropriate as inputs to a

calculation of the carrying charge. But I do not believe that carrying charges in the Utah GRC have calculated appropriate inputs, to my knowledge, for either the simple cycle proxy for generation or the distribution upgrade carrying charge.

Q. I'd like to ask you about your transmission capacity contribution method.

You used PacifiCorp's monthly transmission system peaks, correct?

A. Yes.

Q. For generation capacity contribution, you used a load method, right?

A. That's true.

Q. Couldn't you have used the load method to calculate transmission capacity contribution as well if you wanted to?

A. That math is certainly possible, yes.

Q. In fact, you state in your testimony it could be reasonable to develop a transmission capacity contribution without netting out any generation resources, right?

A. Can you provide a cite, please?

Q. Sure. That's Lines 302 to 304 of your sur-surrebuttal testimony.

A. I see that, yes.

Q. I'll repeat my question.

You actually believe it would have been reasonable to develop a transmission capacity contribution without netting out any generation resources?

A. It is possible for that to be the case. But as I go on to state, in this instance where the actual transmission system charges are based on particular hours, the 12 monthly transmission system peaks, looking at those hours, which are not -- which do not net out any generation resources, they're just the load, you know, that's more appropriate than the top 10 percent.

So, you know, I agree that, yes, not netting out generation resources can be appropriate, and I present a method which does not net out generation resources.

Q. Let's take a look at Table 2 of your sur-surrebuttal testimony. That's Tab 16.

So you if look under "RMP Rebuttal Scenarios," the first one, the "2019 Load Scenario," you calculate capacity contribution without netting out generation resources, right --

A. Yes.

Q. -- in this --

And you actually calculated capacity contribution of 21.99 percent, correct?

A. Yes.
Q. But you didn't use this method, which was reasonable to use, for transmission capacity contribution, you actually use the monthly transmission system peaks approach?
A. And that's because the allocation of transmission costs is based on the OATT. And the OATT says that a monthly transmission system peak, the single hour in each month that has the highest load, is the way in which transmission costs are allocated. So if there was an individual location that, you know, was focused on transmission costs and, you know, had full costs allocated to them, they can choose to allocate those costs based on the top 10 percent method. But that technique isn't really applicable to Rocky Mountain Power's retail customers in Utah.
Q. Okay. So you used the monthly transmission system peaks to perform the calculation, and you got a value of 7.72 percent, right?
A. Yeah.
Q. So you're proposing a transmission capacity contribution value in this proceeding that's actually less than half of the value that you calculate using the 2019 Utah Load scenario that we're looking at?
A. 7.72 is less than half of 21.99, yes.

Q. PacifiCorp's monthly transmission system peaks are used to determine the allocation of transmission costs to retail customers, right?

A. They're used to allocate the costs to all entities under the OATT, you know. The application of the OATT rate is the way that's used. The Utah Commission has a certain amount of transmission costs that it allocates to all of Utah ratepayers. So that's done under the multi-state protocol, or whatever protocol we're on at this point.

So, Utah ratepayers, to some extent, yes, are paying these rates. But it -- ultimately the Commission decides how those are paid.

Q. Okay. But you recognize that transmission cost allocation and transmission capacity contribution are two different concepts, right?

A. Ultimately, our goal for CG exports is that whatever benefits those CG exports produce are savings for other retail ratepayers, and we provide compensation based on that. So the contribution and the costs, you know, and the allocation, those are related.

Q. Related, but you'd have to acknowledge that transmission cost allocation, that's determining how to fairly allocate to retail customers or other customers as well, as you just said, the costs incurred to build

existing transmission, correct?

A. I mean, the OATT rate reflects existing transmission. I'm not quite sure I follow your question.

Q. Mr. MacNeil, assessing how to allocate previously-spent capital, right, that's different than identifying the amount of transmission capacity that's available to serve peak load without hampering system reliability. Those are two different things, right? We can agree with that?

A. Yes. I mean, when -- when transmission system planning needs to build a new element of the transmission system in order to meet peak load, they do not think about how it will be allocated when they do that calculation.

Q. Okay. Thank you.

But you're asking the Commission to use a measure for transmission cost allocation, though, to determine transmission capacity contribution in this proceeding?

A. To the extent that Utah customers share a transmission system with lots of other entities, if there is a new segment that's required, the way in which that will be allocated to Utah customers doesn't matter whether Utah customers are driving the need or not. The way in which they pay for it is based on the cost

allocation. So, you know, it -- they can build it based on other people paying because the transmission network is shared.

Q. Mr. MacNeil, sitting here today, are you aware of any other public service commission that has approved a proposal to quantify capacity contribution for CG solar using the monthly transmission system peaks?

A. I am not.

Q. Thank you. Under the monthly transmission system peak approach, you're using data from 12 hours of the year, correct?

A. Yes.

Q. To clarify, you're taking one hour from each of the 12 months of the year, and you're using that to determine transmission capacity contribution?

A. Yes.

Q. You're familiar with the concept of sampling error, right?

A. Yes.

Q. When sample size increases, sampling error decreases, correct?

A. It depends what you're measuring. You know, if we're measuring the peak load, you can't measure peak load by taking a lot of datapoints.

Q. There are 8,760 hours in a year, right?

A. Except for leap years, but yes.
Q. Except for leap years.
So the monthly transmission system peaks method, which you said uses 12 hours of the year, it's going to use about .1 percent of the total hours in a year, right?
A. Subject to check, yes.
Q. For calculating generation capacity contribution in this proceeding, you're using the top 10 percent of load hours, right?
A. I went with the method that Dr. Milligan supported, which is the top 10 percent of load hours. I do not believe that any sort of improvement that I could have made by adjusting that percentage -- any sort of benefit that I might have gotten from that would be completely outweighed by the complexity of trying to explain why it was better. I think there are ways to make it better. I think there are ways in which that 10 percent value from a 1997 study with the utility -- it was very different from us, you know -- produces that result and may not be accurate for us, but I have not disputed it.
Q. You used a method that had a sample size of 876 datapoints.
A. It does have that many datapoints, yes.
Q. From a statistical standpoint, wouldn't you

agree that the load method that uses 876 datapoints more accurately reflects the capacity contribution of CG exports than an approach that uses 12 datapoints?

A. I don't believe statistically that the number of datapoints there is that important. Is there some uncertainty around either method? Absolutely. I mean Dr. Milligan has said that his method is an approximation of the actual contribution. So 876 datapoints gets you an approximation of what the ELCC value might be, the Effective Load Carrying Capability. The fact that there are 12 datapoints, okay, that one's different. It's for a different purpose.

Is there a risk that CG export values will vary from year to year based on the timing of the exact monthly transmission system peak? Yes. We can get more data by expanding the number of years of the history. But adding more datapoints will not allow Utah ratepayers to receive compensation for the second highest hour of load in a month or the tenth highest or the tenth percentile.

Q. Okay. Mr. MacNeil, you acknowledge that system demand in the middle of summer is going to be higher than system demand in, let's say, March or April, right?

A. Typically our load is highest in the summer, yes.

Q. Okay. So you recognize that system conditions are different from one month to the next?

A. Yes.

Q. But you propose weighting the 12 months of the year equally in your calculation of transmission capacity contribution?

A. That is the method used to allocate transmission system costs under our Open Access Transmission Tariff. And to the extent that compensation is based on that allocation method, those billing determinants, it's appropriate to use those billing determinants.

Q. Thank you. In the October 30th order, the Commission approved a total capacity value for CG solar of 3.53 cents per kilowatt hour, correct?

A. I don't have it in front of me, but I will accept that.

Q. You're recommending today that the Commission approve a capacity value of less than half of what the Commission approved in October, 1.13 cents per kilowatt hour, right?

A. Yes.

Q. I don't have any further questions.

HEARING OFFICER LEVAR: Thank you, Ms. Rokito.

It would have been more equitable if I had gone to Mr. Jetter and Mr. Moore before I went to you. So, I

will give you another shot at cross-examination before we go to recross because it would have been more fair to go in that order. I apologize for that.

MS. ROKITO: Thank you. I also forgot about the order. Thank you, Chair Levar.

HEARING OFFICER LEVAR: So with that -- and let me just also mention if you're not actively participating in the hearing; for example, if you're not an attorney asking questions, the witness, or if you're an attorney whose witness is being cross-examined by someone else, we'd ask you to turn your video off. We've had some distracting video feeds from participants.

And I would also request if you're not participating in the hearing at all today, we are streaming the hearing live. (Inaudible) the Google Meet a little more manageable so we know who's on and who isn't. So, if you're not a participant or a party, we would invite you to watch the hearing through YouTube rather than participating in the Google Meet.

With that, I will go to Mr. Jetter.

Do you have any questions for Mr. MacNeil?

MR. JETTER: I was going to just let you know that it was probably a harmless error to go out of order because I do not have any questions. Thank you, Chair Levar.

HEARING OFFICER LEVAR: Thank you, Mr. Jetter.

Mr. Moore, do you have any questions?

MR. MOORE: No questions, thank you.

HEARING OFFICER LEVAR: Okay. Thank you, Mr. Moore.

I'll go to Mr. Holman, then.

MR. HOLMAN: Thank you, Chair Levar.

CROSS-EXAMINATION

BY MR. HOLMAN:

Q. Good morning, Mr. MacNeil.

A. Good morning.

Q. I am going to have a set of abbreviated questions because Vote Solar covered many of my topics. So, hopefully, this can go relatively quickly.

The first question I have relates to a line in your sur-surrebuttal testimony. There are actually three questions they're on. If you're interested in finding at least one of them, it's the same question asked three times at 266, 340, and 384.

And the question is: "Does the Company's recommended generation" and then in the subsequent two questions, transmission and distribution capacity contribution methodology, "allow for annual updates that are relatively easy to review?"

Your answer to that question, all three of those questions was "Yes."

Is that still your testimony today?

A. So 266, what was second one?

Q. 340?

A. 340.

Q. Yeah.

A. The last one? Yep 384.

Q. Yes.

A. Yep, that's still my testimony.

Q. Okay. And you've talked in your hearing statement and in cross already about your specific proposals for all three categories of capacity contribution, so we don't need to go into those. I think everyone has a firm grasp on what your proposal is at this point.

My question is: Would you agree with me that Vote Solar's proposal, which is one calculation for all three buckets of capacity contributions, is simpler than your proposal?

A. Doing one calculation with 8,760 values is easier than doing three calculations --

Q. Okay.

A. -- or two of them with 8,760 and one with 12, maybe. But yes, it's simpler.

Q. Okay. So would you also agree with me that Vote Solar's proposal would be just as easy to review during annual updates if not potentially easier given it's more simple?

A. The one element of Vote Solar's proposal that isn't, perhaps, as easy is that it is reliant upon our load forecast. There can always be disputes over whether our load forecast is accurate or correct, has the right components, things like that. But as far as the math is concerned, yes, it is a relatively comparable calculation.

Q. Okay. I had some questions on the generation capacity contribution, and I've been trying to red line questions that you've already been asked and answered. So, I may not have gotten them all, so I apologize if this is slightly redundant.

But I want to just clarify that your proposal with regard to netting out utility scale solar generation to Utah load is effectively, in your calculation at least, assuming that utility scale solar will always be dispatched first to meet Utah load.

Is that a fair assessment?

A. It's not that it's dispatched first, it's just that the amount of megawatts that are needed to serve load are lower than they might otherwise have been. So,

in the instances where Utah solar is available, those are megawatts we don't need to have from somewhere else in order to make sure we have enough to service it, serve Utah.

Q. And isn't kind of fair to say that you don't need megawatts to serve that portion of load but it's, in theory, already been served by utility scale solar?

A. That's the idea.

Q. Okay. In real life, will utility scale solar always serve load before a CG export can serve that very same element of load?

A. In real life, the contracted solar resources that we have available to us will always be available. Whether we curtail them or whatever, the capacity that they provide is sitting there. There may be instances across the year where they don't deliver, and by looking at the actual history, we get both periods when they delivered a lot, when they delivered a little. All of that is baked in.

Q. Okay. But let's just say hypothetically that if there's a wildfire in Utah and you need to shut down a transmission line and that act makes it difficult for energy or capacity from a utility scale solar project to serve load in Utah -- in Salt Lake City, say -- but it's very sunny in Salt Lake City and rooftop solar is

generating happily. It's possible that the Utah -- that the Salt Lake City rooftop solar is going to serve load in Salt Lake City before a utility scale project that's having difficulty getting there because of transmission issues?

A. That would be one possible instance where we would be unable to deliver generation resources.

Q. Okay. I think I'll move on -- I think everything else was touched on -- to your transmission capacity contribution calculation. And, again, most of this was covered, so I won't force everyone to sit through it again.

But I do want to just follow up on some of the questions that Vote Solar had asked you. And at the outset, I'll just say that the question I need to ask you is, in part, based on your second support spreadsheet which is labeled as confidential from Rocky Mountain Power. I'm not going to ask you to read that, or I'm not going to show anyone that. I don't want to force this to go into closed session. I am going to ask a question about some information that's on there. So, if I could ask Ms. Wegener or Mr. MacNeil, if you feel like my question is soliciting confidential information from Mr. MacNeil, we can just stop and evaluate it there, if that's acceptable.

A. I understand.

Q. Okay. There is a lot of conversation that you had with Vote Solar, the attorneys for Vote Solar, on the difference between your proposal being one hour for each month versus the top 10 high load hours in Utah. And I want to just sort of clarify.

Can you tell me whether the hour Rocky Mountain Power proposes to use for the month of January falls within the top 10 percent of high load hours in Utah?

A. My understanding is that -- I do not believe that any of the top 10 percent of load hours in Utah are in January, but I would have to check to be sure, you know. The Utah load peaks in the summertime, the top 10 percent of load, it's the top 10 percent of load hours for the entire year. So, you know, we could have 876 hours that are only in July and August. That's possible for Utah. I don't think it's quite that concentrated, but I am not sure exactly how many are in other months.

Q. Okay. I'm going to ask you that same question for the month of -- months of February, March, April, May, October, November, and December. And if you'd rather, we can -- I can give you a break, and you can take a look at that spreadsheet if you'd like to confirm. Or, we can just stipulate that only four of your proposed hours actually fall within the top 10 percent of Utah's

high load hours. It's on the spreadsheet that you provided.

A. I understand that. The exact number, I'd have to -- subject to check, but I'm certainly willing to take that statement --

Q. Okay.

A. -- and we can discuss.

Q. Okay. The last couple questions I have for you relate to a statement that you made in your testimony related to storage. It's on page 12 and begins on Line 238. I'll give you a minute to get there.

A. Okay.

Q. Okay. The group says -- I'm just going to read it for the benefit of everyone. "Energy storage resources are likely to have synergistic effects" -- "Energy storage resources are likely to have synergistic effects such that the total capacity contribution in a portfolio that includes solar will be higher than if either energy storage or solar were incorporated in the portfolio on their own."

So, do you still believe that the total capacity contribution of a portfolio with solar and storage is going to be higher than if either of those resources were in the portfolio alone?

A. Yes.

Q. Okay. And is my assumption correct that when you say "solar" in that quote above, you mean to include both utility scale solar and CG solar such that the capacity contribution of a portfolio with both rooftop solar and storage will be higher than if rooftop solar were in there without storage?

A. Yes.

Q. Okay. And I know that you go on, I think, in the next section of that testimony to say that Rocky Mountain Power doesn't plan on adding a substantial amount of storage in 2021?

A. That Rocky Mountain Power --

Q. Yeah, that Rocky Mountain Power is likely going to add storage in subsequent months. I think, if my recollection is correct, the 2019 IRP actually had called for a pretty significant amount by the end of 2024.

So, my question is: Does your calculation account -- the calculation that you're proposing here in that proceeding today -- account for how storage may change the capacity contribution of CG exports in years in which you do add storage?

A. So, I believe that the calculation is perhaps fairly readily adaptable to that. I think we have a couple of years. While the 2019 IRP preferred portfolio included some solar and storage resources in 2021, '22,

and '23, you know, we don't currently have any coming online or contracts or anything for that. So, it will be a year or two before we have to handle that.

I -- you know, there was discussion of wind earlier. You know, we can certainly add other hourly actuals, including wind and storage, to come up with net profiles that, you know, reasonably reflect the distribution of the hours of highest need in order to calculate a capacity contribution.

So I haven't proposed anything specifically related to that. That is definitely an area for future work. But I think, you know, hourly actuals from, you know, the key resource types, are available -- will be.

Q. Okay. I just have, I think, one or two, maybe, more follow-up questions on something you just said.

Earlier, when you were speaking with the attorney from Vote Solar, you mentioned that -- and you just reiterated it here -- that you could layer on wind to your calculation, and that will potentially change the capacity contribution of rooftop solar. You talked about how storage could potentially change the capacity contribution for solar.

But your proposal, as I understand it, only considers utility scale solar. So, if the effort of this Commission is to try and identify the most accurate

capacity contribution for this resource, rooftop solar, wouldn't it be more prudent to incorporate those things so that you could actually contribute -- so that you could enter in their value or their decrement to capacity contribution, however it plays out?

A. So, we have very little -- we have essentially -- well, we have a very, very tiny amount of energy storage in Utah at this point. We have very few wind contracts. I know of one off the top of my head. So, you know, would those significantly change the results for 2021? I do not believe so. You know, to the extent we're pursuing a methodology that is perfect and will forever be, you know, the most accurate technique, those don't exist. But, you know, there are certainly tweaks to this that can be made over time to get at a better result.

Q. Okay. That is all my questions. So thank you, Mr. MacNeil.

HEARING OFFICER LEVAR: Thank you, Mr. Holman.

Ms. Wegener, do you have any redirect?

MR. MECHAM: Mr. Chair? Mr. Chair --

HEARING OFFICER LEVAR: Go ahead.

MR. MECHAM: I do have a -- I just have a question about the retail effect of Mr. MacNeil's proposal.

CROSS-EXAMINATION

BY MR. MECHAM:

Q. So Mr. MacNeil, if the Commission adopts your proposal, what is the export rate?

A. All I have off the top of my head is the summary for the capacity components, and that's 1.13 cents per kilowatt hour.

Q. Okay. I'm just trying to figure out what the retail effect is on a customer. And based on my quick review of the testimony, would you accept that it could be 2 or more lower? In other words, the Commission set the rate at 5.6 and 5.9. And the effect of your proposal would take it down in the 3.2 to 3.5 cent range?

A. Those numbers sound about right to me, yes.

Q. Okay.

MR. MECHAM: That's all I have, Mr. Chair. Thank you.

HEARING OFFICER LEVAR: Thank you, Mr. Mecham.

Ms. Wegener, do you have any redirect?

MS. WEGENER: Yes, just a few questions.

HEARING OFFICER LEVAR: Okay. Go ahead.

REDIRECT EXAMINATION

BY MS. WEGENER:

Q. Mr. MacNeil, I believe when you were talking to

Ms. Rokito, she pointed you to a place in your testimony where you said it would be reasonable or could be reasonable to develop transmission capacity value without netting out generation resources.

Does your proposed monthly transmission system peak calculation take into account generation resources at all?

A. No.

Q. Would the generation capacity value accurately reflect the costs of providing transmission capacity? So the generation capacity value, the 21.9 percent in Table 2, does that accurately reflect the costs of obtaining transmission capacity?

A. I do not believe so.

Q. Does the second highest transmission system peak hour in a given month affect the costs under the Company's OATT?

A. So the cost allocation for the second hour would not change your monthly bill, only the first -- the highest hour of the coincident monthly transmission system peak would be relevant to what it billed under the OATT.

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

HEARING OFFICER LEVAR: Thank you, Ms. Wegener.

Mr. Jetter, any recross?

MR. JETTER: No recross from me. Thank you, Mr. Chairman.

HEARING OFFICER LEVAR: Thank you.

Mr. Moore?

MR. MOORE: No recross. Thank you, Chairman.

HEARING OFFICER LEVAR: Okay. Thank you.

Ms. Rokito.

MS. ROKITO: No recross. Thank you.

HEARING OFFICER LEVAR: Thank you.

Mr. Holman?

MR. HOLMAN: No recross. Thank you.

HEARING OFFICER LEVAR: Mr. Mecham?

MR. MECHAM: No, thank you.

HEARING OFFICER LEVAR: Commissioner Clark, do you have any questions for Mr. MacNeil?

COMMISSIONER CLARK: No questions, thank you.

HEARING OFFICER LEVAR: Thank you.

Commissioner Allen?

COMMISSIONER ALLEN: No questions now, thank you.

HEARING OFFICER LEVAR: I do not have anything else, either. So, thank you for your testimony this morning, Mr. MacNeil.

THE WITNESS: Thank you.

HEARING OFFICER LEVAR: Ms. Wegener, anything

further from Rocky Mountain Power?

MS. WEGENER: Nothing further at this time. Thank you.

HEARING OFFICER LEVAR: Okay. Thank you.

I'll go to Mr. Jetter, then. If you'd like to call your witness.

MR. JETTER: Thank you. The Division would like to call and have sworn in Robert A. Davis.

HEARING OFFICER LEVAR: Good morning, Mr. Davis.

THE WITNESS: Good morning.

HEARING OFFICER LEVAR: Thank you.

Do you swear to tell the truth?

THE WITNESS: I do, thanks.

HEARING OFFICER LEVAR: Okay. Thank you.

Go ahead.

ROBERT A. DAVIS,

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

DIRECT EXAMINATION

BY MR. JETTER:

Q. Good morning, Mr. Davis. Would you please state your name and occupation for the record.

A. I'm Robert A. Davis. I work for the Division of Public Utilities as a utility technical consultant.

Q. Thank you. And just as a little bit of foundation, have you participated in the export credit proceeding since its inception?

A. Yes, I have.

Q. And in the course of your participation and employment with the Division, did you create and cause to be filed with the -- with the Commission what's marked as DPU Exhibit 1.0 SSR, which is your sur-surrebuttal testimony filed on February 22nd, 2001 -- excuse me, 2021?

A. Yes.

Q. Do you have any corrections or changes you would like to make to that prefiled testimony?

A. I do not.

Q. And if you were asked the same questions that are contained in that testimony today, would your answers remain the same?

A. Yes.

MR. JETTER: I'd like to move at this time to enter into the record of this hearing the identified sur-surrebuttal of Mr. Davis.

HEARING OFFICER LEVAR: Thank you.

If anyone objects to that motion, please

indicate your objection. I'm not seeing or hearing any objection, so the motion is granted.

Q. (BY MR. JETTER:) And, Mr. Davis, have you prepared a brief summary of your sur-surrebuttal testimony?

A. I have.

Q. And my understanding is that -- I guess I'm going to ask kind of a two-part question here, which is if you'd please read that sur-surrebuttal -- summary of your sur-surrebuttal testimony.

And then have you also prepared answers to the questions that were requested to be answered by the Commission a few days ago?

A. Yes, I have.

Q. Please go ahead with the combination of your summary and then the answers to those questions.

A. Okay.

Good morning, Commissioners. The purpose of this matter is to finalize the calculation for an export credit rate that reasonably compensates customers for energy supplied to the grid and reviewed annually.

The Commission reaffirmed its methods to determine the avoided energy -- avoided generation transmission and distribution components of the export credit rate in its December 23rd, 2020, order under

agency review, and sought clarification on two remaining items: The carrying charge and capacity contribution. The Division suggests the Commission approve a carrying charge that aligns to the investment timing of the avoided resource capacity. A standalone avoided capacity proxy resource is a long-term capital investment, better aligned to an after-tax weighted average cost of capital calculation approved by the Commission.

In other words, the cash flow stream of the standalone resource would likely include tax benefits and require an after-tax discount rate that includes an after-tax cost of debt.

The Division concludes that there are numerous and reasonable methods to determine capacity contributions of each generation resource type or combination of those resources. The Division is aware that the methods come with different levels of complexity, data requirements, and computing ability.

With respect to the annual review of Schedule No. 137, the capacity contribution factor approved by the Commission should be relatively easy to understand and review, and the data should be publicly available.

Therefore, the Division recommends the Commission approve a capacity contribution factor developed in a way similar to the method recommended by

Rocky Mountain Power witness Mr. Dan MacNeil that is more specific to Utah load characteristics.

The public interest necessitates an export credit rate and structure that reasonably compensates customer generators for energy supplied to the grid. The Division concludes the best way to meet these goals is to recommend the Commission approve a carrying charge based on the Commission's approved weighted average cost of capital from Rocky Mountain Power's most recent general rate case, with the debt component adjusted for taxes at Rocky Mountain Power's effective tax rate.

The Division recommends the Commission approve a capacity contribution rate based on the method prescribed by Rocky Mountain Power witness Mr. Dan MacNeil in his rebuttal and surrebuttal testimony.

In response to the Commission's prehearing questions, the first question: "Do you agree with Rocky Mountain Power's assertion in its sur-surrebuttal testimony that Vote Solar's generation capacity contribution value is based on a export credit profile that was also grossed up for line losses?"

My response is yes, it appears that Dr. Milligan picked up a wrong column in his work papers, Milligan confidential Vote Solar work papers 2-MM 9/15/2020, Tab DCAC Losses that captures columns in the export profile

that are already adjusted for losses. My understanding is that Dr. Milligan will address this during his testimony today.

Question No. 2, "Related to Question No. 1, are there any conditions under which it might be appropriate to apply multiple loss factors to the export credit profile?"

My response is yes, in reality, there would likely be different loss factors for distribution and transmission. The challenge in doing so would be not to stack the loss factors, meaning only transmission losses should be accounted for transmission, and only distribution losses should be accounted for distribution.

Finally, Question No. 3. "If the PSC were to conclude that the carrying charge should be based on the weighted average cost of capital that the PSC approved in Rocky Mountain Power's most recent general rate case, does the Division of Public Utilities include as one of its recommended options what formula should be used to determine the carrying charge? What is the carrying charge that such formula yields?"

Q. Mr. Davis?

A. Yes.

Q. I'm going to just stop you right here.

And we have a -- for folks that are

participating, we have an exhibit, if you will. I don't intend to enter this into the record necessarily, but just to show a brief walk-through of the math for this that might be helpful. So I'm going to pull this up now.

And I don't know if this is showing up for everyone else yet?

HEARING OFFICER LEVAR: It appears to be visible to everyone.

THE WITNESS: Yeah, I can see it.

COMMISSIONER CLARK: This is Commissioner Clark. I can see it.

Q. (BY MR. JETTER:) Go ahead, Mr. Davis.

A. My response to that question is using the effective state tax and federal tax rate from Rocky Mountain Power's witness in the most recent general rate case, Docket No. 20-035-04, Rocky Mountain Power Exhibit SRM-1, page 407, which is Mr. Steve Mecham -- or not Mecham, sorry, McDougal, the cost of debt is adjusted to an after-tax rate. The cost of equity is already an after-tax rate.

Following the normal flow of the weighted average cost of capital calculation, the after-tax weighted average cost of capital becomes 6.76 percent. This is similar to the 6.92 percent used by the other parties from the 2019 IRP.

This concludes my summary. Thank you.

Q. Thank you, Mr. Davis.

MR. JETTER: I have no further questions for Mr. Davis, and he is available for cross-examination and questions from the Commission.

HEARING OFFICER LEVAR: Thank you, Mr. Jetter. I'll go to Mr. Moore.

Do you have any questions for Mr. Davis?

MR. MOORE: No questions. Thank you.

HEARING OFFICER LEVAR: Okay. Thank you.

Ms. Wegener?

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

HEARING OFFICER LEVAR: Okay. Thank you.

Ms. Rokito?

MS. ZIMMERMAN: Good morning. Lauren Zimmerman on behalf of Vote Solar. I do have some cross questions.

HEARING OFFICER LEVAR: Okay. Go ahead.

CROSS-EXAMINATION

BY MS. ZIMMERMAN:

Q. Good morning, Mr. Davis.

A. Good morning.

Q. You're now offering the Commission testimony regarding the proper calculation for the carrying charge

in this proceeding, right?

A. I am offering one of the methods, yes.

Q. And you're offering testimony specifically about the carrying charge?

A. Correct.

Q. You didn't address the carrying charge in the direct testimony you submitted in this proceeding in March of last year?

A. I did not.

Q. You also didn't address the carrying charge in the rebuttal testimony you submitted in July of last year?

A. I did not.

Q. And you didn't once address the carrying charge in the surrebuttal testimony you filed in this proceeding in September of last year?

A. I did not.

Q. And your position now is that the Commission should consider adopting a carrying charge based on the approved WACC from the most recent general rate case?

A. Yes.

Q. And today in this proceeding is the first time that you've ever offered a calculation for the carrying charge in this case?

A. I'm sorry, you broke up on that last question.

Q. No problem. I'll say it again.

Today is the first time that you've ever offered a calculation of the carrying charge to the Commission?

A. Correct.

Q. And are you certain of the accuracy of the calculation that you provided today?

A. Pretty certain, yes, given the inputs.

Q. And is the exhibit that Mr. Jetter just presented to us, does that constitute your work papers?

A. Yes.

MS. ZIMMERMAN: I'm going to ask, please, Mr. Jetter, that you send that to all the parties for our review.

Additionally, if I may at this point ask the Commission that we be given the opportunity to review the work papers, and to the extent that we have further questions for Mr. Davis, we be given the opportunity to reopen the hearing in the future?

HEARING OFFICER LEVAR: Mr. Jetter, go ahead to the first request.

MR. JETTER: I was just going to say I'm happy to provide that. It's very basic math, so everyone, I think, can take a look at it pretty quickly.

HEARING OFFICER LEVAR: Okay. Thank you.

Ms. Zimmerman, to your second question, it feels

to me like it's preliminary to make any ruling on this issue now. If any party wants to make a motion at some point for further proceedings based on those work papers, anyone can file such a motion. It does seem to me like we don't have -- it doesn't seem appropriate to rule now on what our ruling would be on that, depending on how the motion is framed.

So I don't think I have a live motion to act on in front of us at this point. If I'm mistaken, or if you'd like to rephrase things, please clarify.

MS. ZIMMERMAN: Thank you, Chair Levar. I just want to ensure that we would have the opportunity, if necessary, to make a motion based on the work papers, and it seems that we do.

HEARING OFFICER LEVAR: Any motion you make subsequent to the hearing (inaudible) based on your motion.

MS. ZIMMERMAN: Thank you.

Q. (BY MS. ZIMMERMAN:) I want to move on now to capacity contribution.

You've offered no calculation for the capacity contribution value in this case, right?

A. That's correct.

Q. And that's because you haven't done your own calculation for the capacity contribution value?

A. That's correct.
Q. It's your recommendation that the Commission approve the capacity contribution calculation method that Mr. MacNeil depicted in his rebuttal and his surrebuttal testimony, right?
A. Mostly his surrebuttal, yes.
Q. You're aware, however, that Mr. MacNeil offered multiple potential capacity contribution values in his rebuttal and surrebuttal testimony?
A. I am aware of that, yes.
Q. There were five values that he offered, in fact, right?
A. Subject to check, sounds about right.
Q. But you haven't stated which of those five values he detailed that you believe should be used here?
A. No.
Q. It's your claim that QFs generally employ tracking solar resources with high-performing orientations as compared to rooftop CG solar?
A. Yeah, that's correct.
Q. You use the word "generally" in your testimony because you haven't offered any actual data to support that statement?
A. That's correct.
Q. And so you haven't analyzed the proportion of

QFs in Utah which employ tracking solar resources?
A. No.
Q. You also claim that QFs are reasonably expected to provide higher capacity contributions in CG solar.
A. Yes.
Q. You used the word "reasonably" because you don't offer any evidence to support that statement either?
A. That's correct.
Q. Thank you. Nothing further at this time.
HEARING OFFICER LEVAR: Thank you, Ms. Zimmerman.
Mr. Holman, do you have any questions for Mr. Davis?
MR. HOLMAN: I have a few questions, thank you, Chair Levar.

CROSS-EXAMINATION

BY MR. HOLMAN:
Q. Good morning, Mr. Davis.
A. Good morning.
Q. I'd like to start off with something that you read out in your summary this morning and that you just touched on where you reiterated that you're -- you're proposing that the Commission adopt Rocky Mountain Power's proposal from rebuttal and surrebuttal. And my

question is there seem to be pretty significant changes from Rocky Mountain Power's proposal and those in the rebuttal and surrebuttal testimony phases and the sur-surrebuttal testimony that Mr. MacNeil filed. So, I guess to sort of follow up on one of the questions you just answered.

Are you now asking the Commission to not approve Rocky Mountain Power's proposal as it was presented in the sur-surrebuttal and to go back to one of the five proposals from the rebuttal and surrebuttal testimony, or are you supporting the sur-surrebuttal testimony version of Rocky Mountain Power's proposal?

A. I based my statements on Mr. MacNeil's surrebuttal testimony. His sur-surrebuttal clarified my process on that. So it's mostly his surrebuttal that I'm relying upon with that statement.

Q. Okay. So your recommendation is not, then, that the Commission should adopt Rocky Mountain Power's proposal from the sur-surrebuttal as it was presented today by Mr. MacNeil? Because there are changes between the surrebuttal testimony proposal and the sur-surrebuttal testimony.

A. I think I understand your question.

I believe it's still mostly based on his surrebuttal, but the sur-surrebuttal that I talk about in

my summary quantifies my response.

Q. Okay. I want to go into a quote from your -- from your sur-surrebuttal testimony, beginning on Line -- excuse me, on page 8, Line 143.

I'll give you a minute to get there.

A. I'm there.

Q. So, I'm just going to read it again for the benefit of the record. So you say, "It makes sense that the most efficient way to reasonably determine and review a capacity contribution for CG exports is to compare the timing of the hourly Utah aggregated CG exports to the high-load hours being replaced during the recent historical year. This method better aligns CG exports to system peaks. This method represents a reasonably accurate reflection of what is avoided by the CG resources."

Is it still your testimony here today that the best way of calculating a capacity contribution for CG exports is to compare aggregate CG exports to high load hours?

A. Yeah. I think that's accurate.

Q. Okay. So Rocky Mountain Power's new proposal for transmission capacity contribution deviates from that. And instead of comparing exports to high-load hours, they're comparing exports to the peak hour of each

month, only four of which, as Mr. MacNeil stipulated to, actually constitute high-load hours in Utah.

So do you support that proposal from Rocky Mountain Power?

A. I can't respond to that because I honestly did not study the transmission component of that.

Q. Okay.

A. I can't respond to that.

Q. Generally, you still support that the most reasonable way of calculating a capacity contribution is to compare exports to high-load hours?

A. That would be correct.

Q. Okay. Kind of jumping around here a little bit.

So, you also say in several places -- and I don't need to read these -- in your sur-surrebuttal testimony that you believe that whatever capacity contribution method the Commission approves needs to be simple, easy to replicate for the annual updates, and easy to understand by interested parties.

Do you still believe that?

A. Yes.

Q. Okay. And would you agree that Rocky Mountain Power's proposal, either in their rebuttal or surrebuttal testimony or in the sur-surrebuttal testimony, is more complicated and requires more steps than Vote Solar's

proposal?

A. I don't know if it's any more simple or complex. Both make reasonable sense to me. And I think for an outsider looking at them, both are complex in their own ways.

Q. Sure.

A. They have simplicities in their own way.

Q. Yeah. Okay. But neither is really -- you wouldn't say that Vote Solar's is more complicated than Rocky Mountain Power's by any measure?

A. I mean, for me personally looking at Rocky Mountain Power's, they're both acceptable to me, but Rocky Mountain Power's is such that it makes a little more sense other than how you sequence the resources for loss of load. That's -- that's still a little bit more challenging for me to understand, so --

Q. I'm sorry to interrupt you, but I don't quite understand. When you say how you "sequence the resources," could you explain what you mean by that?

A. Earlier when Mr. MacNeil was testifying, he was asked about, for example, if utility scale solar was only producing at 50 percent, how would that impact versus some other generation resource? That line of questioning that was going on earlier. That's what I'm referring to.

Q. Okay. So that line of questioning, that

component, which really goes to Rocky Mountain Power's generation capacity contribution calculation, more specifically the netting of Utah load by Utah utility scale generation, that is more confusing to you than any element in Vote Solar's?

A. I wouldn't say any element, but yes.

Q. Okay. And maybe we can kind of follow up on -- on that a little bit. I want to ask you a series of questions that I also asked Mr. MacNeil just to get your perspective on it.

HEARING OFFICER LEVAR: Mr. Holman, I'm sorry to interrupt. But if you're moving into a new line of questioning, maybe it's an appropriate time for a break. We've been going for a while.

MR. HOLMAN: Sure.

HEARING OFFICER LEVAR: Why don't we take a 15-minute break, and then we'll continue with your cross-examination of Mr. Davis.

MR. HOLMAN: Okay. Thank you.

HEARING OFFICER LEVAR: Thank you.

(A break was taken from 10:27 a.m. to 10:45 a.m.)

HEARING OFFICER LEVAR: Okay. We'll begin.

And, Mr. Holman, why don't you continue with your questions with Mr. Davis.

MR. HOLMAN: All right. Thank you, Chair.

And after going through the remaining questions that I have, I realized that most of them have been asked and answered already, so I am going to go ahead and actually end my questioning there.

So thank you for your time, Mr. Davis.

THE WITNESS: You're welcome. Thanks.

HEARING OFFICER LEVAR: Thank you, Mr. Holman.

Mr. Mecham, do you have any questions for Mr. Davis?

MR. MECHAM: Sure.

CROSS-EXAMINATION

BY MR. MECHAM:

Q. Mr. Davis, so my understanding is, is that the Division basically supports Rocky Mountain Power's position pretty much across the board; is that correct?

A. Not entirely correct. What I was trying to explain before is both Vote Solar and Rocky Mountain Power's methods make sense to me. Rocky Mountain Power's is a little easier to follow.

Q. So Mr. MacNeil's proposal was before the Commission in the hearing-in-chief, right? It wasn't just on rehearing, correct? Didn't he make the same proposal or a similar proposal in his rebuttal and surrebuttal testimony?

A. Mostly surrebuttal. This is a little different than rebuttal.

Q. And you supported his surrebuttal, his position in surrebuttal?

A. Correct.

Q. So when the Commission didn't accept it, was the Commission -- is there a reason the Division didn't pursue that and petition for reconsideration or otherwise?

A. I don't know how to answer that. We didn't, so no.

Q. Okay. Thanks.

MR. MECHAM: That's it for me. Thank you, Chair.

HEARING OFFICER LEVAR: Thank you, Mr. Mecham.

Mr. Jetter, any redirect?

MR. JETTER: Just very briefly.

REDIRECT EXAMINATION

BY MR. JETTER:

Q. Mr. Davis, is it accurate generally that when particularly the Division might have a position on an issue and the Commission makes a different decision, the Division doesn't always request reconsideration or appeal those decisions, does it?

A. That's correct.
Q. And in this case, that's not unusual?
A. No.
Q. That's the only redirect I have. Thank you.
HEARING OFFICER LEVAR: Okay. Thank you, Mr. Jetter.
Any recross from anyone based on Mr. Jetter's questions? I'm not seeing or hearing any desire for additional recross.
So I'll go to Commissioner Allen. Do you have any questions for Mr. Davis?
COMMISSIONER ALLEN: No questions, thank you.
HEARING OFFICER LEVAR: Thank you, Commissioner Allen.
Commissioner Clark, do you have any questions for Mr. Davis?

CROSS-EXAMINATION

BY COMMISSIONER CLARK:
Q. I just have a question regarding the recommendation, Mr. Davis, that you've made regarding the carrying charge to use the weighted average cost of capital tax affected.
And would you just explain what prompted you at this stage of the proceeding or what prompted the

Division to take the position that you've articulated with respect to the carrying charge testimony that you've offered?

A. Sure. From my perspective, I was looking at it from the annual review of Schedule 137, going forward and having a carrying charge that -- there isn't one out there that specifically applies to the timing of the annual review, so I was hoping to find something that was reasonable that we could use as an anchor, if you will. And my conclusion was, is that at the most recent general rate case, the Commission approved the weighted average cost of capital and adjusting the debt component for taxes so it's a true after-tax weighted average cost of capital.

Q. And that's my only question. Thank you very much.

HEARING OFFICER LEVAR: Thank you, Commissioner Clark.

Mr. Davis, I don't have any further questions, so thank you for your testimony this morning.

THE WITNESS: Thank you.

HEARING OFFICER LEVAR: Before we move on, I have a question that I intended to ask Mr. MacNeil and did not. So I'd like to recall him for one brief question.

Mr. MacNeil, are you still with us here?

THE WITNESS: Yep, I'm here.

HEARING OFFICER LEVAR: Okay. Thank you.

CROSS-EXAMINATION

BY HEARING OFFICER LEVAR:

Q. Do you have your Table 2 from your sur-surrebuttal in front of you?

A. I can, yep.

Q. Okay. So my question is about the first two columns under "RMP Rebuttal Scenarios," the "2019 Utah Load" and the "2019 System Load" -- those two rows, not columns. Sorry. Do you see those two rows?

A. Yes.

Q. Now, you had asserted in your sur-surrebuttal that Vote Solar's generation capacity contribution value basically double counted line losses.

And so my question is: Did those two rows also include that double counting that you've alleged, or have those two rows been corrected to not include again what you claim to be double counting?

A. So all the values that I show here are accurate based on the column header. So the column with "Capacity Contribution" is before losses, and the "Column Contribution with Losses" includes losses. So I believe

that each of the numbers identified there are reasonable accounts for losses, you know, as specified.

Q. Okay. Well, one clarification, then. So would you consider the numbers under RMP rebuttal scenarios -- and I'll just say the numbers, the 24.18 percent and the 20.70 percent, is it your position that those two numbers represent a double counting of line losses?

A. No. But if you want to use that -- those numbers 24.18 percent, if you turn to Table 3, you should not gross up again for line losses.

Q. Okay.

A. In Table 3, you know, you put in the value without losses, the first column, and gross up for line losses.

Q. Thank you. That answers my question, Mr. MacNeil. Thank you again for your testimony today.

A. Thank you.

HEARING OFFICER LEVAR: Okay. Mr. Holman, do you want to call your witness?

MR. HOLMAN: Yes, thank you, Chair Levar.

Good morning, Ms. Bowman.

THE WITNESS: Good morning.

HEARING OFFICER LEVAR: Ms. Bowman, do you swear to tell the truth?

THE WITNESS: Yes, I do.

HEARING OFFICER 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:

Q. Ms. Bowman, please state your name and title for the record.

A. My name is Kate Bowman, and my title is Renewable Energy Project Manager.

Q. And on whose behalf are you testifying?

A. On behalf of Utah Clean Energy.

Q. And did you submit sur-surrebuttal testimony in this docket on February 22nd?

A. Yes, I did.

Q. Do you have any corrections to make to that testimony?

A. No, I do not.

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

A. Yes.

MR. HOLMAN: Chair Levar, I move to admit Ms. Bowman's sur-surrebuttal testimony into the record.

HEARING OFFICER LEVAR: Thank you, Mr. Holman.

If anyone objects to that motion, please state your objection. I'm not seeing or hearing any objection, so the motion is granted.

MR. HOLMAN: Thank you.

Q. (BY MR. HOLMAN:) Ms. Bowman, have you provided a summary of your prefiled testimony today?

A. Yes, I have.

Q. Please provide that summary.

A. Thank you. Good morning, Chair Levar, Commissioner Clark and Commissioner Allen.

Utah Clean Energy's testimony in this phase is limited to the issue of the capacity contribution and capacity credit, which compensates rooftop solar for providing electricity that is used to serve load and, therefore, can avoid generation transmission and distribution costs.

The Company did not appeal the capacity contribution following the Commission's October 30th, 2020 order and has acknowledged that the Commission demonstrated that it considered all the evidence and made determinations grounded in the record in that order, yet still proposes that the Commission make several

significant changes to the capacity contribution at this point.

Although the Company describes these changes as having been developed using a comparable methodology to the one the Commission has already approved, they actually represent a significant distortion of the methodology. The Commission should not approve these ad hoc approaches to calculating the capacity contribution.

Utah Clean Energy has opposed the change to capacity contribution that Rocky Mountain Power described in their December 15th, 2020 response to petitions for review and rehearing. The testimony filed by Rocky Mountain Power on February 22nd includes several additional proposed changes that were not described in the December filing.

This hearing is the first opportunity parties have had to respond directly to the additional changes Rocky Mountain Power proposed on February 22nd, two weeks ago. In total, Rocky Mountain Power proposes to replace the two inputs to the capacity contribution calculation, which currently are the hourly load forecast and hourly export generation, with a total of five different inputs. The result would be three different capacity contribution calculations, one each for the generation, distribution, and transmission capacity values, each with their own

different inputs, a significant departure from the capacity contribution value approved in October.

Utah Clean Energy opposes all but one of these changes. The new methodologies proposed by Rocky Mountain Power are significant distortions of the currently-approved methodology, and Rocky Mountain Power has not shown that they have been tested against best practice methodologies for calculating capacity contribution. The majority of these changes are not even related to the reason Rocky Mountain Power cited in their December 15th response to parties' appeal as justifying changes at this point, which is accounting for existing systems resources in the calculation.

Rocky Mountain Power's grounds for opposing the current capacity contribution methodology appear to be premised on a misunderstanding of what the approved methodology is intended to do. According to Rocky Mountain Power, the methodology must change because it does not account for existing utility scale resources. This doesn't invalidate the methodology because that's not what it purports to do.

The purpose of the export credit rate is to compensate rooftop solar for the costs and benefits that result when solar generation serves load. And the purpose of the capacity contribution is to identify the

extent to which rooftop solar generation does serve load.

One of the changes Rocky Mountain Power has proposed may be reasonable, and I will address this change first.

The Company proposes to use actual historical load data from 2019 as an input to the capacity contribution calculation in place of Rocky Mountain Power's load forecast from 2021. I continue to support the use of 2021 load forecast data because it represents the best information available about likely future conditions.

Historical data is unlikely to repeat itself. 2020 is a prime example of how one year's worth of historical data does not necessarily serve as a good forecast of future years. However, it may be reasonable to use actual near term historical load data for the purposes of calculating the capacity contribution going forward, provided the data can be made available quickly enough to facilitate annual updates. Using recent historical data does allow for weather correlation between load and exports.

The annual ECR updates will require the data inputs to be refreshed every year. So this issue is more appropriately addressed through the comments on the Schedule 137 annual update. Even though this change to

the load data has no relationship to the Company's stated issue with the currently-approved capacity contribution, which is that it does not account for resources currently operating, I could support using 2019 actual load and export data to calculate the capacity contributions.

Rocky Mountain Power proposes a second change that's specific to the calculation of generation capacity contribution, which is to decrement load by utility scale solar generation before identifying the top 10 percent of load hours. This is a significant methodological change that the Commission should not approve for several reasons.

First, the Company has not demonstrated that removing the actual hourly output of only utility scale solar resources from the load forecast results in a more accurate measure of the ability of rooftop solar to serve load.

Rocky Mountain Power has not provided evidence that their methodology has been used in other places or compared it to an ELCC. Utah is hardly the only place that has taken up the question of determining an appropriate capacity contribution for rooftop solar, and Rocky Mountain Power hasn't justified their proposal to use a one-of-a-kind solution that hasn't been tested or compared to other methodologies.

Second, Rocky Mountain Power's change does not account for system resources generally. It distorts the calculation by decrementing only utility scale solar generation. As Rocky Mountain Power has shown in its IRP, when new resources are added, the effects on the capacity contribution of existing resources should not be considered in isolation.

Although it is true that solar capacity contribution declines with increasing penetration of solar when those two factors are considered in isolation, other changes to the operation of other system resources are important as well. A drought that reduces hydro output or unanticipated maintenance of a thermal plant could also increase the capacity contribution of solar if it were accounted for. This change simply penalizes rooftop solar customers for generating energy at the same time as one type of utility scale resource. It doesn't provide a better picture of how rooftop solar generation interacts with the portfolio of resources on the grid.

Third, Rocky Mountain Power's method distorts the calculation by assuming that kilowatt hours for rooftop solar will be used after kilowatt hours from utility scale solar.

In reality, the opposite is more likely to be true. Rooftop solar generation delivers all energy that

is not consumed on site directly to Rocky Mountain Power. If Rocky Mountain Power's method is approved, rooftop solar will be providing capacity to the grid, but for certain hours it will be compensated as if it is not.

It's important that the capacity contribution methodology recognizes that rooftop solar is serving nearby load, not only because it is fair but also because distributed resources are better able to continue providing power in the event of a grid disruption, which bolsters resiliency in the face of disasters.

It's not in the best interest of ratepayers if rates prefer the power from distant utility scale resources over locally-sited resources, both of which are serving load.

MS. WEGENER: Excuse me. I'm going to object because Ms. Bowman's summary is going far beyond the scope of her prefiled testimony.

HEARING OFFICER LEVAR: Mr. Holman, do you want to respond to the objection?

MR. HOLMAN: Yeah. I disagree. I don't think her summary is going beyond the scope of her prefiled testimony. It's on the same issues as what she filed pre-testimony on her sur-surrebuttal. And I think there's obviously more detail in this because she hadn't been -- she hadn't seen the new proposal from Rocky

Mountain Power which they included in their sur-surrebuttal testimony.

So I would say that the subject matter is actually well within the scope of her prefiled testimony, although it's more detailed because she's responding to something that she hadn't seen.

HEARING OFFICER LEVAR: Ms. Wegener, do you have anything you want to add to your objection?

MS. WEGENER: The subject matter goes pretty far beyond what's in her prefiled testimony, which is possibly shorter than this summary. And there's no provision, and I believe that the Commission's notice that it sent out on Friday specifically directed witnesses to limit their summary to what was in their prefiled testimony.

HEARING OFFICER LEVAR: Okay. And I think I generally agree with the objection. We -- this is an unusual situation where we're having rehearing with only one round of written testimony. However, we have specifically stated that we didn't intend to turn the hearing into live sur-sur-surrebuttal.

So with that, I don't think we have a motion to strike anything that's been said so far, but I'll ask Ms. Bowman if you can wrap up your summary within the confines of, generally, your written sur-surrebuttal.

THE WITNESS: Sure. I'd be happy to continue and wrap up quickly, trying to limit it to those topics.

So I'll go on briefly just to say that, as I said in my sur-surrebuttal, Rocky Mountain Power's proposal to decrement load by generation from utility scale solar is essentially the same as the position they introduced in rebuttal testimony and reiterated in Mr. MacNeil's statement during the 2020 hearing. And the Commission's had opportunity to consider the Company's proposal and question witnesses about it, and there's no need to consider the proposal again at this point.

And finally, Rocky Mountain Power and the Division have both discussed the importance of simplicity and transparency in the export credit rate. And I agree. The capacity contribution method that the Commission has approved is simple and transparent enough to be easily understood by stakeholders.

And under "updated on the annual basis," it's much simpler than the Company's new proposed methodology, yet it has also been proven to reasonably approximate an ELCC.

And finally, regarding the questions that the Public Service Commission issued to parties in its notice on March 5th, I don't believe that these questions relate to the topics I have addressed in testimony, but I'm

happy to answer any questions that the Commission may have. Thank you.

MR. HOLMAN: Chair Levar, Ms. Bowman is available for cross-examination and questions from the Commissioners.

HEARING OFFICER LEVAR: Okay. Thank you.

I'll go to Mr. Mecham first. Do you have any questions for Ms. Bowman?

MR. MECHAM: I do not, thank you.

HEARING OFFICER LEVAR: Thank you.

Ms. Rokito?

MS. ZIMMERMAN: No, thank you.

HEARING OFFICER LEVAR: Okay. Thank you, Ms. Zimmerman.

Mr. Moore, do you have any questions for Ms. Bowman?

MR. MOORE: No. Thank you very much.

HEARING OFFICER LEVAR: Mr. Jetter?

MR. JETTER: No questions from the Division. Thank you.

HEARING OFFICER LEVAR: Okay.

Ms. Wegener?

MS. WEGENER: Just a few.

CROSS-EXAMINATION

BY MS. WEGENER:

Q. Good morning, Ms. Bowman.

A. Good morning.

Q. One of the reasons that you state in your testimony for disagreeing with Rocky Mountain Power is the capacity contribution calculation that removes solar from the Utah load -- I'm going to try to characterize this and just confirm that I'm understanding it correctly -- is because you believe that that calculation, because it reduces the overall load, will result in a lower capacity contribution; is that right?

A. Yeah. I think that's just sort of a statement of fact about that calculation. When you're calculating the ability of any resource to serve load, if you reduce the load, then the extent to which it can serve that load is lower.

Q. But isn't it true that if, for instance, one megawatt were subtracted from every single hour, so it wasn't -- it wasn't what Rocky Mountain Power did, which is they removed solar so it did end up changing the -- which hours were in the top 10 percent. But if you just took one megawatt uniformly, isn't it true the capacity contribution would stay the same?

A. If the -- I have to think about that. But if

the load were, you know, decremented like you said evenly across every hour by one megawatt, the amount of load available to be served would certainly be lower. The capacity contribution may be the same.

Q. Okay. I think that's all I have. Thank you.

A. Thank you.

HEARING OFFICER LEVAR: Thank you, Ms. Wegener.

Mr. Holman, any redirect?

MR. HOLMAN: I have no redirect. Thank you, Chair.

HEARING OFFICER LEVAR: Okay. Thank you.

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

COMMISSIONER CLARK: No questions. Thank you.

HEARING OFFICER LEVAR: Commissioner Allen?

COMMISSIONER ALLEN: Thank you. No questions.

HEARING OFFICER LEVAR: Okay, I don't, either.

Thank you for your testimony this morning, Ms. Bowman.

THE WITNESS: Thank you, Chair Levar.

HEARING OFFICER LEVAR: Mr. Holman, anything else?

MR. HOLMAN: Nothing further from Utah Clean Energy at this time. Thank you.

HEARING OFFICER LEVAR: Okay. We'll go to Vote

Solar for your first witness.

MS. ROKITO: Thank you, Chair Levar. Vote Solar calls Dr. Michael Milligan as its first witness today.

HEARING OFFICER LEVAR: Good morning, Dr. Milligan. Do you swear to tell the truth?

THE WITNESS: Good morning. Yes, I swear to tell the truth.

HEARING OFFICER LEVAR: Okay. Thank you.

Go ahead.

MICHAEL MILLIGAN,

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

DIRECT EXAMINATION

BY MS. ROKITO:

Q. Please state your full name and business address for the record.

A. My name is Michael Milligan. I'm a consultant, power system consultant. My address is 9584 West 89th Avenue in Westminster, Colorado.

Q. Dr. Milligan, have you reviewed and analyzed the testimony submitted by the other parties to this case?

A. Yes, I have.

Q. And have you prepared sur-surrebuttal testimony in this case?

A. Yes, I have.

Q. Do you have any changes to offer to that testimony?

A. Yes. I -- partly in response to the March 5th notice, I would like to correct for my inadvertent double counting of losses. And I guess I can direct you to a couple of lines in the sur-surrebuttal, lines 41, 43, 81, and 252.

I'd like to recommend the Commission revise the October 30th, 2020 to correct for the proper carrying charge. And this would increase from 2.310 cents per kilowatt hour to 2.966 cents per kilowatt hour. But when that's corrected for the double counting of the losses, the 2021 avoided capacity cost would be 2.748 cents per kilowatt hour.

Q. Thank you. Do you have any other changes to offer to your testimony?

A. No, I do not.

Q. So with the exception of the change that you just mentioned, if you were asked the same questions included in your written testimony here today, would you give the same answers?

A. Yes.

MS. ROKITO: Chair Levar, Vote Solar moves for the acceptance of the testimony of Dr. Michael Milligan into the record in this proceeding.

HEARING OFFICER LEVAR: Thank you.

If anyone objects to that motion, please state your objection.

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

MS. ROKITO: Thank you.

Q. (BY MS. ROKITO:) Dr. Milligan, have you prepared a summary of your testimony that you would like to present to the Commission?

A. Yes.

Q. Please go ahead and present your summary.

A. Great. Thank you.

Good morning, Commissioners. My name is Michael Milligan. I'm a principle at Milligan Grid Solutions, an independent power system consulting firm. I appreciate the opportunity to testify on behalf of Vote Solar at today's rehearing and to briefly summarize my opinions.

First of all, I would like to commend the Commission for the decision it made in its October 30th order to include an avoided generation capacity component in the export credit rate. The Commission erred with respect to avoided generation capacity only in reducing

the value that I proposed in my testimony by approximately 17 percent to 2.31 cents per kilowatt hour on the assumption that I'd used a 9.39 percent carrying charge, when, in fact, my value was based on a 6.959 percent carrying charge.

As you will hear from Dr. Yang today, the carrying charge of 7.82 percent from PacifiCorp's most recent marginal cost of service study is an appropriate carrying charge for calculating avoided generation capacity cost. Replacing the 6.959 percent carrying charge that I used with the 7.82 percent rate and correcting for the double counting of line losses yields a one-year avoided capacity cost of 2.748 cents per kilowatt hour. Therefore, I recommend that the Commission increase the 2.310 cents per kilowatt hour avoided generation capacity cost that was approved in the October 30th order to 2.748 cents per kilowatt hour.

To answer the questions the Commission raised in its March -- excuse me, in its March 5th notice, I believe there are conditions under which it might be appropriate to apply multiple loss factors to the export credit profile. However, these conditions do not exist here. I have revised my calculation of capacity contribution so that line losses are not double counted. The 2.748 cents per kilowatt hour in avoided generation

capacity costs that I propose here today reflects my revised capacity contribution value of 2. -- sorry, 26.55 percent.

As for the appropriate approach for calculating capacity contribution, I believe the Commission in its October 30th order correctly adopted the method that I proposed in my testimony. In my view, the best method is immune to the arbitrary nature of resource ordering and other methods that can significantly impact the results. As I explained in my prefiled testimony, effective load carrying capability, or ELCC, declines as more resources are added to the calculation because the addition of each new resource reduces the risk of having insufficient resources to meet demand. Every time a resource is added, the remaining risk is less than it was before. This creates an arbitrariness that can be easily illustrated by a simple example.

In the example, Plant X and Plant Y are identical in every way. Both plants have precisely the same power of delivery. However, if Plant Y is added after Plant X to the calculation, it will have a lower capacity contribution than Plant X, despite the fact that it is otherwise the same as Plant X in every respect.

The fundamental benefit of the capacity contribution approach that I propose and have proposed is

that it adds each resource separately, one at a time, giving credit based upon the performance characteristics of the resource. In other words, it credits each resource with capacity contribution that is wholly independent of other resources. Using my method, two otherwise identical resources would receive the same capacity contribution, unlike the approach proposed by RMP. Unlike that approach in this proceeding, which has not been rigorously validated and as sensitive to the resource ordering issue, my method has been studied and its reliability established.

My approach is based on the following five principles:

No. 1, reliable system operation requires total generation to be sufficient to meet demand at all times.

2. CG exports currently contribute to meeting this demand.

3. Without CG exports, additional capacity is needed or would be needed to maintain the same level of reliability.

4. Peak demand periods are usually the times where we can expect the highest risk of capacity shortfall.

And 5, the top 10 percent of peak load hours is a reasonable proxy to represent those times.

RMP argues in this proceeding for an approach that necessarily undervalues the capacity contribution of CG solar. Mr. MacNeil's incorrect adaptation of my load method nets out the utility scale solar from the top 10 percent of load hours, artificially lowering demand which correspondingly reduces the capacity contribution of CG solar.

Mr. MacNeil exhumes that the demand -- assumes the demand during the top 10 percent of load hours is served by utility scale solar. In doing so, he creates a scenario where CG solar's capacity contribution is necessarily diminished. Had the CG solar been considered prior to the utility scale solar, the CG exports would have received a higher capacity contribution.

RMP's proposed approach has not been rigorously validated, suffers from the arbitrary resource ordering issue, and has not, to my knowledge, been approved by any other commission.

Mr. MacNeil does not explain why, for example, he subtracted utility scale solar and not when peaking or other types of resources. The method -- sorry. Mr. MacNeil proposes accounting for contracted but yet-to-be-deployed utility scale solar before the existing CG solar. Doing so necessarily undervalues the CG solar.

If RMP's methodology is accepted, CG solar customers will be severely undercompensated for the value their exports provide in the form of avoided generation capacity. Indeed, the value that RMP proposes today, 0.62 cents per kilowatt hour represents nearly four times less than the value the Commission approved in October.

In my opinion, RMP's latest proposal for calculating generation capacity contribution does not fairly recognize or compensate resources based on how they perform and biases the capacity contribution of CG solar by consistently evaluating it, using a method that is sensitive to resource ordering and evaluating CG solar after all other solar resources even if those resources are not yet operating.

In conclusion, to support the export credit rate the Commission ultimately approves is just and reasonable, I recommend that the Commission affirm the decision it made in its October 30th order to adopt Vote Solar's proposed method for calculating the capacity contribution of CG solar.

Moreover, I recommend that the Commission adjust the avoided generation capacity cost that it approved in October upward from 2.310 cents per kilowatt hour to the 2.748 cents per kilowatt hour value that I propose in my sur-surrebuttal testimony. This value appropriately

compensates CG customers for the benefits they provide in the form of avoided generation capacity. And that concludes my remarks.

Q. Thank you, Dr. Milligan.

MS. ROKITO: Dr. Milligan is now available for cross.

HEARING OFFICER LEVAR: Thank you.

I'll go with Mr. Mecham. Do you have any questions for Dr. Milligan?

MR. MECHAM: I do not, thank you.

HEARING OFFICER LEVAR: Okay. Thank you.

Mr. Holman?

MR. HOLMAN: No questions. Thank you.

HEARING OFFICER LEVAR: Mr. Moore?

MR. MOORE: No questions. Thank you.

HEARING OFFICER LEVAR: Mr. Jetter?

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

HEARING OFFICER LEVAR: Okay.

Ms. Wegener?

MS. WEGENER: Yes, I have a few questions. Thank you.

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CROSS-EXAMINATION

BY MS. WEGENER:

Q. Good morning, Dr. Milligan.

A. Good morning.

Q. I want to start with the example that you used in your testimony and that you brought up again in your summary of two identical plants that, if you order them resource -- resource-wise, the first one would get a 15 percent capacity contribution -- they're hypothetical resources -- the second one would only have a 2 percent capacity contribution, right?

A. Yes. In the --

Q. And --

A. -- but yes.

Q. -- and you said the advantage of your method is that they would both -- they would both get the 15 percent capacity contribution; is that right?

A. In this example, yes.

Q. Okay. Would you agree with me that it would be inappropriate for both plants to receive a 15 percent capacity contribution if, combined, they provide only an 8 1/2 percent average capacity contribution?

A. I don't know. I think we're getting into an area that has not been settled. We've talked about the PacifiCorp 2021 IRP. Mr. MacNeil talked about that this

morning in response to questions that the declining value of capacity is something that comes out in an ELCC calculation, but it does not square with, sort of a pay-for-performance type of approach, which is common in the utility industry to, you know, I'll pay a resource based on what it does. And this approach of declining capacity value does not -- it's not consistent with that.

Q. Okay. So you're saying that in some circumstances, it would be appropriate for plants to have a 15 percent capacity contribution even if they're providing an 8 1/2 percent capacity?

A. I don't believe I stated that, no.

Q. Okay. And you would agree that the portfolio contribution method that Mr. MacNeil talks about in the 2021 IRP would take into account that declining solar capacity contribution, right?

A. I don't think it's clear exactly what that portfolio method is. I think from my reading of it, the discussion is that the individual assessment of a solar or multiple solar resources is not appropriate because of this declining capacity value.

A portfolio approach -- I'm not sure exactly what that is. I'm in sort of general agreement that that would be something that we need to look at. But without a concrete example in front of me, I can't really comment

to say yes, that's better.

Q. And the reason that you think it would be something worth looking at is because the data that's included in the 2021 IRP tends to show a declining capacity contribution from solar in the aggregate when you consider it as a whole resource. If you consider solar as a whole resource, the capacity contribution goes down as penetration goes up?

A. Yes, but as we've talked about before, that is one of several variables. And so I think characterizing this solar capacity contribution, the ELCC or whatever it is, it is more complicated than just saying I'm going to increase the amount of solar, and I see a capacity value decline as a result. I think this is -- when I say it's not a settled issue, I think it's an issue -- I know it's an issue that is being discussed in many other utility venues. I'm part of a discussion, the Midcontinent Independent System Operator, roughly 10 times the size of PacifiCorp, that is sort of grappling with the same issue.

We have another forum in which a number of experts are talking about how do we resolve this issue? The decline in capacity value that you get from the ELCC is not appropriate for market type of construct.

Q. Okay. So you'd agree with me that increased

solar penetration may decrease capacity contribution, but your argument is that it's not appropriate for this particular construct -- or application, I guess?

A. I don't -- I'm sorry, could you restate that?

Q. Let's see if I can.

A. Sorry.

Q. You agree with me that increasing solar penetration could decrease capacity contribution, or perhaps that it does increase -- decrease capacity contribution, but that it's inappropriate to take into account in this particular construct when we're talking about the capacity contribution of customer generation?

A. I'm not necessarily saying it's not appropriate, but we don't know -- how do I say this? It has to overcome the weaknesses that I've identified in my surrebuttal and sur-surrebuttal, which is you have a situation where two identical resources could potentially be receiving different credits or payments or whatever it is. That has to be resolved. And I don't think we are in a position to resolve that.

So with the lack of better method, my proposal is to look at each resource individually.

Q. I believe you agreed with me at the last hearing -- and nothing you're saying is inconsistent -- that your top 10 percent of load hour method of

calculating capacity contribution does not take into account any particular resource mix; is that right?

A. Yes, that's correct.

Q. And it doesn't take into account whether and to what extent there's utility scale solar on the system, right?

A. Well, if we're calculating -- so the method can be used to calculate the capacity contribution of utility scale solar. That's not what my -- my job is here. I instead calculated the capacity value or proxy of ELCC for the CG solar. So I'm not -- and I'm not taking into account other resources when I do that, but I can use the same method to calculate the capacity contribution to any other resource. And so it's a consistent method across different types of solar, wind, any type of resource you like.

Q. And you'd agree that resource mix could affect the capacity contribution of a given resource, right?

A. It depends on how you calculate it, yes.

Q. And the reason that you don't take that into account in your top 10 percent of load hours method calculation is because you believe that that top 10 percent of load hours is accurate based on a study that you performed; is that right?

A. Yes, in part.

Q. And that study is from 1997; isn't that right?
A. Yes.
Q. And I believe that the study was based on Tri-State Generation's portfolio; is that correct?
A. I believe so.
Q. And this is going to test your memory, and if you don't know the answer, that's just fine.
But do you remember Tri-State's resource mix in 1997?
A. Not off the top of my head, no.
Q. Would you agree with me that the resource mix of a typical utility in the United States today differs pretty substantially from the typical resource mix in 1997?
A. Yes.
Q. And one of those differences is that in 1997 there were far few intermittent renewable resources like solar and wind, right?
A. Yes.
Q. Have you validated your top 10 percent load algorithms for a system with significant wind and solar?
A. Not directly. There are similar methods that are in use today; for example, in PJM. It's not exactly the top 10 percent, but it's something very similar that they've been using for, I don't know, 15 years, maybe

more, that looks at a certain time window. So, it's not exactly the same as the top 10 percent. It's saying certain hours in the afternoon in the summer. They recognize the fact that we can't accurately predict a year in advance or two years in advance exactly when the peak is going to occur. And so using some sort of window around likely peak times, which is what PJM does, is not all that unlike what is done with the top 10 percent method.

Q. Did you validate your top 10 percent load algorithm using PacifiCorp's system?

A. No, I did not.

Q. You point to the difference between Mr. MacNeil's 21.99 percent number and his 4.14 percent number to illustrate what you say is the arbitrary nature of resource ordering, right?

A. Yes.

Q. But you agreed with me that the -- the capacity contribution of solar resources as a group could go down, depending on how much solar is on the system, right?

A. Potentially. But, you know, if you're talking about a portfolio approach, then -- and again, I don't know what this portfolio approach looks like. But my point is that the CG solar, we know for a fact that this CG solar was in existence in 2019. It was serving load

however it was serving load at those times.

And inserting that at the end -- or after we look at utility scale solar, especially utility scale solar that's contracted for but not yet delivering, makes no sense. And I think, you know, during these peak periods, the top 10 percent, or whatever the load hours are, we are going to be getting capacity under the CG solar. We're getting capacity out of the utility scale solar.

And, you know, I'm in favor of looking forward. But if you were to look backwards at what happens and compensate the resource based on historical contribution, you wouldn't want to compensate CG on 4 percent, or whatever the number was, and utility scale at a higher number. You would say what were you doing during these peak periods? Oh, you were 20 percent of your capacity, so you get some sort of credit for that. Or you're 50 percent of your capacity, you should get some sort of credit for that.

So this method is not -- it diverts from a performance-based credit system, which I don't think is in the best interests of the utility or the customers.

Q. I understand. And your method -- I believe you say in your testimony that your method assumes that customer generation is considered before any other solar,

any utility scale solar. That's what your method ensures; is that right?

A. My method looks at -- if you applied my method to utility scale solar, it would take utility scale solar first also. It's an approach that recognizes that we don't -- "we," the big "we" -- we don't know how to do a good portfolio approach. And in the absence of something better, we should look at how the resource performs during these critical times.

Q. And I --

A. And I think Mr. MacNeil has agreed that this top 10 percent is -- you know, it's a proxy. It's not perfect. But it's at least a reasonable representation of how we can capture the capacity value of a resource.

Q. Thank you. I think in your testimony -- I'm looking at Line 171 -- you specifically say, "If customer generation solar" -- I'll let you get there first. Sorry.

A. Okay.

Q. "If customer generation solar is considered first, its value is 22 percent of rated capacity. And if it is considered after the operating and contracted utility scale solar, the capacity contribution of customer generation is 4.1 percent."

So that initial number, that 22 percent, would

mean that customer generation would be considered the first in resource before utility scale solar is considered, correct?

A. Yeah, that was Mr. MacNeil's calculation.

Q. Umm-hmm. But that also goes for your calculation as well because your calculation is similarly taking into account the top 10 percent of load hours as the 22 percent calculation. There's some other differences. We'll talk about those in a minute.

But those two methods, your method and Mr. MacNeil's method that results in the 22 percent, are similar in this respect, in the respect that customer generation solar is considered first in both methods before taking into account any utility scale solar or other solar resources?

A. Yes.

Q. So are you saying in the absence of something better, we should just assume that customer generators are contributing as a first in resource, even though we know that they're not?

A. How do we know that they're not?

Q. Because we know that customers that come on in Schedule 137 -- I'm sorry, I should have established this before -- are coming on later than the Commission's order, so October 31st, 2020, or later. And we know that

there was an amount of utility scale solar on the system before that time. So we know that -- I mean, coming in under Schedule 137 is coming onto a system that at least has some customer generated solar and utility scale solar already in service, right?

A. I think I can agree to that.

Q. Okay. And so -- and so your argument is that in the absence of any other method or any other -- any other method you're willing to agree to, that we should pay them as if they are the first in, even though we know that they're not?

A. In the absence of a better method, yes.

Q. Okay. Thank you.

Would you agree with me that if a customer generation system is added after some solar is already on the system that its contribution would likely be something less than that 22 percent number?

A. It could be.

Q. Thank you. One of the reasons that you cite for giving customer generators a higher capacity contribution is the principle of horizontal equity, right?

A. Yes.

Q. And you can correct me if I'm wrong. I've only been a regulatory attorney for about a year now. But I believe that the term "horizontal equity" is a rate

design term that means similarly-situated ratepayers should pay the same for electricity, right?

A. Well, yes. I mean, horizontal equity essentially can be thought of as two customers paying about the same amount for the same service or, conversely, two suppliers are getting paid to provide -- about the same to provide the same service.

Q. So you would also apply it to electricity suppliers?

A. Yes.

Q. But if we applied the principle of horizontal equity to electricity suppliers, isn't it true that the Company would be paying more for electricity on some occasions than the market requires them to?

A. I haven't analyzed that.

Q. Thank you. So one of your other criticisms of Mr. MacNeil's testimony is that he looks to 2019 demand rather than using a forecast; isn't that right?

A. Yes.

Q. And you use a 2021 forecasted load instead, right?

A. Yes.

Q. Isn't it true that the customer generation export profile that you used comes from the 2019 data though?

A. Yes.
Q. And so that would mean that 2019 data is inherently part of the load profile?
A. I'm sorry, say that again?
Q. 2019 data, the exports from 2019 from those customer generators, are inherently part of the load profile that you're using?
A. Yes.
Q. Would you agree with me that weather can affect the amount of energy a customer generation system produces?
A. Yes.
Q. And also the amount a customer generator might consume on site?
A. Yes.
Q. Did you control for weather when you compared the 2019 customer generation exports to a 2021 forecasted Utah load?
A. No, I didn't have the data to do that.
Q. Did you modify the customer generator export profile in any way besides aligning it with the days of the week between the 2019 customer generator exports and the 2021 forecasted Utah load?
A. No.
Q. Thank you. That's all the questions I have.

HEARING OFFICER LEVAR: Thank you, Ms. Wegener.

Ms. Rokito, do you have any redirect?

MS. ROKITO: Just a couple of questions.

REDIRECT EXAMINATION

BY MS. ROKITO:

Q. Dr. Milligan, Ms. Wegener asked you about your load method and about the way in which you conducted that method.

Did you use total load to calculate the capacity contribution factor in this proceeding?

A. Yes.

Q. And that total load, that would include a portfolio of resources that also includes utility scale solar; is that right?

A. Yes.

Q. Okay. Dr. Milligan, to confirm: Are you proposing a method that considers resource ordering in this proceeding?

A. I'm not sure exactly what considering -- it avoids the difficulties in resource ordering that we've been discussing.

Q. Let me rephrase my question a bit.

In your method, are you -- are you manipulating the order in which resources are added into the analysis?

A. No.
Q. And did you consider CG resources first in your method?
A. That's all I looked at was CG. It was calculated in the capacity contribution of CG.
Q. Okay. Thank you. Those are all my questions.
HEARING OFFICER LEVAR: Thank you, Ms. Rokito.
If anyone has any recross based on those questions, please indicate to me that you do.
MS. WEGENER: I just have one question.
HEARING OFFICER LEVAR: Okay. If anyone else does, I'll have them go first. I'm not seeing or hearing any recross from anyone else.
So go ahead, Ms. Wegener.

RECROSS EXAMINATION

BY MS. WEGENER:
Q. Dr. Milligan, I believe you just testified that your load calculation in your top 10 percent of load hours does include the resource mix in it?
A. Well, the resource mix isn't actually in the load. I mean, what happens is you've got a bunch of resources that are going to serve that load. So, you know, I'm not considering the generation from those resources, no.

Q. Okay. Thank you.

HEARING OFFICER LEVAR: Okay, thank you, Ms. Wegener.

I'll go to Commissioner Allen. Do you have any questions for Dr. Milligan?

COMMISSIONER ALLEN: No questions. Thank you.

HEARING OFFICER LEVAR: Okay. Thank you.

Commissioner Clark?

COMMISSIONER CLARK: I have no questions. Thank you.

HEARING OFFICER LEVAR: I don't, either. So thank you for your testimony this morning, Dr. Milligan.

THE WITNESS: Thank you.

MS. ROKITO: Chair Levar?

HEARING OFFICER LEVAR: Yes.

MS. ROKITO: I apologize to do this, but I forgot to ask one question. Would it be okay if I asked one more question?

HEARING OFFICER LEVAR: Go ahead. I'll allow any re-recross if anything follows from that question.

MS. ROKITO: Okay. I appreciate that. Thank you.

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FURTHER REDIRECT EXAMINATION

BY MS. ROKITO:

Q. Dr. Milligan, Ms. Wegener asked you about the load year that you used to calculate the capacity contribution factor in this proceeding. You used a -- I think you testified that you used a 2021 load year and a 2019 CG export year; is that right?

A. Yes.

Q. Okay. And can you explain why it is that you did that?

A. This case, this proceeding is about trying to figure out the value of CG solar in 2021. We have data from 2019 which, you know, it's the only year that we have data for the CG solar generation.

I do not have a way of correcting for the weather, but here's my choice. Mr. MacNeil, in his sur-surrebuttal makes a very nice argument about how the 2019 demand differs from 2021 demand. And he talks about a difference in the timing of the peak and difference in other things as well. And then -- but it turns out that the 2021 demand forecast is corrected for weather. So the argument essentially says 2019 is not a good representative year for 2021.

And so we're stuck with a bit of a dilemma. To do a good job of estimating the CG solar in 2021, we

would need some weather-corrected or aligned data for 2021 CG and 2021 demand. We don't have that.

So the other choice is to say let's use 2019 demand and solar, which is what Mr. MacNeil has done. That's not totally unreasonable. But, you know, at the same time, there's this strong argument that he makes that 2019 demand is very different than a, sort of a normalized weather year, 2021.

So that leaves the choice a little bit up in the air. Do I use 2021 demand and 2019 CG? That's what I did. Or do you use 2019 solar and 2019 load? That's what Mr. MacNeil did.

As I've testified before, I think, you know, this case is not about the past. This case is about the future. And so I think, you know, we have various pieces of data from 2019, from 2021. It's a bit of a mixture to begin with. And my preference is to use as much 2021 data as we can.

Q. Okay. Those are all my questions.

MS. ROKITO: Thank you, Chair Levar, for the opportunity.

HEARING OFFICER LEVAR: Thank you, Ms. Rokito.

If those questions and answers raise any follow-up questions from any party, please indicate to me that you have follow-up. I'm not seeing or hearing any.

Commissioner Allen, anything else from you for this witness?

COMMISSIONER ALLEN: No, thank you.

HEARING OFFICER LEVAR: Okay. Thank you.

Commissioner Clark?

COMMISSIONER CLARK: Nothing further, thanks.

HEARING OFFICER LEVAR: Okay. Thank you for your testimony, Dr. Milligan.

THE WITNESS: Thank you.

HEARING OFFICER LEVAR: Ms. Rokito?

MS. ROKITO: Yes, thank you. Vote Solar calls its next witness, Dr. Spencer Yang.

HEARING OFFICER LEVAR: Dr. Yang, do you swear to tell the truth?

MS. ROKITO: I don't think your audio is working.

THE WITNESS: Can you hear me now?

MS. ROKITO: Yes. I can hear you now.

THE WITNESS: Can you see me as well?

MS. ROKITO: Yes.

THE WITNESS: Thank you.

HEARING OFFICER LEVAR: Thank you, Dr. Yang. Do you swear to tell the truth?

THE WITNESS: Yes.

HEARING OFFICER LEVAR: Thank you, go ahead,

Ms. Rokito.

SPENCER S. YANG,

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

DIRECT EXAMINATION

BY MS. ROKITO:

Q. Can you please state your full name and business address for the record.

A. My name is Spencer Yang, and my business address is 2001 K Street, NW, Washington DC, 20006.

Q. Thank you. Dr. Yang, have you reviewed and analyzed the testimony submitted by the other parties in this case?

A. Yes.

Q. And have you prepared sur-surrebuttal testimony in this case?

A. Yes, I have.

Q. Do you have any changes to offer to that testimony?

A. Yes, I do.

Q. And what are those changes?

A. At Lines 52 and 147 and 166 in my

sur-surrebuttal testimony, I recommended that the Commission revise its October order calculation of avoided transmission capacity cost from 0.91 cents to 1.15 cents per kilowatt hour.

At Lines 156 and 160, in my sur-surrebuttal testimony, I recommended that the Commission revise its October order calculation of avoided distribution capacity costs from 0.31 cents to 0.33 cents per kilowatt hour.

My calculations of avoided transmission capacity cost and avoided distribution capacity cost use capacity contribution rates that had double counted line losses, as Mr. MacNeil Neil pointed out.

Correcting for this error results in an avoided transmission capacity cost of 1.06 cents per kilowatt hour and an avoided distribution capacity cost of 0.30 cents per kilowatt hour.

Q. Thank you. Do you have any other changes to offer to your testimony?

A. No, I do not.

Q. So, with the exception of the changes you just mentioned, if you were asked the same questions included in your written testimony here today, would you give the same answers?

A. Yes. My answers would be the same.

MS. ROKITO: Chair Levar, Vote Solar moves for the acceptance of the testimony of Dr. Spencer Yang into the record in this proceeding.

HEARING OFFICER LEVAR: Thank you. If anyone objects to that motion, please state your objection.

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

Q. (BY MS. ROKITO:) Dr. Yang, have you prepared a summary of your testimony that you would like to present to the Commission?

A. Yes.

Q. Please go ahead and share your summary.

A. Good afternoon, Commissioners. Thank you for allowing me to testify in this important matter. My name is Spencer Yang, and I'm testifying on behalf of Vote Solar.

My testimony focuses on the proper carrying charge to be applied to each of generation, distribution, and transmission avoided capacity costs. And I will also address the proper approach for calculating transmission capacity contribution value.

In its October order, the Commission correctly adopted the annual carrying charge rate of 7.82 percent from PacifiCorp's current marginal cost of service study for avoided generation capacity. However, this carrying

charge rate should not have been applied to avoided distribution or avoided transmission capacity.

In the case of avoided generation capacity, the Commission should have -- should not have reduced Vote Solar's proposed value because Vote Solar had actually used a 6.959 percent carrying charge to derive its avoided generation capacity cost.

I echo Dr. Milligan's conclusion that applying the proper carrying charge rate of 7.82 percent yields a value of 2.748 cents per kilowatt hour for avoided generation capacity cost, as compared to 2.31 cents per kilowatt hour approved by the Commission.

For avoided distribution capacity, I recommend that the Commission adopt the 7.91 percent carrying charge rate from the same marginal cost of service study, resulting in an avoided distribution capacity cost of 0.30 cents per kilowatt hour.

I believe the current marginal cost of service study is the most appropriate way to determine the carrying charge in this proceeding because this study shows the Company's marginal cost of resources required to serve one additional unit of demand, reflecting RMP's current cost of capital in Utah. It is important to recognize that the cost of debt inequity are not static, and these values change from year to year based on many

different financial variables.

Mr. MacNeil proposes using the carrying charge from PacifiCorp's 2019 IRP, but the carrying charge from the 2019 IRP study reflects a cost of debt inequity from years ago.

By contrast, RMP's marginal cost of service study from its most recent general rate case accurately reflects the cost of debt inequity in Utah today.

As for avoided transmission capacity cost, I know that Mr. MacNeil does not dispute that the value I proposed in my affirmative testimony was already annualized based on the PacifiCorp's annual transmission rate. And therefore, the Commission should not have reduced my proposed avoided transmission capacity cost by approximately 17 percent to account for a carrying charge rate.

I recommend that the Commission approve my one year avoided transmission capacity credit of 1.06 cents per kilowatt hour, which would present an increase of 0.15 cents per kilowatt hour from the Commission's October order.

The appropriate method for calculating transmission capacity contribution must recognize the high correlation between transmission peak load and generation peak load that I demonstrate in my affirmative

testimony. This correlation leads to a reasonable conclusion that the CG exports make the same contribution to avoiding generation and transmission capacity investment. However, in this proceeding, Mr. MacNeil proposes using a new approach based on the monthly transmission system peak to determine the transmission capacity contribution value.

This, among other things, commingles the transmission cost allocation issue with the CG capacity contribution measure, a measure of how much CG exports can reduce transmission peak load. In other words, assessing how to allocate previously-spent capital cost is different from determining what drives new capital investment and how CG exports reduce the transmission -- the investment costs for RMP.

At issue in this proceeding is not how much CG exports can save the transmission customers' cost based on the current transmission cost allocation formula but, rather, how much CG exports can avoid RMP's marginal transmission investment by reducing system peak flow.

In addition, the monthly transmission system peak method proposed by Mr. MacNeil suffers from the small sample size and biased sample weighting issues that don't have -- inevitably resulting in a capacity contribution value statistically unreliable, biased, and

invalid.

In summary, in its October order, the Commission correctly recognized that CG exports provide important value to the grid in the form of avoided generation, distribution, and transmission capacity costs.

At this proceeding, as demonstrated, the carrying charge rate that the Commission ultimately approves will impact the overall amount that CG customers are compensated for the exports.

To ensure a just and reasonable export credit rate, I recommend that the Commission adopt the 7.82 percent and 7.91 percent carrying charge rate from RMP's current marginal cost of service study. Applying this carrying rate yields a value of 2.748 cents per kilowatt hour for avoided generation capacity cost and 0.30 cents per kilowatt hour for avoided distribution capacity cost. I recommend that the Commission revise its October order to reflect an increase in avoided generation capacity cost from 2.31 cents per kilowatt hour to 2.748 cents per kilowatt hour.

Finally, I recommend that the Commission revise its October order to address the fact that the avoided transmission capacity cost that I propose have been already annualized based on PacifiCorp's annual transmission rate. For this reason, the Commission would

increase the avoided transmission capacity cost from 0.91 cents per kilowatt hour to 1.06 cents per kilowatt hour.

I appreciate the opportunity to share my opinion for the appropriate carrying charge and transmission capacity contribution value to be applied to each of the avoided capacity cost calculations. And even though I did not address any of the Commission's questions in the March 5th notice, I am ready to answer if asked. Thank you.

Q. Thank you.

MS. ROKITO: Dr. Yang is now available for cross-examination.

HEARING OFFICER LEVAR: Thank you.

Mr. Mecham, do you have any questions for Dr. Yang.

MR. MECHAM: I do not. Thank you very much.

HEARING OFFICER LEVAR: Okay. Thank you.

Mr. Holman?

MR. HOLMAN: No questions. Thank you.

HEARING OFFICER LEVAR: Mr. Moore?

MR. MOORE: No questions. Thank you.

HEARING OFFICER LEVAR: Thank you.

Mr. Jetter?

MR. JETTER: And no questions from the Division. Thank you.

HEARING OFFICER LEVAR: Thank you, Mr. Jetter.

Ms. Wegener?

MS. WEGENER: Yes, just a few. Thank you.

CROSS-EXAMINATION

BY MS. WEGENER:

Q. Good afternoon, Dr. Yang.

A. Good afternoon.

Q. You testify in your sur-surrebuttal that it is appropriate to use the Company's marginal cost of service study filed with its 2020 general rate case to determine the carrying charge, correct?

A. That's correct.

Q. In your experience, does a cost of service study affect the revenue requirement or the total amount of revenue a utility collects?

A. In certain cases, yes. But my understanding is that the RMP is using embedded cost of service for revenue requirement and cost allocation, not marginal cost of service study.

Q. Thank you. So you'd agree with me that the Commission's order in the 2020 general rate case that came out in December doesn't adopt the marginal cost of service study or incorporate it into rates?

A. That's correct. Marginal cost of service study

is for informational purposes only.

Q. Okay. Thank you. That's the only questions I have.

HEARING OFFICER LEVAR: Thank you, Ms. Wegener.

Ms. Rokito, any redirect?

MS. ROKITO: No redirect, thank you.

HEARING OFFICER LEVAR: Thank you.

Commissioner Clark, do you have any questions for Dr. Yang?

COMMISSIONER CLARK: No questions. Thank you.

HEARING OFFICER LEVAR: Thank you.

Commissioner Allen, do you?

COMMISSIONER ALLEN: Also, no questions. Thank you.

HEARING OFFICER LEVAR: Thank you. I don't have any, either. So thank you for your testimony today.

THE WITNESS: Thank you. Thank you, all.

HEARING OFFICER LEVAR: Anything else from anyone before we adjourn?

Thank you to everyone for your participation in today's hearing. We are adjourned.

(The matter concluded at 11:57 a.m.)

CERTIFICATE

State of Utah)
ss.
County of Salt Lake)

I, Michelle Mallonee, a Registered Professional Reporter in and for the State of Utah, do hereby certify:

That the proceedings of said matter was reported by me in stenotype and thereafter transcribed into typewritten form;

That the same constitutes a true and correct transcription of said proceedings so taken and transcribed;

I further certify that I am not of kin or otherwise associated with any of the parties of said cause of action, and that I am not interested in the event thereof.

WITNESS MY HAND at Salt Lake City, Utah, this 22nd day of March, 2021.

Michelle Mallonee, RPR, CCR
Utah CCR #267114-7801
Expires May 31, 2022

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-o0o- 6:2

0

0.15 124:20

0.21 20:1

0.30 121:16 123:17

0.31 19:22 121:8

0.33 121:8

0.62 19:18 99:5

0.91 121:3

1

1 19:16 38:5 60:4 97:14

1.0 56:10

1.06 121:15 124:18

1.13 40:19 52:6

1.15 121:4

1/2 101:22 102:11

10 13:12 14:8 15:4,20 17:17 25:17 33:12 34:14 38:8,11,18 47:5,9,11,13, 14,25 84:9 90:22 97:24 98:5,9 103:18 104:25 105:21,23 106:20,24 107:2,8,10 108:6 109:12 110:7 115:19

10:27 72:21

10:45 72:21

10th 13:23

11.83 15:7

12 17:13 31:3 33:9 37:10, 14 38:4 39:3,11 40:4 43:24 48:10

137 58:20 76:5 83:25 110:23 111:3

143 69:4

147 120:25

15 101:9,17,20 102:10 106:25

15-minute 72:17

156 121:5

15th 81:11 82:11

16 33:17

160 121:5

166 120:25

17 95:2 124:15

17-35-61 6:5

171 109:16

19 13:24

1997 38:18 106:1,9,14,16

1st 6:13 28:21

2

2 12:20 14:10 19:10 22:4 24:7 33:16 52:11 53:12 60:4 77:7 96:2 97:16 101:10

2-MM 59:24

2.31 95:2 123:11

2.310 93:13 95:15 99:23

2.748 93:16 95:13,17,25 99:24 123:10

2.966 93:14

20 108:16

20-035-04 61:16

20-year 18:22

20.70 78:6

20006 120:13

2001 56:11 120:13

2019 13:1,12,22,23 14:9, 21,24 15:10,11,14,17,22 16:8 17:9 18:2 19:7 22:3 28:3,24 29:7 30:5,9,18, 20 31:21 33:19 34:24 49:15,24 61:25 77:11,12 83:6 84:4 107:25 112:17, 24 113:2,5,17,22 117:7, 13,18,22 118:3,7,10,11, 16 124:3,4

2020 26:18 30:4 31:10 57:25 80:22 81:11 83:13 88:8 93:12 110:25

2021 6:4 13:3,13,16,23 16:5,13 22:3 26:15,17 28:10,19,21 31:3,19 49:11,25 51:11 56:12 83:8,9 93:16 101:25 102:15 103:4 112:20 113:17,23 117:6,12,18, 21,23,25 118:2,8,10,16, 17

2024 49:16

2030 15:19,23 28:3

21.9 53:11

21.99 14:18 18:4 20:2 33:25 34:25 107:14

22 49:25 109:21,25 110:8,11 111:17

22nd 11:20 56:11 79:17 81:13,18

23 50:1

238 48:11
23rd 57:25
24.18 78:5,9
252 93:10
26.55 96:3
266 42:20 43:4
28.96 13:3

3

3 19:11 60:14 78:9,12 97:18
3.2 52:13
3.5 52:13
3.53 40:14
3.73 15:25
302 32:23
304 32:23
30th 26:18 40:12 80:21 93:12 94:22 95:17 96:6 99:18
31st 31:3,19 110:25
340 42:20 43:5,6
384 42:20 43:8

4

4 19:11,16 97:21 108:13
4.1 109:24
4.14 15:13 107:14
407 61:17
41 93:9
43 93:9

5

5 19:11 97:24
5.6 52:12
5.9 52:12
50 21:9,11,15 71:22 108:18
52 120:25
5th 88:24 93:6 95:19

6

6.49 16:14 19:19 21:24
6.51 19:5 20:3
6.76 61:23
6.92 61:24
6.959 95:5,10 123:6
6.96 19:20

7

7.72 17:14 19:23 34:19, 25
7.82 95:7,11 122:23 123:9
7.91 123:14
700 15:9

8

8 12:21 69:4 101:22 102:11
8,760 37:25 43:21,24
81 93:9
876 38:22 39:1,8 47:15
89th 92:21

9

9 6:4
9.39 95:3
9/15/2020 59:24
9584 92:21

A

a.m. 72:21
abbreviated 42:13
ability 58:18 84:16 90:15
absence 109:7 110:17 111:8,12
Absolutely 39:6
accept 40:16 52:10 74:6
acceptable 46:25 71:12
acceptance 94:2 122:2
accepted 99:1
Access 17:3 40:8
account 13:16 49:18,19 53:6 82:19 84:3 85:2 102:15 104:11 105:2,4, 12,21 110:7,14 124:15
accounted 27:5 60:12,13 85:15
accounting 82:12 98:22
accounts 16:14 23:22 78:2
accrual 18:17
accuracy 64:5
accurate 38:20 44:8 50:25 51:13 69:15,21

74:21 77:22 84:16 105:23

accurately 17:15 29:3 39:2 53:9,12 107:4 124:7

acknowledge 27:7 35:22 39:21

acknowledged 80:22

acknowledging 25:20

act 45:22 65:8

actively 41:7

actual 16:4,8 33:7 39:8 45:17 66:22 83:5,16 84:4,14

actuals 50:6,12

ad 81:7

adaptable 49:23

adaptation 98:3

add 49:14,21 50:5 87:8

added 85:5 96:12,15,20 111:15 114:25

adding 39:17 49:10

addition 16:2 17:20 20:17,23 21:5 96:12 125:21

additional 75:9 81:14,17 97:18 123:22

Additionally 64:14

address 18:6 60:2 63:6, 10,14 83:3 92:18,21 120:11,12 122:20

addressed 12:13 83:24 88:25

adds 97:1

adjust 99:21

adjusted 59:10 60:1 61:18

adjusting 38:13 76:12

adjustment 19:24

adjustments 18:7 19:15

admit 12:1 80:1

adopt 19:5 28:23 30:17, 21 67:24 68:18 99:18 123:14

adopted 16:20 17:2 96:6 122:23

adopting 63:19

adopts 29:3 52:3

advance 107:5

advantage 101:15

advisor 11:18

Advocates 9:11

affect 25:18 53:16 105:17 113:9

affected 75:23

affirm 99:17

affirmative 124:11,25

after-tax 29:15 58:7,11, 12 61:19,20,22 76:13

afternoon 107:3 122:13

agency 58:1

aggregate 69:19 103:5

aggregated 69:11

agree 23:9 29:2,17 30:1, 6 31:15,22 33:13 36:9 39:1 43:17 44:1 59:17 70:22 87:17 88:14 101:19 102:13 103:25 104:7 105:17 106:11 111:6,9,14 113:9

agreed 104:23 107:18 109:11

agreement 102:23

ahead 11:3 51:22 52:21 55:15 57:15 61:12 62:18 64:19 73:3 92:9 94:14 115:14 116:19 119:25 122:12

air 118:10

algorithm 107:11

algorithms 106:21

aligned 13:15 58:7 118:1

aligning 113:21

alignment 13:18

aligns 58:4 69:13

alleged 77:19

Allen 6:9,16 12:11 54:18, 19 75:10,12,14 80:13 91:15,16 116:4,6 119:1,3

allocate 34:13 35:4,24 36:4 40:7 125:12

allocated 17:18 34:10,13 36:13,23

allocates 35:8

allocating 18:23 27:12

allocation 17:1,20 34:6 35:2,15,21,23 36:17 37:1 40:10 53:18 125:9,18

allowing 122:14

alternatives 12:19

amount 21:12 23:12 27:9 35:7 36:6 44:24 49:11,16 51:7 91:2 103:13 111:1 112:5 113:10,13

analogous 14:7

analysis 22:17 25:11 27:6 28:7 114:25

analytical 30:22

analyzed 66:25 92:23 112:15 120:15

anchor 76:9

announcement 6:12

annual 18:9 42:24 44:3 58:19 70:18 76:5,8 83:19,22,25 88:18 122:23 124:12

annualized 124:12

annually 57:21

answers 11:24 56:18 57:11,16 78:15 79:23 93:24 118:23 121:24,25

anticipate 8:20

apologize 41:3 44:15 116:16

appeal 74:24 80:20 82:11

appearance 6:21 9:14

appearances 6:19

appearing 8:13

appears 59:22 61:7

applicable 15:15 17:20 34:15

application 6:5 35:5 104:3

applied 13:9 109:3 112:11 122:18 123:1

applies 76:7

apply 30:24 31:6 60:6 95:21 112:8

applying 123:8

appointed 6:17

approach 22:16 23:25 24:4 26:25 27:4,21,25 28:4,11,16 34:5 37:10 39:3 96:4,25 97:7,8,12 98:1,15 102:4,6,22 107:22,23 109:5,7 122:20 125:5

approaches 81:8

appropriately 83:24 99:25

approve 40:18 58:3,24 59:7,12 66:3 68:7 81:7 84:11 124:17

approved 13:2 29:7 31:24 37:5 40:13,19 58:8,20 59:8 60:16 63:20 76:11 81:5 82:2,16 86:2 88:16 95:16 98:17 99:6, 22 123:12

approves 70:17 99:16

approximate 88:20

approximately 95:2 124:15

approximation 39:7,9

April 39:23 47:20

arbitrariness 96:16

arbitrary 27:15,19 96:8 98:16 107:15

area 50:11 101:24

argues 98:1

argument 104:2 111:7 117:17,22 118:6

arrived 24:2

articulated 76:1

artificially 98:5

aspects 27:19

asserted 77:15

assertion 59:18

assessing 36:4 125:12

assessment 44:22 102:19

asset 18:13,16,18,19 21:17,18,21

assets 18:22,23 30:12

assistant 7:6

association 8:11,14

assume 9:3 110:18

assumes 18:21 21:6 98:8 108:24

assuming 22:10 44:20 85:21

assumption 9:5 49:1 95:3

assumptions 12:22 28:9

attempt 13:16

attorney 7:6,7,17 41:8,9 50:17 111:24

attorneys 47:3

audio 119:15

August 47:16

Avenue 92:22

average 14:1 17:14,16 18:11 58:7 59:8 60:16 61:22,23 75:22 76:11,13 101:22

avoid 80:18 125:19

avoided 12:16 13:8 17:3 19:7 57:23 58:5 69:15 93:16 94:23,25 95:9,13, 16,25 99:3,22 100:2

121:3,7,10,11,14,16 122:19,25 123:1,2,3,7, 10,13,16 124:9,14,18

avoiding 125:3

avoids 114:21

aware 31:4,8,12 37:4 58:16 66:7,10

B

back 68:9

backwards 108:11

baked 45:19

balance 31:24

based 12:25 13:2 15:14 17:6 19:18,22 20:1 22:2 30:19,22 33:8 34:7,14 35:20 36:25 37:1 39:14 40:9 46:16 52:9 59:7,13, 20 60:15 63:19 65:3,13, 16 68:13,24 75:7 77:23 95:4 97:2,12 99:9 102:6 105:23 106:3 108:12 115:8 123:25 124:12 125:5,17

basic 64:22

basically 73:15 77:17

basis 88:18

bearing 14:16

begin 72:22 118:17

beginning 69:3

begins 48:10

behalf 6:23 7:22 8:4 62:17 79:14,15 94:19 122:15

benefit 38:14 48:14 69:8 96:24

benefits 16:16 28:15 35:18 58:10 82:23 100:1

biased 125:23,25

biases 99:10

big 30:12 31:22 109:6

bill 53:19

billed 53:21

billing 40:10,11

bit 56:3 70:13 71:15 72:8 114:23 117:24 118:9,16

board 73:16

bolsters 86:10

bond 29:11

Bowman 7:25 10:9 78:21,23 79:3,10,12 80:8 87:24 89:3,8,16 90:3 91:13,19

Bowman's 80:2 86:16

break 47:22 72:13,17,21

briefly 74:17 88:3 94:20

broke 63:25

brought 101:6

buckets 43:19

build 35:25 36:11 37:1

bunch 115:22

business 92:18 120:10, 12

C

calculate 30:23 32:15 33:19 34:23 50:9 84:5 105:8,13,19 114:10 117:4

calculated 32:2 33:24 105:10 115:5

calculating 27:1 30:14 38:7 69:18 70:10 81:8 82:8 83:17 90:14 95:9 96:4 99:8,19 105:1,7 122:20 124:22

calculation 14:7 30:15 32:1 34:18 36:14 40:5 43:18,21 44:11,19 46:10 49:17,18,22 50:19 53:6 57:19 58:8 61:22 62:25 63:23 64:3,6 65:21,25 66:3 72:2 81:20 82:13 83:7 84:7 85:3,21 90:7, 11,14 95:23 96:12,21 102:3 105:22 110:4,6,8 115:19 121:2,7

calculations 19:12 43:22 81:24 121:10

call 10:17 55:6,8 78:19

called 11:6 49:15 55:18 79:4 92:12 120:4

calls 10:19 92:3 119:11

cap 30:10

capability 39:10 96:11

capacity 6:18 12:15,17, 19 13:1,7,9 14:4,17 15:6, 13,24 16:8,9,13,19,20 17:4,15,23 18:3 19:3,4,7, 12,17,19,21,23,25 20:2 21:24 23:17,24 24:2,5,14 26:19,22 27:1,5,9,12,17 28:24 32:7,11,15,19 33:3,20,24 34:3,21 35:15 36:6,18 37:6,15 38:7 39:2 40:5,13,18 42:23 43:13,19 44:13 45:14,23 46:10 48:17,21 49:4,20 50:9,20,21 51:1,4 52:6

53:3,9,10,11,13 58:2,5, 14,20,24 59:13,19 65:20, 21,25 66:3,8 67:4 69:10, 18,23 70:10,16 72:2 77:16,23 80:15,16,20 81:1,8,10,20,23,25 82:2, 8,15,25 83:6,17 84:2,5,7, 22 85:6,8,14 86:3,5 88:15 90:7,12,23 91:4 93:16 94:23,25 95:10,13, 16,23 96:1,2,5,22,24 97:4,7,18,22 98:2,6,11, 14 99:4,8,10,19,22 100:2 101:9,11,17,21,22 102:2, 7,10,11,16,21 103:5,7, 11,13,23 104:1,8,9,12 105:1,8,10,13,18 107:18 108:7,8,16,18 109:14,21, 23 111:20 114:10 115:5 117:4 121:3,8,10,11,15, 16 122:19,21,25 123:2,3, 7,11,13,16 124:9,14,18, 23 125:3,7,9,24

capital 11:14,15 18:12, 14,17 30:8 31:23 36:5 58:6,7 59:9 60:16 61:22, 23 75:23 76:12,14 123:23 125:12,13

capture 109:14

captures 59:25

carrying 12:15 18:5,7,10, 12,16,18 19:2,5,20,24 20:2 28:22 29:2 30:11,14 31:5 32:1,2,5 39:10 58:2, 3 59:7 60:15,20 62:25 63:4,6,10,14,19,23 64:3 75:22 76:2,6 93:12 95:3, 5,7,9,10 96:11 122:17, 23,25 123:6,9,14,20 124:2,3,15

case 15:21 18:21 24:13 30:2,3 31:9,17 33:6 59:10 60:17 61:16 63:20, 24 65:22 75:2 76:11 92:24 93:2 117:11 118:14 120:16,19 123:3 124:7

cash 58:9

categories 43:13

cent 52:13

cents 8:19 19:18,22 20:1 40:14,19 52:6 93:13,14, 16 95:2,13,15,17,25 99:5,23,24 121:3,4,8,15, 17 123:10,11,17 124:18, 20

CG 12:25 13:11,14,21,23 14:1,3,7,13 15:5,6,15 16:4,15,19 17:10,14,16 21:24 23:8,14,17,24 24:3,14 35:17,18 37:6 39:2,13 40:13 45:10 49:3,20 66:19 67:4 69:10,11,13,15,18,19 97:16,18 98:3,7,11,12, 13,24,25 99:1,10,12,20 100:1 105:11 107:24,25 108:7,13 115:2,4,5 117:7,12,14,25 118:2,10 125:2,9,10,14,16,19

Chair 7:23 8:12 9:19 10:11 12:10,11 41:5,24 42:7 51:21 52:16 65:11 67:15 72:25 74:14 78:20 80:1,12 89:3 91:10,20 92:2 94:1 116:14 118:20 122:1

Chairman 54:2,5

challenge 60:10

challenging 71:16

chance 21:9,18

change 24:18 28:13 30:13 49:20 50:19,21 51:10 53:19 81:9 82:18 83:4,25 84:6,10 85:1,15 93:21 123:25

changing 90:21

characteristics 59:2 97:2

characterize 90:8

characterizing 103:10

charge 12:16 18:12,16, 18 19:5,20 20:3 28:22 29:2 32:1,5 58:2,4 59:7 60:15,20,21 62:25 63:4, 6,10,14,19,24 64:3 75:22 76:2,6 93:13 95:4,5,7,9, 11 122:18,23 123:1,6,9, 15,20 124:2,3,15

charges 18:5,10 19:3,24 29:12 30:12,14 31:5 32:2 33:8

check 38:6 47:12 48:4 66:13

choice 117:16 118:3,9

choose 34:13

chose 25:4

circumstances 102:9

cite 22:21 32:22 111:19

cited 82:10

City 9:9,10 45:24,25 46:2,3

claim 66:17 67:3 77:21

clarification 58:1 78:3

clarified 68:14

clarify 37:13 44:17 47:6 65:10

Clark 6:9,16 12:10 54:14,

16 61:10 75:15,19 76:18 80:13 91:12,14 116:8,9 119:5,6

Clean 7:22,24 9:20,25 10:1,8 79:15 80:14 81:9 82:3 91:23

clear 102:17

close 15:22

closed 46:20

coal 25:2,8,12,17,23

coincident 17:7 53:20

collect 19:1

Colorado 92:22

column 59:23 77:23,24 78:13

columns 59:25 77:11,13

combination 57:15 58:16

combined 101:21

commend 94:21

comment 102:25

comments 83:24

commercial 11:18 16:11, 12 26:10

commingles 125:8

commission 6:5,13 9:22 12:23 18:7 19:5 20:8 28:23 29:3,7 30:17,21 35:7,12 36:16 37:5 40:13,17,19 50:25 52:3, 11 56:9 57:13,22 58:3,8, 21,24 59:7,12 62:5,24 63:18 64:3,15 66:2 67:24 68:7,18 70:17 73:22 74:6,7,23 76:11 80:22,25 81:5,7 84:11 88:15,23 89:1 93:11 94:12,22,24 95:15,18 96:5 98:18 99:6,16,17,21 121:2,6 122:10,22 123:4,12,14 124:13,17

Commission's 16:6 59:8,16 80:21 87:12 88:9 110:24 124:20

Commission-ordered 19:14

Commissioner 6:8,9,16 12:10,11 54:14,16,18,19 61:10 75:10,12,13,15,19 76:17 80:13 91:12,14,15, 16 116:4,6,8,9 119:1,3,5, 6

Commissioners 57:18 89:5 94:16 122:13

common 102:4

Company 10:19 11:17 15:8 18:25 29:9,12,13 80:20 81:3 83:5 84:13 112:13

Company's 13:13 17:2 19:7 29:20,23 42:21 53:17 84:1 88:9,19 123:21

comparable 44:10 81:4

compare 69:10,19 70:11

compared 66:19 84:20, 25 113:16 123:11

compares 13:11,21 14:11 16:4

comparing 69:24,25

compensate 82:23 99:9 108:12,13

compensated 86:4

compensates 57:20 59:4 80:16 100:1

compensation 35:19 39:18 40:9

completely 38:15

complex 71:2,4

complexity 28:18 38:15 58:18

complicated 28:8 30:14 70:25 71:9 103:12

component 59:10 70:6 72:1 76:12 94:23

components 27:13 28:13 44:9 52:6 57:24

computing 58:18

concentrated 47:17

concept 27:8 37:17

concepts 35:16

concerned 44:10

concerns 8:17

conclude 60:15

concludes 20:4 58:13 59:6 62:1 100:3

conclusion 76:10 99:15 123:8 125:2

concrete 102:25

conditions 14:4,13 16:3, 13,24 40:1 60:5 83:11 95:20,22

conduct 6:17 28:8

conducted 114:8

confidential 19:10 46:17, 23 59:24

confines 87:25

confirm 47:23 90:9 114:17

confirmed 6:14

confusing 72:4

confusion 12:18

considered 80:23 85:7, 10 98:12 108:25 109:20, 22 110:1,3,13

considers 50:24 114:18

consistent 18:25 102:7 105:14

consistently 99:11

constitute 64:9 70:2

construct 103:24 104:3, 11

consultant 56:2 92:20,21

consulting 94:18

consume 113:14

consumed 86:1

Consumer 7:10,16

contained 12:20 56:18

continue 72:17,23 83:8 86:8 88:1

contracted 15:12 16:9,16 24:16 45:12 98:22 108:4 109:22

contracts 15:9 50:2 51:9

contrast 15:17 18:15 124:6

contribute 17:12 51:3 97:16

contributing 27:18 110:19

contribution 12:15,19 13:2,7 14:5,17 15:6,13, 24 16:13,19,21 17:16,23 18:3 19:19,23 20:2 21:24 23:18,24 24:2,5,14 26:19,22,25 27:1,4,6,7,8, 21 32:7,11,15,20 33:4, 20,25 34:4,22 35:15,20 36:18 37:6,15 38:7 39:2, 8 40:6 42:24 43:14 44:13 46:10 48:17,22 49:4,20 50:9,20,22 51:1,5 58:2, 20,24 59:13,20 65:20,22, 25 66:3,8 69:10,18,23 70:10,17 72:2 77:16,24, 25 80:15,21 81:1,8,10, 20,23 82:2,9,15,25 83:7, 17 84:2,8,22 85:6,9,14 86:5 88:15 90:7,12,24 91:4 95:24 96:2,5,22,25 97:4,7 98:2,6,11,14 99:8, 10,20 101:9,11,17,21,22 102:10,14,16 103:5,7,11 104:1,8,10,12 105:1,8, 13,18 107:19 108:12 109:23 111:16,20 114:11 115:5 117:5 121:12 122:21 124:23 125:2,7, 10,25

contributions 43:19 58:15 67:4 84:5

control 113:16

conversation 47:2

conversely 112:6

convert 19:12

Corporation 9:9

correct 8:25 10:10,11 23:15 26:8 27:6,23 29:4, 24 32:9 33:25 36:1 37:11,21 40:14 44:8 49:1,15 63:5 64:4 65:23 66:1,20,24 67:8 70:12 73:16,17,23 74:5 75:1 93:7,12 105:3 106:4 110:3 111:23

corrected 77:20 93:15 117:21

correcting 95:12 117:15 121:14

corrections 56:14 79:19

correctly 90:10 96:6 122:22

correlation 83:20 124:24 125:1

correspondingly 98:6

cost 13:9 16:25 17:4,12 18:11,13,17,20 19:1 29:4,8,10,14,16,17,21,23 30:1,4,7,8,10 31:2,8,12, 16,18,20,23 35:14,23 36:17,25 53:18 58:7,12 59:8 60:16 61:18,19,22, 23 75:22 76:12,13 93:16 95:8,10,13,16 99:22 121:3,11,15,16 122:24 123:7,11,15,16,18,21,23, 24 124:4,6,8,9,14 125:9, 12,17,18

costs 12:17 17:18 18:8, 10,24 19:3,12 29:5 34:7, 10,12,14 35:3,4,7,20,25 40:8 53:10,12,16 80:19 82:23 96:1 121:8 122:19 125:15

counsel 8:13

count 13:10

counted 77:17 95:24 121:12

counting 77:19,21 78:7 93:8,15 95:12

couple 48:8 49:24 93:9 114:3

covered 42:14 46:11

Cox 6:14

create 56:8

created 23:17,21

creates 96:16 98:10

credit 13:19 19:3,6,18, 21,25 27:12 29:13,20 31:7 56:4 57:20,25 59:4, 20 60:6 80:16 82:22 88:14 94:24 95:22 97:2 99:15 108:17,19,21 124:18

credits 6:6 19:13,15 97:3 104:18

criteria 18:2

critical 109:9

criticisms 28:5 112:16

cross 43:12 62:17 100:6

cross-examination 8:24 9:23 20:8,14 41:1 42:9 52:1 62:4,20 67:17 72:18 73:12 75:18 77:5 89:4 90:1 101:1

cross-examine 9:25 10:8

cross-examined 41:10

current 29:3 30:2,3,4 31:17,19 82:15 122:24 123:18,23 125:18

currently-approved 82:6 84:2

curtail 45:14

customer 6:7 12:25 52:9 59:5 104:12 108:25 109:16,20,24 110:1,12, 18 111:4,14,20 112:23 113:6,10,13,17,20,22

customer's 14:2 17:6

customers 14:22 17:12, 19,22 19:1 34:16 35:3,24 36:20,23,24 57:20 85:16 99:2 100:1 108:22 110:22 112:4

customers' 125:17

cycle 32:4

D

D-A-N-I-E-L 11:14

Dan 6:24 10:19 12:2 59:1,14

Daniel 11:5,14

data 13:1 15:15 37:10 39:16 58:18,22 66:22 83:6,9,12,14,16,18,20,22 84:1,5 103:3 112:24 113:2,5,19 117:12,14 118:1,16,18

datapoints 37:24 38:23, 24 39:1,3,5,8,11,17

David 6:9

Davis 7:8 55:8,9,17,24 56:1,23 57:3 60:22 61:12 62:2,4,8,22 64:17 67:13, 19 72:18,24 73:5,9,14 74:21 75:11,16,21 76:19

day 13:22,23,24,25 20:20,21

daylight 15:1

days 13:15 14:12 57:13 113:21

daytime 15:3

DC 120:13

DCAC 59:25

deal 28:18

debt 18:14 29:4,8,9,10, 12,14,16,17,21 30:1,4,7 31:16,20,23,24 58:12 59:10 61:18 76:12 123:24 124:4,8

December 31:3,19 47:21 57:25 81:11,15 82:11

decides 35:13

decision 74:23 94:22 99:18

decisions 74:25

decline 103:14,23

declines 85:9 96:11

declining 102:1,6,15,21 103:4

decrease 104:1,8,9

decreases 37:21

decrement 51:4 84:8 88:5

decremented 91:1

decrementing 85:3

deliver 45:16 46:7

delivered 17:21 45:18

delivering 108:4

delivers 85:25

delivery 96:20

demand 22:12,15 39:22, 23 96:14 97:15,17,21 98:5,8,9 112:17 117:18, 21 118:2,4,7,10 123:22

demonstrate 124:25

demonstrated 80:23 84:13

departure 82:1

depend 21:20
depending 65:6 107:20
depends 37:22 105:19
depicted 66:4
derive 123:6
describes 81:3
design 112:1
designation 27:16
designing 18:24
desire 75:8
detail 86:24
detailed 66:15 87:5
details 31:11
determinants 40:10,11
determinations 80:24
determine 35:2 36:18 37:15 57:23 58:14 60:20 69:9 123:19 125:6
determining 35:23 84:21 125:13
develop 32:19 33:3 53:3
developed 58:25 81:4
deviates 69:23
devoted 14:1
difference 47:4 107:13 117:19
differences 106:16 110:9
differs 106:12 117:18
difficult 45:22
difficulties 114:21
difficulty 46:4
dilemma 117:24
diminished 98:12
direct 11:10 19:9 27:14 55:22 63:7 79:8 92:16 93:8 120:8
directed 87:13
directly 81:17 86:1 106:22
director 8:13
disagree 86:20
disagreeing 90:6
disasters 86:10
discount 58:11
discuss 48:7
discussed 26:2,20 88:13 103:16
discussing 114:22
discussion 50:4 102:19 103:17
dispatched 44:21,23
dispute 124:10
disputed 38:21
disputes 44:7
disruption 86:9
distant 86:12
distortion 81:6
distortions 82:5
distorts 85:2,20
distracting 41:12
distributed 86:8
distribution 12:17 16:22, 23 17:18,22 18:1,3 19:4, 7,25 20:1,22 28:24 32:4 42:23 50:8 57:24 60:9,13 80:19 81:24 121:7,11,16 122:18 123:2,13,16
diverts 108:20
Division 7:2,5,7 55:7 56:1,8 58:3,13,16,23 59:6,12 60:18 73:15 74:7,22,24 76:1 88:13 89:19
docket 6:5 61:16 79:17
double 13:10 77:17,19, 21 78:7 93:7,15 95:12,24 121:12
DPU 56:10
drive 17:25
driven 16:24
drives 125:13
driving 36:24
drought 85:12
duly 11:6 55:18 79:4 92:12 120:4

E

earlier 50:5,16 71:20,24
easier 43:22 44:3 73:20
easily 88:16 96:16
easy 42:25 44:2,6 58:21 70:18,19
echo 123:8
ECR 83:22
effect 51:24 52:9,12
effective 16:5,15 39:10 59:11 61:14 96:10
effectively 44:19
effects 48:15,17 85:5

efficiency 19:6

efficient 69:9

effort 28:18 50:24

ELCC 39:9 84:20 88:21 96:11 102:2 103:11,23 105:10

electricity 6:7 80:17 112:2,8,12,13

element 36:11 44:5 45:11 72:5,6

Emily 6:22

employ 66:17 67:1

employment 56:8

end 28:14 49:16 73:4 90:21 108:2

ending 31:3,10,18

energy 7:22,24 8:11 9:20,25 10:9 16:2 19:6 23:12,15 45:23 48:14,16, 19 51:8 57:21,23 59:5 79:13,15 81:9 82:3 85:16,25 91:24 113:10

Energy's 10:1 80:14

ensure 65:12

ensures 14:12 109:2

enter 51:4 56:22 61:2

entire 47:15

entities 35:5 36:21

entitled 14:21

equally 40:5

equation 25:7

equitable 40:24

equity 29:4,23 31:24 61:19 111:21,25 112:3, 12

erred 94:24

error 37:18,20 41:23 121:14

essentially 13:17 51:7 88:6 112:4 117:22

Establish 6:6

established 97:11 110:23

estimating 117:25

evaluate 46:24

evaluating 99:11,12

evaluation 28:8

evening 15:4

evenly 91:1

event 86:9

events 14:24 15:19 21:12

evidence 67:7 80:23 84:18

exact 30:21 39:14 48:3

EXAMINATION 11:10 52:23 55:22 74:19 79:8 92:16 114:5 115:16 117:1 120:8

exception 93:21 121:21

excuse 56:11 69:4 86:15 95:19

exhibit 19:10 56:10 61:1, 16 64:8

exhibits 12:2

exhumes 98:8

exist 51:14 95:22

existence 107:25

existing 15:2 36:1,2 82:12,19 85:6 98:24

expanding 39:16

expect 97:22

expected 16:12 25:15 26:10 67:3

experts 103:22

expired 6:13

explain 38:16 71:19 73:18 75:24 98:19 117:9

explained 96:10

export 6:6 12:25 13:5,12, 14,19 14:7 17:10 19:3, 12,15 31:7 39:13 45:10 52:4 56:4 57:19,24 59:3, 20,25 60:6 81:22 82:22 84:5 88:14 94:24 95:21 99:15 112:24 113:20 117:7

exports 13:21,23 14:3, 11,13 15:5,6,15 16:4,15, 19 17:14,16,17 23:24 35:17,18 39:3 49:20 69:10,11,13,19,24,25 70:11 83:21 97:16,18 98:13 99:3 113:5,17,22 125:2,10,14,17,19

extent 30:21 35:11 36:20 40:9 51:12 64:16 83:1 90:16 105:5

F

face 86:10

facilitate 83:19

fact 8:17 27:14 32:18 39:10 66:11 90:14 95:4 96:22 107:4,24

factor 58:20,24 114:11 117:5

factors 60:6,9,11 85:10 95:21
fair 41:2 44:22 45:5 86:7
fairly 35:24 49:23 99:9
fall 47:25
falls 47:8
familiar 26:16 37:17
favor 108:10
February 11:20 47:20 56:11 79:17 81:13,18
federal 61:14
feeds 41:12
feel 46:22
feels 64:25
figure 52:8 117:12
file 11:19 65:4
filed 8:14 11:20 30:3 31:17 56:9,11 63:15 68:4 81:12 86:22
filing 81:15
finalize 57:19
finally 60:14 88:12,22
financial 124:1
find 76:8
finding 42:18
fine 7:14 106:7
firm 43:15 94:18
flow 58:9 61:21 125:20
focus 16:5
focused 34:11
focuses 122:17
folks 60:25
follow 36:3 46:13 68:5 72:7 73:20
follow-up 50:15 118:24, 25
force 46:11,19
forecast 13:13,16,20 15:17 44:7,8 81:21 83:8, 9,15 84:15 112:18 117:21
forecasted 16:4 112:20 113:17,23
forever 51:13
forgot 41:4 116:17
form 99:3 100:2
formula 60:19,21 125:18
forum 103:21
forward 9:5 10:6 76:5 83:18 108:10
found 14:6
foundation 56:4
framed 65:7
frequency 15:18
Friday 8:14 87:13
front 40:15 65:9 77:8 102:25
full 34:12 92:18 120:10
fundamental 96:24
future 28:5,6 50:11 64:18 83:10,15 118:15

G

gas 25:9
general 7:6 18:21 31:9 59:9 60:17 61:15 63:20 76:10 102:23 124:7
General's 7:7,17
generally 25:23 66:17,21 70:9 74:21 85:2 87:17,25
generate 23:9
generated 6:7 111:4
generating 15:2 23:13 46:1 85:16
generation 12:16,19,25 13:1,9 14:15 15:16 16:13,18,21,22 17:21,23 18:8,22 19:17,19 21:23 22:6,14,18,23 23:1,20 25:10,21 26:1 28:1,24 32:4,11,20 33:4,11,14, 15,20 38:7 42:22 44:12, 18 46:7 53:4,6,9,11 57:23 58:15 59:19 71:23 72:2,4 77:16 80:18 81:22,24 82:24 83:1 84:7,9 85:4,18,25 88:5 94:23,25 95:9,16,25 97:15 99:3,8,22 100:2 104:12 108:25 109:17, 20,24 110:1,13 111:15 112:23 113:10,17 115:24 117:14 122:18,25 123:3, 7,11 124:25 125:3
Generation's 106:4
generator 113:13,20,22
generators 59:5 110:18 111:20 113:6
give 41:1 47:22 48:11 69:5 93:24 121:23
giving 97:2 111:20
goal 35:17
goals 59:6
good 6:3,22 7:4,23

10:21,23 12:10 28:12 42:11,12 55:9,10,24 57:18 62:16,22,23 67:19, 20 78:21,22 80:12 83:14 90:3,4 92:4,6 94:16 101:3,4 109:7 117:22,25 122:13

Google 41:15,19

Governor 6:14

granted 12:6 57:2 80:6 94:8 122:7

grappling 103:19

grasp 43:15

GRC 30:9,22 31:25 32:2

great 28:17 94:15

grid 57:21 59:5 85:19 86:3,9 94:17

gross 78:10,13

grossed 13:5,8 59:21

grounded 80:24

grounds 82:14

group 48:13 107:19

guaranteed 23:18

guess 12:11 57:7 68:5 93:8 104:3

H

half 34:23,25 40:18

hampering 36:7

handle 50:3

happily 46:1

happy 64:21 88:1 89:1

harmless 41:23

head 51:9 52:5 106:10

header 77:23

headline 29:11,16

HEAL 9:13,14

hear 7:13,14 95:6 119:17,18

hearing 6:3,15,17,18 7:1, 9,14,20,21 8:1,7,9,22 9:4,8,10,12,15,21,24 10:3,5,12,16,21,24 11:2 12:3,5 20:9 40:23 41:6,8, 14,15,18 42:1,4 43:11 51:19,22 52:18,21 53:24 54:3,6,9,12,14,17,21,25 55:4,9,11,14 56:22,24 57:1 61:7 62:6,10,14,18 64:18,19,24 65:15,16 67:10 72:11,16,20,22 73:7 74:15 75:5,8,13 76:17,22 77:3,6 78:18,23 79:1 80:3,5 81:16 86:18 87:7,16,21 88:8 89:6,10, 13,18,21 91:7,11,15,17, 21,25 92:4,8 94:4,7 100:7,11,14,16,19 104:24 114:1 115:7,11, 12 116:2,7,11,15,19 118:22,25 119:4,7,10,13, 22,25 122:4,6

hearing-in-chief 73:22

helpful 61:4

high 47:5,9 48:1 69:19 124:24

high-load 69:12,24 70:2, 11

high-performing 66:18

higher 13:6,24,25 15:25 24:2,6,14,15 25:16 39:22 48:18,23 49:5 67:4 98:14 108:14 111:20

highest 13:22,24,25 17:25 34:9 39:18,19,24 50:8 53:15,20 97:22

highlight 14:20

highly 23:23

historical 13:1,18 14:12 69:13 83:5,12,14,16,20 108:12

history 39:16 45:17

hoc 81:8

Holman 7:23,24 8:2 9:19 10:11,13 42:6,7,10 51:19 54:10,11 67:12,14,18 72:11,15,19,23,25 73:7 78:18,20 79:9 80:1,3,7,8 86:18,20 89:3 91:8,9,21, 23 100:12,13

honestly 70:5

hoping 76:8

horizontal 111:21,25 112:3,11

hour 8:18 19:18,22 20:1 21:2,3,10,14 22:17,19 25:13,14 34:9 37:13 39:18 40:14,20 47:4,7 52:7 53:16,18,20 69:25 90:19 91:2 93:14,17 95:2,14,15,17,25 99:5, 23,24 104:25 121:4,9,16, 17 123:10,12,17 124:19, 20

hourly 15:15 17:6 50:5, 12 69:11 81:21 84:14

hours 13:12 14:8 15:1,3, 4,20 17:17,25 22:15,16, 20,23 23:2,5,14 25:15, 22,24 26:1,3,5 27:17

33:9,10 37:10,25 38:4,5, 9,11 47:5,9,11,14,16,25 48:1 50:8 69:12,20,25 70:2,11 84:10 85:21,22 86:4 90:22 97:24 98:5,9 105:21,23 107:3 108:6 110:7 115:20

Hunter 7:24

hydro 85:12

hypothetical 101:9

hypothetically 45:20

I

idea 45:8

identical 96:19 97:6 101:7 104:17

identified 12:14 28:3 30:2,5 31:20 56:22 78:1 104:15

identifies 15:20

identify 50:25 82:25

identifying 36:6 84:9

illustrate 19:11 107:15

illustrated 96:17

immune 96:8

impact 13:17 29:21 71:22 96:9

importance 88:13

important 25:10 39:5 85:12 86:5 122:14 123:23

importantly 18:11

improvement 38:12

inadvertent 93:7

inappropriate 28:7 101:20 104:10

inaudible 18:6 41:15 65:16

inception 56:5

include 49:2 58:10 60:18 77:19,20 94:23 114:13 115:20

included 16:7 18:10 49:25 87:1 93:23 103:4 121:22

includes 22:19 28:6 48:18 58:11 77:25 81:13 114:14

including 19:13 22:15 50:6

income 29:13

inconsistent 104:24

incorporate 51:2

incorporated 48:19

incorrect 98:3

increase 85:14 93:13 95:15 103:13 104:9 124:19

increased 103:25

increases 37:20

increasing 85:9 104:7

incrementable 18:13

incurred 35:25

independent 94:18 97:5 103:18

individual 27:12 34:11 102:19

individually 104:22

industry 102:5

inequity 18:14 30:2,5,7 31:16,20,24 123:24 124:4,8

inevitably 125:24

information 46:21,23 83:10

informative 18:23

inherently 113:3,6

initial 13:7 109:25

input 83:6

inputs 26:16 28:9 31:25 32:3 64:7 81:20,22 82:1 83:23

insert 9:2

inserting 108:2

instance 18:22 33:7 46:6 90:18

instances 45:1,15

insufficient 96:13

Integrated 19:8

integration 17:5

intend 61:2 87:20

intended 76:23 82:17

interacts 85:19

interest 29:14 59:3 86:11

interested 42:18 70:19

interests 108:22

interim 8:13

intermittent 106:17

interrupt 71:17 72:12

introduced 88:7

invalidate 82:20

investment 58:4,6 125:4,

14,15,20

investments 16:25 18:15 19:6

invite 41:18

involves 28:9

IRP 15:17,18,22 19:8 26:15,17 28:4,10,19,25 29:7 30:5,10,18,20 31:21 49:15,24 61:25 85:5 101:25 102:15 103:4 124:3,4

isolation 85:7,10

issue 9:20 65:2 74:23 80:15 83:23 84:2 97:10 98:17 103:15,16,20,22 125:9,16

issued 88:23

issues 46:5 86:22 125:23

items 12:14 18:6 58:2

J

January 47:8,12

Jetter 7:4,5,9 40:25 41:20,22 42:1 53:25 54:1 55:5,7,23 56:21 57:3 61:12 62:3,6 64:8,12,19,21 74:16,17,20 75:6 89:18,19 100:16,17

Jetter's 75:7

job 105:9 117:25

Joelle 6:24

July 26:18 47:16 63:11

jumping 70:13

justified 84:23

justifying 82:11

Justin 7:4

K

Kate 7:25 79:3,12

key 12:21 28:11 50:13

kilowatt 8:18 19:18,22 20:1 40:14,19 52:7 85:21,22 93:14,17 95:2,14,15,17,25 99:5,23,24 121:4,8,15,17 123:10,12,17 124:19,20

kind 45:5 57:8 70:13 72:7

knowledge 32:3 98:17

L

labeled 46:17

lack 104:21

Lake 9:9,10 45:24,25 46:2,3

latest 99:7

Lauren 62:16

layer 50:18

leads 125:1

leap 38:1,2

leaves 118:9

left 23:1,13

letter 8:14,16

Levar 6:3,8 7:1,9,14,21 8:1,7,22 9:4,8 10:3,12,21,24 11:2 12:3,10,12 20:9 40:23 41:5,6,25 42:1,4,7 51:19,22 52:18,21 53:24 54:3,6,9,12,14,17,21,25 55:4,9,11,14 56:24 61:7 62:6,10,14,18 64:19,24 65:11,15 67:10,15 72:11,16,20,22 73:7 74:15 75:5,13 76:17,22 77:3,6 78:18,20,23 79:1 80:1,3,12 86:18 87:7,16 89:3,6,10,13,18,21 91:7,11,15,17,20,21,25 92:2,4,8 94:1,4 100:7,11,14,16,19 114:1 115:7,11 116:2,7,11,14,15,19 118:20,22 119:4,7,10,13,22,25 122:1,4

level 15:11 30:22 97:19

levels 58:17

life 18:18,19,22,24 45:9,12

light 16:5

limit 87:14 88:2

limited 16:10 80:15

lines 32:23 93:9 120:25 121:5

live 41:15 65:8 87:21

lives 18:21

load 13:12,13,16,20,22,23,24,25 14:8,9,11,14,21,24 15:3,11,19,20 16:15 17:6,7,17,24,25 18:2 20:18,19,24 21:2,6,12,13,19 22:3,7,9,16,23 23:1,2,5,12,14 25:13,15,19 26:6 27:25 32:12,14 33:11,19 34:9,24 36:7,12 37:23,24 38:9,11 39:1,10,19,24 44:7,8,19,21,25 45:6,10,11,24 46:2 47:5,9,11,13,14 48:1 59:2 69:19 71:15 72:3 77:12 80:17 81:21 82:24 83:1,6,8,9,16,21 84:1,4,8,10,15,17 86:7,14 88:5 90:8,

11,15,16 91:1,2 96:10 97:24 98:3,5,9 104:25 105:21,23 106:20 107:10,25 108:1,6 110:7 112:20 113:3,6,18,23 114:8,10,13 115:19,22, 23 117:4,6 118:11 124:24,25 125:11

locally-sited 86:13

location 34:11

long-term 58:6

longer 30:16

looked 115:4

loss 14:24 15:19 20:18, 19,24 21:2,6,12,13,19 25:15,18 60:6,9,11 71:15 95:21

losses 13:5,7,8 14:17 18:4 59:21,25 60:1,11,13 77:17,24,25 78:2,7,10, 13,14 93:8,15 95:12,24 121:12

lot 28:4,9,15 37:24 45:18 47:2

lots 36:21

low 15:15

lower 14:3,4,18 15:6 20:18,20,24 21:2 23:18 29:15,16 30:9 44:25 52:11 90:12,17 91:3 96:21

lowering 98:5

lowers 21:6

M

M-A-C 11:14

Macneil 6:24 10:20,22 11:5,12,14 12:2,7 20:7, 11,16 21:23 24:8 28:22 36:4 37:4 39:21 41:21 42:11 46:22,24 51:18 52:3,25 54:15,23 59:1,14 66:4,7 68:4,20 70:1 71:20 72:9 76:23 77:1 78:16 98:8,19,22 101:25 102:14 109:11 117:16 118:4,12 121:13 124:2, 10 125:4,22

Macneil's 51:24 68:13 73:21 88:8 98:3 107:14 110:4,11 112:17

made 13:16 18:7 38:13 48:9 51:15 75:21 80:23 83:18 94:22 99:18

maintain 97:19

maintenance 85:13

majority 82:9

make 6:11,21 8:15 10:7 38:17 45:3 56:15 65:1,2, 13,15 71:3 73:19,23 79:19 80:25 125:2

makes 13:25 45:22 69:8 71:13 74:23 108:4 117:17 118:6

making 9:14 28:16

manageable 41:16

Manager 79:13

manipulating 114:24

March 6:4,13 39:23 47:20 63:8 88:24 93:6 95:19

marginal 18:20 19:1 31:2,8,12,18 95:8 122:24 123:15,18,21 124:6 125:19

marked 56:9

market 103:24 112:14

matching 16:3

materials 26:14,16

math 30:13 32:17 44:9 61:3 64:22

matter 11:21 36:23 57:19 87:3,9 122:14

matters 9:17 27:6

Mcdougal 61:18

meaning 60:11

means 29:8 112:1

measure 36:17 37:23 71:10 84:16 125:10

measuring 37:22,23

Mecham 8:12,23 9:1,7 51:21,23 52:2,16,18 54:12,13 61:17,18 73:8, 10,13 74:13,15 89:7,9 100:8,10

meet 36:12 41:15,19 44:21 59:6 96:14 97:15

meeting 97:16

meets 18:2

megawatt 21:1 90:19,23 91:2

megawatts 15:9 44:24 45:2,6

memory 106:6

mention 41:7

mentioned 21:4 50:17 93:22 121:22

Meredith 6:24

method 22:2,7,22 24:10, 20 25:3,5 26:6,9 27:20 32:7,12,14 33:15 34:2,14 38:3,10,22 39:1,6,7 40:7, 10 58:25 59:13 66:3 69:13,14 70:17 85:20 86:2 88:15 96:6,7 97:5, 10 98:4,21 99:11,19 101:15 102:14,18 104:21,25 105:7,13,14, 21 107:9 108:20,23,24 109:1,3 110:10,11 111:8, 9,12 114:8,9,18,24 115:3 124:22 125:22

methodological 84:10

methodologies 82:4,8 84:25

methodology 13:11 42:24 51:12 81:4,7 82:6, 15,17,18,20 84:19 86:6 88:19 99:1

methods 57:22 58:14,17 63:2 73:19 96:9 106:22 110:10,13

Michael 8:6 92:3,11,20 94:2,16

Midcontinent 103:17

middle 39:22

Milligan 8:6 13:14,21 26:19 38:10 39:7 59:22, 23 60:2 92:3,5,11,20,23 94:2,10,17 100:4,5,9 101:3 114:7,17 115:18 116:5,12 117:3 119:8

Milligan's 13:3,6,11 14:19 123:8

minimally 7:20

minute 48:11 69:5 110:9

mistaken 65:9

misunderstanding 82:16

mix 105:2,17 106:8,11,13 115:20,21

mixture 118:16

model 15:18

modeling 15:20

modify 113:20

moment 12:12

monitor 8:15

monitoring 8:19

month 26:11 34:9 39:19 40:2 47:5,8,20 53:16 70:1

monthly 17:7,11,13 32:8 33:9 34:4,8,17 35:1 37:7, 9 38:3 39:15 53:5,19,20 125:5,21

months 17:9 31:3 37:14 40:4 47:18,20 49:14

Moore 7:12,16,21 8:20 40:25 42:2,3,5 54:4,5 62:7,9 89:15,17 100:14, 15

morning 6:3,10,22 7:4,23 10:21,23 12:10 42:11,12 54:23 55:9,10,24 57:18 62:16,22,23 67:19,20,22 76:20 78:21,22 80:12 90:3,4 91:18 92:4,6 94:16 101:3,4 102:1 116:12

motion 12:4,6 56:25 57:2 65:2,4,7,8,13,15,17 80:4, 6 87:22 94:5,7 122:5,7

Mountain 6:6,20,23 8:16 9:17 10:15 22:9 34:15 46:17 47:7 49:10,12,13 55:1 59:1,9,11,14,18 60:17 61:15,16 67:24 68:2,8,12,18 69:22 70:4, 22 71:10,12,13 72:1 73:15,18,19 81:10,13,18, 19 82:5,6,10,14,18 83:2, 7 84:6,18,23 85:1,4,20 86:1,2 87:1 88:4,12 90:6, 20

move 9:4 10:5 12:1 15:3 20:19 46:8 56:21 65:19 76:22 80:1

moves 94:1 122:1

moving 72:12

multi-state 35:9

multiple 60:6 66:8 95:21 102:20

N

N-E-I-L 11:15

nature 96:8 107:15

nearby 86:7

necessarily 16:24 61:2 83:14 98:2,12,24 104:13

necessitates 59:3

needed 44:24 97:19

Neil 121:13

net 14:21 17:24 22:3 25:13 33:10,15 50:6

nets 26:6 98:4

netted 15:2 22:6,8 23:19

netting 22:22 24:1,5 25:21 32:20 33:4,13,20 44:18 53:4 72:3

network 17:5 37:2

nice 117:17

nonetheless 12:12

normal 61:21

normalized 13:19 118:8

note 13:4 14:15 30:8

notice 87:12 88:23 93:7 95:19

November 47:21

number 14:23 15:3 29:11 30:15 39:4,16 48:3 103:21 107:14,15 108:14,15 109:25 111:17

numbers 52:14 78:1,4,5, 6,9

numerous 58:13

NW 120:13

O

OATT 17:3,4 34:7 35:5,6 36:2 53:17,22

object 86:15

objection 10:4 12:4 57:1, 2 80:5 86:19 87:8,17 94:6 122:5,6

objections 10:5 12:5

objects 10:4 12:3 56:25 80:4 94:5 122:5

obligations 18:14

obtaining 53:12

occasions 112:14

occupation 55:25

occur 21:13 107:6

October 13:2 16:6,20 17:2 40:12,19 47:21 80:21 82:2 93:12 94:22 95:17 96:6 99:6,18,23 110:25 121:2,7 122:22 124:21

offer 67:7 93:4,19 120:21 121:19

offered 63:23 64:2 65:21 66:7,11,22 76:3

offering 62:24 63:2,3

office 7:7,10,16,17,18

officer 6:3,17 7:1,9,14,21 8:1,7,22 9:4,8 10:3,12, 21,24 11:2 12:3 20:9 40:23 41:6 42:1,4 51:19, 22 52:18,21 53:24 54:3, 6,9,12,14,17,21,25 55:4, 9,11,14 56:24 61:7 62:6, 10,14,18 64:19,24 65:15 67:10 72:11,16,20,22 73:7 74:15 75:5,13 76:17,22 77:3,6 78:18,23 79:1 80:3 86:18 87:7,16 89:6,10,13,18,21 91:7, 11,15,17,21,25 92:4,8 94:4 100:7,11,14,16,19 114:1 115:7,11 116:2,7, 11,15,19 118:22 119:4,7, 10,13,22,25 122:4

one's 39:11

one-of-a-kind 84:24

one-year 95:13

online 15:10 50:2

Open 17:2 40:8

opening 20:16 21:5

operating 26:7,13 84:4 99:14 109:22

operation 16:11,12 26:11 85:11 97:14

Operator 103:18

opinion 99:7

opinions 94:20

opportunity 64:15,17 65:12 81:16 88:9 94:19 118:21

opposed 81:9

opposes 82:3

opposing 82:14

opposite 85:24

options 60:19

order 9:23 12:14 13:2 16:6,20 17:2 27:4 36:12 40:12 41:3,5,23 45:3 50:8 57:25 80:22,24 94:23 95:17 96:6 99:18 101:7 110:25 114:25 121:2,7 122:22 124:21

ordering 96:8 97:10 98:16 99:12 107:16 114:18,21

orientations 66:19

outlines 8:16

output 14:22 22:15 28:1 84:14 85:13

outset 6:12 46:15

outsider 71:4

outweighed 38:15

overcome 104:15

P

Pacificorp 17:7 26:15,24 31:1 101:25 103:19

Pacificorp's 30:3 31:8, 17,21 32:8 35:1 95:7 107:11 122:24 124:3,12

paid 35:13 112:6

papers 59:23,24 64:9,16 65:3,13

part 46:16 103:17 105:25 113:3,6

participant 41:17

participants 41:12

participated 56:4

participating 7:19 8:20 41:7,14,19 61:1

participation 56:7

parties 9:22 18:6 61:25 64:12 70:19 81:16 88:23 92:24 120:15

parties' 82:11

partly 93:6

party 10:3 41:17 65:2 118:24

past 118:14

patterns 23:23

pay 29:15 36:25 102:5 111:9 112:2

pay-for-performance 102:4

paying 14:22 35:12 37:2 112:4,13

payments 104:18

pays 29:9

peak 14:2,4 16:12 17:8, 11 22:15,19 23:2 34:8 36:7,12 37:10,23 39:15 53:6,15,21 69:25 97:21, 24 107:6,7 108:5,16 117:19 124:24,25 125:6, 11,20,22

peakers 25:9

peaking 24:21,23 98:20

peaks 17:13 32:9 33:9 34:5,18 35:1 37:7 38:3 47:13 69:14

penalizes 85:15

penetration 85:9 103:8 104:1,8

people 37:2

percent 13:3,12,24 14:8, 18 15:4,7,13,20,25 16:14 17:14,17 18:4 19:5,19, 20,23 20:2,3 21:9,11,15, 24 25:17 33:12,25 34:14, 19 38:5,8,11,18 47:9,11, 14,25 53:11 61:23,24 71:22 78:5,6,9 84:9 90:22 95:2,3,5,7,10,11 96:3 97:24 98:5,9 101:9, 10,17,20,22 102:10,11 104:25 105:21,23 106:20,24 107:2,8,10,14 108:6,13,16,18 109:12, 21,24,25 110:7,8,11 111:17 115:19 122:23 123:6,9,14 124:15

percentage 21:16 38:13

percentile 39:20

perfect 21:7 51:12 109:13

perform 24:4 25:3 34:18 99:10

performance 97:2

performance-based 108:21

performed 23:25 24:9,19 25:3 105:24

performing 22:16

performs 109:8

period 14:9 16:6 31:18

periods 45:17 97:21 108:6,16

personally 71:11

perspective 72:10 76:4

petition 74:8

petitions 81:11

phase 80:14

phases 68:3

phonetic 27:14

picked 59:23

picture 85:18

pieces 27:10 118:15

PJM 106:23 107:7

place 53:1 83:7 84:20

places 70:14 84:19

plan 10:5 19:8 49:10

planned 28:6

planning 36:11

plant 25:23 85:13 96:18, 20,21,22,23

plants 96:19 101:7,20 102:9

plays 51:5

point 35:10 43:16 51:8 64:14 65:3,9 81:2 82:12 88:11 107:13,24

pointed 53:1 121:13

portfolio 15:21,22 16:2 26:25 27:4,7,8,9,13,21

28:4,8,11,12,13,16 48:18,20,22,24 49:4,24 85:19 102:13,18,22 106:4 107:22,23 109:7 114:14

portion 14:1 22:11 45:6

position 11:16 63:18 73:16 74:3,22 76:1 78:6 88:6 104:20

possibly 87:11

postponed 28:20

potential 66:8

potentially 44:3 50:19,21 104:17 107:21

power 6:6,20,23 8:16 23:9 46:18 47:8 49:10, 12,13 55:1 59:1,14 61:16 70:4 81:10,13,18,19 82:5,6,10,18 83:2 84:6, 18,23 85:4 86:1,9,12 87:1 88:12 90:6,20 92:21 94:18 96:20

Power's 9:17 10:15 22:9 34:16 59:9,11,18 60:17 61:15 67:25 68:2,8,12,18 69:22 70:23 71:10,12,13 72:1 73:15,19 82:14 83:8 85:1,20 86:2 88:4

practice 82:8

pre-testimony 86:23

precisely 96:19

predict 107:4

prefer 86:12

preference 118:17

preferred 15:22 49:24

prefiled 7:18 56:15 79:23 80:9 86:17,21 87:4,10,15 96:10

prehearing 59:16

preliminary 9:16 65:1

premised 82:16

preparation 26:15

prepare 11:19

prepared 14:6 57:4,11 93:1 94:11 120:18 122:8

prescribed 59:13

present 7:8 10:9 33:14 94:12,14 122:9 124:19

presentation 26:19,21, 24 27:3

presented 14:10 30:17 31:2,16 64:9 68:8,19

presenting 7:19

pretty 49:16 64:7,23 68:1 73:16 87:9 106:13

previously-spent 36:5 125:12

prime 83:13

principle 94:17 111:21 112:11

principles 97:13

prior 10:9 98:13

probability 20:18,19,21, 25 21:2,6,14,19

problem 64:1

proceeding 16:19 21:25 27:20 28:23 31:6 34:22 36:19 38:8 49:19 56:5 63:1,7,15,22 75:25 94:3 97:8 98:1 114:11,19 117:5,11 122:3 123:20 125:4,16

proceedings 65:3

process 68:15

produce 27:15 35:18

produced 15:12 26:21

produces 38:19 113:11

producing 14:2 23:15 71:22

production 14:1

profile 12:25 13:5,12,14, 19 14:8 17:10 59:20,25 60:7 95:22 112:24 113:3, 7,21

profiles 50:7

project 45:23 46:3 79:13

prompted 75:24,25

proper 62:25 93:12 122:17,20 123:9

proportion 66:25

proposal 8:17 13:7 14:19 16:10 37:6 43:15,18,20 44:2,5,17 47:4 50:23 51:25 52:4,12 67:25 68:2,8,12,19,21 69:22 70:3,23 71:1 73:21,24 84:23 86:25 88:5,10,11 99:7 104:21

proposals 18:9 19:13 43:13 68:10

propose 27:20 40:4 96:1, 25 99:24

proposed 26:10 47:24 50:10 53:5 81:14,18 82:4 83:3 88:19 95:1 96:7,25 97:7 98:15 99:19 123:5 124:11,14 125:22

proposes 47:8 80:25 81:19 83:5 84:6 98:22

99:4 124:2 125:5

proposing 8:16 21:23 26:25 27:24 34:21 49:18 67:24 114:18

proposition 21:4

protocol 35:9

proven 88:20

provide 12:8 16:17 27:11 30:15 32:22 35:19 45:15 64:22 67:4 80:11 85:18 99:3 100:1 101:21 112:6, 7

provided 7:18 19:8 48:2 64:6 80:8 83:18 84:18

providing 27:17 53:10 80:17 86:3,9 102:11

provision 87:12

proxy 32:4 58:6 97:25 105:10 109:12

prudent 51:2

PSC 60:14,16

public 6:4,12 7:2,5 37:5 56:2 59:3 60:18 88:23

publicly 58:22

pull 61:4

purports 82:21

purpose 39:12 57:18 82:22,25

purposes 6:15 83:17

pursue 74:8

pursuing 51:12

put 78:12

Q

QFS 66:17 67:1,3

quantifies 69:1

quantify 37:6

quarter 27:8

question 8:21 31:14,15, 22 33:1 36:3 42:16,19,21 43:1,17 46:15,20,23 47:19 49:17 51:24 57:8 59:17 60:4,14 61:13 63:25 64:25 68:1,23 75:20 76:15,23,25 77:10, 18 78:15 84:21 88:10 114:23 115:10 116:17, 18,20

questioning 71:23,25 72:13 73:4

questions 8:25 9:3 11:23 20:8,11 40:22 41:9,21,24 42:2,3,14,18,23 43:2 44:12,14 46:14 48:8 50:15 51:17 52:20 54:15, 16,19 56:17 57:12,16 59:17 62:3,5,8,9,12,17 64:17 67:12,14 68:5 72:9,24 73:1,8 75:8,11, 12,15 76:19 79:22 88:22, 24 89:1,4,8,15,19 91:12, 14,16 93:22 95:18 100:9, 13,15,17,21 102:1 113:25 114:3 115:6,9 116:5,6,9 118:19,23,24 121:22

quick 52:9

quickly 42:15 64:23 83:18 88:2

quote 49:2 69:2

R

raise 118:23

raised 95:18

ran 25:5

random 13:18

range 52:13

ranked 25:19

rate 8:18 16:5 18:21 29:8,16 30:2,3 31:9,17 35:6 36:2 52:4,12 57:20, 25 58:11 59:4,10,11,13 60:17 61:14,15,19,20 63:20 76:11 82:22 88:14 94:24 95:11 99:15 111:25 122:23 123:1,9, 15 124:7,13,16

rated 109:21

ratepayers 16:17 29:12, 15 35:8,11,19 39:17 86:11 112:1

rates 17:3 18:24 19:14 35:12 86:12 121:12

rating 29:20

re-recross 116:20

reach 26:10

reached 16:11

read 46:18 48:13 57:9 67:22 69:7 70:15

readily 49:23

reading 102:18

ready 28:10

reaffirmed 57:22

real 45:9,12

reality 60:8 85:24

realized 73:2

reappointed 6:14

reason 28:2 74:7 82:10 103:2 105:20

reasonable 18:10 30:20 32:19 33:3 34:3 53:2,3 58:14 70:10 71:3 76:9 78:1 83:3,15 97:25 99:17 109:13 125:1

reasons 84:12 90:5 111:19

rebuttal 12:20 14:10 15:8 33:18 59:15 63:11 66:4,9 67:25 68:3,10 70:23 73:24 74:2 77:11 78:4 88:7

recall 76:24

receive 39:18 97:6 101:20

received 98:14

receiving 14:22 104:18

recent 18:20 30:9 59:9 60:17 61:15 63:20 69:12 76:10 83:19 95:8 124:7

recently 29:7

recognize 35:14 40:1 99:9 107:4 123:24 124:23

recognizes 27:4 86:6 109:5

recollection 49:15

recommend 19:4,25 28:23 59:7 93:11 95:14 99:17,21 123:13 124:17

recommendation 66:2 68:17 75:21

recommendations 19:17

recommended 16:18 19:15,17,21 42:22 58:25 60:19 121:1,6

recommending 30:16 40:17

recommends 58:23 59:12

reconsideration 74:8,24

record 11:13 55:25 56:22 61:2 69:8 79:11 80:2,24 92:19 94:3 120:11 122:3

recross 41:2 53:25 54:1, 5,8,11 75:7,9 115:8,13, 16

red 44:13

redirect 51:20 52:19,23 74:16,19 75:4 91:8,9 114:2,5 117:1

reduce 21:13 23:12 25:13 90:15 125:11,14

reduced 14:25 15:5 21:19 123:4 124:14

reduces 85:12 90:11 96:13 98:6

reducing 94:25 125:20

reduction 21:11 30:11

redundant 44:16

refer 22:2

reference 31:13

referring 71:24

reflect 16:3 29:3,5 30:4 31:19 50:7 53:10,12

reflected 14:13 18:9

reflecting 123:22

reflection 69:15

reflects 13:4 17:15 23:21 36:2 39:2 96:1 124:4,8

refreshed 83:23

regard 18:5 44:18

regulatory 111:24

rehearing 6:5 12:14 73:23 81:12 87:18 94:20

reiterated 50:18 67:23 88:7

relate 48:9 88:24

related 35:21,22 48:10 50:11 60:4 82:10

relates 42:16

relationship 84:1

released 26:15 28:21

relevant 23:23 53:21

reliability 16:16 21:7,20 27:10 36:8 97:11,20

reliable 21:17 28:17 97:14

reliant 44:6

relied 12:24

relying 68:16

remain 56:19

remaining 58:1 73:1 96:15

remarks 100:3

remember 106:8

removed 90:21

removes 90:7

removing 84:14

renewable 79:13 106:17

reopen 64:18

repaying 29:14

repayment 18:16

repeat 31:14 33:1 83:12

rephrase 65:10 114:23

replace 81:19

replaced 15:4 69:12

Replacing 95:10

replicate 70:18

represent 7:5,16 78:7 81:6 97:25

representation 109:13

representative 117:23

representing 8:8,10

represents 16:18 18:13 69:14 83:9 99:5

request 41:13 64:20 74:24

requested 57:12

require 58:11 83:22

required 36:22 123:21

requirement 18:25

requirements 58:18

requires 70:25 97:14 112:14

resiliency 86:10

resolve 103:22 104:20

resolved 104:19

resource 9:11 11:18 19:8 21:13 24:25 25:6,12 26:9 50:13 51:1 58:5,6,10,15 71:23 85:17 90:15 96:8, 13,14 97:1,3,4,10 98:16 99:12 101:8 102:5 103:6, 7 104:22 105:2,14,15,17, 18 106:8,11,13 107:16 108:12 109:8,14 110:2, 19 114:18,21 115:20,21

resource-wise 101:8

resources 14:23 15:1,10, 21 16:1,2,11,17 17:21 20:21 22:8 23:23 24:1,6, 10,11,16,21,23 25:1,2,4, 8,11,17 26:1,4 27:5,16, 18 28:6 32:21 33:5,11, 14,15,21 45:12 46:7 48:15,16,23 49:25 53:4,6 58:16 66:18 67:1 69:16 71:14,19 82:13,19 84:3, 15 85:2,5,6,11,19 86:8, 13 96:11,14 97:5,6 98:21 99:9,13 101:10 102:20 104:17 105:12 106:17 107:19 110:15 114:14,25 115:2,23,25 123:21

respect 58:19 76:2 94:25 96:23 110:12

respond 70:5,8 81:17 86:19

responding 87:5

response 59:16,22 60:8 61:13 69:1 81:11 82:11 93:6 102:1

rest 26:13

restate 10:7 104:4

result 13:17 14:4 18:18 19:1 27:14,15 38:20 51:16 81:23 82:24 90:12 103:14

resulting 13:6,9 14:3 15:5 123:16 125:24

results 14:16,17 15:18 18:3 28:14 51:11 84:15 96:9 110:11 121:14

retail 16:17 17:21 29:12, 15 34:16 35:3,19,24 51:24 52:9

retain 9:23

revenue 18:25

review 26:14,18 42:25 44:2 52:10 58:1,19,22 64:13,15 69:9 76:5,8 81:12

reviewed 31:11 57:21 92:23 120:14

revise 93:11 121:2,6

revised 19:9 95:23 96:2

rigorously 97:9 98:15

risk 14:24 23:22 39:13 96:13,15 97:22

risks 15:21

RMP 33:18 77:11 78:4 97:8 98:1 99:4 125:15

RMP's 22:7 29:3,5 98:15 99:1,7 123:22 124:6 125:19

Robert 6:24 7:8,12 55:8, 17 56:1

Rocky 6:6,20,23 8:15 9:17 10:15 22:9 34:15 46:17 47:7 49:9,12,13 55:1 59:1,9,11,14,17 60:17 61:14,16 67:24 68:2,8,12,18 69:22 70:3, 22 71:10,11,13 72:1 73:15,18,19 81:10,12,18, 19 82:4,6,10,14,17 83:2, 7 84:6,18,23 85:1,4,20 86:1,2,25 88:4,12 90:6, 20

Rokito 8:4,7 20:10,12,15 40:23 41:4 53:1 54:7,8 62:15 89:11 92:2,17 94:1,9,10 100:5 114:2,3, 6 115:7 116:14,16,21 117:2 118:20,22 119:10, 11,15,18,20 120:1,9 122:1,8

Ron 6:9

rooftop 45:25 46:2 49:4, 5 50:20 51:1 66:19 80:16 82:23 83:1 84:16,22 85:16,18,22,25 86:2,6

roughly 15:9 103:18

round 87:19

rows 77:12,13,18,20

rule 65:5

ruling 65:1,6

S

sake 6:11

Salt 9:9,10 45:24,25 46:2,3

sample 37:20 38:22 125:23

sampling 37:17,20

save 125:17

savings 17:12 35:18

scale 14:15,23 15:5,16 16:16 17:20 20:17,23 21:5,7,10 22:6,8,11,14, 18,23,25 23:8,13,19 24:1,6,11,16,20,25 25:4, 21,25 26:7 27:25 44:18, 20 45:7,9,23 46:3 49:3 50:24 71:21 72:4 82:19 84:8,14 85:3,17,23 86:12 88:6 98:4,10,13,20,23 105:5,9 108:3,8,14 109:1,4,23 110:2,14 111:1,4 114:14

scenario 14:9,12,16,20 15:11,17,24 16:3,7,14 18:2 23:17,21 33:19 34:24 98:11

scenarios 12:22,24 15:14 33:18 77:11 78:4

Schedule 58:19 76:5 83:25 110:23 111:3

scheduled 28:20

scope 86:17,21 87:4

section 49:9

segment 36:22

Senate 6:15

send 64:12

sense 13:25 69:8 71:3,14 73:19 108:5

sensitive 97:9 99:12

separately 97:1

September 28:21 63:16

sequence 71:14,18

series 72:8

serve 17:5 36:7 44:24 45:3,6,10,24 46:2 80:17 83:1,14 84:16 90:15,16 115:23 123:22

served 45:7 91:3 98:10

serves 82:24

service 6:4,13 17:5 18:20 19:2 31:2,9,12,18 37:5 45:3 88:23 95:8 111:5 112:5,7 122:24 123:15, 18 124:6

Services 7:11,17

serving 22:11 86:6,14 107:25 108:1

session 46:20

set 23:1,5 42:13 52:11

settled 101:24 103:15

severely 99:2

share 36:20 122:12

shared 37:3

Shelby 8:4

shift 25:14,16,21,23 26:1,2,3,5

shifted 13:14 20:22

shining 23:6,9

shorter 18:21,24 87:11

shortfall 97:23

shot 41:1

show 46:19 61:3 77:22 103:4

showing 61:5

shown 14:9 24:7 82:7 85:4

shows 21:19 123:21

shut 45:21

signed 15:9

significant 24:18 49:16 68:1 81:1,6 82:1,5 84:10 106:21

significantly 14:25 15:25 29:6 51:10 96:9

similar 58:25 61:24 73:24 106:22,24 110:12

similarly 110:6

similarly-situated 112:1

simple 32:4 44:4 70:18 71:2 88:16 96:17

simpler 43:19,25 88:19

simplicities 71:7

simplicity 88:13

simply 85:15

single 18:15 25:13,14 34:8 90:19

sit 46:11

site 86:1 113:14

sitting 37:4 45:15

situation 87:18 104:17

size 37:20 38:22 103:18 125:23

slashing 8:17

slightly 44:16

small 125:23

solar 8:3,5,8,11 9:20,24 10:8 14:15,21,23 15:5,9, 11,12,16,25 16:8,9,10,16 17:10 19:9,13 20:10,17, 24 21:6,7,10,24 22:4,8, 11,14,18,23 23:8,14 24:1,3,11,14,16,21,25 25:4 26:2,7,9 37:6 40:13 42:14 44:18,20 45:1,7,9, 12,23,25 46:2,14 47:3 48:18,19,22 49:2,3,5,25 50:17,20,22,24 51:1 59:24 62:17 66:18,19 67:1,4 71:21 73:18 80:16 82:23,24 83:1 84:9,15, 16,22 85:3,8,10,14,16, 18,22,23,25 86:3,6 88:6 90:7,21 92:1,2 94:1,19 98:3,4,7,10,12,13,20,23, 24,25 99:1,11,12,13,20 102:15,19,20 103:5,7,11, 13 104:1,7 105:5,9,11,15 106:18,21 107:19,20,24, 25 108:3,4,8,9,25 109:1, 4,17,20,23 110:2,13,14, 15 111:1,4,15 114:15 117:12,14,25 118:4,11 119:11 122:1,16 123:5

solar's 10:2,10 12:25 14:7 23:13 43:18 44:2,5 59:19 70:25 71:9 72:5 77:16 98:11 99:19 123:5

soliciting 46:23

solution 84:24

Solutions 94:17

sort 38:12,13 47:6 68:5 90:13 102:3,23 103:19 107:6 108:17,18 118:7

sought 58:1

sound 52:14

sounds 66:13

source 19:2

speaking 50:16

specific 15:21 18:19 43:12 59:2 84:7

specifically 12:15 15:18 26:18 50:10 63:3 72:3 76:7 87:13,20 109:16

spell 11:12

Spencer 8:5 19:10 119:12 120:3,12 122:2, 15

spoken 9:20

spread 18:17

spreadsheet 46:16 47:23 48:1

square 102:3

SRM-1 61:17

SSR 56:10

stack 60:11

stage 75:25

stakeholders 88:17

standalone 58:5,10

standpoint 38:25

start 67:21 101:5

state 6:15 11:12 32:18 33:7 55:24 61:14 79:10 80:4 90:5 92:18 94:5 120:10 122:5

stated 20:16 66:14 84:1 87:20 102:12

statement 20:17 21:5 43:12 48:5,9 66:23 67:7 68:16 88:8 90:13

statements 68:13

States 106:12

static 123:24

statistical 38:25

statistically 39:4 125:25

stay 29:24 90:24

steps 70:25

Steve 8:12 61:17

Steward 6:25

stipulate 47:24

stipulated 70:1

stop 46:24 60:24

storage 16:2 48:10,14, 16,19,22 49:5,6,11,14, 19,21,25 50:6,21 51:8

strategy 11:18

stream 58:9

streaming 41:15

Street 120:13

strike 87:23

strong 118:6

structure 59:4

stuck 117:24

studied 97:10

studies 22:21

study 18:20 19:2 31:2,4, 9,12,18 38:18 70:6 95:8 105:23 106:1,3 122:24 123:15,19,20 124:4,7

subject 16:25 38:6 48:4 66:13 87:3,9

submit 79:16

submitted 63:7,11 92:24 120:15

subsequent 42:22 49:14 65:16

substantial 49:10

substantially 106:13

subtract 22:14,18,25

subtracted 24:10 90:19 98:20

subtracts 27:25

suffers 98:16 125:22

sufficient 97:15

suggests 58:3

summarize 94:20

summarized 12:21

summarizes 19:16

summary 12:8 20:4 52:5 57:4,9,16 62:1 67:22 69:1 80:9,11 86:16,21 87:11,14,24 94:11,14 101:7 122:9,12

summer 16:12 39:22,24 107:3

summertime 47:13

sun 23:9

sun's 23:6

sunny 45:25

supplied 57:21 59:5

suppliers 112:6,9,12

supply 15:2

support 16:1 18:14 22:22 30:11 46:16 66:22 67:7 70:3,9 83:8 84:4 99:15

supported 38:11 74:3

supporting 68:11

supports 73:15

sur-sur-surrebuttal 87:21

sur-surrebuttal 11:20 12:13,21 16:7 22:21 32:24 33:17 42:17 56:10, 23 57:4,9,10 59:18 68:4, 9,11,14,19,22,25 69:3 70:15,24 77:8,15 79:16 80:2 86:23 87:2,25 88:4 93:1,9 99:25 104:16 117:17 120:18 121:1,5

surrebuttal 13:4 59:15 63:15 66:4,6,9 67:25 68:3,10,14,15,21,25 70:23 73:25 74:1,3,4 104:16

swear 10:24 55:12 78:23 92:5,6 119:13,23

sworn 11:7 55:8,19 79:5 92:13 120:5

synergies 16:1

synergistic 48:15,16

system 17:8,11,13,18,22 18:1 23:22 28:16 32:9 33:8,9 34:5,8,18 35:1 36:7,10,12,21 37:7,10 38:3 39:15,21,23 40:1,8 53:5,15,21 69:14 77:12 85:2,11 92:21 94:18 97:14 103:18 105:5 106:21 107:11,20 108:21 111:1,3,15,16 113:10 125:6,20,21

systems 82:13

T

Tab 33:17 59:24

Table 12:20 14:10 19:16 22:4 24:7 33:16 53:11 77:7 78:9,12

Tables 19:11

taking 24:20,21 25:1,2,6, 23,25 37:13,24 105:11 110:7,14

talk 68:25 110:9

talked 43:11 50:20 101:24,25 103:9

talking 24:24 52:25 103:22 104:11 107:21

talks 102:14 117:18

Tariff 17:3 40:8

tax 29:13 30:8 58:10 59:11 61:14 75:23

taxes 59:10 76:13

technical 56:2

technique 34:15 51:13

tenth 13:22 39:19,20

term 6:12 83:16 111:25 112:1

test 106:6

tested 82:7 84:24

testified 11:8 55:20 79:6 92:14 115:18 117:6 118:13 120:6

testify 94:19 122:14

testifying 8:6 71:20 79:14 122:15

testimony 7:18 10:9 11:20,24 12:1,8,13,20,21 16:7 19:9,11,16 22:3,22 26:20 31:13 32:18,24 33:17 42:17 43:3,10 48:9 49:9 52:10 53:1 54:22 56:11,15,18 57:5,10 59:15,19 60:3 62:24 63:3,7,11,15 66:5,9,21 68:3,4,10,11,14,21,22 69:3,17 70:16,24 73:25 76:2,20 78:16 79:16,20, 23 80:2,9,14 81:12 86:17,22 87:2,4,10,15,19 88:7,25 90:6 91:18 92:24 93:1,5,19,23 94:2,11 95:1 96:7,10 99:25 101:6 108:24 109:15 112:17 116:12 119:8 120:15,18, 22 121:1,6,19,23 122:2, 9,17 124:11 125:1

Thad 6:8

theory 45:7

thermal 25:17 26:4 85:13

thing 25:8 28:11

things 36:8 44:9 51:2 65:10 117:20 125:8

thought 28:6 31:10 112:4

time 15:8 21:11,15 23:6 29:18 51:15 55:2 56:21 63:22 64:2 67:9 72:13 73:5 85:17 91:24 96:14 97:1 107:1 111:2 118:6

times 42:20 97:15,21,25 99:5 103:18 107:7 108:1 109:9

timing 15:18 39:14 58:4 69:11 76:7 117:19

tiny 51:7

title 79:10,12

today 6:16,18 7:7,25 8:6 9:14 10:3 11:24 26:7,13 30:25 37:4 40:17 41:14 43:3 49:19 56:18 60:3 63:22 64:2,6 68:20 69:17 78:16 79:22 80:9 92:3 93:23 95:6 96:1 99:4 106:12,23 121:23 124:8

today's 6:17 94:20

top 13:12 14:8 15:3,19 17:17 23:1,2,5,14 25:16 33:12 34:14 38:8,11 47:5,9,11,13,14,25 51:9 52:5 84:9 90:22 97:24 98:4,9 104:25 105:21,22 106:10,20,24 107:2,8,10 108:6 109:11 110:7 115:19

topics 42:14 88:2,25

total 16:8 22:11,15 38:5 40:13 48:17,21 81:19,22 97:14 114:10,13

totally 118:5

touched 46:9 67:23

tracking 66:18 67:1

transmission 12:16 16:21,23 17:3,4,5,6,8,11, 13,15,19 18:8 19:21,22 32:6,8,15,19 33:3,8,9 34:3,4,7,8,10,12,17,21 35:1,2,7,14,15,23 36:1,3, 6,10,11,17,18,21 37:2,7, 9,15 38:3 39:15 40:5,7,8 42:23 45:22 46:4,9 53:3, 5,10,13,15,20 57:24 60:10,11,12 69:23 70:6 80:18 81:25 121:3,10,15 122:19,20 123:2 124:9, 12,14,18,23,24 125:3,6, 9,11,14,17,18,20,21

transmission's 17:7

transparency 88:14

transparency's 6:11

transparent 28:10 88:16

Tri-state 106:4

Tri-state's 106:8

true 29:25 32:13 76:13 85:8,25 90:18,23 112:12, 23

truth 10:25 11:7,8 55:12, 19,20 78:24 79:5,6 92:5, 7,13,14 119:14,23 120:5, 6

turn 41:11 78:9 87:20

turns 117:20

tweaks 51:15

two-and-a-half 8:19

two-part 57:8

type 24:25 25:6 58:15 85:17 102:4 103:24 105:15

types 50:13 98:21 105:15

typical 106:12,13

typically 17:21 25:18 39:24

U

ultimately 35:12,17 99:16

Umm-hmm 110:5

unable 46:7

unanticipated 85:13

uncertainty 39:6

undercompensated 99:2

underlying 19:13

understand 8:15 47:1 48:3 50:23 58:21 68:23 70:19 71:16,18 108:23

understanding 47:10 57:7 60:1 73:14 90:9

understood 88:17

undervalues 98:2,24

uniformly 90:23

unit 123:22

United 106:12

unlike 17:22 97:7,8 107:8

unreasonable 118:5

unreliable 125:25

unusual 75:2 87:18

update 83:25

updated 88:18

updates 42:24 44:3 70:18 83:19,22

upgrade 32:5

upgrades 16:23 18:1

upward 99:23

Utah 6:15 7:5,7,22,24 8:11 9:13,14,20,25 10:1, 8 14:8,9,21,22,23 15:10, 11,12 17:6,12,17,18,19, 24 18:2,21 22:3,9,12,23 24:17 29:4 30:2,6,9,22 31:16,25 32:2 34:16,24 35:6,8,11 36:20,23,24 39:17 44:19,21 45:1,4, 21,24 46:1 47:5,9,11,13, 17 51:8 59:2 67:1 69:11 70:2 72:3 77:11 79:15 80:14 81:9 82:3 84:20 90:8 91:23 113:18,23 123:23 124:8

Utah's 47:25

Utilities 7:2,6 56:2 60:18

utility 14:15,23 15:4,16 16:16 17:20 20:17,23 21:5,7,10 22:6,8,11,14, 18,22,25 23:8,13,19 24:1,6,11,16,20,25 25:4, 21,25 26:7 27:25 38:18 44:18,20 45:7,9,23 46:3 49:3 50:24 56:2 71:21 72:3 82:19 84:8,14 85:3, 17,23 86:12 88:5 98:4, 10,13,20,23 102:5 103:16 105:5,8 106:12 108:3,8,14,22 109:1,4,23 110:2,14 111:1,4 114:14

V

validate 107:10

validated 97:9 98:16 106:20

values 12:16 16:21 19:15 28:3,10 30:17,19,24 31:7 39:13 43:21 66:8,11,15 77:22 81:25 123:25

variables 103:10 124:1

variation 24:9,19 27:24

variety 12:19

vary 39:13

venues 103:17

version 24:15 68:11

versus 47:5 71:22

video 41:11,12

view 96:7

visible 61:7

Vivint 8:8,10

Vote 8:3,5 9:20,24 10:1, 8,10 12:24 14:7 17:10 19:9,13 20:10 42:14 43:18 44:1,5 46:14 47:3 50:17 59:19,24 62:17 70:25 71:9 72:5 73:18 77:16 91:25 92:2 94:1,19 99:18 119:11 122:1,15 123:4,5

W

WACC 18:12,13 63:20

walk-through 61:3

wanted 24:9 30:21 32:16

Washington 120:13

watch 41:18

ways 27:19 38:16,17 71:5

weaknesses 104:15

weather 13:17,18,19 14:2,13 16:3,15 83:20 113:9,16 117:16,21 118:8

weather-corrected 118:1

week 13:15 113:22

weeks 81:18

Wegener 6:22 7:1 10:17, 19 11:3,11 12:1,7 20:5,6, 9 46:22 51:20 52:19,20, 24 53:24 54:25 55:2 62:11,12 86:15 87:7,9 89:22,23 90:2 91:7 100:20,21 101:2 114:1,7 115:10,14,17 116:3 117:3

weighted 18:11 58:7 59:8 60:16 61:21,23 75:22 76:11,13

weighting 40:4 125:23

West 92:21

Western 9:11

Westminster 92:22

wholly 97:4

wildfire 45:21

wind 24:10,17 25:1 26:3 50:4,6,18 51:9 105:15 106:18,21

window 107:1,6

winter 17:9

witnesses 8:5 9:24,25 10:10 87:14 88:10

word 66:21 67:6

words 20:23 52:11 58:9 97:3 125:11

work 30:23 50:12 56:1 59:23,24 64:9,16 65:3,13

working 27:10 119:16

worth 83:13 103:3

WRA 9:12

wrap 87:24 88:2

written 87:19,25 93:23 121:23

wrong 59:23 111:23

Y

Yang 8:5 19:10 95:6 119:12,13,22 120:3,12, 14 122:2,8,15

year 16:17 18:15 22:18, 19 29:24 37:11,14,25 38:4,5 39:14 40:5 45:16 47:15 50:3 63:8,12,16 69:13 83:23 107:5 111:24 117:4,6,7,13,23 118:8 123:25 124:18

year's 83:13

years 38:1,2 39:16 49:20, 24 83:15 106:25 107:5 124:5

yet-to-be-deployed 98:23

yields 60:21 95:12 123:9

Youtube 41:18

Z

Zimmerman 62:16,21 64:11,25 65:11,18,19 67:11 89:12,14