

In the Matter Of:

In RE: RMP - Approval of Resource Decision to Repower Wind Facilities

HEARING, DOCKET NO. 17-035-39

May 04, 2018

Job Number: 434926-A

1 BEFORE THE PUBLIC SERVICE COMMISSION OF UTAH

2

Voluntary Request of Rocky Mountain Docket No. 17-035-39
Power for Approval of Resource
Decision to Repower Wind Facilities

4

5

6

7

HEARING PROCEEDINGS

8

TAKEN AT: Utah Public Service Commission
4th Floor
160 East 300 South
Salt Lake City, Utah

9

10

11

12

DATE: Thursday, May 4th, 2018

13

TIME: 9:00 a.m.

14

REPORTER: Mary R. Honigman, R.P.R.

15

JOB NO.: 434926-A

16

17

18

19

20

21

22

23

24

25

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

APPEARANCES

COMMISSIONER CHAIR:
Thad LeVar

COMMISSIONERS:
David Clark
Jordan White

FOR ROCKY MOUNTAIN POWER:
Katherine A. McDowell
MCDOWELL RACKNER GIBSON, PC
419 Southwest 11th Avenue, Suite 400
Portland, Oregon 97205
(503) 595-3924
katherine@mrg-law.com

Adam Lowney
MCDOWELL RACKNER GIBSON, PC
419 Southwest 11th Avenue, Suite 400
Portland, Oregon 97205
(503) 595-3926
adam@mrg-law.com

Yvonne R. Hogle (appearing telephonically)
ROCKY MOUNTAIN POWER
1407 West North Temple, Suite 320
Salt Lake City, UT 84116
(801) 220-4050
Yvonne.hogle@pacificorp.com

FOR THE DIVISION OF PUBLIC UTILITIES:
Patricia E. Schmid
Justin Jetter
160 East 300 South, Fifth Floor
Salt Lake City, Utah 84114
(801) 366-0335
pschmid@agutah.gov
jjetter@agutah.gov

FOR THE OFFICE OF CONSUMER SERVICES:
Robert Moore
Steven Snarr
160 East 300 South, Fifth Floor
Salt Lake City, Utah 84111
(801) 366-0158
rmoore@utah.gov
steven.snarr@agutah.gov

1 FOR THE UTAH ASSOCIATION OF ENERGY USERS:
Philip J. Russell
2 HATCH, JAMES & DODGE, P.C.
10 West Broadway, Suite 400
3 Salt Lake City, Utah 84101
(801) 363-6363
4 prussell@hjdllaw.com

5 FOR INTERWEST ENERGY ALLIANCE:
Lisa Tormoen Hickey
6 TORMOEN HICKEY, LLC
14 North Sierra Madre
7 Colorado Springs, Colorado 80903
(719) 302-2142
8 lisahickey@newlawgroup.com

9 Mitch M. Longson
MANNING CURTIS BRADSHAW & BEDNAR, PLLC
10 136 East South Temple, Suite 1300
Salt Lake City, Utah 84111
11 (801) 363-5678
mlongson@mc2b.com

12

13

14

15

16

17

18

19

20

21

22

23

24

25

1	INDEX OF EXAMINATION	
2	WITNESS:	PAGE
3	DANIEL PEACO	
	Cross-Examination by MS. MCDOWELL	8
4	Redirect Examination by MS. SCHMID	49
	Examination by COMMISSIONER CLARK	52
5	CHARLES E. PETERSON	
6	Direct Examination by MS. SCHMID	55
	Cross-Examination by MR. RUSSELL	62
7	Examination by COMMISSIONER WHITE	63
	Examination by COMMISSIONER CLARK	66
8	Examination by COMMISSIONER LEVAR	69
	Redirect Examination by MS. SCHMID	70
9	Cross-Examination by MS. MCDOWELL	71
10	RICK T. LINK	
	Direct Examination by MS. MCDOWELL	75
11	Cross-Examination by MS. SCHMID	78
	Examination by COMMISSIONER CLARK	80
12	Examination by COMMISSIONER WHITE	81
13	CHERYL MURRAY	
	Direct Examination by MR. SNARR	82
14	Examination by COMMISSIONER WHITE	87
15	DONNA RAMAS	
	Direct Examination by MR. MOORE	88
16	Cross-Examination by MR. LOWNEY	93
17	PHILIP HAYET	
	Direct Examination by MR. SNARR	108
18	Cross-Examination by MR. LOWNEY	121
	Examination by COMMISSIONER WHITE	151
19	Examination by COMMISSIONER LEVAR	145, 156
	Examination by COMMISSIONER CLARK	159
20	KEVIN C. HIGGINS	
21	Direct Examination by MR. RUSSELL	162
	Cross-Examination by MR. LOWNEY	175
22	Redirect Examination by MR. RUSSELL	192
	Examination by COMMISSIONER WHITE	195
23	Examination by COMMISSIONER LEVAR	197
	Examination by COMMISSIONER CLARK	200
24		
25		

1			
2	E X H I B I T S		
3	ROCKY MOUNTAIN POWER:		
4	EXHIBIT NO.	DESCRIPTION	PAGE
5	RMP CROSS NO. 4	Confidential Peaco Workpapers	48
6	RMP CROSS NOS. 7,8	Direct Revenue Requirement	106
7		Testimony of Donna Ramas	
8	RMP CROSS NO. 9	Kevin Higgins May 2017	191
9		Testimony before the Public Utility Commission of Oregon	
10	RMP CROSS NO. 10	Kevin Higgins Surrebuttal	191
11		Testimony, Docket No. 15-035-53	
12	RMP CROSS NO. 13	Kevin Higgins August 2016	191
13		Testimony, Public Utility Commission of Oregon	
14	DIVISION OF PUBLIC UTILITIES:		
15	DPU CROSS NOS. 4-D, Peterson April 2, 2018		56
16	4-SR, 4-RESP	Testimony	
17	OFFICE OF CONSUMER SERVICES:		
18	OCS 1D, 1S	Mangelson, Murray	84
19	Mangelson, 1 RESP Murray	Testimony	
20	OCS NOS. 2.1-2.7D,	Philip Hayet Testimony	111
21	2-S, 2-RESP, 1-2 Rebuttal		
22	UTAH ASSOCIATION OF ENERGY USERS:		
23	UAE NO. 1.0	Paul Clements Direct	164
24		Testimony	
25			

1 PROCEEDINGS

2 COMMISSIONER LEVAR: We're back this
3 morning in Public Service Commission Docket No.
4 17-035-39, the Voluntary Request of Rocky Mountain
5 Power for the Approval of Resource Decision to
6 Repower Wind Facilities. My recollection is we had
7 Mr. Daniel Peaco on the stand and everyone except
8 Ms. McDowell had declined cross-examination, and we
9 were about to start cross-examination from Rocky
10 Mountain Power. Is my recollection correct on that?
11 No one else had an interest in cross-examining
12 Mr. Peaco?

13 Okay. We'll bring Mr. Peaco back to
14 the stand. You're still under oath from yesterday,
15 and we'll start with Ms. McDowell's questions.

16 MS. MCDOWELL: While Mr. Peaco is
17 getting settled, I just want to let everyone know
18 that I have distributed a cross-examination exhibit,
19 Rocky Mountain Power Cross-Exhibit 4, and I believe
20 the witness has that and I believe the Commission
21 was provided copies of that.

22 COMMISSIONER LEVAR: And then I'll
23 just clarify that it's on yellow paper. I assume --
24 are all the numbers confidential or just the shaded
25 ones?

1 MS. MCDOWELL: Just the shaded ones.

2 Just to clarify, because I think it may help sort
3 out the confidentiality issues. Project costs -- on
4 an individual basis, the project cost numbers are
5 confidential, so the overall project cost isn't
6 confidential, but it's broken down into the
7 individual project costs, and that's what
8 confidential here. The cells that are shaded, I
9 don't intend to -- I think I can navigate through
10 this without actually asking confidential questions,
11 but if, you know, if my questions elicit a response
12 that is confidential, maybe we can take it from
13 there.

14 COMMISSIONER LEVAR: And just to
15 clarify, I think what you just said means that the
16 multi-colored shading on the far right is not
17 confidential?

18 MS. MCDOWELL: That's correct. You
19 know, I stand corrected. Even though they're not
20 shaded, they are confidential because I understand
21 that, as I'm thinking about it now, you could
22 actually back into those numbers --

23 COMMISSIONER LEVAR: So all the
24 multicolored shaded numbers are also?

25 MS. MCDOWELL: That's correct. So I

1 will try to ask questions at a high level --
2 although it may be impossible to navigate through
3 this without some closed session, so we'll just see
4 how that goes.

5 COMMISSIONER LEVAR: Thank you.

6 CROSS-EXAMINATION

7 BY MS. MCDOWELL:

8 Q Good morning, Mr. Peaco.

9 A Good morning.

10 Q So at the end of day the yesterday,
11 Ms. Hickey asked about your recommendation that the
12 Company make a new voluntary resource filing scaling
13 back the scope of the project. Do you recall that
14 question?

15 A I do.

16 Q And are you aware that the timeline for a
17 voluntary approval filing in front of this
18 Commission is six months, 180 days?

19 A I'm not. I'll take your representation of
20 that. I'm not real familiar with the requirements.

21 Q So your recommendation didn't take into
22 account the amount of time that it would take the
23 Commission to actually process that additional
24 request?

25 A Well, the recommendation is based on the

1 fact that we don't have -- in our opinion, we don't
2 have a record here to make an affirmative decision
3 and so if there was one desire, then it would
4 require new information.

5 Q So in this case, we're in the ninth month
6 of the filing, does that sound right, filed in June?

7 A Yes, at least.

8 Q So wouldn't the delay associated with a
9 new filing potentially cause risks associated with
10 the qualification for the PTCs with these projects?

11 A To my understanding, there's still some
12 float in the schedule, but I invited the Company to
13 file that in their last responsive testimony but
14 didn't, so I don't really see that it's on us. We
15 asked you to file that so we could hear that
16 downsize filing today, and that didn't occur.

17 Q Well, I would -- I noticed an
18 inconsistency between your testimony and
19 Dr. Zenger's testimony where she expressed concerns
20 about the projects even being one day late and
21 losing eligibility for PTCs. Your recommendation
22 would add at least another six months in the
23 schedule, so wouldn't that actually add to the risks
24 that Dr. Zenger expressed concern about?

25 A Well, it would, but my understanding is

1 that the critical path is not such that there isn't
2 more time to consider this, but the alternative is
3 to deny the projects outright, so I think you'd have
4 to make that choice.

5 Q So I'd like to turn to your testimony
6 at -- it's in your supplemental response testimony,
7 lines 376 through 378.

8 A 370 --

9 Q It's page 22, and basically the Q begins
10 on line 374 and it goes to 378. Do you have that?

11 A Yes.

12 Q So there are -- the question asks whether
13 you've done any analysis to test the economics of
14 the repowering projects in light of the problems
15 with the Company's analysis, and there you say,
16 "Yes, I have. I've calculated a set of benefit cost
17 metrics for each of the repowering projects using
18 different estimates of the energy benefits. The
19 benefit cost metrics are summarized in Table 4." Do
20 you see that?

21 A I do.

22 Q So I've handed you, or cause to be
23 distributed to you in advance of the hearing, RMP
24 Cross-Exhibit 4. Do you recognize this as the work
25 paper that underlies your table 4?

1 A Yes.

2 Q So that everybody is on the same page
3 here, when you calculate a benefit-to-cost ratio --
4 just so everybody understands it, a benefit-to-cost
5 ratio higher than 1.0 indicates that the benefits
6 are -- exceed the costs on a particular project; is
7 that correct?

8 A Correct.

9 Q And just so everybody understands your
10 methodology, I'd like to go through it. Instead of
11 using the Company's modeling, the IRP modeling, you
12 used the Company's Palo Verde prices -- the price
13 curve for the Palo Verde market -- for the entire
14 study period through 2050; is that correct?

15 A Well, there are two columns of numbers
16 that are the Company's numbers, and then the last
17 four columns as you describe.

18 Q And basically you did this, according to
19 your testimony, to avoid the issues that you believe
20 are associated with the IRP models; is that correct?

21 A The IRP models and the alternative that
22 Mr. Link offered in his testimony.

23 Q So just, again, to understand what you've
24 done here, in your columns P through Q, where you
25 say a hundred percent PV and then have both the

1 medium and low case, is what you've done, basically,
2 is take the Company's medium Palo Verde price curve
3 and its low Palo Verde price curve and reprice the
4 incremental energy using those curves?

5 A That's correct.

6 Q And then your --

7 A All of the entire energy from the project.

8 Q And then -- so it would be the incremental
9 energy up until 2037 and then the entire energy
10 output between 2037 and 2050?

11 A That's correct.

12 Q So using those -- just to make sure we
13 understand the way this chart flows -- then in the
14 70 percent case, you've basically, again, taken the
15 Company's medium and low price curves and then
16 reduced them by 30 percent; is that right?

17 A The Company offered medium and low
18 Palo Verde price scripts at 70 percent. Mr. Link
19 described and offered Palo Verde price scripts for
20 medium and low as case assumptions, and then he used
21 a 130 percent of those values and 70 percent of
22 those values in his testimony. So the 70 percent
23 value here are the medium and low Palo Verde price
24 70 percent versions that Mr. Link refers to in his
25 testimony.

1 Q So just referring to Column P, this is
2 your benefit-to-cost ratio using the hundred percent
3 of the PV pricing under the Company's medium-priced
4 forecast. Are you with me on that column?

5 A Yes.

6 Q So every column is higher than 1.0,
7 correct?

8 A Correct.

9 Q And the Company's medium case is in
10 Column N, correct?

11 A Correct.

12 Q And comparing your results in Column P to
13 the results in Column N, doesn't it show that your
14 results produce higher benefit-to-cost ratios than
15 the Company's medium/medium results for every single
16 project?

17 A The assumption that using the Palo Verde
18 medium/medium at a hundred percent does produce that
19 result. It's simply a demonstration of what that
20 set of assumptions produces. Correct.

21 Q And would you accept, subject to check,
22 that a simple average of the Company's
23 benefit-to-cost ratios using the medium case is 1.29
24 and yours is 1.42?

25 A Simple average is not appropriate for

1 these calculations. I'll accept your math, but I
2 reject the concept that a simple average has any
3 meaning. You would need to do a weighted average to
4 have any meaning.

5 Q So if you're right that the SO and PaR
6 models are flawed, at least in this instance, the
7 flaws have understated the benefits of repowering in
8 the medium case?

9 A No, that's not correct.

10 Q Well, your benefit-cost ratios are higher
11 than the Company's, correct?

12 A That's not my recommended case.

13 Q With respect to the medium case, which is
14 my question, in the medium case, don't the PaR and
15 SO models understate the benefits as compared to
16 your calculations?

17 A My calculation of the cost benefit using
18 Mr. Link's assumptions of Palo Verde and 100 percent
19 medium/medium does produce a higher result than the
20 Company's modeling analysis, correct. I don't
21 accept the representation that it's anything other
22 than the calculation of that result when you
23 associate that with -- that's not a number that I
24 would recommend the Commission put any weight on in
25 terms of decision making, if that's where you're

1 going, so I just want to make that distinction.

2 Q You know, your counsel can ask you
3 questions on redirect, but I'm just asking you some
4 specific questions about your analysis that you've
5 provided in this case which you said was designed to
6 assess the benefits of this project.

7 A Correct.

8 Q So if you could refer to Column Q, these
9 are your results for the low gas, zero CO2 scenario,
10 correct?

11 A At 100 percent Palo Verde, correct.

12 Q At 100 percent Palo Verde. So under that
13 column, every project except Leaning Juniper shows
14 net benefits in your study, correct?

15 A Correct.

16 Q And if you compare those results, again,
17 to the Company's results in Column O, your
18 methodology produced higher benefit-cost ratios for
19 8 of the 12 projects, correct?

20 A I haven't counted those. There are some
21 that are higher, some that are lower.

22 Q If you can accept, subject to check, you
23 produced lower benefits only for Glenrock I, Seven
24 Mile Hill I, Leaning Juniper, and Goodnoe Hills.

25 A I'm sorry. Those four again?

1 Q Glenrock I, Seven Mile Hill I, Leaning
2 Juniper, and Goodnoe Hills.

3 A That's correct.

4 Q So now, I'm going to ask you about your
5 Columns R and S. In those cases, I think we have
6 already been through this, that you basically took,
7 again, the medium and low price curves that the
8 Company provided, and then you discounted them by
9 another 30 percent?

10 A Correct.

11 Q And you did this even though you'd already
12 run a low forecast in Column Q, correct?

13 A I'd run the -- Mr. Link's low hundred
14 percent Palo Verde prices in Column Q.

15 Q So isn't the effect of reducing the medium
16 Palo Verde curve by 30 percent to basically turn
17 that into the low case? If you look at the
18 benefit-cost ratios between your 100 percent
19 Palo Verde low curve and 70 percent Palo Verde
20 medium, aren't those results virtually the same?

21 A They're very close, yes.

22 Q So you basically have two low curves then?

23 A I'm not following that question.

24 Q Well, you have -- Q is the low curve at a
25 hundred percent Palo Verde, and Column R is the

1 medium case at 70 percent Palo Verde, and they're
2 essentially equivalent cases, low gas cases?

3 A No. That's not true.

4 Q Well, they produce essentially the same
5 results, don't they?

6 A Right, but your representation of the
7 cases are what I'm objecting to.

8 Q So then if you go over to one more column,
9 Column S, there you take the low benefit case -- so
10 you basically take the low Palo Verde curve and you
11 reduce it another 30 percent. That's what that case
12 does, right?

13 A Right.

14 Q So it's really a low/low case, correct?
15 You're taking the low curve and then you're reducing
16 it a step further; is that correct?

17 A We're taking Mr. Link's low Palo Verde
18 prices and reducing those and taking the 70 percent
19 value of those and running those in that case,
20 correct.

21 Q And just to be clear, you did not test any
22 of this using the high Palo Verde curve, correct?

23 A Correct.

24 Q Which you could have done, you had those
25 numbers.

1 A There was no reason to.

2 Q Because you just want to look at the
3 medium/low and low/low case here?

4 A No. In other places in my testimony, I
5 did -- I tested the Palo Verde prices against
6 Mr. Link's natural gas prices and found that all of
7 the Palo Verde prices tracked well above what
8 natural gas prices would produce for values in
9 PacifiCorp's system. And that's the basis upon
10 which I concluded that the results in Column R and S
11 most closely align with what Mr. Link has assumed
12 for natural gas price forecasts in the medium and
13 low cases. And so my -- based on that analysis, my
14 conclusion is Column R most closely aligns with
15 Mr. Link's natural gas price assumptions in the
16 medium case, and Column S most closely aligns with
17 his assumptions for natural gas prices in the low
18 case.

19 Q Now, isn't it true that Mr. Link used that
20 70 percent scenario only in the out years, beginning
21 in 2017?

22 A That's my understanding.

23 Q And isn't it also true that when you test
24 the implied heat rate -- which I think is the
25 analysis you're talking about -- in those out years,

1 the heat rate is much more aligned with the numbers
2 that you say are appropriate?

3 A I'm sorry. What are you referring to?

4 Q So you tested the heat rate in the
5 near-term right, like 2022?

6 A Yeah, I'd have to look at the numbers.

7 Q But it was within the period of time that
8 the Company uses, basically, available market data
9 to set its curve, right?

10 A I don't have -- I'd have to look at the
11 numbers to see what you're referring to.

12 Q But do you recall that your test for the
13 heat rate was in the near-term, not out in 2037?

14 A I don't recall exactly how far we went out
15 with that.

16 Q So I wanted to ask you to turn to -- I
17 guess I want to back up and ask you about the
18 reasonableness of discounting the Company's price
19 curves, the low price curve, by an additional
20 30 percent, and specifically wanted to ask you about
21 DPU's Cross-Exhibit 1 from yesterday, which is the
22 order and stipulation from the Idaho Commission
23 approving this proposal. Do you have that?

24 A I do not have that.

25 Q I only have one copy.

1 MS. SCHMID: Could we go off the
2 record for just one moment?

3 COMMISSIONER LEVAR: Certainly.
4 We'll be in brief recess.

5 (A brief recess was taken.)

6 BY MS. MCDOWELL:

7 Q So, Mr. Peaco, you have been handed DPU
8 Cross-Exhibit 1. Do you see that?

9 A I have that.

10 Q Can you please turn to the back part of
11 that exhibit? The order approving the stipulation
12 is attached, and I'd like you to turn to what is the
13 page that's labeled page 4 of that order.

14 A I have that.

15 Q And I'll represent to you that the order
16 was issued on December 28, 2017, approving the
17 repowering project in Idaho.

18 A The cover letter has a November 24 date.
19 Is that something different?

20 Q So just so there's no confusion, the
21 exhibit has -- as the Division presented it -- has
22 the stipulation in the first group of pages, and
23 that was presented to the Commission on November 24,
24 2017. And then the order approving the stipulation
25 is the back part of the exhibit, and that's what I

1 have questions about. The first page of that order
2 is page 1 and indicates the date of December 28,
3 2017.

4 A I have that.

5 Q So you if you could, turn to page 4 of
6 that order. And there in the second full
7 paragraph -- the second paragraph, down from the
8 top, the Commission is explaining why the -- in
9 part, why it accepted the recommendation of staff to
10 approve the stipulation, and it specifically refers
11 to the staff, Idaho staff's position on forward
12 price curves. And I just wanted to read that
13 language to you and then ask you a question about
14 it. The paragraph states, "The staff also described
15 natural gas price risk if natural gas prices are
16 less than the Company assumes, then the project's
17 net benefits will also be less than estimated.
18 While the impact of lower gas prices could be large,
19 Staff believes the natural gas price risk is low.
20 Staff compared the Company's natural gas price
21 forecasts with those of the U.S. Energy Information
22 Administration (EIA), and found that the Company's
23 forecasts are consistently lower than the EIA's.
24 Staff thus believed that the Company's forecasts are
25 conservative, and explained that if actual gas

1 prices are closer to EIA's forecasts, there will be
2 more benefits than the Company has estimated." So
3 with that language, doesn't the Commission's order
4 citing Staff's position on the reasonableness of the
5 Company's gas forecast undermine your position that
6 these forecasts should be reduced by an additional
7 30 percent to determine cost-benefit ratios in this
8 case?

9 A No.

10 Q Your analysis, as you indicated, does not
11 include a high case, correct?

12 A But that wasn't the purpose of my
13 analysis.

14 Q So you start with a conservative analysis
15 that does not reflect -- which reflects conservative
16 price curves based on, at least, the Idaho
17 Commission's order, and then you reduce that low
18 forecast by an additional 30 percent?

19 A No. That's not right. What I explained
20 to you was that I compared the 70 percent Palo Verde
21 to the Company's own low gas price forecast, that
22 70 percent that I was aligning up with the Company's
23 natural gas price forecast. I'm not offering
24 something different than that. I'm saying the
25 70 percent Palo Verde script is consistent with the

1 Company's own low natural gas price with a
2 reasonable system heat rate.

3 Q But you take the Company's low natural gas
4 forecast and you reduce it by 30 percent in your
5 Column S.

6 A No, that's not correct.

7 MS. SCHMID: Pardon me, Mr. Peaco,
8 could you speak a little more loudly and a little
9 more directly into the microphone?

10 THE WITNESS: Sure.

11 A That is not correct.

12 BY MS. MCDOWELL:

13 Q Well, then, how is it that you have a
14 medium case and a low case? You've used the
15 Company's medium Palo Verde curve and its low Palo
16 Verde curve.

17 A You're comparing the Palo Verde price
18 curve with the Company's natural gas price forecast,
19 and they're two different things.

20 Q So you basically reduced the medium
21 forecast and the low forecast, each by 30 percent,
22 correct?

23 A Palo Verde forecast.

24 Q So even after taking that low forecast --
25 the low Palo Verde price curve -- and reducing that

1 by 30 percent, isn't it true that even in that case,
2 only two projects show a benefit-cost ratio of less
3 than 1?

4 A Yes.

5 Q So in total, you performed either -- I
6 don't know if you want to call it two studies or
7 four studies, but produced 48 results, correct?
8 Your columns P, Q, R, and S had 48 results, correct?

9 A Yes.

10 Q And of those 48, only five returned
11 results showing that repowering does not provide net
12 benefits, correct?

13 A Yes.

14 Q So in your testimony, you indicated that
15 RMP should be -- or the Company should be required
16 to demonstrate benefits to customers under the low
17 gas, zero CO2 scenario. Do you recall that
18 testimony?

19 A I do.

20 Q Well, doesn't table 4 show that even under
21 your own analysis, the repowering project meets the
22 standard for every facility but Leaning Juniper?

23 A If you ignore all the risks that are
24 inherent in those projects, yes. But my testimony
25 goes on to explain that these numbers do not address

1 all the remaining outstanding risks associated with
2 those.

3 Q So I wanted to ask you about applying a
4 simple average to calculate risk-weighted benefits,
5 like the Division's expert, Mr. Evans did in the SCR
6 case. Were you here yesterday when we discussed the
7 SCR case?

8 A I was.

9 Q So do you agree that a simple average for
10 the Leaning Juniper plant under a hundred percent PV
11 case shows that you would produce a benefit-cost
12 ratio of greater than 1.0?

13 A I'm sorry. A simple average of what?

14 Q Of the Leaning Juniper results for the
15 medium -- for the hundred percent Palo Verde case
16 produces a benefit cost ratio greater than 1.0? So
17 it's basically your Column P and Column Q, under
18 cell 12?

19 A So is your question, if you average the
20 four numbers --

21 Q The two numbers in the hundred percent
22 case. This is awkward because I'm trying not to say
23 the numbers since they're confidential.

24 A But we've got rows and column here, and I
25 want to make sure --

1 Q So basically it's 12, which is the Leaning
2 Juniper row, and columns P and Q.

3 A Averaging just those two?

4 Q A simple average of those two produces a
5 benefit-cost ratio of greater than one 1.0, correct?

6 A Slightly.

7 Q So you indicate that this table
8 illustrates the problems with the SO model, but
9 doesn't it ultimately validate the results of the SO
10 model, at least in the medium hundred percent Palo
11 Verde case?

12 A Well, I think we're talking about two
13 different issues. The issue that I was pointing to
14 was the fact that, as you pointed out in talking
15 about the results in Column Q, they're not uniformly
16 different. And what we found was, one of the things
17 about the method that we did would -- at least
18 you're measuring consistently each project against
19 the same metric, whereas in the Company's results,
20 we've pointed repeatedly to the notion that there's
21 a lot of anomalous results. And what this points to
22 is that the relative sequence of projects changes
23 when you go from the Company's method to ours. And
24 that confirms to me that System Optimizer and PaR
25 results are producing different results because

1 there are some numerical issues within the models
2 that don't produce consistent results across the
3 project, and that was the issue I was referring to.
4 You're asking about the bottom line benefit-cost
5 ratio comparisons, and that's a different issue.

6 **Q Well, when you have two different models,**
7 **you've run two different models, you would -- the**
8 **results of those two models could be different on,**
9 **you know, a detailed basis, correct? But if the two**
10 **models end up directionally showing the same thing,**
11 **don't those models validate one another?**

12 **A It doesn't validate the models, it happens**
13 to be they come out to have similar results in some
14 aggregate sense. But what I was focusing on in the
15 testimony that you asked me about was the fact that
16 the rank order of the projects is materially
17 different between those results and our results,
18 which suggest to me that there were some differences
19 in going from project to project that we've --
20 issues that we've identified in our testimony that
21 mean that you have some results that are anomalous
22 coming out for some projects so that there's -- in
23 some cases, maybe, the PaR System Optimizer results
24 were producing higher or lower values than they
25 would if you used -- basically, priced all the

1 energy at some constant price, as we have done here.

2 Q So in your summary yesterday, you said a
3 50/50 proposition was not acceptable, and a dollar
4 benefit was not enough. Do you recall that?

5 A Correct.

6 Q So don't your results in Column P and Q
7 show that this is anything but a 50/50 proposition?

8 A No.

9 Q When all of your benefit-cost ratios in
10 Column P are positive and positive by a significant
11 margin, doesn't this show that this is more than a
12 dollar of benefit for customers?

13 A The implicit assumption in your question
14 is, you're ignoring the litany of risk issues that
15 remain for customers that have not been factored
16 into those numbers. And one of those is a low gas
17 price risk, which points me to, at the low end,
18 there's a probability that even ignoring the risks
19 that some of the these projects are under water and
20 they don't even produce a dollar benefit.

21 Q So when you indicate that there is
22 disparity of results among the individual projects,
23 isn't that something you would expect, given the
24 different size and configuration of the projects?

25 A Well, no. I would expect there to be

1 proportionality, but I would expect, based upon what
2 I understand about the System Optimizer model, is
3 using that model to measure -- it's modeling only
4 the first 17 years. There's small, incremental
5 energy differential in the model, there's no
6 incremental capacity, yet the model might change 500
7 megawatt combined cycle unit by a year or two as a
8 result of that change. It's a very nonlinear result
9 and, at least, a very anomalous result, which we've
10 pointed out before. And that's what I believe is
11 happening here, and then that builds into the
12 extrapolation methodology. And I think this is not
13 the right tool to evaluate these kinds of projects.

14 **Q So under your alternative tool, you have**
15 **not taken into account the proportionality or other**
16 **project-specific attributes that you acknowledged**
17 **might differ project to project, correct?**

18 **A I'm sorry?**

19 **Q Under your analysis here, you haven't**
20 **taken into account proportionality or different**
21 **project's attributes, correct?**

22 **A I'm not sure I understand proportionality.**

23 **Q You said you would have to look at**
24 **proportionality, and you haven't taken that into**
25 **account here, have you?**

1 A I'm still not understanding what you're
2 referring to.

3 Q So when I asked you the question of,
4 wouldn't you need to look at -- or wouldn't you
5 expect that, given the project's different
6 attributes, you would have different outcomes on a
7 project-by-project basis. You said, yes, you would
8 need to look at proportionality. Do you recall
9 that?

10 A I don't.

11 Q That was what I recall I heard in your
12 answer. So would you agree that you need to take
13 into account proportionality among the projects in
14 looking at the variability of benefit-cost ratios?

15 A Let me try this and see if it's what
16 you're after. Our use of benefit-cost ratios was
17 intended to compare the proportion of benefits to
18 costs, which hasn't been done elsewhere. If that's
19 what you're referring to as proportionality, we've
20 done that.

21 Q Would you accept, subject to check, in
22 this case, since you have reviewed all of these
23 studies, that the Company provided 135 different
24 studies with respect to the repowering project in
25 its most recent set of testimony?

1 A I'm not sure where the 135 comes from.

2 Q So I can go through that with you. Do you
3 have Mr. Link's testimony with you?

4 A Which testimony?

5 Q Supplemental direct testimony, and I'm on
6 pages 13 through 14.

7 MS. SCHMID: I'm sorry. Was that his
8 supplemental direct?

9 MS. MCDOWELL: That's correct.

10 THE WITNESS: I'm sorry. Which page?

11 MS. MCDOWELL: Pages 13 and 14 of the
12 supplemental direct.

13 BY MS. MCDOWELL:

14 Q So there, the Company provided
15 project-by-project results using the SO and PaR
16 models for both the medium and low scenarios. Do
17 you see that?

18 A Which table are you referring to?

19 Q So basically, there's two tables, one for
20 the medium and one for the low gas. One is on page
21 13, one is on page 14. Do you see those?

22 A Yes. I'm with you.

23 Q So there's a total of 72 different studies
24 embedded in those -- in those results. Do you see
25 that?

1 A Six runs for each of the 12 projects?

2 Q Right. So 72 different studies.

3 A I see that.

4 Q Okay. And then, if you go to Mr. Link's
5 testimony on page 15 --

6 A Yes.

7 Q -- and there, he provides an overall
8 project -- or basically on page 15, he provides the
9 nominal revenue requirement studies for each project
10 for the medium and low gas scenarios. Do you see
11 that?

12 A For the 30-year project life? Yes.

13 Q So that's another 24 studies. Would you
14 accept that, subject to check?

15 A 24 runs. Yes, I will accept that.

16 Q Of these 96 results that we just went
17 through, only one project showed net cost, and that
18 was in the low gas, zero CO2 scenario using the SR
19 and PaR model, correct?

20 A On the 20-year analysis. And there's a --
21 in that project, it's zero in the 30-year.

22 Q And then, the Company also provided
23 analysis of all of the projects together using the
24 SO and PaR models for all nine price policy
25 scenarios; do you recall that?

1 A I understand that, yes.

2 Q And so that was on page 20 and that, I'll
3 represent to you, comprised 27 different studies.

4 A I would call them runs, but yes.

5 Q And then on page 22, the Company provided
6 that same analysis through the 2050 period, which
7 was an additional nine studies?

8 A Yes.

9 Q And under all 36 of those studies,
10 repowering provided net benefits to customers,
11 correct?

12 A Correct.

13 Q And then, the Company also provided
14 sensitivities using market prices to value the
15 energy benefits for the longer-term economic
16 analysis. That was the discussion we had this
17 morning about the use of Palo Verde prices?

18 A Correct.

19 Q And there were three studies in that case.
20 Do you recall that?

21 A I will accept that. I believe you're
22 right, but I don't have it in front of me. Is there
23 a page reference?

24 Q That's on page 26.

25 A Okay. I see that.

1 Q So I got to 135 by adding 72 -- the first
2 set of runs we talked about -- 24, 27, and 3, and
3 that got to 135 different studies in Mr. Link's
4 testimony. Do you accept that number?

5 A I would label them runs, but yes, I would
6 accept that.

7 Q And then you performed an additional 48
8 studies -- you got an additional 48 results, I
9 guess, if you want to call them results -- so that
10 from a results standpoint, that brings us to a total
11 number of 183 studies that we have between your
12 analysis and Mr. Link's. Would you accept that?

13 A Well, runs again, but yes.

14 Q So how can you claim there's not enough
15 information in this case to determine whether
16 repowering is most likely to reduce customer costs
17 when there are now 183 study results, and the vast
18 majority of them show net benefits to customers?

19 A All of Mr. Link's results suffer from the
20 problems that I critiqued in my testimony, so I
21 consider them of no value. And in a number of the
22 cases I've done, I've shown to illustrate how
23 Mr. Link's assumptions would run through those, but
24 the only ones that I have really focused on are,
25 sort of, the last two columns in the exhibit we've

1 been talking about this morning. So there's a lot
2 of runs there, but most of them I would say to just
3 set aside and they're not worth considering, because
4 they have a number of problems which have been
5 identified in my testimony and others.

6 Q So the SO and PaR runs which are -- have
7 been conducted using the Company's IRP models,
8 you're discounting entirely?

9 A Correct.

10 Q So you understand that the statute that
11 the Company filed under the voluntary resource
12 approval statute requires consideration of short-
13 and long-term impacts, correct?

14 A Correct.

15 Q And can you turn to your supplemental
16 response testimony? And that's your testimony on
17 April 2nd, and can you turn to line 663, please?

18 A I'm there.

19 Q And actually, I should have directed you
20 to 659, which is the Q and A where you respond to
21 the short- and long-term impacts. And with respect
22 to the short-term impacts, you indicate that -- on
23 lines 662 to 663 -- that with respect to short-term
24 impacts, the PTC benefits, if realized, would
25 mitigate much of the costs in the first ten years.

1 Do you see that?

2 A Yes.

3 Q And on an NPV basis, which I think is what
4 you were discussing in your supplemental -- let's
5 call that the Hearing Exhibit 1 that you produced
6 yesterday --

7 A Correct.

8 Q -- you were looking at production tax
9 credit value on a net present value basis, correct?

10 A Yes. I think the exhibit actually had
11 nominal and present value, but we talked about
12 present value.

13 Q But your point was to show NPV -- the
14 Company had relied on nominal numbers, and you
15 wanted to show what the NPV of those numbers was,
16 correct?

17 A Correct.

18 Q So -- and on an NPV basis, would you agree
19 that the PTCs are roughly -- provide about
20 65 percent of the project costs?

21 A Yeah. I'm not sure that's a number that
22 can be made public, but yes.

23 Q I appreciate your sensitivity. I think
24 it's an issue around the overall. Project costs are
25 not confidential, it's only on a project-by-project

1 basis.

2 A Depending on what the numeric denominator
3 is, it's approaching 70 percent of the total on a
4 net present value basis.

5 Q And then on line 666, you indicate that
6 the long-term benefit, much of the benefit -- I
7 guess here on line 665 you say, "Much of the benefit
8 is derived from the years 20 to 30 of the projects,
9 the life extension period." Do you see that?

10 A Yes.

11 Q And that's because that's when the
12 existing facilities are assumed to be retired, based
13 on the expiration of their 30-year life?

14 A Correct.

15 Q And during years 20 to 30, that's when the
16 Company estimates an approximate 3,500 of gigawatt
17 hours annually of incremental generation?

18 A I'll accept your number. I don't have it
19 in front of me.

20 Q Do you understand that during those years,
21 repowering will also provide a capacity benefit,
22 approximately equal to a thousand megawatts of wind
23 resources?

24 A But that would not be the capacity.
25 That's the nameplate of the total installation, but

1 that would not be the capacity benefit.

2 Q But it would provide a substantial
3 capacity --

4 A Well, that would be some small fraction of
5 the thousand --

6 Q -- off of the --

7 A I don't know the exact ratio, but it's
8 somewhere in the 100 to 200 watt range of capacity.

9 Q So I wanted to ask you about your
10 testimony on -- your response testimony on lines 584
11 to 586.

12 A Yes.

13 Q And there, you indicate -- with respect to
14 the PTC qualification risks -- you indicate that PTC
15 qualification risks that remain are largely within
16 the Company's control to manage, but as in the prior
17 testimony, the Company is not agreeing to assume any
18 of the remaining risk. Were you here yesterday when
19 Mr. Hoogeveen testified about the Company's
20 willingness to guarantee PTC qualification for all
21 risks within the Company's control?

22 A Within the Company's control, yes.

23 Q And so here, you indicate that the risks
24 are largely within the Company's control to manage,
25 but the Company is not agreeing to assume those

1 risks. Isn't it true that the Company has agreed to
2 assume PTC qualification risk for all risks within
3 its control?

4 A My statement may not be as articulate as
5 it should have been, but the distinction I was
6 trying to draw here is, there are certain risks that
7 the Company assumes within its control. But one in
8 particular we talked about yesterday is the risk
9 that the production in the first ten years is not --
10 is clearly a risk that the Company is not willing to
11 take. And that was the risk remaining that I was --
12 one of the risks remaining that I was referring to
13 is that the Company has claimed it's outside of its
14 control and it's not willing to take.

15 Q But that's not a PTC qualification risk,
16 is it?

17 A No. That's what I'm saying. I could have
18 said this better. If you said, the PTC risks that
19 remain are largely within the Company's control to
20 manage. However, there are risks outside the
21 Company's control that they're not willing to take,
22 and the production risk is one of those. And so
23 that was my intent here, and I'm sorry that was not
24 articulated as it should have been.

25 Q So this is a -- I have a final line of

1 questioning that will involve some confidential
2 information. And it's just a short amount of
3 confidential information, so I don't know if it
4 makes sense for me to finish up all my questions and
5 then just have those questions at the very end and
6 just indicate to you when I'm going to be asking
7 about confidential information.

8 COMMISSIONER LEVAR: That would be
9 the most efficient way to do it.

10 BY MS. MCDOWELL:

11 Q So I have a couple of questions before I
12 get into confidential information. In your summary
13 yesterday, you indicated that the benefits of the
14 project have declined from the Company's rebuttal
15 case in the fall to its supplemental filing in
16 February. Do you recall that?

17 A Yes.

18 Q And isn't it true that the declining
19 benefits is associated largely with the tax reform
20 changes and the reduction in the corporate income
21 tax rate?

22 A That would be my expectation. I don't
23 have a breakdown of all the changes between those,
24 but that would be my expectation, that that would be
25 one important driver of the change.

1 Q So can you turn to your direct testimony,
2 this is your testimony from last fall on
3 September 20, at pages 54 to 55?

4 A I'm there.

5 Q So just to -- before I ask you about that
6 specific testimony, I just want to provide a little
7 background. Yesterday, Commissioner Clark asked
8 Mr. Hemstreet about the voltage of frequency support
9 equipment that's part of the repowering. Do you
10 recall those questions?

11 A I do.

12 Q Do you recall that Mr. Hemstreet's
13 testimony was that this equipment would help the
14 Company comply with FERC guidelines on inertial
15 response?

16 A I recall that.

17 Q And just to summarize what we're talking
18 about, the particular equipment is referred to as
19 the wind-free and wind inertia equipment. Do you
20 understand that?

21 A Yes.

22 Q And I've come to understand that the
23 wind-free equipment provides reactive power to the
24 grid, and the wind inertia equipment provides
25 inertial response capability during under-frequency

1 events. Is that your understanding also?

2 A It's been a while since I've looked at
3 these, but I'll take your representation of that.

4 Q So in your direct testimony, you opposed
5 this equipment, claiming that the Company had not
6 shown a need for it, correct?

7 A Correct.

8 Q And I wanted to ask you about surrebuttal
9 testimony on this same point, and this is when I
10 will be asking about some confidential information.

11 COMMISSIONER LEVAR: Thank you. So
12 I'll take that as a motion to close the hearing to
13 the public. There's a section of Title 54 -- I
14 don't have the section number handy -- that gives
15 the Commission the authority to do that upon a
16 finding that it is in the public interest to do so.
17 So I'll first ask all the parties if there's any
18 objection to a Commission finding that would be in
19 the public interest to -- sorry, Mr. Burnett, you
20 might have to go sit in our lobby if we do this --
21 but if any party objects to that motion for the
22 Commission to make a finding, that it would be in
23 the public interest to close the hearing for a
24 period of time -- and I'll turn to my colleagues if
25 we need any deliberation.

1 COMMISSIONER CLARK: I'd support
2 whatever is necessary to flesh out this issue for
3 us.

4 COMMISSIONER WHITE: I likewise
5 support.

6 COMMISSIONER LEVAR: With that, we
7 make a finding that it is in the public interest to
8 close the hearing while this confidential material
9 is discussed. We'll stop the streaming temporarily,
10 and then this material will be reflected only in the
11 confidential transcript, not the public one.

12 MS. MCDOWELL: Thank you very much.
13 I appreciate that accommodation.

14 (The following testimony was deemed confidential.)

15 ///

16 ///

17 ///

18 ///

19 ///

20 ///

21 ///

22 ///

23 ///

24 ///

25 ///

1 MS. MCDOWELL: So I would like to
2 offer Cross-Exhibit 4, and with that, I'll conclude
3 my cross-examination.

4 COMMISSIONER LEVAR: If anyone
5 objects to the admission into the record of RMP
6 Cross-Exhibit 4, please indicate to me. And I'm not
7 seeing any objection, so that motion is granted.
8 Thank you.

9 (Confidential RMP Cross-Exhibit 4 admitted.)

10 COMMISSIONER LEVAR: Any redirect,
11 Ms. Schmid?

12 MS. SCHMID: Yes, but may we have a
13 moment and maybe go off the record for one second?

14 COMMISSIONER LEVAR: Would a five or
15 ten-minute break be appropriate?

16 MS. SCHMID: That would be very
17 appropriate. Thank you.

18 COMMISSIONER LEVAR: Why don't we
19 just take a ten-minute recess.

20 (A brief recess was taken.)

21 COMMISSIONER LEVAR: We're back on
22 the record, and we're with Ms. Schmid's redirect of
23 Mr. Peaco.

24

25

1 REDIRECT EXAMINATION

2 BY MS. SCHMID:

3 Q Thank you very much. Good morning. You
4 were asked a series of questions about negative and
5 positive values. And you were asked questions about
6 the statute that applies to voluntary request for
7 resource decision review and things the Commission
8 should, or actually must -- shall consider. Do you
9 recall that line of questions?

10 A I do.

11 Q Is it true that the Commission has many
12 things that it must take into consideration?

13 A That's my understanding, yes.

14 Q And is it true that those are (1) whether
15 it will most likely result in the acquisition,
16 production, and delivery of utility services at the
17 lowest reasonable cost to the retail customers of an
18 energy utility located in this state, (2) the
19 long-term and short-term impacts, (3) risk,
20 (4) reliability, (5) financial impacts on the energy
21 utility, and (6) other factors determined by the
22 Commission to be relevant?

23 A That's my understanding, yes.

24 Q And is it also your understanding that
25 these things, including 6, the other factors

1 determined to be -- determined by the Commission to
2 be relevant, are what the Commission shall take into
3 consideration when it is determining whether or not
4 the requested resource is in the public interest?

5 A That's also my understanding.

6 Q So we talked just a little bit about the
7 other factors, and you were also asked -- or
8 actually, we talked a lot about what net present
9 values mean and things like that. Isn't it possible
10 that net present values may not reveal when costs
11 and benefits actually hit the system and actually
12 impact customers?

13 A The net present value collapses all of the
14 nominal benefits and costs as they play out over
15 time into a single number of present value. So it
16 does not have any information about when those
17 benefits in costs occur, it just aggregates into one
18 metric over the life of the project.

19 Q And so the fact that those values are
20 aggregated, is it something that the Commission, in
21 your opinion, should take into consideration as one
22 of those others factors?

23 A The net present value metric will not tell
24 you anything about the timing of cost and benefits
25 and how it would impact customers over time.

1 Q Thank you. You were also asked questions
2 addressing long-term market heat rates. Do you
3 recall that line of questioning?

4 A Yes.

5 Q I'd like you to turn, please, to your
6 response testimony on page 16, figure 1.

7 A I'm there.

8 Q Could you tell us what you see in this
9 chart?

10 A This chart shows our analysis for the low
11 and the medium gas cases, the two cases that we
12 evaluated, and it shows that we tested the market
13 heat rates from 2017 to 2042.

14 Q Thank you. Turning now to what's been
15 entered into evidence as RMP Cross-Exhibit 4 and,
16 again, this chart and exhibit does contain
17 confidential information, so I will refer to things
18 by rows. Could you please explain why columns P and
19 Q should not be the basis for the Commission's
20 decisions, but R and S should be considered by the
21 Commission?

22 A The values in P and Q are based upon the
23 Company's two provided Palo Verde scripts that are
24 at a hundred percent of that price script. And we
25 tested it, the market heat rate -- which was part of

1 the prior line of questioning about the market heat
 2 rate test -- we tested those prices, and we found
 3 that those price scripts were well in excess of the
 4 Company's own natural gas price forecast for those
 5 scenarios. And from that, we concluded that these
 6 clearly overstated the market value of energy, and
 7 so we believe that the medium and low numbers that
 8 most closely align with the Company's own medium and
 9 low natural gas prices are the numbers in columns R
 10 and S.

11 MS. SCHMID: Thank you. Those are
 12 all my redirect questions.

13 COMMISSIONER LEVAR: Thank you. Any
 14 recross, Ms. McDowell?

15 MS. MCDOWELL: No, thank you.

16 COMMISSIONER LEVAR:
 17 Commissioner Clark, do you have any questions for
 18 Mr. Peaco?

19 BY COMMISSIONER CLARK:

20 Q Yes. I want to start with the last
 21 questions you had from Counsel, because I just want
 22 to make this as clear as I can in my own mind what R
 23 and S -- columns R and S are. I think what Mr. Link
 24 did is he used a Palo Verde price script for the
 25 years subsequent to 2036; is that right?

1 A Yes. He used those numbers to provide an
2 alternative methodology to what he used as an
3 extrapolation method that we've talked about. So he
4 used that to provide an alternative to that
5 methodology for that part of his analysis, but he
6 kept the System Optimizer PaR results intact and
7 just used that for the extrapolation period.

8 Q And am I right that here, you have used
9 the Palo Verde price script for the entire period
10 under analysis, right?

11 A Correct.

12 Q And are there price scripts that apply to
13 a low natural gas, or a medium natural gas, or a
14 high natural gas scenario, or is there just one
15 price script that would be utilized?

16 A The Company actually offered in its
17 analysis a separate Palo Verde price script for its
18 medium case and its low case. So we used those two
19 separate ones.

20 Q Okay. So in Column S, is the Palo Verde
21 price script that you've taken 70 percent of
22 associated with the Company's low natural gas
23 scenario or the medium?

24 A The numbers in there are the Company's low
25 Palo Verde price script. And what we did separately

1 is to compare that price script to the Company's low
2 natural gas price, times the market heat rate to see
3 where those compared. And when we did that analysis
4 to compare, you know -- did the Palo Verde prices
5 make sense relative to the, basically, marginal cost
6 of energy on their system, we found that 70 percent
7 of Palo Verde prices was most closely aligned with a
8 reasonable price for gas fire generation on their
9 own system. And that's how we came to get
10 comfortable that that was a number that was useful
11 to look at.

12 **Q And just to be clear, it's 70 percent of**
13 **the Palo Verde price script that's associated with**
14 **the low natural gas forward price scripts?**

15 **A** The Company represented it as their low
16 Palo Verde price script, but they also separately
17 have a low natural gas price. And so we looked at
18 both of those to see where those two prices lined up
19 to each other.

20 COMMISSIONER CLARK: That concludes
21 my questions. Thank you.

22 COMMISSIONER LEVAR:
23 Commissioner White.

24 COMMISSIONER WHITE: No questions,
25 thank you.

1 COMMISSIONER LEVAR: And I don't have
2 anymore, so thank you, Mr. Peaco. We appreciate
3 your testimony this morning. Ms. Schmid.

4 MS. SCHMID: Thank you. The Division
5 would like to call its next witness,
6 Mr. Charles Peterson.

7 CHARLES E. PETERSON,
8 having been first duly sworn to tell the truth, was
9 examined and testified as follows:

10 DIRECT EXAMINATION

11 BY MS. SCHMID:

12 Q Good morning.

13 A Good morning.

14 Q Could you please state your full name,
15 title, employer, and business address for the
16 record?

17 A Yes. Charles E. Peterson. I'm a utility
18 technical consultant with the Division of Public
19 Utilities.

20 Q And your business address?

21 A 160 East 300 South, Heber Wells Building,
22 Fourth Floor, Salt Lake City, Utah.

23 Q Thank you. In connection with your
24 employment by the Division, have you participated in
25 this docket?

1 A Yes.

2 Q Did you prepare or cause to be filed
3 what's been pre-marked as DPU Exhibit 4.0 Direct,
4 DIR, your prefiled direct testimony, DPU Exhibit No.
5 4.0-SR, your prefiled surrebuttal testimony, and
6 what's marked at DPU Exhibit No. 4-RESP, which is
7 your prefiled response testimony, and that was filed
8 on April 2nd, 2018?

9 A Yes.

10 Q Do you have any changes or corrections to
11 that testimony?

12 A None that I'm aware of.

13 Q If I were to ask you today the same
14 questions that were presented in your prefiled
15 testimony, would your answers be the same?

16 A Yes.

17 MS. SCHMID: With that, the Division
18 moves for the admission of DPU Exhibit No.
19 4.0-Direct, 4.0-SR, and 4.0-RESP.

20 COMMISSIONER LEVAR: If any party
21 objects to that motion, please indicate to me. I'm
22 not seeing any objections, so the motion is granted.
23 (DPU Exhibit Nos. 4.0-DIR, 4.0-SR, and 4.0-RESP
24 admitted.)

25 BY MS. SCHMID:

1 **Q Mr. Peterson, do you have prepared**
2 **comments and live testimony to give today?**

3 A Yes, I do.

4 **Q Please proceed.**

5 A Good morning, Commissioners. My testimony
6 covers three matters in this docket. The first
7 matter pertains to a statutory requirement of
8 whether the Company has the financial capabilities
9 or the financial impacts on the Company of the
10 repowering proposal.

11 The second point is whether or not it's
12 appropriate under traditional regulatory practice to
13 recover the cost on and earn a return on property
14 that is no longer useful, and if so, under what
15 circumstances that is allowable.

16 And the third issue is the issue of
17 intergenerational equity. With respect to the
18 first, I believe that it is well within the
19 Company's financial capacity to pursue the
20 repowering projects as it has proposed them. This
21 is especially true if the Company maintains a
22 capital structure of approximately 50 percent
23 equity, which the Company has at least implied that
24 it will do. And also implicitly, is the Company has
25 regulatory support and recovery for the projects.

1 With respect to the second point, the
2 Division understands that the Company's
3 justification for the repowering project is
4 primarily economic. That is, ratepayers and the
5 Company will be economically better off with the
6 repowering projects as proposed than without them.
7 As I detailed in my direct testimony, the
8 authorities I cited suggest that it may be
9 appropriate to allow recovery of equipment that is
10 no longer used and useful for purely economic
11 reasons. One authority, Phillips, for example,
12 presents cases where the recovery of equipment taken
13 out of service was over a four- or five-year period.
14 I concluded that, for economic reasons alone, it may
15 be appropriate for the recovery of equipment that is
16 no longer used and useful but, if so, it should be
17 over a relatively short period of time.

18 This leads into my final issue of
19 intergenerational equity. The Company cites three
20 cases that have come before the Commission as
21 precedential to the recovery of equipment taken out
22 of service. In the Powerdale decision, the
23 Commission allowed a recovery over three years. The
24 other two cases, which the Division believes were
25 inappropriately cited by the Company because they

1 were parts of settlements, had recovery periods of
2 approximately five years. I did not find any
3 evidence, neither did the Company offer any
4 evidence, of a regulator anywhere allowing recovery
5 of and return on equipment taken out of service over
6 a 30-year period. The intergenerational equity
7 issue is this: There will be future ratepayers who
8 will receive no benefit from the production tax
9 credits -- the economic justification for the
10 repowering projects -- and there will be future
11 ratepayers toward the end of the ten years of the
12 PTC benefits that will inadequately be compensated
13 by the PTCs to offset the payment on the equipment
14 removed from service.

15 The Company proposes to remove the legacy
16 equipment, the equipment that is currently
17 operating. And after removal, this legacy equipment
18 will no longer be used and useful. However,
19 ratepayers who would receive no PTC benefits and
20 ratepayers who would be inadequately compensated
21 with the PTCs for the cost of those -- for the cost
22 those ratepayers incur, will both pay the Company
23 for the legacy equipment for its remaining
24 amortizable value over 20 years or more. This
25 scenario is unprecedented, to my knowledge.

1 I made the suggestion that the Commission
2 consider -- that if the Commission considers the
3 intergenerational issue to be of some importance,
4 then the amortization period of the legacy
5 equipment -- the equipment which will no longer be
6 used or useful -- could be reduced to at least match
7 the period of the PTC benefits. While even ten
8 years is beyond the length of recovery of legacy
9 equipment that has typically been given, it at least
10 can be justified by matching costs with benefits.
11 It is also true that any benefits to current
12 ratepayers will be reduced over that ten-year
13 amortization period, which could undermine the
14 project's justification.

15 In its latest filings, the Company
16 witness, Ms. Joelle Steward, made some new
17 observations concerning my testimony. It is
18 noteworthy that she makes no specific mention of
19 intergenerational equity issue, which implies to me
20 that Company is aware of and has no answer for it.
21 Ms. Steward correctly notes that I did not include
22 the Company's return on the legacy equipment that it
23 is proposing to continue to receive from ratepayers
24 for 30 years in the calculations I made in
25 estimating the value or cost of reducing the

1 amortization period to ten years. Including the
2 return on the equipment only makes it worse for
3 future ratepayers, in that they will not only pay
4 the Company for the cost of the equipment, but will
5 also reward the Company for keeping it out of
6 service.

7 Ms. Steward also suggests that the
8 Company's proposal to amortize the legacy equipment
9 is consistent with typical ratemaking. At best, the
10 typical ratemaking treatment has been to amortize
11 equipment over the remaining original life of that
12 equipment. She continues to ignore the fact that
13 amortizing equipment that is not used or useful over
14 a 30-year period is unprecedented and creates an
15 intergenerational equity issue that is also
16 unprecedented. This is not typical ratemaking in my
17 view.

18 And finally, Ms. Steward suggests that the
19 Company should wait until the next depreciation
20 study cycle to determine the appropriate
21 amortization of this legacy equipment. This is a
22 new idea that the Company is proposing, and has the
23 effect of delaying a decision on this matter. The
24 Company itself did not wait for the depreciation
25 study cycle to make the unprecedented proposal to

1 amortize equipment that was not used or useful over
2 a 30-year period. And that concludes my opening
3 comments.

4 MS. SCHMID: Thank you. Mr. Peterson
5 is now available for questions.

6 COMMISSIONER LEVAR: Mr. Moore or
7 Mr. Snarr, do you have any questions for
8 Mr. Peterson?

9 MR. SNARR: No questions.

10 COMMISSIONER LEVAR: Mr. Russell?

11 CROSS-EXAMINATION

12 BY MR. RUSSELL:

13 Q Mr. Peterson, on that last point regarding
14 the depreciation study, as you note, Ms. Steward has
15 testified that the Company would recommend that we
16 address the length of the period of amortization in
17 the upcoming depreciation study. I note your
18 comments, but it's unclear to me, what is your view
19 as to when the Commission ought to address that
20 issue? In this docket or in some other docket?

21 A If the Commission considers the issue of
22 intergenerational equity to be important, it should
23 definitely be decided in this docket.

24 MR. RUSSELL: That's all I have.

25 Thank you.

1 COMMISSIONER LEVAR: Ms. Hickey?

2 MS. HICKEY: I think I'll waive in
3 the interest of time.

4 COMMISSIONER LEVAR: Ms. McDowell or
5 Mr. Lowney?

6 MS. MCDOWELL: Just one moment. No
7 questions.

8 COMMISSIONER LEVAR: Ms. Schmid, any
9 redirect based on Mr. Russell's questions?

10 MS. SCHMID: None. Thank you.

11 BY COMMISSIONER WHITE:

12 Q I just want to be clear. So are you --
13 you're suggesting it would be inappropriate to
14 postpone consideration of this matter until the
15 depreciation study? Do we need to decide now, or
16 would that be something you would consider
17 appropriate during that time?

18 A Well, obviously, we could re-debate it at
19 that time, but I can't see that the position of the
20 Division would be any different. The Company is
21 taking this equipment out of service and putting it
22 somewhere. That puts time -- it becomes an
23 amortizable amount on the balance sheet that is not
24 considered depreciation at that point. It's just
25 simply, purely cost recovery, and not tied to any

1 particular economic period, which normal
2 depreciation is supposed to be at least nominally
3 tied to. So the issue is, over what period are you
4 going to amortize this equipment to give the Company
5 cost recovery. And so, yes, you could delay making
6 a decision on it, but I think it's more appropriate
7 to be done here, in this setting here, so that we
8 tie up any loose ends with that.

9 **Q Would it be appropriate also to discuss --**
10 **to address the question of return of as well as a**
11 **return on during that time period, or is that**
12 **something that would also be more appropriate?**

13 **A Well, if you want to delay to another**
14 **docket setting, then I guess we could, but I think**
15 **we can decide in this docket whether a return on or**
16 **a return of is appropriate. The Division is taking**
17 **the position that the legacy equipment -- it would**
18 **be appropriate for the Company to return or to**
19 **receive cost recovery from this equipment, assuming**
20 **the Commission believes that the proposal, the**
21 **repowering proposal, is appropriate. If the**
22 **Commission approves the repowering proposal as being**
23 **appropriate, then the equipment that would be taken**
24 **out of service for that proposal, whether it's for**
25 **the entire package that the Company is proposing or**

1 some reduced package -- that reduced number of
2 projects -- but in any case, whatever equipment is
3 taken out to implement a repowering of any size, the
4 Division takes the position that it would be
5 appropriate for the Company to receive a return of
6 its costs, which would include the return of capital
7 costs.

8 Otherwise, I think the Company is correct
9 in its assertion, or its implicit assertion, that it
10 will not pursue projects because they don't make
11 sense without the recovery of the legacy equipment.

12 Q Putting aside the intergenerational -- how
13 to depreciate or what period of time to recover the
14 investment, are you aware of any case, at least of
15 this Commission, where there's been an initial
16 approval and then when an investment is retired
17 earlier than -- the return-of portion is then taken
18 out when you're recovering that strata portion?

19 A I'm not aware of any, but that doesn't
20 mean it's never happened.

21 COMMISSIONER WHITE: That's all the
22 question I have.

23 COMMISSIONER LEVAR:
24 Commissioner Clark?

25

1 BY COMMISSIONER CLARK:

2 Q I have a few questions. Good morning,
3 Mr. Peterson. Do you have enough understanding of
4 the Company's economic analysis to know whether or
5 not its analysis assumes both a return of the
6 investment, as well as a return on the investment in
7 this, what would be the stranded plant?

8 A My understanding is that the Company has
9 not included the legacy equipment in these economic
10 calculations. My understanding of what the Company
11 is saying here is that we can go and repower this
12 equipment and pay for the repowering with the PTC
13 benefits, and in addition to paying for the
14 repowered equipment with the PTC benefits, there
15 will be additional benefits left over, say, in the
16 \$150 million range that would then go to effectively
17 reducing the cost of the legacy equipment. So
18 therefore, ratepayers are better off because -- I'm
19 just kind of picking a number out of the air, but I
20 think it's in the ballpark -- \$150 million better
21 off because without doing the repowering, they would
22 have to pay for the full cost -- the full remaining
23 cost of the legacy equipment, and they would not get
24 the benefit of this \$150 million. And so that's, at
25 least, how I conceptualize what the Company is

1 saying here.

2 Q Have you evaluated, or has anyone at the
3 Division, evaluated the Company's proposals,
4 assuming that the cost of the stranded assets would
5 be recovered over the life of the PTCs, for example,
6 over that 10-year period, so that it would be
7 matched against the credits?

8 A I have performed that sort of analysis.
9 If I understand your question correctly, you are
10 comparing the 30-years versus the 10-year period?

11 Q Right.

12 A Yes. And I've suggested in my testimony
13 that the present value of the -- the present value
14 as of 2019 -- the present value of the equipment
15 that would be recovered under the Company's 30-year
16 proposal, in other words, from year 10 to year 30,
17 is in the ballpark of \$200 million. Now, I need to
18 clarify this. The \$200 million is part of the
19 intergenerational equity issue, but the \$200 million
20 would be -- if it's part of the -- let me try to
21 start over. Obviously, there's going to be turnover
22 in the Company's mix of customers over the years.
23 The full \$200 million would only be applicable if
24 the Company experienced a 100 percent turnover in
25 customers in the 10 years, which is extremely

1 unlikely. But there would be some portion of the
2 future customers that the Company will undoubtedly
3 have who will not be adequately compensated from the
4 PTC benefits who would be paying into some of that
5 \$200 million figure and those -- so you have an
6 intergenerational equity that has a present value of
7 about \$200 million, and the \$200 million would apply
8 if every customer were changed out in the next 10
9 years. And it would be zero if no customer is
10 changed out over 30 years.

11 It's hard to say what the churn rate would
12 be, and even if we knew that, there might be
13 difficulties with interpreting it. But the Division
14 believes that there would be some sizable fraction
15 of customers in the future that will fall into this
16 category, that they will not receive any benefits
17 from the PTCs, but they will have to continue to pay
18 on the legacy equipment if you follow the 30 years.

19 **Q And in the Division's view, is this an**
20 **important consideration for the Commission in**
21 **evaluating the proposal? You've said a few times,**
22 **if the Commission feels that it's -- this**
23 **intergenerational equity issue is of importance.**
24 **What's the Division's position?**

25 **A** The Division's position is, first of all,

1 to the best of my knowledge -- again, there hasn't
2 been a clear statement by the Commission of
3 intergenerational equity, per se, and what would
4 constitute inequity. So we're struggling a little
5 bit to say what the Commission should do, based on
6 precedent. However, the Division's position is that
7 the -- there is intergenerational inequity, and that
8 the best way to solve it would be to shift the costs
9 of the legacy equipment to at least the period of
10 time when the ratepayers would be receiving the
11 benefits, which is amortizing it over the 10-year
12 period. I have the feeling I lost some of your
13 question.

14 COMMISSIONER CLARK: I think you've
15 answered my questions. That concludes my questions.

16 BY COMMISSIONER LEVAR:

17 Q Thank you. And just maybe one or two
18 questions in addition to that. Some years back,
19 there was a stipulated agreement to establish, I
20 believe, a 5-year depreciation study cycle; is that
21 correct?

22 A A 5-year depreciation -- you're talking
23 about the depreciation study cycle?

24 Q Is it five years; is that right?

25 A You know, since I haven't been intimately

1 involved with those matters that have come up since
2 I've been here, I'm not sure it's five years. That
3 sounds correct.

4 Q So you don't have information on the
5 agreement that led to that cycle or how it's been
6 implemented since then?

7 A I'm not familiar with it. I'm sorry.

8 Q So you wouldn't be able to answer whether
9 what you're suggesting would be in any way
10 inconsistent with the stipulation that established
11 that cycle?

12 A I couldn't speak that directly, no.

13 COMMISSIONER LEVAR: Okay. Thank
14 you, Mr. Peterson. We appreciate your testimony
15 today.

16 MS. SCHMID: Pardon me. Would I be
17 permitted to ask one question, or would that not --

18 COMMISSIONER LEVAR: We typically
19 don't, but I think we'll allow that right now.

20 REDIRECT EXAMINATION

21 BY MS. SCHMID:

22 Q Thank you. Mr. Peterson, in your opinion
23 and in the opinion of the Division, is it likely
24 that some customers will be worse off if the
25 application is approved?

1 A As a whole?

2 Q **Yes.**

3 A Yes.

4 MS. SCHMID: Thank you.

5 MS. MCDOWELL: Commissioner Levar,
6 I'm going to ask for your indulgence for one other
7 follow-up question, if it's possible.

8 COMMISSIONER LEVAR: I think since we
9 allowed that question, it's only fair to allow a
10 follow-up.

11 MS. MCDOWELL: I really appreciate
12 that. I just want to be sure the record is clear.

13 RE CROSS EXAMINATION

14 BY MS. MCDOWELL:

15 Q Were you here when Ms. Steward gave her
16 summary of her testimony yesterday?

17 A Yes.

18 Q And do you recall, she summarized her
19 testimony on the cost recovery of the legacy
20 equipment, and that testimony included the rebuttal
21 testimony of Jeff Larsen, which states, "The Company
22 included cost recovery of the legacy plant in its
23 economic analysis that demonstrated repowering is
24 lower cost than other alternatives." Does that
25 refresh your recollection on whether the legacy

1 plant was included in the Company's economic
2 analysis?

3 A Well, if it was, we don't know where it
4 was included because I've attempted to ascertain the
5 lines from the testimony that included that.

6 Q Mr. Peterson, isn't the legacy equipment,
7 including the full return on that equipment as
8 Ms. Steward testified yesterday, included within the
9 project-cost side of the equation?

10 A My answer is the same, is that, to the
11 best of my knowledge, the -- and I did attempt to
12 ascertain this -- the legacy equipment was not part
13 of the benefits that the Company calculated. Now,
14 that's to the best of my knowledge.

15 Q Just to be clear, it's not part of the
16 benefits, but did you review the cost side to see
17 whether it was within -- embedded as one of the
18 costs within the project costs?

19 A I attempted to look at that and I asked
20 for help, with my colleagues, to see if that was in
21 there, and we were unable to identify specific line
22 items, at least when I asked about it.

23 MS. MCDOWELL: Thank you. Because
24 this an important point, we would be pleased to
25 provide additional data on that point to verify that

1 the legacy equipment, including the return of and
2 return on, is included in the project-cost side. It
3 is in there, and we're happy to demonstrate that it
4 is in some way.

5 COMMISSIONER LEVAR: To clarify, are
6 you asking to recall a witness in rebuttal to this
7 testimony or --

8 MS. MCDOWELL: We could do it that
9 way, or we could just produce -- for example, in
10 response to a bench request or clarification -- just
11 verification that that cost and the return of and
12 return on is in the cost side of the Company's
13 economic analysis.

14 COMMISSIONER LEVAR: Ms. Schmid, do
15 you have a response?

16 MS. SCHMID: I do. The Division
17 believes this question could be answered by
18 Mr. Peaco, and he would be the appropriate person to
19 address it.

20 COMMISSIONER LEVAR: Okay. If we go
21 that route, we probably ought to allow the Utility
22 to bring up a witness to address the issue also. Is
23 there interest in moving forward that way from the
24 parties?

25 MS. MCDOWELL: It seems like an

1 important point. It would be one question, and we
2 could establish it in that way.

3 COMMISSIONER LEVAR: Well, I think
4 we'll excuse Mr. Peterson. Thank you for your
5 testimony. And while we're still on the Division's
6 presentation, it seems to make sense to go
7 forward -- Commissioner Clark, did you want to add
8 something?

9 COMMISSIONER CLARK: No. I just
10 wanted to say, I'm interested in the process you
11 described. Thank you.

12 MS. SCHMID: Pardon me. If the
13 Company provides information, the Division
14 respectfully requests the opportunity to respond to
15 that.

16 COMMISSIONER LEVAR: Certainly.
17 Well, I think what we'll do is allow the Utility to
18 call a witness to rebut this issue, and then we'll
19 allow the Division to call a witness to rebut this
20 issue. We'll allow cross-examination on both, if
21 there's no objection from anyone in the room to that
22 process.

23 MS. SCHMID: Or the Division -- okay.
24 Thank you.

25 MS. MCDOWELL: Commissioner LeVar, is

1 it your intention to do that now or at the
2 conclusion?

3 COMMISSIONER LEVAR: Why don't we do
4 that now.

5 MS. MCDOWELL: All right. One moment
6 while I figure out which of my witnesses. It will
7 be Mr. Link.

8 COMMISSIONER LEVAR: Well, I hadn't
9 really thought of that question. If the parties
10 would prefer to do this at the end, I was thinking
11 while it's fresh in everyone's mind --

12 MS. MCDOWELL: Let's just do it.

13 COMMISSIONER LEVAR: Okay. Mr. Link,
14 you're still under oath from yesterday.

15 DIRECT EXAMINATION

16 BY MS. MCDOWELL:

17 Q Good morning, again, Mr. Link.

18 A Good morning.

19 Q So were you present during Mr. Peterson's
20 testimony?

21 A Yes.

22 Q And did you hear the question that
23 Commissioner Clark asked Mr. Peterson regarding
24 whether the legacy equipment was included in the
25 Company's economic analysis?

1 A Yes.

2 Q And can you explain how you've included
3 the legacy equipment in the Company's economic
4 analysis of repowering in this docket?

5 A I can.

6 Good morning, Commissioners. I'm happy to
7 verify and clarify precisely what was in our
8 economic analysis. And I'll start by simply stating
9 that the return on, return of the existing equipment
10 is included in every study that we've performed in
11 our economic analysis. The way that that is
12 included -- and it probably helps explain, in part,
13 Mr. Peterson's response as to why he couldn't find
14 it -- I think there's a rational explanation for
15 both of these.

16 Essentially, as I think I discussed
17 yesterday in my testimony, we do two runs of our
18 system, one with and one without repowering. And in
19 essentially both of those runs, the assumption is
20 that all embedded cost is the same, and so they net
21 out as a difference. And so if one is looking at
22 the change in results, it doesn't show up that there
23 is a return on and return of the existing equipment.
24 But because of making that assumption in the
25 approach, it is to say that regardless of whether we

1 repower or don't repower, we still recover our
2 return on and return of the existing equipment.
3 It's the same in either case over the term of the
4 existing -- the amortization period of that
5 equipment, so roughly, an additional twenty years.

6 Q So, Mr. Link, just to be clear, that
7 including the legacy equipment with a full return of
8 and return on in both the "with repowering" and
9 "without repowering" than in the "with repowering"
10 case, return of and return on the legacy equipment
11 would be included in the cost-side of the equation?

12 A Yes. It's included in the overall project
13 economics.

14 Q So when you're calculating the net
15 benefits, those are benefits over and above the
16 Company's recovery of the legacy equipment,
17 including return of and return on?

18 A Right. I think if we had assumed anything
19 other than what I described -- let's say we assumed
20 there was no return on, then in the case with
21 repowering, there would be a separate cost item to
22 account for that, and there is not. It's a net to
23 zero.

24 MS. MCDOWELL: That's all the
25 questions I have. Thank you.

1 COMMISSIONER LEVAR: Ms. Hickey, do
2 you want to ask Mr. Link any questions on this
3 issue?

4 MS. HICKEY: No, thank you, sir.

5 COMMISSIONER LEVAR: Mr. Russell?

6 MR. RUSSELL: No, Chairman. Thank
7 you.

8 COMMISSIONER LEVAR: Mr. Moore or
9 Mr. Snarr?

10 MR. SNARR: No questions.

11 COMMISSIONER LEVAR: Ms. Schmid?

12 MS. SCHMID: Yes.

13 CROSS-EXAMINATION

14 BY MS. SCHMID:

15 Q So is it true that because of the way that
16 you've included return on and return of in your
17 analysis, it doesn't make any difference because
18 it's --

19 A I wouldn't quite characterize it that way.
20 I would say the way that we applied it is that it
21 nets to zero, which implies we have the same revenue
22 requirement on that equipment, whether we repower or
23 we don't. And so by not repowering or repowering,
24 we're capturing the return on and return of that
25 equipment in either scenario.

1 Q But you're capturing the return on with or
2 without, but if you add the new equipment, you'll
3 also be recapturing -- or capturing a new return on
4 rate base; is that correct?

5 A No, it's not correct. By virtue of making
6 the same assumption in both views of the system
7 going forward with or without, the case without, if
8 we did not repower, we would continue to earn our
9 return on and return of the existing equipment. In
10 the next case, we have the exact same assumption,
11 return on and return of, the net impact of that in
12 our present value revenue requirement differential
13 analysis is zero, so it has no impact on the net
14 benefits, but it is included in the economic
15 analysis. We think about directionally, if we had
16 not included that, that would essentially improve
17 the present value revenue requirement benefits for
18 customers because the case without repowering would
19 be lower cost relative to what we reported, but of
20 course, result in a lower return on that investment
21 in the Company's side of the equation.

22 MS. SCHMID: May we have just one
23 moment?

24 COMMISSIONER LEVAR: Yes.

25 MS. SCHMID: Thank you. The Division

1 has no further questions.

2 COMMISSIONER LEVAR: Thank you.

3 Commissioner Clark, do you have any questions for
4 Mr. Link?

5 BY COMMISSIONER CLARK:

6 Q Thank you. Is there any aspect of the
7 Company's proposal or analysis that would have the
8 affect of altering the normal depreciation schedule
9 for the assets that would be -- I'll call them
10 stranded -- or would be retired early if we approve
11 the application that would extend them beyond the
12 lives that they have now? In other words, are they
13 going to be recovered for 30 years beginning with
14 the implementation of the new equipment, or do they
15 just -- are they recovered over the lives that they
16 currently have on the Company's books?

17 A I would say as assumed -- I'll start with
18 as assumed -- in our economic analysis, they were
19 not extended on the existing equipment to go the
20 full new 30-year life of the repowered assets once
21 those are placed in service. They're retained by
22 virtue of how we did this by saying it's the same in
23 either case, that they would continue to be
24 amortized over their current depreciable lives,
25 which would be roughly that approximately additional

1 20 years or so, depending on the project. And I
2 believe, just to reiterate some of the description
3 of Ms. Steward's testimony, the latest proposal
4 here, then, is actual treatment of that would be
5 picked up again and reassessed in the depreciation
6 study, which we plan to file later this year.

7 COMMISSIONER CLARK: That concludes
8 my questions. Thank you.

9 COMMISSIONER LEVAR:
10 Commissioner White, any other questions?

11 BY COMMISSIONER WHITE:

12 Q I think I understood, but I just want to
13 make sure, like, one more time. The economic
14 analysis the Company did in these projects assumed
15 that the overall benefits would incorporate the
16 concept that you're retiring these assets earlier
17 that were previously approved with return on and
18 return of, back in 2000-whatever, right?

19 A Yes. It accounts for the continued return
20 on and return of those assets.

21 Q And even with that early retirement, the
22 overall benefits for the Company's case, you know,
23 shows a net benefit?

24 A Yes. That assumption is included in all
25 of the numbers in my testimony.

1 COMMISSIONER WHITE: That's all I
2 have. Thanks.

3 COMMISSIONER LEVAR: Ms. Schmid, do
4 you want to supplement this issue further?

5 MS. SCHMID: The Division has nothing
6 further. Thank you.

7 COMMISSIONER LEVAR: Okay. And then,
8 nothing further, generally? You're finished with
9 all your witnesses?

10 MS. SCHMID: Both. Yes. Thank you.

11 COMMISSIONER LEVAR: Mr. Moore or
12 Mr. Snarr?

13 MR. SNARR: We'd like to proceed with
14 the presentation of the case on behalf of the
15 Office. I do have an exhibit list here that I'd
16 like to distribute here to the Commissioners and
17 others that might help.

18 The Office would like to first call
19 Cheryl Murray as a witness.

20 CHERYL MURRAY,
21 having been first duly sworn to tell the truth, was
22 examined and testified as follows:

23 DIRECT EXAMINATION

24 BY MR. SNARR:

25 Q Ms. Murray, could you please state your

1 name and your employment, and provide your business
2 address?

3 A My name is Cheryl Murray. I am employed
4 by the Office of Consumer Services, and my business
5 address is 160 East 300 South, Salt Lake City, Utah.

6 Q And in connection with your duties with
7 the Office, have you caused to be filed, testimony,
8 or had the opportunity to review testimony filed by
9 others who were employed by the Office, such as you
10 could adopt their testimony in connection with this
11 proceeding?

12 A Yes.

13 Q And would that include the direct
14 testimony that was filed by Gavin Mangelson on
15 September 20, surrebuttal testimony, again, by
16 Mr. Mangelson on November 15, 2017, as well as your
17 responsive testimony, filed on April 2, 2018?

18 A Yes.

19 Q And if you were asked all those questions,
20 would you provide the same answers today?

21 A I would.

22 Q Do you have any corrections?

23 A Yes. On the Mangelson surrebuttal
24 testimony cover page, there was a date of
25 October 2017, and the correct date is November 15,

1 2017.

2 Q Are there any other additions or
3 corrections?

4 A Not that I'm aware of.

5 MR. SNARR: With that explanation, we
6 would offer these exhibits into testimony.

7 COMMISSIONER LEVAR: If any party
8 objects to that motion, please indicate to me. I'm
9 not seeing any objections, so the motion is granted.
10 (OCS Exhibit Nos. 1D Mangelson, 1S Mangelson, and 1
11 Response Murray admitted.)

12 BY MR. SNARR:

13 Q Ms. Murray, have you prepared a summary to
14 present today?

15 A Yes.

16 Q Can you proceed to provide that?

17 A Yes.

18 Good morning, Commissioners. In my
19 testimony, I introduced two expert witnesses for the
20 Office, and briefly summarized the Office's
21 positions that were informed by the analyses
22 conducted by those experts. Mr. Philip Hayet
23 conducted the analysis regarding the costs,
24 benefits, and risks associated with the wind
25 repowering projects. He determined that the Company

1 has not demonstrated that repowering its wind
2 projects will most likely result in the acquisition,
3 production, and delivery of electricity to its
4 customer at the lowest reasonable cost considering
5 risk, thus he recommends that the wind projects be
6 rejected by the Commission, or in the alternative,
7 that a much more limited set of projects receive
8 pre-approval. Mr. Hayet also recommended several
9 ratepayer protection measures.

10 Ms. Donna Ramas testified regarding cost
11 recovery of the projects and the proposed revenue
12 tracking mechanism. Based on her analysis and
13 extensive background with revenue requirement and
14 accounting issues, Ms. Ramas explains why the RTM
15 is unnecessary, adds complexity to the regulatory
16 process, and should be rejected by the Commission.
17 Both witnesses are available today to respond to
18 questions related to the analyses they conducted,
19 their conclusions, and their ultimate
20 recommendations.

21 In summary, the Office recommends that the
22 Commission reject the Company's request for
23 pre-approval for the wind repowering project in its
24 entirety. However, if the Commission decides not to
25 reject the Company's request for approval, it should

1 grant pre-approval of only a limited number of the
2 resources, as explained fully by Mr. Hayet.

3 Finally, the Office is concerned with the
4 uncertainty surrounding the multi-state process and
5 the allocation of costs and perhaps even resources
6 among PacifiCorp's six states. In order to mitigate
7 that uncertainty as it pertains to the projects at
8 issue in this docket, the Office recommends that if
9 the Commission approves all or any of the wind
10 projects, it should only pre-approve Utah's share
11 of the projects as calculated under the current MSP
12 allocation methods.

13 And that concludes my statement.

14 MR. SNARR: Ms. Murray is available
15 for cross-examination.

16 COMMISSIONER LEVAR: Ms. Schmid, do
17 you have any questions for Ms. Murray?

18 MS. SCHMID: No questions.

19 COMMISSIONER LEVAR: Mr. Russell?

20 MR. RUSSELL: No questions,
21 Mr. Chairman.

22 COMMISSIONER LEVAR: Ms. Hickey?

23 MS. HICKEY: No, thank you.

24 COMMISSIONER LEVAR: Ms. McDowell or
25 Mr. Lowney?

1 MS. MCDOWELL: No questions.

2 COMMISSIONER LEVAR:

3 Commissioner White?

4 BY COMMISSIONER WHITE:

5 Q On that last point about MSP, is it the
6 Office's recommendation to -- if the Commission were
7 to approve -- you mentioned that you would be
8 limited to Utah's share of the costs. Would that
9 include Utah's share of the benefits, or would that
10 be an open question going forward?

11 A I believe we would view it as symmetrical.

12 COMMISSIONER WHITE: Thank you.

13 That's all the questions I have.

14 COMMISSIONER LEVAR:

15 Commissioner Clark?

16 COMMISSIONER CLARK: No further
17 questions.

18 COMMISSIONER LEVAR: And I don't have
19 any either. Thank you for your testimony this
20 morning. Mr. Moore?

21 MR. MOORE: The Office calls
22 Donna Ramas and ask that she be sworn.

23 DONNA RAMAS,
24 having been first duly sworn to tell the truth, was
25 examined and testified as follows:

1 DIRECT EXAMINATION

2 BY MR. MOORE:

3 Q Could you please state and spell your
4 name, and give your business address, and state for
5 whom you are testifying?

6 A My name is Donna, D-o-n-n-a, Ramas,
7 R-a-m-a-s. My business address is 4654 Driftwood
8 Drive, Commerce Township, Michigan. And in this
9 case, I'm testifying on behalf of the Office of
10 Consumer Services.

11 Q Did you prepare and cause to be filed
12 redacted confidential versions of a September 20,
13 2017, direct testimony, a November 15, 2017,
14 supplemental rebuttal testimony, an April 2, 2017
15 response testimony together with exhibits, and did
16 you participate in the filing of the April 30, 2018,
17 errata?

18 A Yes, I did. And that errata was directed
19 to my April 2nd, 2018, response testimony.

20 Q Do you have any corrections to these
21 testimonies?

22 A Outside of the errata, no, I do not.

23 Q If I asked you the same questions, would
24 your answers be the same today?

25 A Yes, they would.

1 MR. MOORE: The Office moves for
2 admission of the testimony and associated exhibits.

3 COMMISSIONER LEVAR: If anyone
4 objects to that motion, please indicate to me. I'm
5 not seeing any objections, so the motion is granted.
6 BY MR. MOORE:

7 Q Have you prepared a summary of your
8 testimony?

9 A Yes, a brief summary.

10 Q Please proceed.

11 A Good morning, Commissioners, Chair.

12 In my testimonies, I recommend that the
13 new resource tracking mechanism proposed by the
14 Company in this case be rejected. It's my opinion
15 that there's no need to establish a new recovery
16 mechanism that adds a substantial amount of
17 complexity to the regulatory process.

18 If the Company does, in fact, go forward
19 with the repowering projects in this case, or a
20 subset of those projects, adequate means currently
21 exist to address the revenue requirements associated
22 with those projects without the need for this
23 complex new recovery mechanism. As I explained in
24 my direct testimony, if the Company forecasts that
25 the projects will cause it to be unable to earn its

1 Commission-authorized rate of return in the State of
2 Utah when taking into consideration all of the items
3 that impact its overall revenue requirements, it has
4 the ability to file a rate case before the
5 Commission. The Company also has the ability to
6 seek the use of a future test in a general rate case
7 that would include the period the projects are in
8 service.

9 As pointed out in my direct testimony, my
10 surrebuttal testimony, and again in my response
11 testimony, the Company has provided no information
12 in this case addressing whether or not the wind
13 repowering projects at issue in this case will cause
14 it to be unable to earn its authorized rate of
15 return if the resource tracking mechanism is
16 rejected. Under the Company's resource tracking
17 mechanism proposal, the Company could, in fact, end
18 up earning in excess of its authorized rate of
19 return during the period the repowering projects are
20 in place and in service, and yet still be able to
21 recover additional costs from Utah ratepayers under
22 its proposed mechanism. In addition, under the
23 Company's new proposal, they could also defer
24 additional amounts to be recovered from customers
25 beyond the amounts flowing through the resource

1 tracking mechanism with impacts of tax reform.
2 That's being addressed in a completely separate
3 docket that's been established. Again, both the
4 resource tracking mechanism and the newly proposed
5 deferral of cost would operate under the Company's
6 proposal regardless of the rate of return being
7 earned by the Company under the current rates in
8 effect.

9 As addressed in my surrebuttal testimony,
10 I also recommend that any deferrals authorized by
11 the Commission in this proceeding be limited only to
12 the unrecovered costs associated with the projects
13 being replaced. That would be the stranded costs
14 that were discussed earlier today. Thus, if the
15 Commission determines that the projects or a subset
16 thereof are prudent and in customer interest, the
17 Company would not have to write off the unrecovered
18 costs associated with existing wind assets being
19 recovered earlier. As discussed earlier today, this
20 could be achieved early either through the Company's
21 proposal of transferring the costs, the unrecovered
22 costs into the accumulated depreciation reserved to
23 be addressed in the depreciation case, or the
24 Commission could authorize the establishment of a
25 regulatory asset to address those costs in a future

1 rate case, or potentially as part of the decision in
2 this case.

3 In my direct testimony, I also point out
4 several problems and concerns with actual mechanics
5 in calculations that go into the resource tracking
6 mechanism. It's my opinion that these problems and
7 concerns were not alleviated by the information
8 presented in the Company's rebuttal testimonies.

9 In conclusion, I strongly continue to
10 recommend that the Company's proposed resource
11 tracking mechanism be rejected in this case. Thank
12 you.

13 MR. MOORE: Ms. Ramas is available
14 for cross.

15 COMMISSIONER LEVAR: Thank you.
16 Ms Schmid, do you have any questions for Ms. Ramas?

17 MS. SCHMID: No questions.

18 COMMISSIONER LEVAR: Mr. Russell?

19 MR. RUSSELL: No questions.

20 COMMISSIONER LEVAR: Ms. Hickey?

21 MS. HICKEY: No, thank you.

22 COMMISSIONER LEVAR: Ms. McDowell or
23 Mr. Lowney?

24 MR. LOWNEY: Yes, the Company does
25 have a few questions. Before I get started, we've

1 got a few cross-examination exhibits, so we'll
2 distribute those to the group before we start
3 questioning.

4 CROSS-EXAMINATION

5 BY MR. LOWNEY:

6 Q Good morning, Ms. Ramas. My first few
7 questions are not going relate to those exhibits. I
8 would just like to ask you a few questions about tax
9 reform to get started. So, Ms. Ramas, would you
10 agree that you testified extensively in your direct
11 and surrebuttal testimony related to the
12 uncertainties surrounding potential tax reform?

13 A Yes, I did.

14 Q And would you agree -- and I believe you
15 testified -- that a lot of that uncertainty is now
16 resolved, correct?

17 A Yes. The majority of that has been
18 resolved through the new tax act that was passed in
19 December 2017.

20 Q If you could, turn to your response
21 testimony. That would be the most recent testimony
22 you filed. Page 3, if you're on page 3, lines 60 to
23 63. At the bottom of that page, you testified that,
24 "The recommendations presented in my direct and
25 surrebuttal testimonies will not be repeated

1 **herein." But you continue to stand behind those**
2 **recommendations, correct?**

3 A Yes. But I did then elaborate in the
4 following paragraph that a lot of the concerns and
5 uncertainties pertaining to the tax law have since
6 been resolved.

7 Q Okay. I just wanted to clarify. In your
8 surrebuttal testimony, you had a specific
9 recommendation related to accounting for tax reform
10 in the economic analysis, and I wanted to make sure
11 that recommendation of yours has been resolved. Is
12 that fair?

13 A For the most part. There's still one
14 issue that I see as -- at least, in the areas I
15 reviewed -- as being a concern. And that is in, I
16 believe it's Mr. Hoogeveen's testimony yesterday, he
17 indicated that the hold harmless provisions or the
18 guarantees the Company is making in this case
19 wouldn't include future changes in tax law. But as
20 part of that discussion, my recollection was that he
21 specifically referenced IRS guidance because, again,
22 it's -- a lot of the safe harbor provisions at issue
23 in this case to get the hundred percent production
24 tax credit allowances are dependent on IRS guidance,
25 so not necessarily anything in the new tax code,

1 but guidance issued by the IRS. And I took his
2 testimony -- and I may be wrong -- but my
3 understanding of his testimony was that if the IRS
4 changes that guidance such that ratepayers no longer
5 get that hundred percent -- or the Company no longer
6 qualifies for the hundred percent production tax
7 credits, that that's not something the Company would
8 be willing to assume the risk for. And that's a big
9 concern for me because absent those production tax
10 credits, I'm not even sure the Company could argue
11 that any of these projects could be considered
12 economic. So I do still have that concern, and it's
13 still my view that if something changes the
14 qualification for the hundred percent production
15 tax credits, that that should be a risk that the
16 Company is willing to accept in that case and not
17 pass on to ratepayers.

18 Q And just one quick qualifier. With
19 respect to those provisions that the Company is
20 relying on in order to allow the repowering
21 facilities to become PTC eligible, it is your
22 understanding that, during the tax reform debate
23 that occurred last year, there were proposals out
24 there that would have changed substantively the
25 treatment and eligibility of PTCs in all of those

1 proposals, ultimately did not make it into the final
2 bill that was passed, correct?

3 A Yes, that's my understanding. But again,
4 my concern is just with my understanding of
5 Mr. Hoogeveen's qualification that if those
6 guidelines change going forward, that that risk
7 isn't a Company risk. And it's my view that that
8 should be a Company risk and not a ratepayer risk.

9 Q Let's turn to your direct testimony,
10 please, page 24.

11 A I'm there.

12 Q And I'm going to direct your attention to
13 the Q and A that begins on line 509. And really,
14 the substantive portion of your response begins on
15 511. And you state that -- this is in response to
16 the RTM -- you say, "Shifting costs from base rates
17 to automatic recovery mechanisms removes some of the
18 incentive to control costs." Do you see that?

19 A Yes, I do.

20 Q And then on lines -- so the next sentence,
21 you refer to the RTM as an automatic true-up. Is
22 that a fair characterization of your testimony?

23 A Yes, because that's my understanding of
24 how it would operate, that you're truing up certain
25 components of the revenue requirements associated

1 with the assets at issue in this case.

2 Q And I guess the word that I'm going to ask
3 you about is the word "automatically," because would
4 you agree that the Company must demonstrate the
5 prudence of any expenses before they're included in
6 the RTM mechanism?

7 A I guess it's my understanding that, if the
8 RTM is approved -- which I'm advising against --
9 that you would still have an annual review, such as
10 you do with the EBA mechanism or the renewable
11 energy credit balancing account that's in place. So
12 there would still be a review of those costs under
13 the Company's proposal.

14 Q And are you familiar with the Voluntary
15 Approval Statute that the Company is relying on in
16 this case?

17 A Yes. I've read the statute. I'm not an
18 attorney, but I am familiar with it.

19 Q I'm going to ask a very general question.
20 Is it your understanding that under the terms of
21 that statute, even if the Company were to receive
22 pre-approval in this case, it is still obligated to
23 implement the resource decision prudently and can
24 experience a disallowance if it doesn't do so?

25 A If you give me a moment to look at the

1 statute -- I agree the Company would still be
2 required to do so and at risk for amounts above the
3 amount that's pre-approved. I'm not sure that
4 parties could go back and challenge up to the level
5 that's pre-approved under the statute.

6 Q And I'll direct your attention -- the
7 statute is 54-17-403, subsection 2A. And it reads,
8 "The Commission may disallow some or all costs
9 incurred in connection with an approved resource
10 decision if the Commission finds that an energy
11 utility's actions in implementing an approved
12 resource decision are not prudent because of
13 information or changed circumstances that occur
14 after." And then it has a couple of events,
15 including approval.

16 A Yeah, that's contingent on the new
17 information or changed circumstances.

18 Q So given that the Company is still
19 required to demonstrate the prudence of all costs
20 before they go into the RTM, isn't the difference
21 between the RTM and the general rate making only an
22 issue of timing, not of substance, in terms of the
23 incentive to control costs?

24 A First, I would disagree that the RTM
25 mechanism follows, necessarily, the statute. My

1 understanding of the statute is the pre-approval of
2 the resource decision, not approval of the RTM,
3 because there's nothing within the statute
4 addressing the allowance of such a recovery
5 mechanism. The costs are still subject to review,
6 however, that review doesn't consider overall
7 revenue requirements of the Company. So even though
8 those costs would be reviewed in an annual review of
9 the resource energy tracking mechanism, that doesn't
10 mean the Company has a revenue requirement need to
11 have that special mechanism. There is the potential
12 the Company could still earn its authorized rate of
13 return, even without that mechanism in place.

14 Q Let's move on to a different topic. If
15 you could, turn to page 31 of your direct testimony,
16 please. This section of your testimony is
17 addressing the impacts of renewable energy credits,
18 correct?

19 A Correct.

20 Q And it's your understanding that the
21 Company's economic analysis in this case did not
22 include any specific value for the RECs that would
23 generated -- incremental RECs that would be
24 generated by the repowering projects, correct?

25 A It wasn't included in the SO -- in the PaR

1 runs is my understanding, but Mr. Link did reference
2 it as a potential benefit in his testimony and did
3 include some dollar amounts based on a dollar per
4 REC value in his testimony. So in this section of
5 testimony, I'm recommending that that not be
6 considered in evaluating whether or not this project
7 should be approved.

8 Q And that's exactly what I was going to ask
9 you about. So if you go to your testimony on line
10 661, you testify that the Commission not give
11 credence to the possibility of future revenues from
12 the increment RECs, correct?

13 A Correct. For the reasons cited on that
14 same page and the next page in my testimony.

15 Q And I see a lot of your reasoning is
16 confidential, so I don't want to ask you about those
17 specific reasons. But obviously, if something I ask
18 requires to you to go there, just let us know and
19 we'll close the hearing.

20 A And I'll try my best to respond without
21 having to do that.

22 Q So if I could direct your attention to the
23 document that's labeled RMP Cross-Exhibit 8.

24 A I have that.

25 Q And just to give everybody a frame of

1 reference, these are comments filed by the Office of
2 Consumer Services on August 4, 2017, in the
3 Company's annual -- in the docket that reviews or
4 audits the Company's Renewable Energy Credits
5 Balancing Account. Is that correct?

6 A Yes, it is.

7 Q And if you could, just turn to page 2 of
8 that document. Under the heading, "Office
9 Analysis," it indicates that you provided assistance
10 in reviewing the Company's application, correct?

11 A Correct.

12 Q And I'd like to direct your attention now
13 to the very bottom of that page 2, the first
14 sentence of the last paragraph which says, "The
15 Office notes that the annual amount of REC revenues
16 received by the Company are increasing." Do you see
17 that?

18 A Yes, I do.

19 Q And then, if you could turn to the top of
20 the next page, page 3, the second paragraph that
21 begins with "The Office agrees," and if you go down
22 a little bit to the next line, it says, "Given the
23 increase in REC revenues being realized by the
24 Company, coupled with the Company's outstanding
25 proposals to expand its wind resources which would

1 **increase the RECs available for sale, the RBA**
2 **benefits ratepayers by ensuring that they receive**
3 **the advantage of the increased revenues during the**
4 **long span between general rate cases." Do you see**
5 **that?**

6 A Yes, I do. But, again, this goes to the
7 revenues received and the amount available for sale.
8 Without giving anything confidential, my testimony
9 goes more towards the ability to sell those and not
10 necessarily the sale price received on each of
11 those.

12 Q Fair enough. But what I'd like to ask is,
13 it appears that you're testifying in this case that
14 there's going to be very little, if any, future REC
15 revenues, while just a matter of months ago the
16 Office was testifying that, in fact, those revenues
17 are increasing and increasing specifically because
18 of projects like wind repowering.

19 A I think you're misrepresenting what I'm
20 saying in these documents. In Cross-Exhibit 8, we
21 acknowledge that the resources would increase the
22 RECs available for sale, and we indicate that the
23 revenues in this time frame being addressed in
24 this -- the revenues have increased, but that it
25 doesn't include only the amount billed. That's

1 based on the amount actually sold and the price
2 received for those sales. In my testimony in this
3 case -- if you give me a moment, I just want to make
4 sure I don't say anything that falls under the
5 confidential section, so just give me a moment,
6 please.

7 In the interest of utmost caution, my
8 confidential testimony section -- which I believe
9 the Commissioners have or have access to --
10 addresses more the ability to sell additional RECs,
11 and the fact -- the nonconfidential part addresses
12 the fact that there are going to be a lot more RECs
13 out there in the market between if these projects go
14 forward and other companies throughout the country
15 that are adding wind resources as a result of the
16 production tax credit allowances will put further
17 downward pressure on the ability to sell additional.
18 So even though the Company anticipates generating a
19 lot more RECs in the event that it goes forward with
20 these projects or the Commission finds them prudent,
21 or a subset thereof prudent, that doesn't
22 necessarily translate to more REC revenues overall
23 in the long term.

24 Q If I could direct your attention, please,
25 to Cross-Exhibit 7. And just for reference, this is

1 testimony that you filed in Docket No. 10-035-124 in
2 May of 2011, correct?

3 A Correct.

4 Q And again, one of the issues you addressed
5 in this testimony is -- and I should represent this
6 an excerpt. The testimony is much longer, but in
7 the interest of conserving paper, I've included just
8 the section where you address additional REC
9 revenues. So that began on page 25 of your prefiled
10 testimony in that case. And if I could direct your
11 attention to page 33. And on lines 721 to 722, you
12 recommended that in 2011 --

13 A I'm sorry. Just a moment. What line is
14 that?

15 Q I'm sorry. Lines 721 and 722. You
16 recommended that the REC revenues for purposes of
17 the Company's revenue requirement be calculated on a
18 price per REC of \$36, correct?

19 A Yes. In that case, based on the facts and
20 circumstances at that time. I do distinctly
21 remember this issue in that case and some
22 frustrations that I had with the Company with regard
23 to getting information on this issue in that case.
24 But yes, that was amount, as of the -- when this
25 testimony was filed back in 2011, but since that the

1 market has changed substantially. And I think I'll
2 leave it with that for now to try not to get into
3 confidential information from prior dockets and this
4 docket.

5 Q And I guess my question is, if the market
6 can change substantially between 2011 and today,
7 it's quite possible it could change substantially
8 over the next 30 years, correct?

9 A It could, but I don't see that happening
10 because the circumstances currently and as projected
11 going forward are substantially different than what
12 was the case back in this docket. There's been
13 changes in California legislation and other states
14 regarding RECs and REC qualification, as well as a
15 significant increase in the amount of RECs available
16 in the market since that time frame.

17 Q And just to be clear, despite that fact
18 that there are more RECs in the market, the Office's
19 position is that the Company is going to be earning
20 greater revenue on those RECs, based on the comments
21 that were filed in August?

22 A The comments filed in August said that the
23 revenues were increasing received by the Company --
24 and I don't want to get into confidential
25 information -- I don't recall if that was more

1 volume sale in that time frame, or the dollar per
2 REC had changed, and again, it may very well happen
3 that the Company does generate some additional
4 revenues from RECs coming in this case. But based
5 on my opinion, the current circumstances, the
6 confidential section of my testimony, and what I
7 just seen happening out there coming up, in
8 evaluating whether or not these projects are prudent
9 and in customer's best interests, it's my view that
10 not lot of weight, if any, should be given to those
11 additional RECs that are generated. I'm not saying
12 they may not result in a good benefit in the future,
13 but they're way too uncertain at this point to give
14 them any weight in deciding if this project is
15 economic or not.

16 MR. LOWNEY: Thank you, Ms. Ramas. I
17 have no further questions. I would move to admit
18 RMP Cross-Exhibit 7 and 8 into the record.

19 COMMISSIONER LEVAR: If anyone
20 objects to this motion, please indicate to me. I'm
21 not seeing any objections, so that motion is
22 granted.

23 (RMP Cross-Exhibit Nos. 7 and 8 admitted.)

24 COMMISSIONER LEVAR: Mr. Moore, any
25 redirect?

1 MR. MOORE: No redirect -- excuse me.

2 No redirect, Mr. Chairman.

3 COMMISSIONER LEVAR: Okay. Thank
4 you. Commissioner White, any questions for
5 Ms. Ramas?

6 COMMISSIONER WHITE: No questions.
7 Thank you.

8 COMMISSIONER LEVAR:
9 Commissioner Clark?

10 COMMISSIONER CLARK: No questions.
11 Thank you.

12 COMMISSIONER LEVAR: And I don't
13 either. So thank you, Ms. Ramas.

14 THE WITNESS: Thank you. Have a good
15 afternoon.

16 MR. MOORE: Excuse me. Ms. Ramas has
17 to catch a plane. I wonder if she could be excused?

18 COMMISSIONER LEVAR: Let me just ask
19 any party or Commissioner if they see any reason not
20 to do so. I'm not seeing any indication from
21 anyone. So thank you, Ms. Ramas.

22 THE WITNESS: Thank you.

23 MR. SNARR: Could we take just a
24 five-minute break before we commence with the next
25 witness?

1 COMMISSIONER LEVAR: Certainly. And
2 looking at the time, we probably won't have time to
3 do cross-examination before lunch. But maybe we can
4 get through the -- if, in your opinion, we can get
5 through the direct examination after a five-minute
6 break before lunch, that would probably be good.

7 MR. SNARR: Let's proceed in that
8 fashion.

9 COMMISSIONER LEVAR: Okay. So we'll
10 take a five-minute recess and then we'll go with
11 direct.

12 (A brief recess was taken.)

13 COMMISSIONER LEVAR: We'll go ahead
14 with presenting Mr. Hayet's direct testimony.

15 MR. SNARR: Yes. May he be called as
16 a witness?

17 PHILIP HAYET,
18 having been first duly sworn to tell the truth, was
19 examined and testified as follows:

20 DIRECT EXAMINATION

21 BY MR. SNARR:

22 Q Mr. Hayet, could you please state your
23 name and tell us about your employment and
24 association with the Office of Consumer Services?

25 A Yes. My name is Philip Hayet. My Company

1 is J. Kennedy and Associates. And did you say my
2 address?

3 Q I didn't say address, but you can provide
4 that and then tell us how you're associated with the
5 Office.

6 A Okay. My address is
7 570 Colonial Park Drive, Roswell, Georgia 30075.
8 And I've been asked to assist the Office with the
9 economic analysis that the Company has conducted.

10 Q In connection with that assignment, have
11 you prepared or caused to be prepared, testimony to
12 be filed in this docket?

13 A I have.

14 Q Did that include direct testimony and
15 related exhibits on September -- in September
16 of 2017, surrebuttal testimony in November of 2017,
17 responsive testimony in April of 2018, and rebuttal
18 to response testimony in late April of 2018?

19 A Yes.

20 Q And with respect to the testimonies that
21 you have presented, do you have any corrections that
22 need to be made to anything that's been filed?

23 A I have one correction to my April 2nd
24 testimony, at Page 34, Line 300 -- 677.

25 There's a number, it refers to Table 4, as typed, and that

1 should be Table 5, at that line.

2 Q Thank you. With that correction, if you
3 were asked the same questions today in various filed
4 testimonies, would your replies be the same?

5 A They would.

6 COMMISSIONER LEVAR: I don't think we
7 have the line number right on the correction.
8 You're in your April testimony?

9 THE WITNESS: April 2nd and Page 34,
10 Line 677. I thought that I got this off the
11 Commission website.

12 COMMISSIONER WHITE: That works for
13 me.

14 COMMISSIONER LEVAR: Somehow, my
15 correct copy is different, but I'll -- Commissioner
16 Clark's matches yours, so I'm --

17 MR. SNARR: Do you have the
18 confidential version?

19 COMMISSIONER LEVAR: No. I -- oh,
20 yes, I did have a copy. I thought I printed the
21 confidential version, but, no, I have the redacted.
22 I'm going to go back and -- so that's the different
23 supplemental. Okay. We're good. Thank you.

24 BY MR. SNARR:

25 Q You did provide both confidential and

1 **nonconfidential --**

2 A Yes.

3 Q **-- versions of some of the testimony; is**
4 **that correct?**

5 A Yes.

6 Q **All right.**

7 MR. SNARR: The Office would move the
8 admission of the identified testimony, including the
9 correction that was made to those, as Office
10 Exhibits 2-D, for the testimony, Exhibits 2.1
11 through 2.7-D, as exhibits related to direct
12 testimony, Office Exhibit 2-S, for the surrebuttal,
13 and Office Exhibit 2 Response, for the responsive
14 testimony, and Office Exhibit 1-2, rebuttal, as
15 indicated in our exhibit list provided to the
16 Commission. We move for the admission of those
17 exhibits.

18 COMMISSIONER LEVAR: If any party
19 objects, please indicate that to me. I'm not seeing
20 any objections, so the motion is granted.

21 (OCS Exhibit Nos. 2-D, 2.1-2.7D, 2-S, 2-RESP,
22 1-2 Rebuttal admitted.)

23 BY MR. SNARR:

24 Q **Mr. Hayet, did you prepare a summary of**
25 **your testimony for presentation today?**

1 A Yes.

2 Q Could you provide that now?

3 A Good morning, Commissioners. I think it's
4 still morning. In my testimony, I address concerns
5 with the Company's proposal to repower
6 nearly 1,000 megawatts of wind capacity, while
7 continuing to recover the revenue requirements
8 associated with its existing investment in the same
9 currently operating facilities.

10 While the Company asserts that these
11 projects will provide net benefits to customers
12 primarily by increasing wind energy production and
13 PTC benefits, the benefits are not substantial,
14 given the magnitude of the investment and the risk
15 of the project, that under some circumstances may
16 actually increase costs to ratepayers. Furthermore,
17 the repowering projects are unnecessary as the
18 existing resources are being maintained and are
19 currently operating, and the Company has no resource
20 need driving the decision to repower these
21 resources. Despite the risk that the benefits might
22 be small or might not materialize at all, the
23 Company desires these projects greatly because it
24 will benefit by increasing its rate base and growing
25 its earnings and profits.

1 In my direct and surrebuttal testimony, I
2 discuss concerns about potential tax law changes,
3 the need to conduct evaluations on a
4 project-by-project basis, and flaws in the Company's
5 economic analysis. I reviewed the Company's two
6 economic analyses. One, covering a 20-year, and the
7 other covering a 34-year time horizon, and I
8 concluded that both analyses have problems. I
9 identified potential problems in the Company's
10 modeling assumptions related to tax law changes that
11 appeared likely, and I addressed flaws in the
12 Company's longer term analysis, stemming from the
13 Company's decision to use an extrapolation approach
14 to develop net power cost benefits beyond 2036
15 instead of running its normal PaR and system
16 optimizing models.

17

18 In recognition that the pending tax law
19 changes would have a substantial impact on the
20 results, the Company filed an unopposed motion to
21 amend the procedural schedule in late November to
22 further evaluate impacts. While it appeared that
23 the Company was going to report a much lower benefit
24 after the corporate tax rate drop from 35
25 to 21 percent, the Company's February supplemental

1 direct filing reported benefits in its 20-year study
2 that surprisingly were higher than the benefits
3 presented in its October testimony.

4 A major reason for the increase was
5 attributed to PacifiCorp's sudden decision to make a
6 change to the way production tax credits were
7 modeled in its economic analysis. Apparently,
8 PacifiCorp decided that it had not been modeling
9 PTCs accurately enough all along, when it had been
10 modeling them using a levelized cost representation
11 and it concluded it would be necessary to model
12 them, instead, using a non-levelized or nominal cost
13 representation. While PacifiCorp could have made
14 this change prior to filing two rounds of testimony
15 in this proceeding, or earlier than that in the 2017
16 IRP or even in an earlier IRP, the sudden decision
17 to make this change increased net benefits
18 nearly \$200 million in its 20-year studies, at
19 nearly the same time the tax law impacts reduced
20 benefits by a similar amount.

21 Table 1 of my April 2 response testimony
22 indicates that every single one of PacifiCorp's nine
23 price policy cases showed positive economic
24 benefits, but after reverting back to PacifiCorp's
25 prior PTC modeling approach, just three out of nine

1 price policy cases had positive benefits. And the
2 positive benefits in those three high gas price
3 cases were small. Table 2 of my response testimony
4 indicates that on a project-by-project basis, not
5 only is Leaning Juniper uneconomic as PacifiCorp's
6 results indicated, but eight other repowering
7 projects are uneconomic after reverting back to
8 PacifiCorp's prior approach in the low gas, zero CO2
9 case.

10 I found that PacifiCorp's to-2050 analysis
11 was also flawed, based on the extrapolation approach
12 that PacifiCorp used. Instead of running its SO and
13 PaR models to derive optimal expansion plans and
14 produce energy related benefits, PacifiCorp never
15 conducted any modeling tests to demonstrate the
16 reasonableness of this extrapolation technique.
17 This was especially concerning in this repowering
18 docket because replacement energy costs produced
19 when the difference in the repowering energy was
20 around 750 gigawatt hours, was then used to
21 extrapolate energy benefits at a later period when
22 the difference in repowered energy was
23 over 3,000 gigawatt hours. This necessarily
24 overstated the energy benefits and biased the
25 results in favor of repowering.

1 Recognizing that PacifiCorp's to-2050
2 analysis was flawed, I still evaluated the Company's
3 results and concluded that on a project-by-project
4 basis, there were significant differences in
5 benefits between the projects. Based on the results
6 of both the to-2036, and the to-2050 analysis, I
7 concluded there were significant modeling risks that
8 led to the benefits of the projects being overstated
9 and that several of the repowering projects, if not
10 all, were likely uneconomic. In addition, despite
11 PacifiCorp's claims that the risk of the projects
12 have been mitigated, I found there were risks that
13 the Company simply did not consider, including the
14 risk that the cost to repower the wind resources
15 could ultimately exceed PacifiCorp's approximately,
16 \$1 billion estimate and that the energy and PTCs
17 produced by the repowered projects might not fully
18 materialize.

19 Based on analysis that I conducted, I
20 found that even small increases in costs or small
21 reductions in energy and PTCs could lead to a
22 significant erosion of the benefits of the
23 repowering project. Furthermore, I'm not convinced
24 that PacifiCorp has evaluated all resource
25 alternatives to repowering, and the possibility

1 still exists that other more economic resources,
2 such as solar, could be part of the Company's
3 least-cost, least-risk resource plan. While the
4 Company updated its modeling for the latest
5 repowering cost assumptions, it has not updated its
6 solar resource cost assumptions, based on more
7 current information that is available, such as from
8 the 2007 RFP.

9 Based on these concerns, my primary
10 recommendation is that the Commission should deny
11 the Company's repowering request. However, if the
12 Commission is inclined to permit the Company to
13 proceed with repowering any of its wind projects, I
14 have conducted an analysis to determine the most
15 cost-effective set of projects to repower, that I
16 believe would result in a significant savings and
17 capital cost without substantially reducing the
18 total repowering benefits, if they really exist.
19 Table 6 in my response testimony includes the results of my
20 analysis in which I have grouped the best performing and
21 worst performing projects separately, and I found that by
22 repowering just half of the projects, 87 percent of the
23 total benefits could be preserved, while a significant
24 portion of the capital costs could be eliminated. Figure 3
25 in my response testimony presents this graphically. And it

1 shows that year by year, the amounts of benefits lost by
2 only repowering half of the projects is inconsequential
3 compared to the annual pattern of benefits preserved.
4 Table 7 and 8 of my response testimony demonstrates further,
5 how the benefits of the best performing projects are
6 preserved in the faces of the risks that I identified,
7 including higher capital cost and lower and PTC benefits.

8 The six projects that the Commission
9 should consider if it decides to allow PacifiCorp to
10 repower some of its wind resources include, Goodnoe
11 Hills, Marengo I and II, Seven Mile Hill I, Dunlap
12 Ranch and Glenrock. My April 23rd rebuttal
13 testimony revisited the notion of limiting
14 repowering to more optimal portfolio and compared my
15 subset of repowering projects to the subsets the
16 Division and UAE recommended as well. I provided a
17 comparison of the different repowering proposals that each
18 of us made in Table 1 of my April 23rd testimony. Though
19 each of those primarily recommended that the Company's
20 repowering proposal should be rejected, we all provided
21 reasonable subsets of projects that could be repowered and
22 would reduce ratepayer risk if the Commission decides to
23 allow PacifiCorp to repower just some of its wind resources.

24 In summary, I continue to recommend that
25 the Company's repowering request be denied, but

1 should the Commission decide to allow PacifiCorp to
2 proceed with repowering any of its wind projects, I
3 recommend that the Commission allow the Company to
4 repower a limited set of wind resources. And given
5 these projects primarily intend to provide economic
6 benefits, I believe that the Commission should
7 impose ratepayer protection conditions.

8 These conditions include: (1) PacifiCorp should be required
9 to assume all the responsibility for the successful
10 completion of the projects that the Commission authorizes
11 PacifiCorp to repower, based on the schedule and cost for
12 those projects as identified in Mr. Hemstreet's supplemental
13 direct testimony.

14 (2) I recommend that PacifiCorp should be limited to
15 recovery of future capital expenditures and O&M cost for the
16 approved repowering projects to the amount that it included
17 in the economic evaluation in the supplemental direct
18 filing. And Ms. Ramas has an additional recommendation to
19 limit pre-approval based on the current Utah jurisdictional
20 allocation.

21 And (3) in addition, given all the assurances of the
22 accuracy of the Company's modeling assumptions, I recommend
23 that PTCs and energy benefits be guaranteed at 95 percent of
24 the amounts that PacifiCorp assumed in its supplemental
25 filing analysis for the life of the repowered wind projects.

1 This concludes my summary.

2 MR. SNARR: Mr. Hayet is available
3 for cross-examination.

4 COMMISSIONER LEVAR: Thank you,
5 Mr. Snarr. With that, I think we will recess
6 until 1:00, and we will begin with
7 cross-examination.

8 (A recess was taken.)

9 COMMISSIONER LEVAR: We are back on
10 the record. Mr. Hayet is still under oath. You
11 just finished your direct examination summary, so
12 I'll go first to Ms. Schmid.

13 Do you have any questions for Mr. Hayet?

14 MS. SCHMID: The Division does not
15 have any questions.

16 COMMISSIONER LEVAR: Okay. Thank
17 you. Mr. Russell, do you have any questions for
18 Mr. Hayet?

19 MR. RUSSELL: I do not. Thank you.

20 COMMISSIONER LEVAR: Okay.
21 Ms. Hickey.

22 MS. HICKEY: No, thank you, sir.

23 COMMISSIONER LEVAR: Okay. Thank
24 you. Ms. McDowell or Mr. Lowney?

25 MR. LOWNEY: Yes, the Company does

1 have some questions.

2 CROSS-EXAMINATION

3 BY MR. LOWNEY:

4 Q Good afternoon, Mr. Hayet.

5 A Good afternoon.

6 Q Now, in your response testimony, you
7 conducted an economic assessment of each facility on
8 an individual basis, correct?

9 A Yes.

10 Q And in that analysis, you used what you
11 described as non-levelized capital costs and
12 non-levelized PTCs, correct?

13 A Yes.

14 Q And that would be the same -- same thing
15 as saying nominal capital costs and nominal PTCs,
16 correct?

17 A Yes.

18 Q And you also focused on the 20-year
19 planning horizon to, as you say, "ensure the
20 projects are economic in the near-term horizon,"
21 correct?

22 A Yes.

23 Q And your results are presented on Table 5,
24 which is on Page 28 of your response testimony; is
25 that right? And if you could just turn to that

1 page, please?

2 A Okay.

3 Q All right. And this is the scenario -- or
4 excuse me. This Table 5 represents your individual
5 assessment of each of the 12 projects under both the
6 low and medium gas scenarios, correct?

7 A Yes.

8 Q And looking at each of those columns, it's
9 true that 11 of the 12 projects produced net
10 benefits for customers, correct?

11 A They do.

12 Q Under both scenarios?

13 A That's correct. But these analyses don't
14 take into consideration other risk factors that are
15 also important to consider.

16 Q But at a minimum, your economic assessment
17 of these projects indicates that even under a low
18 gas scenario, for 11 of the 12 projects, it's more
19 expensive to not repower them than to repower them,
20 correct?

21 A And -- and what I respond to that is:
22 It's true, but there are also fairly moderate
23 benefits in -- in many of these. I think that if
24 you look across these, you can see a wide variation
25 in benefits, some that are fairly small, there's a

1 benefit of one, two, and so up to -- up to four or
2 five. We consider those to be pretty moderate --
3 pretty small benefits. And therefore, in the fact
4 that these are economic projects, we're concerned
5 about proceeding necessarily with projects that have
6 benefits this low without also taking into
7 consideration other factors.

8 Q And just to be clear, though. Your
9 study -- given that your study goes only
10 through 2036, your benefit assessments here do not
11 account for the roughly 3,500 gigawatt hours that
12 will be generated in the 2037 --

13 A No. And I also talked about some other
14 factors related to that as well.

15 Q Okay. And if you could, turn to Line 487
16 of your response testimony, please. And on that
17 line, you state that, "If any consideration is to be
18 given to the to-2050 analysis results, the focus
19 should be on Mr. Link's Table 3-SD."
20 Do you see that testimony?

21 A Yes. But I'll have to explain what I mean
22 by that.

23 Q Well, let's just turn to -- you re-created
24 that table --

25 A Right.

1 Q -- as Table 4, on the following Page 24 of
2 your response --

3 A Right.

4 Q -- testimony, correct?

5 A Yes.

6 Q And just examining those results, which,
7 again, is your -- the results through 2050 -- that
8 you say should receive consideration if any results
9 should receive consideration -- you provide a
10 project-by-project assessment under both the medium
11 and low gas scenario. And in the medium scenario,
12 every single project produces net benefits, correct?

13 A Right.

14 Q And under the low gas scenario, the only
15 project that does not produce net benefits is
16 Leaning Juniper and that's a net breakeven
17 essentially, correct?

18 A Essentially, but it's -- that's -- what I
19 meant by that was, if any of the benefits should be
20 considered -- and I meant on a project-by-project or
21 on a -- looking across the price policy scenarios I
22 was referring to, this should be considered more.
23 And the reason for that, is because, again, you can see that
24 there is a wide variation in benefits across the projects,
25 and that leads you to conclude that it probably -- that

1 given that these are economic projects, it leads you to the
2 conclusion that, if you're going to do them at all, you
3 ought to do just the subset of the projects or the most
4 economic of these projects. And that's the point that I try
5 to make.

6 Q So following up on that statement, if you
7 could turn to Page 31 of your response testimony.

8 A I'm there.

9 Q And Table 6, at the top of that page is
10 sort of the table that describes your projects that
11 you identify as the most economic and the least
12 economic, correct?

13 A Exactly.

14 Q And I will note, there's a confidential
15 column in that table. My goal is to not ask any
16 questions that would require that information to be
17 disclosed, but if you need to, please let me know.
18 Now, just looking down that table, the top six projects are
19 the most economic, the bottom six are the least economic,
20 according to your conclusions, correct?

21 A Yes.

22 Q And to identify the projects that you say
23 are the least economic, you examined the net
24 benefits only, correct?

25 A Yes.

1 Q And arbitrarily, anything under \$7 million
2 in net benefits is a least economic project, in your
3 assessment, correct?

4 A I wouldn't call it arbitrarily. I think
5 that what you can see is that we -- we perhaps could
6 have excluded another one that's on that list, the
7 Marengo II. There's a -- there's a fairly wide gap
8 in that range. We decided to include the
9 Marengo II, but from -- there's a -- there's a clear
10 delineation between Marengo II and Goodnoe Hills,
11 but even if you consider where we did break it,
12 which was at five, there is a -- is a very big gap
13 between five, 11, all the way up to a net benefit
14 of 23.

15 So we've -- we've kept significant
16 benefits in this portfolio of the best projects, and
17 we've eliminated the worst performing. And through
18 all of the testing that we've done, it -- it seemed
19 to confirm that that was a reasonable set to accept,
20 on a risk basis.

21 Q Well, and going back to something you said
22 in your summary, which was that one of the issues
23 you had -- you -- one of the considerations you --
24 one of the items you considered in making your
25 recommendations in this case, is the relative

1 quantity of benefits -- or the quantity of benefits
2 relative to the cost, correct?

3 A Yes.

4 Q I believe I heard you say that.

5 A I -- I'm not sure that I -- I'm not sure
6 exactly what I said that you're referring to. So I
7 don't necessarily want to say yes, but maybe if you
8 can explain.

9 Q Fair enough. Let me just follow-up on
10 that. When you are identifying what you described
11 as the least economic projects, you didn't consider
12 the relationship between the net benefit
13 quantification and the overall project cost, this --
14 the benefit-to-cost ratio that we discussed this
15 morning with Mr. Peaco. That was not part of your
16 consideration, correct?

17 A No.

18 Q So, for example, if you look at the Seven
19 Mile Hill II project, which is one that you
20 described as least economic -- and I don't want to
21 divulge the confidential investment cost number --
22 but just examining the net benefit relative to that
23 cost, it has a fairly high benefit-to-cost ratio
24 relative to some other projects, correct?

25 A Say -- which -- I'm sorry, which project?

1 Q Seven Mile Hill II. It's the second,
2 below Glenrock III. So it's second in the list of
3 least economic projects.

4 A And you said it has a fairly high,
5 compared to the other ones?

6 Q If you compare the net benefit that you
7 report in the far right-hand column to the
8 investment cost, the confidential number in the
9 middle column, the ratio of those two numbers. In
10 other words, the benefit-to-cost ratio.

11 A Fairly small.

12 Q Relative to the other projects?

13 A Well, I'd have to do the -- I -- I told
14 you that I haven't done that math, but --

15 Q Well, I'm just comparing five to the
16 confidential number in the column next to it,
17 relative to example -- to, for example, the seven
18 for Marengo II, relative to its cost in the column
19 next to it. You would agree that Seven Mile Hill II
20 has higher benefits, relative to its cost, than, for
21 example, Marengo II?

22 A Yeah. But I mean, I have -- I wouldn't
23 necessarily dispute you on that point, but I -- I've
24 done it on an impact basis, and I think that's the
25 basis that we did it to come up with this -- this

1 list. Now, I understand that the Division did it on
2 a benefit-cost ratio approach, and except for two
3 projects that they accepted, two projects that we
4 accepted, we had the same list.

5 Q Let's move on and discuss some of the
6 risks that you describe, both in your summary today
7 and in your response testimony. And in particular,
8 two risks you highlighted are the risks of cost
9 overruns and the risk that there will be less energy
10 production than expected, correct?

11 A Yes.

12 Q And you performed a sensitivity analysis
13 to specifically understand how these risk factors
14 impact the net benefits of the repowering project,
15 correct?

16 A Yes.

17 Q If you could turn to Line 657 of your
18 response testimony, please.

19 A I'm there.

20 Q Now, to test the cost overrun sensitivity,
21 you modeled a 5 percent increase in total capital
22 costs, correct?

23 A Yes.

24 Q And you acknowledge, however, down
25 beginning on Line 657, that because some of these

1 projects have a high proportion of fixed costs,
2 a 5 percent overrun is actually a much larger
3 percentage relative to the unfixed costs?

4 A Yes, I acknowledge that.

5 Q And I note, on Line 661, you include that
6 percentage and I -- I've talked to my client and the
7 number that is on 661, at 50 percent, that's not a
8 confidential number. Again, going back to what we
9 said earlier, the individual project cost
10 information is confidential, but given that you
11 can't use this number alone to back into that, we
12 can discuss it non-confidentially.

13 A Okay.

14 Q So I will ask you to confirm that what
15 you're essentially testing with your 5-percent cost
16 overrun is the impact of a 50-percent cost overrun,
17 for the costs that are not currently fixed?

18 A That's possibly true, but there are other
19 things that potentially -- that are force majeure
20 conditions. There are other things that could lead
21 to cost overruns. There is project management cost.
22 So it's -- yes, I -- this does say 50 percent of the
23 non-fixed costs, but there are other costs as well, that
24 possibly could increase, so it wouldn't just only be the
25 non-fixed costs. So there are other things that could lead

1 to cost overruns that could drive up the cost such that
2 a 5-percent total cost -- I don't see that on a project of a
3 billion dollar magnitude, coming up with 5-percent increase
4 when all the different ways there could be a cost overrun,
5 is out of the question.

6 So I -- I consider that 5 percent of the billion dollars,
7 not to be out of the realm of possibility.

8 Q Let's turn to Table 8 of your testimony.
9 It's on Page 35, and this is the results of your two
10 sensitivities. And, again, just to provide a little
11 context, this is the medium/medium case, and you're
12 studying it to 2036, using both nominal capital and
13 PTC costs, correct?

14 A Correct.

15 Q And if we just look at the 5-percent cost
16 overrun column, which, again, you had previously
17 acknowledged and it sounds like maybe you're
18 qualifying it a little bit here, that's equivalent
19 in some sense to a 50-percent cost overrun?

20 A Plus, it could equivalent to having a cost
21 overrun on other components. So it's not just
22 a 50-percent cost overrun on -- on the non-fixed
23 costs.

24 Q And -- and just to be clear. Your
25 analysis shows that both the, what you describe as

1 the least economic and the most economic projects,
2 can withstand a 5-percent cost overrun and still
3 provide net benefits, correct?

4 A They do, but -- but if you look at it,
5 the 5-percent overrun case supports the fact that we
6 can still achieve -- for the same exact cost, we can
7 still achieve, in that case, 94 out of 107 of the
8 total benefits, 94 out of a total --
9 that's 87 percent of the total benefits can still be
10 achieved.

11

12 So if it were my money being invested on a
13 risk basis, I would want to take -- take advantage
14 of the opportunity to select those projects that are
15 going to give me the opportunity to still
16 get 87 percent of the benefits. And I forgot if you
17 released me to talk about -- you didn't release me
18 to talk about the percentage of the costs. So I
19 won't -- I won't say that. But the point being, I
20 can still achieve a big portion of the benefits
21 at -- at a much reduced capital cost. I think
22 that's a pretty good bet.

23 Q Well, and -- and let's move onto the next
24 column. The next column is the 5 percent reduced
25 production. And just to be clear, what you're

1 modeling in this case is the assumption that over
2 the life of these projects, they're going to produce
3 systematically a sustained 5-percent reduction in
4 energy?

5 A Yes, that's true. Because there could be
6 inaccuracies in -- in the modeling. Despite all the
7 great data and the millions of data points, I don't
8 think it's out of the question, over the life of the
9 project, for anybody to consider that you could not
10 achieve 90 -- that -- that the ultimate result at
11 the end of the period would be that the wind
12 resources have produced 95 percent of the total
13 energy that you had expected you would produce.
14 And if that reasonable case were to occur, you'll
15 achieve 91 percent of all the benefits at a much greatly
16 reduced capital cost.

17 Q And just to be clear. Even that
18 sensitivity, the least economic projects as you
19 describe them, still provide net benefits?

20 A Small.

21 Q But they provide net benefits?

22 A Very small.

23 Q Now, going to the final column on Table 8,
24 the combined column. This models a scenario where
25 there's both a 50-percent cost overrun and a

1 **sustained 5-percent reduction energy production**
 2 **across all projects, correct?**

3 A Yes.

4 Q **And that is the only scenario where the**
 5 **least economic projects result in a net cost --**

6 A In a scenario that I don't believe is out
 7 of the realm of possibility, and I would put -- I
 8 would note that, either the Company has 100 percent
 9 confidence in its assumptions about the energy and
 10 about the capital costs, or the -- if it doesn't,
 11 then the Company should have studied cases such as
 12 this, but if it does, the Company certainly could --
 13 could accept the total risk that you'll achieve
 14 this -- these outcomes. But I think it's reasonable
 15 to study the possibility that you may not achieve
 16 the entire amount of energy, production, capital,
 17 PTC benefits, capital costs that you're expecting,
 18 necessarily.

19 Q **Well, and while I won't disagree that it's**
 20 **within the realm of possibility, you would agree**
 21 **that it's not the most likely scenario, correct?**

22 A I wouldn't say that.

23 Q **You'd say it's --**

24 A I would not say that a 5-percent cost
 25 overrun or a 5-percent reduction in the energy and

1 PCC is unlikely. I wouldn't say that.

2 Q My question is the most unlikely or the
3 most -- are you saying that's the most likely
4 scenario?

5 A I don't -- I don't think that -- that I
6 would say -- I would say that it's -- it's entirely
7 possible and could occur. That's all I -- that's
8 all I can say.

9 Q So it's possible?

10 A Yeah. I think it's entirely possible
11 that -- that this outcome could be -- could be the
12 outcome that occurs. And it's surprises me that the
13 Company wouldn't -- you know, the Company stopped
14 short by saying it was sufficient to look at price
15 policy cases. You've got to look at all the
16 variables for which could potentially lead to having
17 your project that you're putting forth becoming
18 uneconomic.

19 Q Well, and your own analysis shows that's
20 not necessarily the case, because net benefits are
21 still produced even in these extreme scenarios?

22 A No. I -- I'm sorry. I have -- if both of
23 these cases were to occur, we'd have -- it'd be --
24 you'd be better off doing the six projects that I've
25 talked -- suggested that you do.

1 Q All right. Now let's turn back to
2 Page 31, and that's Table 6. And let's talk a
3 little bit more about the specific projects that you
4 described as the least economic, and that's the
5 bottom -- the bottom six in that table, correct?

6 A Correct.

7 Q Now, were you here yesterday when
8 Mr. Hemstreet described the protections and
9 mitigations measures included in the GE contracts
10 that will cover the projects being repowered in
11 Wyoming?

12 A Yes.

13 Q And isn't it true that of the projects
14 that you've described as the least economic, five of
15 those projects are subject to the protections
16 provided by that GE contract --

17 A Yes, but --

18 Q -- that Mr. Hemstreet described?

19 A But I might also note that there are also
20 provisions in those contracts that are excluded that
21 would still subject PacifiCorp to at risk -- to be
22 at risk. There's a force majeure provision, there's
23 a provision -- and I know that the contract is
24 confidential, so I don't know how far I can go to --
25 to talk about the fact that there are still

1 provisions built into that contract that put
2 PacifiCorp back on the hook if certain conditions
3 occur.

4 And so there's not -- the note -- to
5 suggest -- to suggest that the contract perfectly
6 protects ratepayers and PacifiCorp for every
7 outcome, I think is going a step too far.

8 Q And -- and just to be clear, I don't think
9 anybody in the Company testified that customers are
10 perfectly protected, correct?

11 A I don't know that anybody has. I'm -- I
12 would say, it's been -- it seems like that's what --
13 I wouldn't necessarily say I can recall hearing that
14 somebody said that, but it seems like that's the
15 impression that has been left.

16 Q I'm sorry. I just want to jump back. I
17 got a little bit out of order. Going back to the
18 sensitivity studies that you analyzed, consistent
19 with everything else, with the other results that we
20 already discussed, those sensitivities only go
21 through 2036, correct?

22 A Correct.

23 Q So, again, when you're calculating those
24 benefits, the capacity and energy benefits that are
25 provided after 2036 are completely left out of that

1 analysis?

2 A That's a long time in the future, and --
3 and the fact that the analysis that the Company did
4 without looking at technology that could exist in
5 the future, at -- the advancement in technology, and
6 the fact that a different optimal plan that could be
7 derived through running the models, led me to be
8 concerned that, taking all those factors together,
9 that I'd rather have these projects show and be
10 analyzed, at this point in time, especially given
11 the modeling issues that I've pointed out, or all
12 those factors taken together, we came to the
13 conclusion that for this analysis, it was reasonable
14 to consider it on a 2036 basis.

15 Q And just to be clear, the Company's
16 testimony -- and I don't think this has been
17 disputed -- is that after 2036, these projects are
18 expected to generate approximately 3,500 gigawatt
19 hours of incremental energy annually.
20 Would you agree with that?

21 A I would, assuming that there's no
22 extension, of course, on the existing wind
23 resources, which could potentially happen. Those
24 units could operate longer and, therefore, the
25 differential is not necessarily the 3,600.

1 Q And you agree -- we can dispute how to
2 value that, but you agree that energy has value,
3 correct?

4 A Yes.

5 Q And would you also agree that those
6 repowered wind facilities are going to provide a
7 capacity value after 2036, that is also not
8 accounted for in your sensitivities?

9 A Yeah. It's like on the order of a hundred
10 and something out of a 10,000 megawatt peak.

11 Q I'd like to ask you a few questions about
12 how to model PTCs. That's something that has come
13 up in this case, and you discussed it in your
14 summary today. So just to sort of set the table
15 here, the Company refined the way it modeled PTCs in
16 its February 2018 supplemental filing, correct?

17 A I believe refinement has been used,
18 inaccurate has been used, different words have been
19 used to describe the changes that the Company has
20 made. I've heard a number of different
21 representations of how PacifiCorp --

22 Q We can agree it was a change?

23 A It was a change.

24 Q It was a change. And we can also agree
25 that that change did not impact the -- any of the

1 analysis that extended through 2050, correct?

2 A We can agree.

3 Q Now, if you could turn to Page 26 of your
4 response testimony. And I'd like to ask you a few
5 questions about Figure 2, at the top of that page,
6 and, again, I note that's a confidential figure. I
7 don't intend to ask you about specific numeric
8 values, more just, sort of, shape and directional
9 questions. So obviously, if you need to speak
10 confidentially, let me know.

11 A Okay.

12 Q Now, this table is for one specific
13 project and it demonstrates the differences in the
14 modeling based on different treatment of production
15 tax credits, correct?

16 A Yes.

17 Q And just to be clear, that this, sort of,
18 solid line is the levelized capital, levelized PTC
19 technique?

20 A Yes, and that --

21 Q And that was the modeling that the Company
22 used prior to February 2018, correct?

23 A Yes.

24 Q And if you look at the dashed line, that
25 is levelized capital, non-levelized PTC, and that's

1 the modeling the Company is using right now,
2 correct?

3 A Yes.

4 Q And then the, sort of, the middle curve
5 that has the diamonds, is non-levelized capital,
6 non-levelized PTC, correct?

7 A Correct.

8 Q And that would also be the nominal
9 capital, nominal PTC, which is the same modeling
10 used through 2050, right?

11 A Yes.

12 Q And would you agree that the non-levelized
13 capital -- I'm just going to say, the line with the
14 diamonds on it -- is the line that best reflects the
15 ratemaking impact of this particular project?

16 A Yes.

17 Q And looking at these curves, would you
18 agree that the Company's modeling, as it stands
19 today, the dashed line is closer, both in shape and
20 value to that diamond line than was the earlier
21 modeling that relied on levelized PTCs?

22 A Yes. And -- and what I would say about
23 that is that, first, it is higher. It's -- it's
24 definitely closer, but it is higher. And the fact
25 is, it does add in additional costs not accounted

1 for in that analysis within the Company's study.
2 And it does lead -- there is no doubt the Company cannot
3 deny that, based on using the old approach that it did, that
4 that old approach led to adding in a lot more cost and
5 therefore, the Company abandoned that because it wanted to
6 make sure it had every -- you know, at -- at least it was
7 able to show that all of its projects were economic.

8 It couldn't -- it -- in my view, it seems
9 that the Company could not report, "Oh, we have this
10 to-2036 analysis, which is our standard, we could
11 not show results that had a large number of cases
12 that were uneconomic," and then at the same time
13 say, "Oh, but ignore those cases. Look at the
14 to-2050." And that's essentially what you're asking
15 me right now. You're asking me to forget about
16 the -- you know, we've changed our approach, you
17 know, don't even look at the old results. We're
18 now -- we're now advising using this new approach,
19 and the -- but if we just focus on the to-2050, you
20 know, that's the reason why the Company had -- had
21 gone away from that approach.

22 **Q Well, and just to be clear, regardless of**
23 **motives, the new approach is more accurate --**

24 **A No.**

25 **Q -- just based on looking at this diagram,**

1 **isn't it?**

2 A No. The new approach is not necessarily
3 more accurate.

4 Q Well, I think we established it's closer
5 in value, as well as shape, to the --

6 A Let --

7 Q -- nominal/nominal modeling, correct?

8 A Let me -- let me explain something. The
9 reason that the Company believes that protection tax
10 credits should be done on a nominal basis, is
11 because it says that that's closer to the way that
12 production tax credits will be flowed through to
13 ratepayers through rates. The same -- the same
14 thing is true about capital revenue requirements.
15 To represent them as levelized, which is what the
16 Company still wants to do, it also is not levelizing
17 those in the way that the Company does it. And we
18 should all be clear that levelization, by the way,
19 in the way that the Company is doing it, doesn't
20 necessarily mean flat, straight-across levelization.
21 It's real levelization, which is adding -- it's
22 taking a real discount rate, and the ultimate result
23 of that is that something that is charged through
24 rates over the life of a project that is front-end
25 loaded over the life, and declines over the life,

1 for modeling purposes, the Company is saying -- and
2 I'm not sitting here necessarily disagreeing that
3 economic analyses are done this way, but the Company
4 is saying that is it appropriate, necessarily, to
5 use a profile for which you begin at the first year,
6 at the lowest point you possibly can, and you rise
7 over the life. So you've taken -- you've actually
8 flipped the profile entirely.

9 And in doing that, that puts the least
10 amount of capital revenue requirements into the
11 analysis as a result, since there's a point in time
12 in which the costs are cut off, and at the same
13 time, it puts the highest amount or the greatest
14 amount of production tax credits in because it
15 ensures the entirety of the production tax credits
16 are in.

17 So I'm -- I'm going to suggest to you that
18 that's still a problem with the way that you're
19 modeling production tax credits and capital revenue
20 requirements. And I will also suggest to you, the
21 Company -- the notion that the Company never, ever
22 supported in this case, the idea of doing
23 levelized/levelized is wrong, because there was a
24 point in this case where the Company responded to
25 data requests that -- that justified, that's how you

1 have to model the cost. You have to model the cost
 2 on a levelized/levelized basis that's in discovery
 3 that we have, in my testimony, in my -- in my
 4 April 2nd testimony, OCS 5.8. It's in there and
 5 explains that that was the right way to do it.
 6 I think at the point in time that the Company found it
 7 produced results that were undesirable, the Company went to
 8 this levelized capital approach with nominal PTCs.

9 Q And created a more accurate result --

10 A No.

11 Q -- according to this table, correct?

12 A No.

13 MR. LOWNEY: No further questions.

14 COMMISSIONER LEVAR: Thank you.

15 Any redirect, Mr. Moore or Mr. Snarr?

16 MR. SNARR: No redirect.

17 COMMISSIONER LEVAR: No redirect?

18 Okay. I think I have a couple questions.

19 BY COMMISSIONER LEVAR:

20 Q Excuse me if I ramble a bit as I'm trying
 21 to get this question, but, you know --

22 A These are complicated.

23 Q We have -- we have a lot of different
 24 sensitivity runs with different inputs and, you
 25 know, levelized and non-levelized talk, different --

1 different starting points. There's been discussion
2 earlier in the hearing of what happened a few years
3 ago in the Jim Bridger SCR case. I don't know if
4 you were involved in that one, but -- but one high
5 level, as we were shown the orders, that the
6 Commission chose a somewhat objective standard, if
7 we're going to average some six different
8 sensitivity runs. Now, that may or may not be the
9 appropriate outcome here. But as we're looking at
10 the choice between repowering or not repowering, and
11 we're looking at all these different sensitivity
12 runs, can we -- can we articulate any kind of
13 objective standard for what's an acceptable level of
14 risk? What's an adequate level of benefit, that's
15 not just a -- a gut check for each project?

16 A I think that's a good question and a fair
17 question. And I recall, I asked that myself, to the
18 Company, or raised that issue -- we'll call it
19 that -- in this regard early on in the case, or in
20 the 40 Docket, which is a similar case to this, I
21 noticed, of course, that we did have the nine price
22 policy scenarios. And the question then becomes,
23 how much weight should you give to the different
24 cases? How much weight should you give to the CO2?
25 And we, in fact, don't, at this time, have CO2, and

1 we just don't know what will happen with CO2. How
2 much weight should you give to high gas cases? And
3 I ask -- I raise the question of, does -- is there a
4 weighting to the cases and to the results that we
5 should apply? Should we consider the low gas, low
6 CO2 case to have a higher probability of occurring?
7 I've taken the position in the case, that I think
8 that my view is that there ought to be a higher
9 weighting given to the low gas and the low to
10 moderate gas CO2 cases because that's the future I
11 believe, at this time, is more likely, given that --
12 what we know now about -- about -- especially about
13 gas and especially about CO2.

14 So I think I'm answering your question, in
15 that, I don't necessarily think you ought to do an
16 average of the nine cases. I think a higher
17 probability ought to be assigned to cases that you
18 believe to have a higher likelihood of occurring.
19 And so I don't think you can necessarily take the nine
20 cases, average them, get a number, compare it against all
21 the other cases that way and say that's the outcome. I
22 think you've got to weight the cases that you think have a
23 higher chance of occurring and then come to the conclusion,
24 you know, that that might be a better way for you to
25 evaluate.

1 And I also think you ought to -- I want to
2 emphasize, I also think you ought to take into
3 consideration the risk factors that aren't included
4 in those tables. And I tried to make that point
5 clear, that there are other factors besides price
6 policy. And when there are other factors besides
7 price policy, they ought to be studied, and two
8 alone -- I think I raised a couple, and I know
9 Mr. Peaco raised a few more. Those factors need to
10 be considered in making a decision. Is this a valid
11 project that should go forward?

12 **Q So would I be correctly summarizing what**
13 **you're saying is, to do that requires us as a**
14 **Commission to make some findings and conclusions**
15 **based on which scenarios we consider more or less**
16 **likely, which risks we consider more or less likely?**

17 A Well, the Company is doing it and the
18 parties are disagreeing that they don't think
19 that -- I think it's clear that -- that several
20 parties don't have a belief, necessarily, that the
21 highest likelihood is going to be the higher gas
22 cases. So I think the advice the parties are
23 giving, is to give much less weight to the higher
24 gas, higher CO2 cases.

25 **Q Okay. And I think I just have one more**

1 question. If I were to -- looking at your Table 6,
2 on Page 31, for Glenrock III, Seven Mile Hill II,
3 Rolling Hills, High Plains, McFadden Ridge and
4 Leaning Juniper, if I were to ask you, individually,
5 for each one of those you have listed on your
6 second -- in your second box, does your analysis
7 lead to your professional conclusion, that not
8 repowering gives more benefit to ratepayers than
9 repowering, for each individual project?

10 A In this regard, we don't know what the
11 outcome will be, nobody does. But we're -- we're
12 being asked to take a risk on doing every one of
13 these 12 projects, and every one of them should be
14 done because there's a dollar benefit or -- or
15 higher than a dollar benefit. They're -- that's a
16 pretty small benefit. This range of benefits is
17 fairly small, in my view. If you were going out and
18 investing your money to make a decision on something
19 that has risk and you -- and you think it has the
20 potential economic reward, wouldn't you want to try
21 to limit your exposure in the case -- in the chance
22 that the risks manifest themselves and that the
23 benefits don't materialize?

24 And if you eliminate these six projects
25 and the cost of those six projects, you knock out a

1 huge amount of the costs, but you're not eliminating
2 a substantial amount of the benefits. So the
3 ratepayers are still -- would still be getting a
4 considerable benefit, just not having the Company
5 spend a billion dollars, you know, and the -- since
6 it's confidential, it's a sizable amount of dollars
7 not being spent, but you're still achieving a great
8 deal of the benefits.

9 Q I said that was my last question, but one
10 follow-up.

11 A That's okay.

12 Q Would you describe the answer you just
13 gave then, as suggesting that we should look at
14 the 12 projects holistically rather than one by one?

15 A No. No, I don't think I --

16 Q You don't think -- that's not how you
17 would describe your answer?

18 A No. I think -- I think I'm recommending
19 you look at the -- when you do DSM, typically,
20 DSM -- people want to try to avoid the trap of
21 adding in additional measure -- DSM measures where
22 they have small value. But if you add it into the
23 portfolio, you wind up having still an economic
24 portfolio, but you've added in a measure that maybe
25 had a very small value or had a negative value. You

1 added it in and nobody sees a difference because the
2 overall portfolio still has a positive value.
3 So that's -- I view that the same way. I think you can
4 eliminate these projects that are fairly marginal and still
5 keep a considerable benefit. So I think I've answered your
6 question, that I would look at it project by project.

7 COMMISSIONER LEVAR: Thank you. I
8 appreciate your answers.
9 Commissioner Clark, do you have questions for Mr. Hayet?

10 COMMISSIONER CLARK: No questions.
11 Thank you, Mr. Hayet.

12 THE WITNESS: Thank you.

13 COMMISSIONER LEVAR:
14 Commissioner White?

15 BY COMMISSIONER WHITE:

16 Q I assume you were here when Mr. Peaco was
17 testifying earlier. You -- you both have kind of
18 identified different projects that may or may not
19 be -- you know, have a higher risk profile or have
20 less benefits. Do you share his view, that if the
21 Commission were to determine that some of the
22 projects were more economic or less economic, that
23 it would require a whole separate application for
24 those projects?

25 A You know, we gave that consideration and

1 if -- the fact is, our first recommendation is to
2 reject. However, if you decide that you'd prefer to
3 go forward and have some of the projects, then we
4 didn't make the same recommendation that you have a
5 separate proceeding. We think that you have the
6 information you need. It places too much -- there
7 are too many problems that are -- if you really want
8 to do it, there's not time to be able to take it
9 back and study it further, and there's probably a
10 chance you wouldn't achieve the PTC benefits that's
11 you're looking for anyway. So we're not making that
12 recommendation. We think that you can make the
13 recommendation on the basis of the information you
14 have.

15 Q Then there's the final question. I mean,
16 there's been a lot of discussion about risk, and I'm
17 just looking at the statute and that's certainly
18 one of the things to consider. But in your view,
19 typically -- and, again, I think the only time we've
20 ever actually utilized this statute, and I could be
21 wrong, is the SCR case. Is there a different -- is
22 there something, from your perspective, that creates
23 a heightened, you know, risk look, I guess, here in
24 this case, because of the measure -- because, again,
25 every commercial transaction has a risk shifting

1 **that has --**

2 A Right.

3 Q **-- costs that go along with it.**

4 **Is there something that -- that you're reading into this,**
5 **that's beyond the typical risk --**

6 A Well, I -- I'm sorry.

7 Q **That's okay.**

8 A It definitely isn't your typical. I mean,
9 we all have to recognize, this is not a typical
10 utility type of investment, and you may never see
11 another investment like -- you know, recommendation
12 like this again, to this degree. When you count
13 this case and the new wind/new transmission,
14 billions of dollars are at stake. And it's not, you
15 know, my view. I know that the Company has a
16 different view, but there's not a need built in
17 that's -- that's a burning need for reliability and
18 a burning need for capacity to add those.

19 And therefore, then you have to give it a
20 heightened standard for the risk that ratepayers are
21 being placed at, because we know that the ratepayers
22 are taking on most of the risk, unless you adopt
23 conditions that we have proposed in this case. And
24 that would go to, you know, helping to mitigate --
25 mitigating the risk for the ratepayers. But it --

1 again, it's not your typical situation. And
2 therefore, I think you have to look at it in a -- in
3 a different way than you would look at the other --
4 like, there's a need for capacity, we need a
5 combined cycle, or some type of resource, then it's
6 a decision between two resource choices you have to
7 make, and you pick the best of the two.

8 Here, it's pretty much a decision -- and I
9 know the Company talks about it displacing front
10 office transactions, but it really is a need -- a
11 decision between -- we just don't upgrade perfectly
12 good wind turbine resources that are operating right
13 now. I know that there are all the benefits they
14 talk about in O&M savings and all these potential
15 for availability improvement and so forth, but,
16 again, you've got operating resources, ratepayers
17 could use their money for other purposes, all those
18 things go into it when you don't absolutely have a
19 critical, burning need to do these projects.

20 Q One final question. And, again, we've
21 heard a lot of testimony in the context of what was
22 agreed to in Wyoming, in terms of potential risk
23 mitigation or what the Company has agreed to.
24 But is there something, in your mind, that -- is there any
25 level of, you know, additionality, in terms of risk

1 protection or risks that would -- that would ultimately
2 satisfy that? I mean, I know -- I understand we can't
3 control -- the Company can't control Congress or the
4 President or what have you, but is there anything in your
5 mind that provides something that's beyond what they've
6 already offered?

7 A Well, they've given assurances. Haven't
8 they built a strong case to say that -- they're
9 highly confident that they're going to achieve the
10 level of energy production that they've estimated
11 and that they're going to produce the PTC benefits.
12 Why not just have them accept the risk of that, hold
13 harmless the ratepayers, in the event that they
14 don't achieve those benefits over a period of time?

15 I made a recommendation that you require
16 the Company to achieve 95 percent. I gave a margin
17 of 5 percent that -- in other words, the energy
18 production could be 5 percent under, which is what I
19 used, by the way, in my sensitivity analysis. I
20 said a 5-percent reduction in energy. So I have
21 given them what I've found to be uneconomic, but
22 in -- in some of the cases. So the Company has to
23 be -- protect the ratepayer and that's, by the way,
24 not unheard of. I'm understanding there's some
25 settlements in other states on proposals that are

1 similar to this that are just coming out in late
2 April, in Oklahoma, that are being agreed to by the
3 utility that they're going to accept the risk of
4 these kinds of projects.

5 It's another build a transmission, build
6 wind power resources, billions of dollars of
7 investment and the ratepayer, at considerable risk,
8 and the utility has agreed that it's going to adopt
9 the risk.

10 So I -- my recommendation is to give
11 consideration to the conditions of -- that I've put
12 into my testimony that would protect the ratepayer.

13 COMMISSIONER WHITE: That's all the
14 questions I have. Thanks.

15 COMMISSIONER LEVAR: Do you have a
16 follow-up?

17 COMMISSIONER CLARK: Do you mind if I
18 do?

19 COMMISSIONER LEVAR: No, and I have
20 one more, too. Go ahead. Mine is kind of related
21 to his answer he's just given to Commissioner White.

22 COMMISSIONER CLARK: Please.

23 BY COMMISSIONER LEVAR:

24 Q I kind of asked this question before, but
25 after hearing your answer to Commissioner White,

1 I'll ask it in a different way. Should we or
2 shouldn't we -- considering the comparisons you've
3 drawn on and said, I think what you said to him is,
4 "This isn't a situation of choosing option A or
5 option B."

6 A Right.

7 Q But shouldn't we be looking at each of
8 these 12 projects and consider option A, repowering,
9 option B, not repowering, and look at the cost
10 benefits and risks of each of those -- of those two
11 options for each of the 12 projects; is that how we
12 should be looking at it or is that -- is that the --

13 A Well --

14 Q -- wrong way to look at it?

15 A Are you saying to look at it as a bundle
16 or look at them one at a time? Because if
17 looking --

18 Q What I'm suggesting is, should it be one
19 at a time, that he take Seven Mile Hill I, and
20 compare cost benefits and risks of repowering and
21 cost benefits and risks of not repowering?

22 A That's what's been done actually,
23 Commissioner. That's what the project-by-project
24 analysis that, in fact, you as a Commission got the
25 Company to agree to do. That they would look at the

1 cost and benefits on a project-by-project basis, and
2 that's what's been done to develop the --
3 these cases -- any of the table that you see where
4 they have the names of the units and they have the
5 net benefits, that's a project-by-project
6 evaluation. The tables in which they have the price
7 policy cases, where they have the nine price policy
8 cases, that was a bundle of projects put into the
9 model all as one unit, put in at one time. And that
10 was a -- that was not a project-by-project net
11 benefit evaluation.

12 Q Okay. Well, at the risk of beating the
13 dead horse, if we're looking at it that way, though,
14 doesn't that mean, even if the benefit is small --
15 you know, I mean, there's been a lot of discussions.
16 Should it even be a -- what about if there's a
17 dollar benefit? But if we're really comparing
18 repowering with not repowering, should the size of
19 the benefit matter, as long as one is above the
20 other?

21 A I hear you. And that is the argument.
22 I'm not going to suggest -- I won't suggest that --
23 that is an argument that I, perhaps, would make.
24 That, look, it's a \$1 benefit, you know. I mean,
25 I'd like a little cushion by the way, but -- but

1 that presumes that you're only looking at the price
2 policy cases because the Company was the one that
3 put in the testimony that says, "Here's our
4 analysis," and they did -- what about -- what about
5 when you also consider the other risk factors?
6 Now, let's get a single economic number. Is it still these
7 numbers that the Company -- no, it's not. And that's why I
8 attempted to look at other factors, like a reduction in
9 energy and a cost overrun and -- and Mr. Peaco also spoke
10 about additional risk factors.

11 So when you take all those into consideration, it's a
12 different story than just the \$1 of benefit on the price
13 policy cases to consider.

14 COMMISSIONER LEVAR: Okay. Thank
15 you. I really do appreciate your indulging my
16 stream of consciousness thought process.

17 THE WITNESS: No, I don't find it to
18 be --

19 COMMISSIONER LEVAR: Commissioner
20 Clark.

21 BY COMMISSIONER CLARK:

22 Q I'm also going to address this general
23 area of risk and, particularly, your testimony on
24 the bottom of Page 38, and the top of 39, where
25 you're talking about conditions that might be

1 imposed. On Line 785 -- or actually, 784, you say
2 that you would be concerned if PacifiCorp is taking
3 the position that nonperformance by one of its
4 contractors would be outside of its influence to --
5 or its ability to influence. So as you have sat
6 through the hearing, and I think you've been here
7 throughout --

8 A I have.

9 Q -- have you heard anything that's given
10 you an impression that contractor performance that
11 the Company would use that -- or has reserved the
12 opportunity to use that as an excuse for not meeting
13 the project cost of -- I'll call them guarantees,
14 that have been given?

15 A Well, they've given guarantees to us that
16 they will have the project online, on time,
17 guaranteed that they're going to be able to achieve
18 the PTCs. I've heard that. But they also say, to
19 the extent that it's within their control or their
20 ability to control. And what my testimony is and
21 that I'm concerned about is, what does that mean?
22 And I've raised the -- the question is: Are they saying
23 that if -- let's say there's a bankruptcy of one of their
24 contractors and that contractor was on the critical path.
25 It caused a year's delay, half a year's delay, Dunlap, which

1 is coming in the latest, is unable to come online by the
2 end, it loses the opportunities to get to the -- get the
3 PTCs. Is PacifiCorp taking responsibility, under that
4 circumstance, and holding the ratepayer harmless for the
5 PTCs that will be lost, or will they say, No, it was outside
6 of our ability? We couldn't control their means and methods
7 and their ability to operate their business and the fact
8 that they went bankrupt, we had no control over. Therefore,
9 we are not going to hold the ratepayer harmless in that
10 condition.

11 That's what I'm trying to hope to impress
12 upon you, that that ought to be -- it should be a
13 clear statement: PacifiCorp, you're the party
14 that's managing the development, you're managing
15 your contractors, you're the one, the ratepayer is
16 not. Hold the ratepayer harmless if you're giving a
17 guarantee, and that guarantee has to be almost
18 unconditional.

19 COMMISSIONER CLARK: Thanks for
20 illustrating what you had in mind there. That
21 concludes my questions.

22 COMMISSIONER LEVAR: Thank you,
23 Mr. Hayet. We appreciate your testimony today.

24 THE WITNESS: Thank you.

25 MR. SNARR: May Mr. Hayet be excused?

1 COMMISSIONER LEVAR: Yeah. I'll ask
2 if any party or Commissioner in the room sees any
3 reason not to excuse Mr. Hayet from the proceeding?
4 I'm not seeing any indications, so he's excused. Thank you.

5 THE WITNESS: Thank you.

6 COMMISSIONER LEVAR: Mr. Moore or
7 Mr. Snarr, anything further from the Office?

8 MR. SNARR: No, that concludes are
9 presentation.

10 COMMISSIONER LEVAR: Okay. Thank
11 you. Mr. Russell.

12 MR. RUSSELL: UAE calls Kevin Higgins
13 to the stand.

14 KEVIN C. HIGGINS,
15 having been first duly sworn to tell the truth, was
16 examined and testified as follows:

17 DIRECT EXAMINATION

18 BY MR. RUSSELL:

19 Q Can you please state and spell your name
20 for the record, please?

21 A My name is Kevin C. Higgins H-i-g-g-i-n-s.

22 Q Mr. Higgins, by whom are you employed and
23 in what capacity?

24 A I'm a principle in the consulting firm
25 Energy Strategies.

1 Q And what is your business address, please?

2 A My business address is
3 215 South State Street, Suite 200, Salt Lake City,
4 Utah 84111.

5 Q And in your capacity as a principle of
6 Energy Strategies, have you offered testimony on
7 behalf of Utah Association of Energy Users in this
8 docket?

9 A Yes, I have.

10 Q And, specifically, did you prepare and
11 submit direct testimony on September 20, 2017,
12 identified as UAE Exhibit 1.0, along with
13 Exhibits 1.1 and 1.2, surrebuttal testimony on
14 November 16, 2017, identified as UAE Exhibit 1.0-S,
15 along with UAE Exhibits 1.1-S and 1.2-S, and
16 response testimony on April 2nd of 2018, identified
17 as UAE Exhibit 1.0-RE, along with UAE
18 Exhibits 1.1-RE, 1.2-RE and 1.3-RE?

19 A Yes.

20 Q Do you have any corrections to make to any
21 of that testimony?

22 A I have two minor corrections that are the
23 same correction that has to be made twice. They are
24 in my response testimony, Page 40, Line 714.
25 The correction is to replace the number of 150 million

1 with 142 million. Then, again, on Page 49 --

2 Q I'm sorry. Was that 142?

3 A Yes.

4 Q Thank you.

5 A Then on Page 49, Line 865, the same
6 correction, replace 150 million with 142 million.

7 Q And with those two corrections, if you
8 were asked the same questions today that you were
9 asked in your pre-filed testimony, would you answer
10 it the same way?

11 A Yes, I would.

12 MR. RUSSELL: With that, I will move
13 for the admission of Mr. Higgins' pre-filed
14 testimony, as previously identified.

15 COMMISSIONER LEVAR: If any party
16 objects to the motion, please indicate to me.
17 I'm not seeing any objections, so the motion is granted.

18 (UAE Exhibit No. 1.0 admitted.)

19 BY MR. RUSSELL.

20 Q Have you prepared a summary of your
21 pre-filed testimony?

22 A Yes, I have.

23 Q Please proceed.

24 A Good afternoon.

25 I recommend against approval of the

1 repowering project. Rocky Mountain Power's wind
2 repowering proposal is not a typical utility
3 investment proposition. The wind repowering project
4 might best be described as an opportunity investment
5 in that it seeks to take advantage of the
6 availability of PTCs before the Federal Tax Credit
7 Program begins to phase out. Since it is an
8 opportunity investment, the relative benefits to
9 customers, taking account of the range of risks to
10 customers in relation to the benefits to Rocky
11 Mountain Power, should be considered as part of the
12 Commission's review.

13 The magnitude of the claimed benefits to
14 customers identified by the Company in relation to
15 certain benefits -- to certain benefits to the
16 Company, does make a compelling case for UAE's
17 endorsement of this project, particularly in light
18 of the large capital cost required, the lack of
19 public necessity for this project, the Ad-Hoc
20 deviation from the integrated resource plan process
21 surrounding this project, and the uncertainties that
22 may impair the realization of projected customer
23 benefits. Additional risks that could further
24 affect customer benefits include deviations in the
25 actual performance, maintenance costs, or durability

1 of the new assets as compared to the Company's
2 assumptions.

3 In its supplemental filing, Rocky Mountain
4 Power has changed the evaluation method it uses to
5 project claimed customer benefits for the 20-year
6 period, 2017 to 2036. I have three serious concerns
7 with this change. First, it is highly problematic
8 and troubling for the Company to change a key
9 measurement method at this late juncture of the
10 proceeding. After three rounds of prior Company
11 testimony, particularly given that, without this
12 change in method the Company would not be able to
13 show claimed net benefits for multiple scenarios,
14 the change, thus, appears to be aimed at supporting
15 the Company's desired result.

16 Second, the changed valuation approach for
17 PTCs is inconsistent with the valuation method that
18 has long been used for PTCs in the Company's IRP,
19 which I have been able to check as far back as 2003.
20 So for at least 15 years, the method -- methodology
21 for valuing PTCs has been in place in the IRP that
22 was now just recently changed.

23 And third, the changed valuation approach
24 for PTCs is inconsistent with the Company's
25 treatment of capital costs for the repowering

1 projects, which the Company continues to measure on
2 a real levelized basis in its 20-year benefits
3 analysis. By changing the method for valuing PTCs
4 without also changing the method for valuing capital
5 costs, the Company is effectively cherry picking the
6 combination valuation method that achieves the most
7 favorable optics for the projects. If these
8 concerns notwithstanding, the Commission considers
9 approval of the Company's proposal, I offer some
10 recommendations for better aligning risks and
11 benefits of the proposal between the Company and
12 ratepayers.

13 First, I recommend the Commission
14 expressly condition the Company's future cost
15 recovery associated with the wind repowering project
16 on the Company's ability to demonstrate that
17 construction costs have come in at or below its
18 estimated cost in this case, and that measured over
19 a reasonable period of time, the megawatt hours
20 produced by the repowered facilities are equal to or
21 greater than the forecasted production that is
22 provided in this proceeding.

23 If those conditions are not satisfied, not
24withstanding any determination of prudence in this
25 proceeding, I recommend that the Commission

1 expressly reserve the right, in a future rate case,
2 to reduce the Company's recovery of costs associated
3 with the repowering project, to allow for a
4 reasonable sharing of the risks and benefits of the
5 project between the Company and customers.

6
7 Second, I am concerned that when measured
8 over the 20-year period, used in the Company's
9 2017 IRP, the benefits from this opportunity
10 investment are significantly weighted in favor of
11 the Company. To address this concern, if the
12 Commission approves the wind repowering project, I
13 recommend that it be made conditional on a reduction
14 of 200 basis points to the authorized rate of return
15 on common equity applicable to the undepreciated
16 balance of the retired plant. This adjustment would
17 have the effect of better balancing the benefits
18 between customers and the Company.

19 I note that, although my recommendation --
20 recommended modifications would improve the terms of
21 the outcome for customers, they will not, by
22 themselves, overcome UAE's overall objections to
23 this project. And since this 200-basis point aspect
24 of my conditional recommendation is a bit unusual,
25 let me spend a moment elaborating on the basis for

1 it.

2 Rocky Mountain Power would have you
3 believe that if these projects were to produce \$1 of
4 net benefits, then they should be approved as
5 proposed, irrespective of the relative distribution
6 of benefits between customers and the Company. I
7 disagree. I disagree that simply providing some
8 amount of projected benefits to customers is
9 sufficient justification for committing customers to
10 pay off a \$1.1 billion investment for a project that
11 is not needed to meet reliability requirements, not
12 needed to meet load growth, and not needed to
13 replace a retired plant that has come to the end of
14 its useful life.

15 The balance of equities is important here.
16 We need to bear in mind that the Company is a
17 monopoly provider. Consequently, Utah customers do
18 not have the benefit of alternative providers
19 offering to undertake repowering on better terms
20 than the Company is offering. The only place for
21 Utah customers to get a better deal on repowering is
22 in the approval process. And a key lever that the
23 Commission has is the allowed return on the retired
24 plant.

25 To make this deal happen, the Company will

1 be removing equipment that has around 20 years left
2 on its useful life and seeking a full return on and
3 of that retired investment, as if it remained
4 useful. Absent the pre-approval process, the
5 Company would run the risk of disallowance of the
6 recovery of this early retired plant.

7 Taking all factors into account, I believe
8 it is appropriate to make any approval of this
9 project conditional on a reduced return on this
10 retired plant to achieve a better balance of
11 equities. And if requiring such a condition means
12 that the project does not move forward, then as the
13 Commission is hearing from parties advocating on
14 behalf of customer interests, that would be okay.
15 Utah customers are not here to serve as a vehicle to
16 facilitate the Company's financial aspirations for
17 projects that are not necessary.

18 If the repowering project is allowed to
19 proceed, my third recommendation is that the overall
20 project should be scaled back to exclude at least
21 the Leaning Juniper project, as this project fails
22 to provide net benefits over a 20-year period, even
23 when measured using nominal PTCs and nominal capital
24 costs, in either the medium gas, medium CO2 or the
25 low gas, zero CO2 scenarios. Moreover, the

1 Commission should also consider excluding
2 Glenrock III, High Plains, McFadden Ridge, Dunlap
3 Ranch, Rolling Hills, Marengo I, Marengo II and
4 Goodnoe Hills from any pre-approval because these
5 projects, as well as Leaning Juniper, failed to
6 provide net benefits over a 20-year period, using
7 the measurement metrics from the IRP, that is, real
8 levelized PTC values for one or both of the gas CO2
9 scenarios.

10 Fourth, the resource tracking mechanism
11 proposed by the Company to defer and recover
12 projects should not be approved. The proposed
13 mechanism is quite complex. This departure from
14 conventional ratemaking practice is not necessary,
15 and taken as a whole, not desirable. Because the
16 RTM is an exercise in single issue ratemaking, it
17 brings with it attended concerns about the efficacy
18 of identifying costs and setting rates in isolation.
19 Rather than adopting the RTM, I believe it would be
20 preferable for the Company to instead file a general
21 rate case at the appropriate time to recover its
22 repowering costs in the context of the Company's
23 overall costs and revenues.

24 However, if the RTM is approved, it should
25 be modified. In particular, the Company's proposed

1 long-term continuation of the RTM as a PTC tracking
2 mechanism should be eliminated. PTCs are not
3 tracked today in the manner proposed by the Company,
4 nor is it necessary to track PTCs going forward to
5 ensure just and reasonable rates.

6 Therefore, I recommend that if the RTM is approved, the
7 Company's proposal for a long-term PTC tracker be rejected.
8 In addition, the Company's original proposal to cap the
9 surcharge at the amount of incremental net power cost
10 benefits should be retained, with no deferral of costs
11 exceeding the cap, as proposed by the Company in its
12 supplemental filing.

13 And finally, if a form of the RTM is
14 adopted, the treatment of property tax expense
15 should be modified to take into account the expected
16 reduction in property tax on existing plant that
17 would occur as the repowering project is implemented
18 and the existing plant is retired.

19 And that concludes my summary.

20 **Q Thank you, Mr. Higgins.**

21 **Before I turn you over to cross-examination, I did have a**
22 **question. You've had the opportunity to listen to the**
23 **testimony yesterday and today, right?**

24 **A Yes, I have. When I wasn't here**
25 **physically, I was listening to the online broadcast.**

1 Q Okay. And did you hear -- there have been
2 a number of witnesses who've testified with respect
3 to the amortization of the retired plant, included
4 in that was Ms. Steward yesterday, Mr. Peterson
5 today, as well as Mr. Link.
6 Did you hear testimony on behalf of those witnesses on that
7 topic?

8 A Yes, I did.

9 Q And do you -- I'm interested in your view
10 on whether the Commission ought to address the
11 period of time of amortization in this proceeding or
12 in some separate proceeding?

13 A I would strongly recommend that the
14 Commission consider this issue in the context of the
15 depreciation docket that will be forthcoming in the
16 future. I have concerns that, if the Commission
17 were to lock in, say, to a ten-year amortization,
18 for example, as proposed by Mr. Peterson, that that
19 would have implications for customers in the
20 near-term that have not been fully vetted.
21 I also have -- I also believe that it would be appropriate,
22 as part of the discussion, to take into consideration the
23 impacts on customers in the years '21 through '30. I
24 understand that the Division of Public Utilities is
25 concerned about customers in years '11 through '20, but

1 customers in the years '21 through '30, if this project were
2 to go forward, would in fact be -- have a bequest given to
3 them by the customers of today, by investing in a plant
4 today that is likely to be providing benefits 21 years from
5 now, and obviating the need for new investments 21 years
6 from now.

7 And so I think that when you take all of
8 those things into consideration, the most reasonable
9 course of action is to consider all those questions
10 in the context of the larger depreciation study
11 that's going to come that's going to have
12 implications for Utah ratepayers from issues outside
13 of this docket. And I think that it would be best
14 to consider the implications and the impacts of the
15 amortization period, if there be one, for -- for
16 this -- the retired plant in that larger context.

17 MR. RUSSELL: Thank you, Mr. Higgins.
18 Mr. Higgins is available for cross-examination.

19 COMMISSIONER LEVAR: Thank you.
20 Mr. Moore or Mr. Snarr, any questions for
21 Mr. Higgins?

22 MR. SNARR: No questions.

23 COMMISSIONER LEVAR: Ms. Schmid or
24 Mr. Jetter?

25 MS. SCHMID: No questions.

1 COMMISSIONER LEVAR: Ms. Hickey.

2 MS. HICKEY: No, I think I'll waive.

3 Thank you.

4 COMMISSIONER LEVAR: Okay. Thank
5 you. Ms. McDowell or Mr. Lowney?

6 MR. LOWNEY: Yes, the Company does
7 have questions.

8 COMMISSIONER LEVAR: Okay.

9 MR. LOWNEY: And, again, I've got a
10 few cross-examination exhibits, so I'll just pause a
11 moment while those get distributed.

12 CROSS-EXAMINATION

13 BY MR. LOWNEY:

14 Q Good afternoon, Mr. Higgins.

15 A Good afternoon.

16 Q Now, I'd just like to ask you a question
17 about something you said in your pre-filed
18 testimony, as well as in your summary today.
19 And that is, that according to your testimony, to be
20 analytically consistent, PTCs must be modeled on the same
21 basis as capital costs, correct?

22 A Correct. For the -- certainly for the
23 purposes of this docket, in which there's been a
24 separation made, in my view, from the IRP structure
25 and the IRP valuation methods, that if we were to

1 look at impacts, ratepayer impacts, in isolation for
2 a 20-year period, then I do believe that a
3 consistent approach is going to be necessary, yes.

4 Q But you would agree that you've filed
5 prior testimony where you've questioned why PTCs are
6 treated in the same ways as capital costs, correct?

7 A The -- are you --

8 Q Let me point your attention to --

9 A What are you referring to in the
10 testimony?

11 Q This the document that's labeled RMP
12 Cross-Exhibit 9.

13 A Yes.

14 Q And this was testimony you filed in May of
15 last year, 2017, before the Public Utility
16 Commission of Oregon?

17 A Yes.

18 Q And, again, I'll represent to you, this is
19 a short excerpt of that testimony, just in the
20 interest of conserving paper. And this case
21 involved a calculation of avoided cost pricing,
22 correct?

23 A That's correct.

24 Q And one of the issues in the case, at
25 least a marginal issue in the case, was how to

1 **account for PTCs in calculating avoided cost**
2 **pricing, correct?**

3 A The -- I actually discussed this issue in
4 my testimony, which is the excerpt that you have
5 here, and I don't know that it was necessarily an
6 issue for other parties, but I certainly did a walk
7 through of the issue in this excerpt.

8 Q And I'll just direct your attention to
9 Page -- it's Page 14 of the testimony, footnote 10.

10 A Yes.

11 Q And you testify there that, "PacifiCorp
12 apparently treats PTCs as a negative fixed cost and
13 thus an offset against capacity costs, even though
14 PTCs are actually a function of energy output and
15 arguably should be included in the calculation of
16 avoided energy costs." That was your testimony
17 before the Oregon Commission, correct?

18 A Yes. And that testimony, as you pointed
19 out, was in the context of avoided cost, and that
20 testimony was really speaking about the curiosity of
21 reflecting PTCs in the capacity payment to
22 qualifying facilities, as opposed to the energy
23 payment.

24 And, of course, as you can tell in
25 context, this was simply a footnote, it was a

1 parenthetical comment that I made in passing. And I
2 didn't challenge the Company's approach, nor does
3 this discussion here speak to the issue that's being
4 considered in this docket, which is real
5 levelization versus nominal treatment of PTCs.
6 This footnote says nothing, whatsoever, about real
7 levelization or nominal treatment of PTCs. This simply
8 mentions the fact that, in the Company's avoided cost
9 calculations, the avoidance of PTCs is reduced from a QFs
10 capacity payment, rather than its energy payment. And I
11 did point out that, arguably, it could be reflected in the
12 avoided energy payment, as opposed to the avoided capacity
13 payment, but then didn't --

14 Q Didn't pursue --

15 A -- how it was done.

16 Q Well, just to be clear, the avoided
17 capacity payment is essentially a reflection of the
18 capital costs of whatever resource is being avoided
19 in the context of a PURPA transaction, correct?

20 A Correct. Correct.

21 Q And just to be clear, where you testified
22 in Oregon that PTCs are actually a function of
23 energy output, in this case, the energy output from
24 these projects is modeled on a nominal/nominal
25 basis, correct?

1 A The energy output, the kilowatt hour, net
2 power cost is modeled on a nominal/nominal basis,
3 that's correct.

4 Q So at a minimum, your testimony in front
5 of the Oregon Commission, even if it was in passing,
6 suggests that there's no reason PTCs and capital
7 costs need to be modeled on the same basis because
8 they're reflected differently in rates, correct?

9 A I disagree. That's not what I said. What
10 I said is that one could treat the PTCs in the
11 context of a payment to a qualifying facility, as an
12 offset to the capacity payment or to the energy
13 payment, arguably. You could look at it either way.
14 And -- but I did not say that one should treat the PTCs on a
15 nominal basis. That's not what this footnote says, and
16 that's not what I was suggesting in this testimony.

17 Q Now, something that you mentioned in your
18 summary, as well as in your pre-filed testimony, is
19 that it's your opinion that there is no need, no
20 resource need for the repowering projects, correct?

21 A That's correct.

22 Q Now, you've also testified that the energy
23 that's produced by these repowered facilities'
24 incremental energy is going to displace market
25 purchases or thermal generation, correct?

1 A Correct.

2 Q And you previously testified that market
3 transactions or market purchases represent a need
4 that can be displaced by a lower cost resource,
5 correct?

6 A That is correct, but if you -- but in
7 terms of a nexus between that statement and my
8 statement that there is no need for these projects,
9 the context is important. The current facilities,
10 the current repowering facility -- the current
11 facilities that would be repowered, today, produce
12 about 2,600,000-megawatt hours per year of energy.
13 Okay? The new proposal would generate
14 about 3-and-a-half-million megawatt hours a year of
15 energy. So there's an increase of
16 about 600,000-megawatt hours a year from this
17 project. So in essence, there's -- there is some
18 incremental energy coming out of this project, but
19 it's really a byproduct of the larger project to
20 generate new PTCs. And so one -- I don't think one
21 could say, with a straight face, could assert that
22 you would make a \$1.1 billion investment for the
23 purpose of generating 600,000 -- 600,000 extra
24 megawatt hours a year.

25 So, yes, while there is some incremental

1 energy, that is not the underlying driver of this
2 project and why it's being presented for approval.

3 Q Let me direct your attention to the
4 document that I've labeled RMP Cross-Exhibit 10.
5 And this is testimony you filed in front of the
6 Commission in Docket 15-035-53. And I'd just like
7 to direct your attention, please, line -- excuse
8 me -- to Page 3, and beginning on Line 46.
9 You testified that, "The IRP," -- this is PacifiCorp's IRP
10 -- "anticipates a need to acquire hundreds of thousands of
11 megawatt hours every year through market purchases." Do you
12 see that testimony?

13 A Yes.

14 Q And then on -- if I could direct your
15 attention to Page 6, of that same testimony. On
16 Line 108, you testified, with respect to a
17 transaction with the QF, "Thus" -- and I'm quoting
18 you, "it is not a matter of taking unneeded or
19 uneconomic energy, rather substituting one source of
20 energy for another source." Do you see that
21 testimony there?

22 A Yes.

23 Q Now, in this case, if repowering generates
24 incremental megawatt hours or energy at a lower cost
25 than the alternative in the same way you're

1 **describing QFs meeting a resource of need, the**
2 **repowering project meets that same resource need,**
3 **correct?**

4 A Only the incremental amount of energy,
5 which, as I said, is a byproduct of the investment.
6 There's about a 25-percent increase in the kilowatt
7 hour production relative to the existing facilities,
8 and in terms of context, I will point out, this
9 case -- that this testimony was in a case, which I
10 testified, in which the Company's position was -- it
11 did not need new resources for a decade. So the
12 Company's position in 2015 was, it did not need new
13 resources for a decade. That was in Mr. Clements'
14 testimony in this very docket, and I was pointing
15 out the QF power would -- would displace market
16 purchases, but of course, that was all incremental.

17 This proposal before the Commission now
18 has -- essentially replaces existing Company
19 generation, two-and-a-half million megawatt hours of
20 existing generation, and then produces, on top of
21 it, an extra 600,000-megawatt hours. So I would
22 agree, to the extent you want to talk solely about
23 the increment, there is some displacement of
24 resources taking place, but you're also paying
25 \$1.1 billion for that.

1 Q If you could turn to your direct
2 testimony, please, Page 18. I'm sorry. I lost
3 myself in the wrong testimony, so if you could just
4 give me a moment.
5 Okay. I'm there. The last one in there. So if I could
6 direct your attention, please, to Line 358?

7 A Is this my response testimony?

8 Q This is your direct testimony.

9 A My direct testimony. I'm sorry. I
10 thought that's what you said.

11 Q And I went to the response, was my
12 problem, so I excuse myself on that one.
13 Are you there on Page 18?

14 A Yes, I am.

15 Q And on Line 358, you testified that, "RMP
16 has made it clear that recovering the costs and
17 earning a return on the retired assets is an
18 integral part of its proposal," correct?

19 A Yes.

20 Q And then you continue that you believe
21 it's a significant reason for the Company seeking
22 pre-approval, is to ensure that that will occur.
23 And then you testified that it would not make sense
24 for the Company to present an opportunity investment
25 designed to reduce long-term rates that exchange --

1 the Company was susceptible to an after-the-fact
2 disallowance. Do you see that testimony?

3 A The after-the-fact disallowance on its
4 retired plant?

5 Q On its retired plant.

6 A Yes.

7 Q Now, if I could direct your attention --
8 I'm sorry, now back to your response testimony,
9 Line 767. And actually, it begins a little bit
10 further up. It's one of the conditions that you
11 proposed, you begin on Line 764, and the condition
12 recommends that the future cost recovery associated
13 with repowering be conditioned on the ability to
14 demonstrate the construction cost coming at or below
15 the estimates and then measured over a reasonable
16 amount of time. The energy is equal to a
17 greater-than forecast, correct?

18 A Correct.

19 Q And if those conditions are not met, you
20 specifically ask the Commission to have the
21 opportunity to, after the fact, reassess the
22 prudence of the repowering project, correct?

23 A I recommend that the Commission keep open
24 the option to evaluate whether the cost and benefits
25 should be redistributed between the Company and

1 customers.

2 Q So doesn't this -- this condition that you
3 recommend, is indeed the exact type of
4 after-the-fact disallowance you specifically
5 testified would not make sense in this case?

6 A No. And the -- with respect to the
7 reduction in -- in the term and basis upon reduction
8 on the return on the retired plant, I do believe
9 that it would make sense for the Commission to
10 address that up front in this case and make that as
11 a condition of any approval up front, rather than
12 make it an after-the-fact risk that was not tied
13 down at some point.

14 Separate and apart from that, the
15 projected benefits from this project are contingent
16 on the Company's plants performing in the way the
17 Company has projected. And if over a reasonable
18 period of time, it turns out that that -- the plants
19 just don't perform, I do believe it would be
20 reasonable to reexamine the relationship of the
21 benefits between the Company and customers. And,
22 yes, after the fact.

23 But, again, it would be -- the Company
24 would be put on notice now. So that's why I'm
25 saying these things now and up front. It wouldn't

1 be the case that it gets through and then someone
2 necessarily raises the issue later, but I think the
3 Commission should make it clear now, the Commission
4 is open to looking at reassessment.

5 Q And, Mr. Higgins, your proposed condition
6 if the opposite occurs -- let's say, for example,
7 the energy production is more than expected, where
8 the costs come in at less than forecast. I presume
9 you would be open to also reexamining the sharing of
10 costs and benefits and perhaps giving the Company a
11 larger return on its investment or increasing its
12 rates somehow, to account for the fact that the
13 performance increased over what gets accrued in this
14 case?

15 A That's not part of my proposal. If the
16 Commission were to feel that that would make it a
17 more symmetrical approach, the Commission could
18 consider that, but that's not part of my proposal.
19 And, you know, it's part of my proposal, in part, because
20 the -- I already see the benefits of this project as skewed
21 in favor of the Company to start with. And so the -- to the
22 extent that things turn out a little bit better than the
23 Company has afforded -- I mean, the Company has several
24 different scenarios in this forecast. Things turn out a
25 little bit better, say, than the low-end case, I think it's

1 reasonable for the customers to see those benefits because
2 that was part of how this whole thing was sold, if you will.
3 So nevertheless, depending on the specific re-openers that
4 the Commission wishes to consider, I suppose that they could
5 consider a better deal for the Company if the project
6 outperforms, but that's not specifically part of what I'm
7 proposing.

8 Q Now, if you could turn to your response
9 testimony, Page 36, please, and beginning on
10 Line 636. You recommend that the project be scaled
11 back to exclude Leaning Juniper, correct?

12 A Correct.

13 Q And the basis for this recommendation, as
14 described on Line 639 and 40, is that Leaning
15 Juniper, according to your analysis, fails to
16 provide projected net benefits under a 20-year
17 period, using nominal PTCs and nominal capital costs
18 under either the medium or low gas scenarios,
19 correct?

20 A Correct.

21 Q And if we just turn back one page, to
22 Page 35, the table on that page is the table that
23 describes those results that you were describing.
24 It shows, under the medium gas case, Leaning Juniper as a
25 cost under all three of the models, correct?

1 A Correct.

2 Q And then on Page 14, it shows your low gas
3 results, correct?

4 A On Page 36?

5 Q Yeah. Excuse me. Table KCH-14.

6 A Correct.

7 Q Now, Mr. Link testified that the Company's
8 economic analysis in this case conservatively did
9 not include any values for REC's, correct, the
10 renewable energy credits?

11 A Correct.

12 Q And are you familiar with the fact that
13 Mr. Link testified that for Leaning Juniper in
14 particular, for every dollar of REC, for every
15 dollar assigned to an incremental REC, the benefits
16 of that project increased by \$1.1 million?

17 A I am familiar with his testimony, yes.

18 Q Now, isn't it true that you've testified
19 in the last several cases in front of the Oregon
20 Commission about how valuable REC's are?

21 A I have testified, not about -- not
22 necessarily about how valuable REC's are, but I've
23 testified that direct access customers should
24 receive credit for renewable energy that their
25 producer, their supplier, supplies them because

1 they're also paying PacifiCorp for the same kilowatt
2 hours of renewable energy, and that there should be
3 a recognition of that. And I've had disagreements
4 with the Company in Oregon about an appropriate
5 approach to value that. But I did not argue that
6 they had tremendous value; I argued that, what value
7 they have should be recognized. And I argued about
8 the method for -- for which it should be of value.
9 And, of course, the Company countered by arguing
10 that they had very, very little value.

11 Q And I guess you've made that
12 recommendation, at least, in the last three annual
13 power cost filings in Oregon, correct?

14 A That is correct.

15 Q And presumably, if you believed REC's had
16 no value or had de minimis value, you wouldn't be
17 making the same recommendation three years in a row,
18 right?

19 A I -- it was a -- it was an argument that I
20 made that I stand by and I believe is valid, but it
21 wasn't based on the REC's having a tremendous amount
22 of value, it was based on the fact that they have
23 value in Oregon. And I believe that the value
24 should be recognized, yes.

25 Q Now, if you could turn to document RMP

1 Cross-Exhibit 13.

2 A Sure.

3 Q And this is testimony that you filed in
4 one of the cases we were just discussing. This
5 testimony was filed with the Public Utility
6 Commission of Oregon in August of 2016. And if you
7 could turn to page 7 of that testimony, please?
8 Beginning on line 3, of page 7, you're describing a
9 hypothetical to value the exercise you just described, and
10 you assume the hypothetical value of \$1 for an unbundled
11 REC, correct?

12 A Correct.

13 Q And then in the footnote, you say, "This
14 value, this \$1 value is in the general range of REC
15 values that are identified in public sources,"
16 correct?

17 A Correct.

18 Q Now, if we could turn back, just briefly,
19 to Page 35 of your response testimony, that's the
20 table that shows the medium -- medium/medium
21 scenario for each project. And assuming a \$1 value
22 for RECs under the SO model results, Leaning Juniper
23 would go from a \$1 million cost to a small
24 incremental benefit, correct?

25 A Well, I believe it would go to about a

1 breakeven, based on the numbers you represented to
2 me.

3 Q 1.1 versus 1?

4 A Well, this one -- let's be clear, right?
5 This one is a rounded number, right? It's 1 million
6 mas o menos. So we don't -- we -- I don't know how
7 many decimal points this goes out. So if we're
8 talking about rounding in the table, then you've got
9 to round the number that you've got for the REC
10 value as well. So I'd say that, you know, it rounds
11 to about zero in -- in the SO model case and it's
12 still a cost in the other two cases.

13 MR. LOWNEY: Thank you, Mr. Higgins.
14 I have no further questions. I would move to admit
15 Rocky Mountain Power Cross-Exhibits 9, 10 and 13.

16 COMMISSIONER LEVAR: If any party
17 objects to the admission of those exhibits, please
18 indicate to me. I'm not seeing any objections, so
19 the motion is granted.

20 (RMP Cross-Exhibit Nos. 9, 10, and 13 admitted.)

21 COMMISSIONER LEVAR: Mr. Russell, any
22 redirect?

23 MR. RUSSELL: Yes, Chairman.

24

25

1 REDIRECT EXAMINATION

2 BY MR. RUSSELL:

3 Q Mr. Higgins, do you recall being asked
4 questions about testimony you provided in
5 Docket 15-035-53 in this Commission?

6 A Yes.

7 Q I've got a couple of follow-ups on that,
8 but first I need to hand out some testimony, so I'll
9 do that very briefly.

10 COMMISSIONER LEVAR: And if anyone
11 has a cellphone close to your microphone or an iPad
12 that's getting a signal or something, maybe move it
13 away from your microphone. Or maybe my new sound
14 system just isn't quite good.

15 MR. RUSSELL: The document I've just
16 handed out is the direct testimony of Paul Clements.
17 It was filed May 11 of 2015. It was filed with
18 Rocky Mountain Power's application and in support of
19 that application in Docket Number 15-035-53. I
20 think for purposes of this hearing, we can identify
21 this document as UAE Hearing Exhibit 1.

22 BY MR. RUSSELL:

23 Q Before I ask a specific question about
24 that testimony, Mr. Higgins, are you familiar with
25 the IRP that was in effect at the time of this

1 testimony that was filed in May of 2015?

2 A Generally, yes.

3 Q Okay. And is it your recollection that
4 that IRP included, as a method of meeting the
5 Company's loaded resource requirements, that it
6 would have included an expectation of acquiring
7 energy through market purchases and front office
8 transactions?

9 A Yes.

10 Q Okay. And you mentioned in
11 cross-examination that the Company's position was
12 that it did not need resources for a decade, and I
13 just -- I want to -- I'm going to explore that for
14 just a second. I'll have you turn to Page 3 of UAE
15 Hearing Exhibit 1. Do you have that?

16 A I do.

17 Q And Line 62, starting in the middle of
18 that line.

19 A Yes.

20 Q And it states, "The Company has no need
21 for resources for the next decade."

22 A Yes.

23 Q Okay. And then let's turn to Page 18, and
24 Line 370. And the testimony there reads, "The
25 Company primarily enters into long-term transactions

1 (those that exceed 36 months) only when there is a
2 clearly identified long-term resource need in its
3 IRP. Long-term resource needs are typically
4 identified in the IRP only after lower cost,
5 lower-risk short-term resource opportunities are
6 exhausted such that a long-term resource is required
7 to meet customer load requirements." My question to
8 you is, the testimony that we've just highlighted
9 from this, is this consistent with your recollection
10 of the Company's position in that docket?

11 A Yes. And this was the context that I was
12 referring to when I was responding to Counsel for
13 the Company.

14 Q Okay. And just to tie this up.
15 Do you recall what that docket was about?

16 A Yes. That docket was about -- the primary
17 issue in that docket was that Rocky Mountain Power
18 was recommending the QF contract terms be reduced
19 from 20 years to three years. That was -- that was
20 the primary issue under consideration.

21 MR. RUSSELL: Okay. No further
22 questions.

23 COMMISSIONER LEVAR: Thank you. Any
24 recross based on those questions?
25 Commissioner Clark, any questions for Mr. Higgins?

1 COMMISSIONER CLARK: No questions.

2 Thank you.

3 COMMISSIONER LEVAR:

4 Commissioner White?

5 COMMISSIONER WHITE: Yes, just one
6 question.

7 BY COMMISSIONER WHITE:

8 Q To your proposal, I -- essentially, I
9 guess, to be characterizing it incorrectly, but
10 essentially to give a haircut on the return on the
11 legacy assets, is that something you have ever seen
12 done before? I mean, is that -- and I'm just
13 wondering, I mean, legally, those were approved --
14 those projects were approved -- I mean, I guess I'm
15 just wondering, is that something you've seen done
16 in this Commission or others?

17 A I have seen haircuts given on existing
18 assets for various reasons, and the -- I've seen
19 them ordered by Commissions and I've also seen them
20 as a result of stipulations, which, of course, are
21 typically considered maybe not precedential. But to
22 your specific question, for example, here in Utah,
23 there was a stipulation in which the Company agreed
24 to take a lower rate of return on regulatory assets
25 associated with the Klamath Dam Project, and

1 essentially, receives a debt return on that project.

2 And, again, that -- that's something that was
3 approved by the Commission, it wasn't mandated by
4 the Commission. It was something the Company agreed
5 to do, but it has happened before here.

6 I've also seen Commissions order lower rates of return on
7 certain regulatory assets, which -- which this would be.
8 This would be or could be structured as a regulatory asset,
9 but as the unrecovered retired plant could be carved out and
10 considered to be a regulatory asset. And I've seen lower
11 returns and regulatory assets in the context of prepaid
12 pension assets. For example, the Kansas Commission, to my
13 recollection, has ordered that.

14 So you do see, from time to time, certain
15 assets singled out and treated that way. And I
16 certainly think that in a case like this, where you
17 have an extraordinary retirement, that as a
18 retirement on an asset that's only ten years old, in
19 essence that's got another 20 years left on it, as
20 part of a proposal for, you know, an opportunity
21 investment, if you will, I do think that the return
22 allowed on a retired asset can be considered part of
23 the equation for coming up with a balanced result.

24 COMMISSIONER WHITE: That's all the
25 questions I have. Thanks.

1 COMMISSIONER LEVAR: Thank you. One
2 follow-up to Commissioner White's question.

3 BY COMMISSIONER LEVAR:

4 Q Just to the issue of whether that
5 suggested baseline reduction would be a single-item
6 rate case, were any of those examples you cited
7 outside of a general rate case that you're aware of?
8 I know they weren't your testimony.

9 A Those examples were in the context of a
10 rate case, and my recommendation is actually that it
11 would be addressed in rate cases. So I'm not -- I'm
12 really not recommending that the 200 basis point
13 reduction be a single-issue ratemaking event. I'm
14 recommending that it be part of the Commission's
15 pre-approval and that, as I've actually described in
16 my testimony, that it would be going forward,
17 adjustment in rate cases so that it wouldn't be
18 anything that necessarily took effect until there
19 was a rate case. And at that time, this regulatory
20 asset, which would be carved out recognizing this
21 separate retired plant, would be subject to this
22 basis point adjustment. And it would really be an
23 adjustment to whatever the allowed returned equity
24 happened to be in that case. So it really would
25 look forward with rate cases and would happen purely

1 in the context of general rate cases moving forward.

2 Q Okay. Thank you.

3 A Thank you.

4 Q And I don't want to belabor this issue. I
 5 had some discussion with Mr. Hayet about it, but in
 6 search of some kind of objective standard where the
 7 statute arguably doesn't really give us one and
 8 gives us some things to consider, if we look at each
 9 of the individual 12 projects and try on one site
 10 to -- to analyze or -- not analyze, but to find some
 11 path for putting the numeric value to cost benefits
 12 and low risks, for each repowering project compared
 13 with cost benefits and unknown risks of not
 14 repowering and then try to make a decision on each
 15 of the 12 based on something like that, can you
 16 suggest any kind of objective way to look at that?

17 A This is what I would suggest. I would
 18 suggest that you look at each project separately and
 19 see how they stand on their own merit. I would
 20 further suggest that you examine various of the
 21 analyses that have been put forward by Mr. Peaco and
 22 Mr. Hayet because they've looked at -- they've done
 23 some framing of the analysis. I also believe that
 24 you could look at it in the context of two analyses
 25 that -- that are grounded in the Company's analysis.

1 First, you could look at the nominal and
2 nominal treatment, which is -- shows up in my -- my
3 testimony. It's not really the Company's analysis,
4 but it's derived from the Company's numbers. Look
5 at each project there. In that case, the Leaning
6 Juniper would fail. But you could also then look at
7 it under the initial IRP method, which is also laid
8 out in my testimony. And in that case, about eight
9 or nine of the projects would fail. And so that
10 will at least allow you to really eliminate the
11 projects that appear to be least economic and I
12 would encourage you to -- in terms of a metric that
13 you're looking for, I would encourage you to look at
14 it conservatively. That is, I would encourage you
15 to look at the low gas, zero CO2 case, and the
16 reason for that is that this a project that's not
17 fundamentally needed. And so if what you're trying
18 to do is assess whether there's some upside for
19 customers that you don't want them to miss from all
20 of this, even though it's not a needed project, I
21 think the appropriate format to look at that is from
22 a conservative standpoint. And look at it and say,
23 how -- how does it do under the, in essence, the
24 worst case scenario, because we don't otherwise
25 really need to do this.

1 COMMISSIONER LEVAR: Thank you. I

2 appreciate that answer. Do either of you have
3 anything further?

4 COMMISSIONER CLARK: Can I just
5 follow up for a second?

6 BY COMMISSIONER CLARK:

7 Q So as we look at the projects, addressing
8 the 200 basis point reduction on return on the
9 assets that would be retired, are you offering that
10 as another lever or another mechanism that we can
11 use to -- in the event that we have concerns about,
12 especially, the -- some of the specific projects
13 where the benefits are slimmest, that another way we
14 could address that is to reduce the return on the
15 retired assets as a way to alter the balance of
16 benefits and burdens that has been a concern to you.
17 Is that -- is that what you're -- is that --

18 A Commissioner, that is exactly what I'm
19 recommending. And I wouldn't -- I would describe it
20 exactly as you described it, as another -- it's
21 another lever at your disposal. And I really
22 believe that in the position that you're in, it's
23 important to have those levers available to you.

24 COMMISSIONER CLARK: Thank you. That
25 concludes my questions.

1 COMMISSIONER LEVAR: Did you have
2 anything further?

3 COMMISSIONER CLARK: Nothing further.

4 COMMISSIONER LEVAR: Thank you,
5 Mr. Higgins. We appreciate your testimony today.

6 THE WITNESS: Thank you.

7 COMMISSIONER LEVAR: Mr. Russell,
8 anything else from you?

9 MR. RUSSELL: No, Chairman. Thank
10 you.

11 COMMISSIONER LEVAR: Okay. And,
12 Ms. Hickey, did you have anything else?

13 MS. HICKEY: No. Thank you, sir.

14 COMMISSIONER LEVAR: Anything else
15 from anyone? Okay. Well, we will take this matter
16 under advisement and issue a written order in
17 reasonable time.

18 Thank you for your participation in
19 this hearing yesterday and today. We're adjourned.

20 (The hearing concluded at 2:50 p.m.)

21

22

23

24

25

1 REPORTER'S CERTIFICATE

2 STATE OF UTAH)

3 COUNTY OF SUMMIT)

4

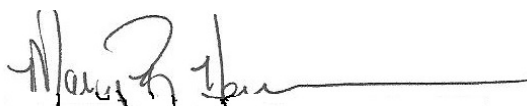
5 I, Mary R. Honigman, a Registered Professional
6 Reporter, hereby certify:

7 THAT the foregoing proceedings were taken before
8 me at the time and place set forth in the caption hereof;
9 that the witnesses were placed under oath to tell the truth,
10 the whole truth, and nothing but the truth; that the
11 proceedings were taken down by me in shorthand and
12 thereafter my notes were transcribed through computer-aided
13 transcription; and the foregoing transcript constitutes a
14 full, true, and accurate record of such testimony adduced
15 and oral proceedings had, and of the whole thereof.

16 I have subscribed my name on this 16th day of May,

17

18



Mary R. Honigman

19

Registered Professional Reporter #972887

20

21

22

23

24

25

\$	(5) 49:20	1.2 163:13	11 122:9,18 126:13	145 4:19
\$1 116:16 158:24 159:12 169:3 190:10,14,21, 23	(6) 49:21	1.2-RE 163:18	173:25 192:17	15 32:5,8 83:16,25 88:13 166:20
	1	1.2-S 163:15	111 5:20	15-035-53 5:11 181:6 192:5,19
\$1.1 169:10 180:22 182:25 188:16	1 5:19 19:21 20:8 21:2 24:3 36:5 51:6 84:10 114:21 118:18 191:3, 5 192:21 193:15	1.29 13:23	11th 2:7,10	
\$150 66:16, 20,24	1,000 112:6	1.3-RE 163:18	12 15:19 25:18 26:1 32:1 122:5,9, 18 149:13 150:14 157:8, 11 198:9,15	150 163:25 164:6
\$200 67:17, 18,19,23 68:5,7 114:18	1-2 5:21 111:14,22	1.42 13:24	121 4:18	151 4:18
\$36 104:18	1.0 5:23 11:5 13:6 25:12,16 26:5 163:12 164:18	10 5:10 67:16, 25 68:8 177:9 181:4 191:15, 20	13 5:12 31:6, 11,21 190:1 191:15,20	156 4:19
\$7 126:1	1.0-RE 163:17	10,000 139:10	130 12:21	159 4:19
(1.0-S 163:14	10-035-124 104:1	1300 3:10	16 51:6 163:14
(1) 49:14 119:8	1.1 163:13 191:3	100 14:18 15:11,12 16:18 38:8 67:24 134:8	135 30:23 31:1 34:1,3	160 2:23 55:21 83:5
(2) 49:18 119:14	1.1-RE 163:18	10-year 67:6, 10 69:11	136 3:10	162 4:21
(3) 49:19 119:21	1.1-S 163:15	106 5:6	14 31:6,11,21 177:9 188:2	164 5:23
(4) 49:20		107 132:7	1407 2:14	17 29:4
		108 4:17 181:16	142 164:1,2,6	17-035-39 1:2 6:4
				175 4:21

18 183:2,13 193:23	2-RESP 5:20 111:21	2003 166:19	113:14 123:10 131:12 137:21,25 138:14,17 139:7 166:6	182:6
180 8:18	2-S 111:12,21	2007 117:8		26 33:24 140:3
183 34:11,17	2.1 111:10	2011 104:2, 12,25 105:6		27 33:3 34:2
191 5:8,10,12	2.1-2.7D 5:20 111:21	2015 182:12 192:17 193:1	2037 12:9,10 19:13 123:12	28 20:16 21:2 121:24
192 4:22	2.7-D 111:11	2016 5:12 190:6	2042 51:13	2:50 201:20
195 4:22	20 33:2 37:8, 15 41:3 59:24 81:1 83:15 88:12 163:11 170:1 173:25 194:19 196:19	2017 5:8 18:21 20:16, 24 21:3 51:13 83:16,25 84:1 88:13,14 93:19 101:2 109:16 114:15 163:11,14 166:6 168:9 176:15	2050 11:14 12:10 33:6 124:7 140:1 141:10	2A 98:7
197 4:23				2nd 35:17 56:8 88:19 109:23 110:9 145:4 163:16
1:00 120:6			21 113:25 173:23 174:1, 4,5	
1D 5:18 84:10				3
1S 5:18 84:10	20-year 32:20 113:6 114:1, 18 121:18 166:5 167:2 168:8 170:22 171:6 176:2 187:16	2018 1:12 5:15 56:8 83:17 88:16, 19 109:17,18 139:16 140:22 163:16	215 163:3	
2			22 10:9 33:5	3 34:2 93:22 101:20 117:24 181:8 190:8 193:14
2 5:15 83:17 88:14 101:7, 13 111:13 114:21 115:3 140:5	200 4:23 38:8 163:3 168:14 197:12 200:8		23 126:14	
2,600,000- megawatt 180:12	200-basis 168:23	2019 67:14	23rd 118:12, 18	3,000 115:23
2-D 111:10,21	2000- whatever 81:18	2022 19:5	24 20:18,23 32:13,15 34:2 96:10 124:1	3,500 37:16 123:11 138:18
		2036 52:25	25 104:9	3,600 138:25
			25-percent	3-and-a-half- million

180:14	110:9	4-RESP 5:15 56:6	49 4:4 164:1,5	2:8
3-SD 123:19	34-year 113:7	4.0 56:3	4th 1:9,12	503 595-3926 2:11
30 12:16 16:9, 16 17:11 19:20 22:7,18 23:4,21 24:1 37:8,15 60:24 67:16 68:10, 18 80:13 88:16 105:8 173:23 174:1	35 113:24 131:9 187:22 190:19	4.0-DIR 56:23	5	509 96:13
30-year 32:12,21 37:13 59:6 61:14 62:2 67:15 80:20	358 183:6,15	4.0-direct 56:19	5 110:1 121:23 122:4 129:21 130:2 131:6 132:24 155:17,18	511 96:15
30-years 67:10	36 33:9 187:9 188:4 194:1	4.0-RESP 56:19,23	5-percent 130:15 131:2, 3,15 132:2,5 133:3 134:1, 24,25 155:20	52 4:4
300 1:9 2:18, 23 55:21 83:5 109:24	370 10:8 193:24	4.0-SR 56:5, 19,23	5-year 69:20, 22	54 41:3 42:13
30075 109:7	374 10:10	40 146:20 163:24 187:14	5.8 145:4	54-17-403 98:7
31 99:15 125:7 136:2 149:2	376 10:7	400 2:7,10 3:2	50 57:22 130:7,22	55 4:6 41:3
320 2:14	378 10:7,10	419 2:7	50-percent 130:16 131:19,22 133:25	56 5:15
33 104:11	38 159:24	434926-A 1:15	50/50 28:3,7	570 109:7
34 109:24	39 159:24	46 181:8	500 29:6	584 38:10
	4	4654 88:7	503 595-3924	586 38:11
	4 5:5 6:19 10:19,24,25 20:13 21:5 24:20 48:2,6, 9 51:15 101:2 109:25 124:1	48 5:5 24:7,8, 10 34:7,8		6
	4-D 5:15	487 123:15		6 49:25 117:19 125:9 136:2 149:1 181:15
				60 93:22

600,000 180:23	110:10	764 184:11	80903 3:7	94 132:7,8
600,000-megawatt 180:16 182:21	69 4:8	767 184:9	81 4:12	95 119:23 133:12 155:16
	<hr/> 7 <hr/>	78 4:11	82 4:13	
		784 160:1	84 5:18	96 32:16
62 4:6 193:17	7 103:25 106:18,23 118:4 190:7,8	785 160:1	84101 3:3	97205 2:7,11
63 4:7 93:23		<hr/> 8 <hr/>	84111 2:23 3:10 163:4	9:00 1:13
636 187:10	7,8 5:6			<hr/> A <hr/>
	70 4:8 12:14, 18,21,22,24 16:19 17:1,18 18:20 22:20, 22,25 37:3 53:21 54:6,12	8 4:3 15:19 100:23 102:20 106:18,23 118:4 131:8 133:23	84114 2:19	
639 187:14			84116 2:14	a.m. 1:13
65 36:20			865 164:5	abandoned 142:5
657 129:17,25				
	71 4:9	80 4:11	87 4:14 117:22 132:9, 16	ability 90:4,5 102:9 103:10, 17 160:5,20 161:6,7 167:16 184:13
659 35:20	714 163:24	801 220-4050 2:15	88 4:15	
66 4:7	719 302-2142 3:7	801 363-5678 3:11	<hr/> 9 <hr/>	
661 100:10 130:5,7	72 31:23 32:2 34:1	801 363-6363 3:3	9 5:8 176:12 191:15,20	able 70:8 90:20 142:7 152:8 160:17 166:12,19
662 35:23	721 104:11,15	801 366-0158 2:24	90 133:10	above 18:7 77:15 98:2 158:19
663 35:17,23		801 366-0335 2:19	91 133:15	
665 37:7	722 104:11,15			absent 95:9
666 37:5	75 4:10		93 4:16	
677 109:24	750 115:20			

170:4	170:7 172:15 177:1 186:12	91:20 132:10	81:4 92:4 165:25	66:13 69:18 90:22 116:10 119:21 172:8
absolutely 154:18	accounted 139:8 141:25	achieves 167:6	actually 7:10, 22 8:23 9:23 35:19 36:10 49:8 50:8,11 53:16 103:1 112:16 130:2 144:7 152:20 157:22 160:1 177:3,14 178:22 184:9 197:10,15	additional 8:23 19:19 22:6,18 33:7 34:7,8 66:15 72:25 77:5 80:25 90:21, 24 103:10,17 104:8 106:3, 11 119:18 141:25 150:21 159:10 165:23
accept 13:21 14:1,21 15:22 30:21 32:14, 15 33:21 34:4,6,12 37:18 95:16 126:19 134:13 155:12 156:3	accounting 85:14 94:9	achieving 150:7	Ad-hoc 165:19	additionality 154:25
acceptable 28:3 146:13	accounts 81:19	acknowledge 102:21 129:24 130:4	Adam 2:9	additions 84:2
accepted 21:9 129:3,4	accrued 186:13	acknowledge d 29:16 131:17	adam@mrg- law.com 2:12	address 24:25 55:15, 20 62:16,19 64:10 73:19, 22 83:2,5 88:4,7 89:21 91:25 104:8 109:2,3,6 112:4 159:22 163:1,2 168:11 173:10 185:10 200:14
access 103:9 188:23	accumulated 91:22	acquire 181:10	add 9:22,23 74:7 79:2 141:25 150:22 153:18	
accommodati on 43:13	accuracy 119:22	acquiring 193:6	added 150:24 151:1	
according 11:18 125:20 145:11 175:19 187:15	accurate 142:23 143:3 145:9	acquisition 49:15 85:2	adding 34:1 103:15 142:4 143:21 150:21	
account 8:22 29:15,20,25 30:13 77:22 97:11 101:5 123:11 165:9	accurately 114:9	across 27:2 122:24 124:21,24 134:2	addition	addressed
	achieve 132:6,7,20 133:10,15 134:13,15 152:10 155:9, 14,16 160:17 170:10	act 93:18		
	achieved	action 174:9		
		actions 98:11		
		actual 21:25		

91:2,9,23 102:23 104:4 113:11 197:11	191:14	170:13	96:3 102:6 104:4 106:2 124:7,23 130:8 131:10, 16 137:23 140:6 152:19, 24 153:12 154:1,16,20 164:1 175:9 176:18 185:23 196:2	176:4 182:22
addresses 103:10,11	admitted 48:9 56:24 84:11 106:23 111:22 164:18 191:20	affect 80:8 165:24	agreed 39:1 154:22,23 156:2,8 195:23 196:4	
addressing 51:2 90:12 99:4,17 200:7	adopt 83:10 153:22 156:8	affirmative 9:2	agreeing 38:17,25	
adds 85:15 89:16	adopted 172:14	afforded 186:23	agreement 69:19 70:5	
adequate 89:20 146:14	adopting 171:19	after 23:24 30:16 59:17 98:14 108:5 113:24 114:24 115:7 137:25 138:17 139:7 156:25 166:10 184:21 185:22 194:4	against 18:5 26:18 67:7 97:8 147:20 164:25 177:13	agrees 101:21
adequately 68:3	advance 10:23		aggregate 27:14	ahead 108:13 156:20
adjourned 201:19	advancement 138:5	after-the-fact 184:1,3 185:4,12	aggregated 50:20	aimed 166:14
adjustment 168:16 197:17,22,23	advantage 102:3 132:13 165:5	afternoon 107:15 121:4, 5 164:24 175:14,15	aggregates 50:17	air 66:19
Administratio n 21:22	advice 148:22		ago 102:15 146:3	align 18:11 52:8
admission 48:5 56:18 89:2 111:8,16 164:13 191:17	advisement 201:16	again 11:23 12:14 15:16, 25 16:7 34:13 51:16 69:1 75:17 81:5 83:15 90:10 91:3 94:21	agree 25:9 30:12 36:18 93:10,14 97:4 98:1 128:19 134:20 138:20 139:1, 2,5,22,24 140:2 141:12, 18 157:25	aligned 19:1 54:7
admit 106:17	advising 97:8 142:18		aligning 22:22 167:10	
	advocating		aligns 18:14, 16	
			all 6:24 7:23	

12:7 18:6 24:23 25:1 27:25 28:9 30:22 32:23, 24 33:9 34:19 38:20 39:2 40:4,23 42:17 50:13 52:12 62:24 65:21 68:25 75:5 76:20 77:24 81:24 82:1,9 83:19 86:9 87:13 90:2 95:25 98:8,19 111:6 112:22 114:9 116:10, 24 118:20 119:9,21 122:3 125:2 126:13,18 131:4 133:6, 15 134:2 135:7,8,15 136:1 138:8, 11 142:7 143:18 146:11 147:20 153:9 154:13,14,17 156:13 158:9 159:11 170:7 174:7,9 182:16 187:25 196:24 199:19	3:5 allocation 86:5,12 119:20 allow 58:9 70:19 71:9 73:21 74:17, 19,20 95:20 118:9,23 119:1,3 168:3 199:10 allowable 57:15 allowance 99:4 allowances 94:24 103:16 allowed 58:23 71:9 169:23 170:18 196:22 197:23 allowing 59:4 almost 161:17 alone 58:14 130:11 148:8 along 114:9	153:3 163:12, 15,17 already 16:6, 11 137:20 155:6 186:20 also 7:24 18:23 21:14, 17 32:22 33:13 37:21 42:1 49:24 50:5,7 51:1 54:16 57:24 60:11 61:5,7, 15 64:9,12 73:22 79:3 90:5,23 91:10 92:3 115:11 121:18 122:15,22 123:6,13 136:19 139:5, 7,24 141:8 143:16 144:20 148:1, 2 159:5,9,22 160:18 167:4 171:1 173:21 179:22 182:24 186:9 189:1 195:19 196:6 198:23 199:6,7 alter 200:15 altering 80:8 alternative	10:2 11:21 29:14 53:2,4 85:6 169:18 181:25 alternatives 71:24 116:25 although 8:2 168:19 amend 113:21 among 28:22 30:13 86:6 amortizable 59:24 63:23 amortization 60:4,13 61:1, 21 62:16 77:4 173:3,11,17 174:15 amortize 61:8,10 62:1 64:4 amortized 80:24 amortizing 61:13 69:11 amount 8:22	40:2 63:23 89:16 98:3 101:15 102:7, 25 103:1 104:24 105:15 114:20 119:16 134:16 144:10,13,14 150:1,2,6 169:8 172:9 182:4 184:16 189:21 amounts 90:24,25 98:2 100:3 118:1 119:24 analyses 84:21 85:18 113:6,8 122:13 144:3 198:21,24 analysis 10:13,15 14:20 15:4 18:13,25 22:10,13,14 24:21 29:19 32:20,23 33:6,16 34:12 51:10 53:5, 10,17 54:3 66:4,5 67:8 71:23 72:2 73:13 75:25 76:4,8,11 78:17 79:13,
alleviated 92:7 ALLIANCE				

15 80:7,18 81:14 84:23 85:12 94:10 99:21 101:9 109:9 113:5, 12 114:7 115:10 116:2, 6,19 117:14, 20 119:25 121:10 123:18 129:12 131:25 135:19 138:1, 3,13 140:1 142:1,10 144:11 149:6 155:19 157:24 159:4 167:3 187:15 188:8 198:23, 25 199:3	anomalous 26:21 27:21 29:9 another 9:22 16:9 17:11 27:11 32:13 64:13 126:6 153:11 156:5 181:20 196:19 200:10,13,20, 21 answering 147:14 answers 56:15 83:20 88:24 151:8 anticipates 103:18 181:10 anybody 133:9 137:9, 11 anymore 55:2 anyone 48:4 67:2 74:21 89:3 106:19 107:21 192:10 201:15 anything	14:21 28:7 50:24 77:18 94:25 102:8 103:4 109:22 126:1 155:4 160:9 162:7 197:18 200:3 201:2,8,12,14 anyway 152:11 anywhere 59:4 apart 185:14 apparently 114:7 177:12 appear 199:11 APPEARANC ES 2:1 appeared 113:11,22 appearing 2:13 appears 102:13 166:14 applicable	67:23 168:15 application 70:25 80:11 101:10 151:23 192:18,19 applied 78:20 applies 49:6 apply 53:12 68:7 147:5 applying 25:3 appreciate 36:23 43:13 55:2 70:14 71:11 151:8 159:15 161:23 200:2 201:5 approach 76:25 113:13 114:25 115:8, 11 129:2 142:3,4,16, 18,21,23 143:2 145:8 166:16,23 176:3 178:2 186:17 189:5 approaching 37:3	appropriate 13:25 19:2 48:15,17 57:12 58:9,15 61:20 63:17 64:6,9,12,16, 18,21,23 65:5 73:18 144:4 146:9 170:8 171:21 173:21 189:4 199:21 approval 1:3 6:5 8:17 35:12 65:16 85:25 97:15 98:15 99:2 164:25 167:9 169:22 170:8 181:2 185:11 approve 21:10 80:10 87:7 approved 70:25 81:17 97:8 98:9,11 100:7 119:16 169:4 171:12, 24 172:6 195:13,14 196:3 approves 64:22 86:9 168:12 approving
---	--	--	---	--

19:23 20:11, 16,24	7	112:10	associate 14:23	138:21 190:21
approximate 37:16	arguing 189:9	assess 15:6 199:18	associated 9:8,9 11:20 25:1 40:19 53:22 54:13 84:24 89:2,21 91:12,18 96:25 109:4 112:8 167:15 168:2 184:12 195:25	assumption 13:17 28:13 76:19,24 79:6,10 81:24 133:1
approximatel y 37:22 57:22 59:2 80:25 116:15 138:18	argument 158:21,23 189:19	assessment 121:7 122:5, 16 124:10 126:3		
	around 36:24 115:20 170:1	assessments 123:10		assumptions 12:20 13:20 14:18 18:15, 17 34:23 113:10 117:5, 6 119:22 134:9 166:2
April 5:15 35:17 56:8 83:17 88:14, 16,19 109:17, 18,23 110:8,9 114:21 118:12,18 145:4 156:2 163:16	articulate 39:4 146:12	asset 91:25 196:8,10,18, 22 197:20	Associates 109:1	
	articulated 39:24		association 3:1 5:22 108:24 163:7	assurances 119:21 155:7
	ascertain 72:4,12	assets 67:4 80:9,20 81:16,20 91:18 97:1 166:1 183:17 195:11,18,24 196:7,11,12, 15 200:9,15	assume 6:23 38:17,25 39:2 95:8 119:9 151:16 190:10	attached 20:12
arbitrarily 126:1,4	aside 35:3 65:12			attempt 72:11
area 159:23	asks 10:12			attempted 72:4,19 159:8
areas 94:14	aspect 80:6 168:23	assigned 147:17 188:15	assumed 18:11 37:12 77:18,19 80:17,18 81:14 119:24	attended 171:17
arguably 177:15 178:11 179:13 198:7	aspirations 170:16	assignment 109:10		attention 96:12 98:6 100:22 101:12 103:24 104:11 176:8 177:8 181:3,
	assert 180:21	assist 109:8	assumes 21:16 39:7 66:5	
argue 95:10 189:5	assertion 65:9	assistance 101:9	assuming 64:19 67:4	
argued 189:6,	asserts			

7,15 183:6 184:7	automatically 97:3	56:12 60:20 65:14,19 84:4 197:7	balanced 196:23	basically 10:9 11:18 12:1,14 16:6,16,22 17:10 19:8 23:20 25:17 26:1 27:25 31:19 32:8 54:5
attorney 97:18	availability 154:15 165:6	away 142:21 192:13	balancing 97:11 101:5 168:17	
attributed 114:5	available 19:8 62:5 85:17 86:14 92:13 102:1,7,22 105:15 117:7 120:2 174:18 200:23	awkward 25:22	ballpark 66:20 67:17	
attributes 29:16,21 30:6		B	bankrupt 161:8	basis 7:4 18:9 27:9 30:7 36:3,9,18 37:1,4 51:19 113:4 115:4 116:4 121:8 126:20 128:24,25 132:13 138:14 143:10 145:2 152:13 158:1 167:2 168:14, 25 175:21 178:25 179:2, 7,15 185:7 187:13 197:12,22 200:8
audits 101:4		back 6:2,13 7:22 8:13 19:17 20:10, 25 48:21 69:18 81:18 98:4 104:25 105:12 110:22 114:24 115:7 120:9 126:21 130:8,11 136:1 137:2, 16,17 152:9 166:19 170:20 184:8 187:11,21 190:18	bankruptcy 160:23	
August 5:12 101:2 105:21, 22 190:6	Avenue 2:7, 10		base 79:4 96:16 112:24	
authorities 58:8	average 13:22,25 14:2,3 25:4,9, 13,19 26:4 146:7 147:16, 20		based 8:25 18:13 22:16 29:1 37:12 51:22 63:9 69:5 85:12 100:3 103:1 104:19 105:20 106:4 115:11 116:5, 19 117:6,9 119:11,19 140:14 142:3, 25 148:15 189:21,22 191:1 194:24 198:15	
authority 42:15 58:11	Averaging 26:3			
authorize 91:24	avoid 11:19 150:20			bear 169:16
authorized 90:14,18 91:10 99:12 168:14	avoidance 178:9	background 41:7 85:13		beating 158:12
authorizes 119:10	avoided 176:21 177:1, 16,19 178:8, 12,16,18	balance 63:23 168:16 169:15 170:10 200:15	baseline 197:5	became 76:24
automatic 96:17,21	aware 8:16			become 95:21

becomes 63:22 146:22	88:9 163:7 170:14 173:6	200:22	25:11 26:5 27:4 28:9 30:14,16 129:2	24 125:24 126:2,16 127:1 128:20 129:14 132:3, 8,9,16,20 133:15,19,21 134:17 135:20 137:24 149:16,23 150:2,8 151:20 152:10 154:13 155:11,14 157:10,20,21 158:1,5 165:8,10,13, 15,23,24 166:5,13 167:2,11 168:4,9,17 169:4,6,8 170:22 171:6 172:10 174:4 184:24 185:15,21 186:10,20 187:1,16 188:15 198:11,13 200:13,16
becoming 135:17	behind 94:1	believed 21:24 189:15	benefit-to-cost 11:3,4 13:2,14,23 127:14,23 128:10	
BEDNAR 3:9	being 9:20 64:22 91:2,6, 13,18 94:15 101:23 102:23 112:18 116:8 132:12,19 136:10 149:12 150:7 153:21 156:2 178:3,18 181:2 192:3	believes 21:19 58:24 64:20 68:14 73:17 143:9	benefits 10:18 11:5 14:7,15 15:6, 14,23 21:17 22:2 24:12,16 25:4 30:17 33:10,15 34:18 35:24 40:13,19 50:11,14,17, 24 59:12,19 60:7,10,11 66:13,14,15 68:4,16 69:11 72:13,16 77:15 79:14, 17 81:15,22 84:24 87:9 102:2 112:11, 13,21 113:14 114:1,2,17, 20,24 115:1, 2,14,21,24 116:5,8,22 117:18,23 118:1,3,5,7 119:6,23 122:10,23,25 123:3,6 124:12,15,19,	
before 1:1 5:8 29:10 40:11 41:5 58:20 90:4 92:25 93:2 97:5 98:20 107:24 108:3,6 156:24 165:6 172:21 176:15 177:17 182:17 192:23 195:12 196:5	belabor 198:4	below 128:2 167:17 184:14		
began 104:9	belief 148:20	bench 73:10		
begin 120:6 144:5 184:11	believe 6:19, 20 11:19 29:10 33:21 52:7 57:18 69:20 81:2 87:11 93:14 94:16 103:8 117:16 119:6 127:4 134:6 139:17 147:11,18 169:3 170:7 171:19 173:21 176:2 183:20 185:8, 19 189:20,23 190:25 198:23	benefit 10:16, 19 14:17 17:9 25:16 28:4, 12,20 37:6,7, 21 38:1 59:8 66:24 81:23 100:2 106:12 112:24 113:23 123:1, 10 126:13 127:12,22 128:6 146:14 149:8,14,15, 16 150:4 151:5 158:11, 14,17,19,24 159:12 169:18 190:24		
beginning 18:20 80:13 129:25 181:8 187:9 190:8		benefit-cost 14:10 15:18 16:18 24:2		
begins 10:9 96:13,14 101:21 165:7 184:9				bequest 174:2
behalf 82:14				besides 148:5,6
				best 61:9 69:1,8 72:11,

14 100:20 106:9 117:20 118:5 126:16 141:14 154:7 165:4 174:13	115:24 big 95:8 126:12 132:20	124:10 129:6 131:12,25 133:25 135:22 141:19 151:17 171:8	73:22 brings 34:10 171:17	83:1,4 88:4,7 161:7 163:1,2 byproduct 180:19 182:5
bet 132:22	bill 96:2	bottom 27:4 93:23 101:13 125:19 136:5 159:24	broadcast 172:25	<hr/> C <hr/>
better 39:18 58:5 66:18,20 135:24 147:24 167:10 168:17 169:19,21 170:10 186:22,25 187:5	billed 102:25 billion 116:16 131:3,6 150:5 169:10 180:22 182:25	box 149:6 BRADSHAW 3:9	Broadway 3:2 broken 7:6 build 156:5	calculate 11:3 25:4 calculated 10:16 72:13 86:11 104:17
between 9:18 12:10 16:18 27:17 34:11 40:23 98:21 102:4 103:13 105:6 116:5 126:10,13 127:12 146:10 154:6, 11 167:11 168:5,18 169:6 180:7 184:25 185:21	billions 153:14 156:6 bit 50:6 69:5 101:22 131:18 136:3 137:17 145:20 168:24 184:9 186:22,25	break 48:15 107:24 108:6 126:11 breakdown 40:23 breakeven 124:16 191:1	Building 55:21 builds 29:11 built 137:1 153:16 155:8 bundle 157:15 158:8	calculating 77:14 137:23 177:1 calculation 14:17,22 176:21 177:15
beyond 60:8 80:11 90:25 113:14 153:5 155:5	books 80:16 both 11:25 31:16 54:18 59:22 66:5 74:20 76:15, 19 77:8 79:6 82:10 85:17 91:3 110:25 113:8 116:6 122:5,12	Bridger 146:3 brief 20:4,5 48:20 89:9 108:12 briefly 84:20 190:18 192:9 bring 6:13	burdens 200:16 Burnett 42:19 burning 153:17,18 154:19 business 55:15,20	calculations 14:1,16 60:24 66:10 92:5 178:9 California 105:13 call 24:6 33:4 34:9 36:5 55:5 74:18,19 80:9 82:18 126:4 146:18
biased				

160:13	24 118:7	88:9 89:14,19	135:15,23	165:15 196:7, 14
called 108:15	119:15	90:4,6,12,13	142:11,13	
	121:11,15	91:23 92:1,2,	146:24 147:2,	certainly 20:3
	129:21	11 94:18,23	4,10,16,17,	74:16 108:1
calls 87:21	131:12	95:16 97:1,	20,21,22	134:12
162:12	132:21	16,22 99:21	148:22,24	152:17
	133:16	102:13 103:3	155:22 158:3,	175:22 177:6
came 54:9	134:10,16,17	104:10,19,21,	7,8 159:2,13	196:16
138:12	140:18,25	23 105:12	188:19 190:4	
	141:5,9,13	106:4 115:9	191:12	Chair 2:2
	143:14	126:25	197:11,17,25	89:11
can't 63:19	144:10,19	131:11 132:5,	198:1	
130:11 155:2,	145:8 165:18	7 133:1,14		Chairman
3	166:25 167:4	135:20	catch 107:17	78:6 86:21
	170:23	139:13		107:2 191:23
cannot 142:2	175:21 176:6	144:22,24	category	201:9
	178:18 179:6	146:3,19,20	68:16	
	187:17	147:6,7		challenge
cap 172:8,11		149:21	cause 9:9	98:4 178:2
	capturing	152:21,24	10:22 56:2	
	78:24 79:1,3	153:13,23	88:11 89:25	chance
capabilities		155:8 165:16	90:13	147:23
57:8		167:18 168:1		149:21
	carved 196:9	171:21	caused 83:7	152:10
capability	197:20	176:20,24,25	109:11	
41:25		178:23	160:25	change 29:6,
capacity 29:6	case 9:5 12:1,	181:23 182:9		8 40:25 76:22
37:21,24	14,20 13:9,23	185:5,10	caution 103:7	96:6 105:6,7
38:1,3,8	14:8,12,13,14	186:1,14,25		114:6,14,17
57:19 112:6	15:5 16:17	187:24 188:8	cell 25:18	139:22,23,24,
137:24 139:7	17:1,9,11,14,	191:11		25 166:7,8,
153:18 154:4	19 18:3,16,18	196:16 197:6,	cellphone	12,14
162:23 163:5	22:8,11 23:14	7,10,19,24	192:11	
177:13,21	24:1 25:6,7,	199:5,8,15,24		changed
178:10,12,17	11,15,22		cells 7:8	68:8,10 95:24
179:12	26:11 30:22	cases 16:5		98:13,17
	33:19 34:15	17:2,7 18:13	certain 39:6	105:1 106:2
capital 57:22	40:15 53:18	27:23 34:22	96:24 137:2	142:16 166:4,
65:6 117:17,	65:2,14 77:3,	51:11 58:12,		
	10,20 79:7,	20,24 102:4		
	10,18 80:23	114:23 115:1,		
	81:22 82:14	3 134:11		

16,22,23	82:19,20 83:3	claimed 39:13 165:13 166:5,13	63:12 69:2 71:12 72:15 77:6 105:17 123:8 126:9 131:24 132:25 133:17 137:8 138:15 140:17 142:22 143:18 148:5, 19 161:13 178:16,21 183:16 186:3 191:4	141:19,24 143:4,11
changes 26:22 40:20, 23 56:10 94:19 95:4,13 105:13 113:2, 10,19 139:19	choice 10:4 146:10	claiming 42:5		CO2 15:9 24:17 32:18 115:8 146:24, 25 147:1,6, 10,13 148:24 170:24,25 171:8 199:15
changing 167:3,4	choosing 157:4	claims 116:11		
characterizati on 96:22	chose 146:6	clarification 73:10		code 94:25
characterize 78:19	churn 68:11	clarify 6:23 7:2,15 67:18 73:5 76:7 94:7	clearly 39:10 52:6 194:2	collapses 50:13
characterizin g 195:9	circumstance 161:4	Clark 2:4 4:4, 7,11,19,23 41:7 43:1 52:17,19 54:20 65:24 66:1 69:14 74:7,9 75:23 80:3,5 81:7 87:15,16 107:9,10 151:9,10 156:17,22 159:20,21 161:19 194:25 195:1 200:4,6,24 201:3	Clements 5:23 192:16	colleagues 42:24 72:20
charged 143:23	circumstance s 57:15 98:13, 17 104:20 105:10 106:5 112:15		Clements' 182:13	Colonial 109:7
Charles 4:5 55:6,7,17	cited 58:8,25 100:13 197:6		client 130:6	Colorado 3:7
chart 12:13 51:9,10,16	cites 58:19		close 16:21 42:12,23 43:8 100:19 192:11	column 13:1, 4,6,10,12,13 15:8,13,17 16:12,14,25 17:8,9 18:10, 14,16 23:5 25:17,24 26:15 28:6,10 53:20 125:15 128:7,9,16,18 131:16 132:24 133:23,24
check 13:21 15:22 30:21 32:14 146:15 166:19	citing 22:4	Clark's 110:16	closed 8:3	
cherry 167:5	City 1:10 2:14,19,23 3:3,10 55:22 83:5 163:3	clear 17:21 52:22 54:12	closely 18:11, 14,16 52:8 54:7	
Cheryl 4:13	claim 34:14		closer 22:1	columns

11:15,17,24 16:5 24:8 26:2 34:25 51:18 52:9,23 122:8	178:1	157:24 167:8, 13,25 168:12 169:23 170:13 171:1 173:10,14,16 176:16 177:17 179:5 181:6 182:17 184:20,23 185:9 186:3, 16,17 187:4 188:20 190:6 192:5 195:16 196:3,4,12	71:5,8 73:5, 14,20 74:3,7, 9,16,25 75:3, 8,13,23 78:1, 5,8,11 79:24 80:2,3,5 81:7, 9,10,11 82:1, 3,7,11 84:7 86:16,19,22, 24 87:2,3,4, 12,14,15,16, 18 89:3 92:15,18,20, 22 106:19,24 107:3,4,6,8,9, 10,12,18,19 108:1,9,13 110:6,12,14, 15,19 111:18 120:4,9,16, 20,23 145:14, 17,19 151:7, 9,10,13,14,15 156:13,15,17, 19,21,22,23, 25 157:23 159:14,19,21 161:19,22 162:1,2,6,10 164:15 174:19,23 175:1,4,8 191:16,21 192:10 194:23,25 195:1,3,4,5,7 196:24 197:1, 2,3 200:1,4,6, 18,24 201:1, 3,4,7,11,14	Commissioners 2:3 57:5 76:6 82:16 84:18 89:11 103:9 112:3 Commissions 195:19 196:6 committing 169:9 common 168:15 companies 103:14 Company 8:12 9:12 12:17 16:8 19:8 21:16 22:2 24:15 30:23 31:14 32:22 33:5,13 35:11 36:14 37:16 38:17, 25 39:1,7,10, 13 41:14 42:5 53:16 54:15 57:8,9,21,23, 24 58:5,19,25 59:3,15,22 60:15,20 61:4,5,19,22, 24 62:15 63:20 64:4, 18,25 65:5,8 66:8,10,25 67:24 68:2
combination 167:6	comments 57:2 62:3,18 101:1 105:20, 22 Commerce 88:8 commercial 152:25	Commission's 22:3,17 51:19 165:12 197:14 Commission-authorized 90:1 Commissioner 2:2 4:4,7,8, 11,12,14,18, 19,22,23 6:2, 22 7:14,23 8:5 20:3 40:8 41:7 42:11 43:1,4,6 48:4, 10,14,18,21 52:13,16,17, 19 54:20,22, 23,24 55:1 56:20 62:6,10 63:1,4,8,11 65:21,23,24 66:1 69:14,16 70:13,18		
combined 29:7 133:24 154:5				
come 27:13 41:22 58:20 70:1 128:25 139:12 147:23 161:1 167:17 169:13 174:11 186:8	Commission 1:1,8 5:9,13 6:3,20 8:18, 23 14:24 19:22 20:23 21:8 42:15, 18,22 49:7, 11,22 50:1,2, 20 51:21 58:20,23 60:1,2 62:19, 21 64:20,22 65:15 68:20, 22 69:2,5 85:6,16,22,24 86:9 87:6 90:5 91:11, 15,24 98:8,10 100:10 103:20 110:11 111:16 117:10,12 118:8,22 119:1,3,6,10 146:6 148:14 151:21			
comes 31:1				
comfortable 54:10				
coming 27:22 106:4,7 131:3 156:1 161:1 180:18 184:14 196:23				
commence 107:24				
comment				

71:21 72:13 74:13 81:14 84:25 89:14, 18,24 90:5, 11,17 91:7,17 92:24 94:18 95:5,7,10,16, 19 96:7,8 97:4,15,21 98:1,18 99:7, 10,12 101:16, 24 103:18 104:22 105:19,23 106:3 108:25 109:9 112:10, 19,23 113:20, 23 116:13 117:4,12 119:3 120:25 134:8,11,12 135:13 137:9 138:3 139:15, 19 140:21 141:1 142:2, 5,9,20 143:9, 16,17,19 144:1,3,21,24 145:6,7 146:18 148:17 150:4 153:15 154:9, 23 155:3,16, 22 157:25 159:2,7 160:11 165:14,16 166:8,10,12 167:1,5,11 168:5,11,18 169:6,16,20, 25 170:5	171:11,20 172:3,11 175:6 182:18 183:21,24 184:1,25 185:17,21,23 186:10,21,23 187:5 189:4,9 193:20,25 194:13 195:23 196:4 Company's 10:15 11:11, 12,16 12:2,15 13:3,9,15,22 14:11,20 15:17 19:18 21:20,22,24 22:5,21,22 23:1,3,15,18 26:19,23 35:7 38:16,19,21, 22,24 39:19, 21 40:14 51:23 52:4,8 53:22,24 54:1 57:19 58:2 60:22 61:8 66:4 67:3,15, 22 72:1 73:12 75:25 76:3 77:16 79:21 80:7,16 81:22 85:22,25 90:16,23 91:5,20 92:8, 10 97:13 99:21 101:3, 4,10,24 104:17 112:5 113:4,5,9,12,	13,25 116:2 117:2,11 118:19,25 119:22 138:15 141:18 142:1 166:1,15,18, 24 167:9,14, 16 168:2,8 170:16 171:22,25 172:7,8 178:2,8 182:10,12 185:16 188:7 193:5,11 194:10 198:25 199:3, 4 compare 15:16 30:17 54:1,4 128:6 147:20 157:20 compared 14:15 21:20 22:20 54:3 118:3,14 128:5 166:1 198:12 comparing 13:12 23:17 67:10 128:15 158:17 comparison 118:17	comparisons 27:5 157:2 compelling 165:16 compensated 59:12,20 68:3 completely 91:2 137:25 completion 119:10 complex 89:23 171:13 complexity 85:15 89:17 complicated 145:22 comply 41:14 components 96:25 131:21 comprised 33:3 concept 14:2 81:16 conceptualize	66:25 concern 9:24 94:15 95:9,12 96:4 168:11 200:16 concerned 86:3 123:4 138:8 160:2, 21 168:7 173:25 concerning 60:17 115:17 concerns 9:19 92:4,7 94:4 112:4 113:2 117:9 166:6 167:8 171:17 173:16 200:11 conclude 48:2 124:25 concluded 18:10 52:5 58:14 113:8 114:11 116:3, 7 201:20 concludes 54:20 62:2 69:15 81:7 86:13 120:1 161:21 162:8
--	--	--	---	--

172:19 200:25 conclusion 18:14 75:2 92:9 125:2 138:13 147:23 149:7 conclusions 85:19 125:20 148:14 condition 161:10 167:14 170:11 184:11 185:2, 11 186:5 conditional 168:13,24 170:9 conditioned 184:13 conditions 119:7,8 130:20 137:2 153:23 156:11 159:25 167:23 184:10,19 conduct 113:3	conducted 35:7 84:22,23 85:18 109:9 115:15 116:19 117:14 121:7 confidence 134:9 confident 155:9 confidential 5:5 6:24 7:5, 6,8,10,12,17, 20 25:23 36:25 40:1,3, 7,12 42:10 43:8,11,14 48:9 51:17 88:12 100:16 102:8 103:5,8 105:3,24 106:6 110:18, 21,25 125:14 127:21 128:8, 16 130:8,10 136:24 140:6 150:6 confidentialit y 7:3 confidentially 140:10 configuration 28:24	confirm 126:19 130:14 confirms 26:24 confusion 20:20 Congress 155:3 connection 55:23 83:6,10 98:9 109:10 consciousnes s 159:16 Consequently 169:17 conservative 21:25 22:14, 15 199:22 conservativel y 188:8 199:14 conserving 104:7 176:20 consider 10:2 34:21 49:8 60:2 63:16	99:6 116:13 118:9 122:15 123:2 126:11 127:11 131:6 133:9 138:14 147:5 148:15, 16 152:18 157:8 159:5, 13 171:1 173:14 174:9, 14 186:18 187:4,5 198:8 considerable 150:4 151:5 156:7 consideration 35:12 49:12 50:3,21 63:14 68:20 90:2 122:14 123:7, 17 124:8,9 127:16 148:3 151:25 156:11 159:11 173:22 174:8 194:20 consideration s 126:23 considered 51:20 63:24 95:11 100:6 124:20,22 126:24 148:10 165:11 178:4	195:21 196:10,22 considering 35:3 85:4 157:2 considers 60:2 62:21 167:8 consistent 22:25 27:2 61:9 137:18 175:20 176:3 194:9 consistently 21:23 26:18 constant 28:1 constitute 69:4 construction 167:17 184:14 consultant 55:18 consulting 162:24 Consumer 2:21 5:17
--	---	--	---	--

83:4 88:10 101:2 108:24	112:7	40:20 113:24	139:3,16 140:1,15,22 141:2,6,7 143:7 145:11 175:21,22 176:6,22,23 177:2,17 178:19,20,25 179:3,8,20, 21,25 180:1, 5,6 182:3 183:18 184:17,18,22 187:11,12,19, 20,25 188:1, 3,6,9,11 189:13,14 190:11,12,16, 17,24	cost 7:4,5 10:16,19 14:17 25:16 32:17 49:17 50:24 54:5 57:13 59:21 60:25 61:4 63:25 64:5,19 66:17,22,23 67:4 71:19, 22,24 72:16 73:11,12 76:20 77:21 79:19 85:4,10 91:5 113:14 114:10,12 116:14 117:5, 6,17 118:7 119:11,15 127:2,13,21, 23 128:8,18, 20 129:8,20 130:9,15,16, 21 131:1,2,4, 15,19,20,22 132:2,6,21 133:16,25 134:5,24 142:4 145:1 149:25 157:9, 20,21 158:1 159:9 160:13 165:18 167:14,18 172:9 176:21 177:1,12,19 178:8 179:2 180:4 181:24 184:12,14,24 187:25 189:13 190:23
contain 51:16	contract 136:16,23 137:1,5 194:18	correct 6:10 7:18,25 11:7, 8,14,20 12:5, 11 13:7,8,10, 11,20 14:9, 11,20 15:7, 10,11,14,15, 19 16:3,10,12 17:14,16,20, 22,23 22:11 23:6,11,22 24:7,8,12 26:5 27:9 28:5 29:17,21 31:9 32:19 33:11,12,18 35:9,13,14 36:7,9,16,17 37:14 42:6,7 53:11 65:8 69:21 70:3 79:4,5 83:25 93:16 94:2 96:2 99:18, 19,24 100:12, 13 101:5,10, 11 104:2,3,18 105:8 110:15 111:4 121:8, 12,16,21 122:6,10,13, 20 124:4,12, 17 125:12,20, 24 126:3 127:2,16,24 129:10,15,22 131:13,14 132:3 134:2, 21 136:5,6 137:10,21,22	corrected 7:19 correction 109:23 110:2, 7 111:9 163:23,25 164:6 corrections 56:10 83:22 84:3 88:20 109:21 163:20,22 164:7 correctly 60:21 67:9 148:12	
context 131:11 154:21 171:22 173:14 174:10,16 177:19,25 178:19 179:11 180:9 182:8 194:11 196:11 197:9 198:1,24	contractor 160:10,24 contractors 160:4,24 161:15 contracts 136:9,20	control 38:16, 21,22,24 39:3,7,14,19, 21 96:18 98:23 155:3 160:19,20 161:6,8 conventional 171:14 convinced 116:23 copies 6:21 copy 19:25 110:15,20 corporate		
contingent 98:16 185:15				
continuation 172:1				
continue 60:23 68:17 79:8 80:23 92:9 94:1 118:24 183:20				
continued 81:19				
continues 61:12 167:1				
continuing				

191:12 194:4 198:11,13 cost-benefit 22:7 cost-effective 117:15 cost-side 77:11 costs 7:3,7 11:6 30:18 34:16 35:25 36:20,24 50:10,14,17 60:10 65:6,7 69:8 72:18 84:23 86:5 87:8 90:21 91:12,13,18, 21,22,25 96:16,18 97:12 98:8, 19,23 99:5,8 112:16 115:18 116:20 117:24 121:11,15 129:22 130:1, 3,17,23,25 131:13,23 132:18 134:10,17 141:25 144:12 150:1 153:3 165:25 166:25 167:5,	17 168:2 170:24 171:18,22,23 172:10 175:21 176:6 177:13,16 178:18 179:7 183:16 186:8, 10 187:17 counsel 15:2 52:21 194:12 count 153:12 counted 15:20 countered 189:9 country 103:14 couple 40:11 98:14 145:18 148:8 192:7 coupled 101:24 course 79:20 138:22 146:21 174:9 177:24 182:16 189:9 195:20 cover 20:18	83:24 136:10 covering 113:6,7 covers 57:6 created 145:9 creates 61:14 152:22 credence 100:11 credit 36:9 94:24 97:11 103:16 165:6 188:24 credits 59:9 67:7 95:7,10, 15 99:17 101:4 114:6 140:15 143:10,12 144:14,15,19 188:10 critical 10:1 154:19 160:24 critiqued 34:20 cross 5:5,6,8,	10,12,15 92:14 cross-examination 4:3,6,9,11,16, 18,21 6:8,9, 18 8:6 48:3 62:11 74:20 78:13 86:15 93:1,4 108:3 120:3,7 121:2 172:21 174:18 175:10,12 193:11 cross-examining 6:11 Cross-exhibit 6:19 10:24 19:21 20:8 48:2,6,9 51:15 100:23 102:20 103:25 106:18,23 176:12 181:4 190:1 191:20 Cross-exhibits 191:15 curiosity 177:20 current 60:11	80:24 86:11 91:7 106:5 117:7 119:19 180:9,10 currently 59:16 80:16 89:20 105:10 112:9,19 130:17 CURTIS 3:9 curve 11:13 12:2,3 16:16, 19,24 17:10, 15,22 19:9,19 23:15,16,18, 25 141:4 curves 12:4, 15 16:7,22 19:19 21:12 22:16 141:17 cushion 158:25 customer 34:16 68:8,9 85:4 91:16 165:22,24 166:5 170:14 194:7 customer's 106:9 customers
--	--	--	--	--

24:16 28:12, 15 33:10 34:18 49:17 50:12,25 67:22,25 68:2,15 70:24 79:18 90:24 112:11 122:10 137:9 165:9,10,14 168:5,18,21 169:6,8,9,17, 21 170:15 173:19,23,25 174:1,3 185:1,21 187:1 188:23 199:19	data 19:8 72:25 133:7 144:25 date 1:12 20:18 21:2 83:24,25 David 2:4 day 8:10 9:20 days 8:18 de 189:16 dead 158:13 deal 150:8 169:21,25 187:5 debate 95:22 debt 196:1 decade 182:11,13 193:12,21 December 20:16 21:2 93:19 decide 63:15 64:15 119:1	152:2 decided 62:23 114:8 126:8 decides 85:24 118:9, 22 deciding 106:14 decimal 191:7 decision 1:3 6:5 9:2 14:25 49:7 58:22 61:23 64:6 92:1 97:23 98:10,12 99:2 112:20 113:13 114:5, 16 148:10 149:18 154:6, 8,11 198:14 decisions 51:20 declined 6:8 40:14 declines 143:25 declining	40:18 deemed 43:14 defer 90:23 171:11 deferral 91:5 172:10 deferrals 91:10 definitely 62:23 141:24 153:8 degree 153:12 delay 9:8 64:5,13 160:25 delaying 61:23 deliberation 42:25 delineation 126:10 delivery 49:16 85:3	demonstrate 24:16 73:3 97:4 98:19 115:15 167:16 184:14 demonstrated 71:23 85:1 demonstrates 118:4 140:13 demonstratio n 13:19 denied 118:25 denominator 37:2 deny 10:3 117:10 142:3 departure 171:13 dependent 94:24 depending 37:2 81:1 187:3 depreciable 80:24
cut 144:12 cycle 29:7 61:20,25 69:20,23 70:5,11 154:5				
D				
D-o-n-n-a 88:6 Dam 195:25 Daniel 4:3 6:7 dashed 140:24 141:19				

depreciate 65:13	describing 182:1 187:23 190:8	49:21 50:1 84:25	differences 27:18 116:4 140:13	13,15,17,21 5:6,23 31:5,8, 12 41:1 42:4 55:10 56:3,4 58:7 75:15 82:23 83:13 88:1,13 89:24 90:9 92:3 93:10,24 96:9,12 98:6 99:15 100:22 101:12 103:24 104:10 108:5, 11,14,20 109:14 111:11 113:1 114:1 119:13, 17 120:11 162:17 163:11 177:8 181:3,7,14 183:1,6,8,9 184:7 188:23 192:16
depreciation 61:19,24 62:14,17 63:15,24 64:2 69:20,22,23 80:8 81:5 91:22,23 173:15 174:10	description 5:4 81:2	determines 91:15	different 10:18 20:19 22:24 23:19 26:13,16,25 27:5,6,7,8,17 28:24 29:20 30:5,6,23 31:23 32:2 33:3 34:3 63:20 99:14 105:11 110:15,22 118:17 131:4 138:6 139:18, 20 140:14 145:23,24,25 146:1,7,11,23 151:18 152:21 153:16 154:3 157:1 159:12 186:24	
derive 115:13	designed 15:5 183:25	determining 50:3		
derived 37:8 138:7 199:4	desirable 171:15	develop 113:14 158:2		
describe 11:17 129:6 131:25 133:19 139:19 150:12,17 200:19	desire 9:3	development 161:14		
described 12:19 21:14 74:11 77:19 121:11 127:10,20 136:4,8,14,18 165:4 187:14 190:9 197:15 200:20	desired 166:15	deviation 165:20		
describes 125:10 187:23	desires 112:23	deviations 165:24		
	despite 105:17 112:21 116:10 133:6	diagram 142:25		directed 35:19 88:18
	detailed 27:9 58:7	diamond 141:20	differential 29:5 79:12 138:25	directional 140:8
	determination 167:24	diamonds 141:5,14	differently 179:8	directionally 27:10 79:15
	determine 22:7 34:15 61:20 117:14 151:21	differ 29:17	difficulties 68:13	directly 23:9 70:12
	determined	difference 76:21 78:17 98:20 115:19, 22 151:1	DIR 56:4	disagree 98:24 134:19
			direct 4:6,10,	

169:7 179:9	137:20 139:13 177:3	138:17	docket 1:2 5:10 6:3 55:25 57:6 62:20,23 64:14,15 76:4 86:8 91:3 101:3 104:1 105:4,12 109:12 115:18 146:20 163:8 173:15 174:13 175:23 178:4 181:6 182:14 192:5,19 194:10,15,16, 17	dollars 131:6 150:5,6 153:14 156:6
disagreeing 144:2 148:18	discussing 36:4 190:4	distinction 15:1 39:5		done 10:13 11:24 12:1 17:24 28:1 30:18,20 34:22 64:7 126:18 128:14,24 143:10 144:3 149:14 157:22 158:2 178:15 195:12,15 198:22
disagreement s 189:3	discussion 33:16 94:20 146:1 152:16 173:22 178:3 198:5	distinctly 104:20		
disallow 98:8		distribute 82:16 93:2		
disallowance 97:24 170:5 184:2,3 185:4	discussions 158:15	distributed 6:18 10:23 175:11		
disclosed 125:17	disparity 28:22	distribution 169:5		
discount 143:22	displace 179:24 182:15	Division 2:17 5:14 20:21 55:4,18,24 56:17 58:2,24 63:20 64:16 65:4 67:3 68:13 70:23 73:16 74:13, 19,23 79:25 82:5 118:16 120:14 129:1 173:24	dockets 105:3	Donna 4:15 5:7 85:10 87:22,23 88:6
discounted 16:8	displaced 180:4		document 100:23 101:8 176:11 181:4 189:25 192:15,21	doubt 142:2
discounting 19:18 35:8	displacement 182:23		documents 102:20	down 7:6 21:7 101:21 125:18 129:24 185:13
discovery 145:2	displacing 154:9		DODGE 3:2	downsize 9:16
discuss 64:9 113:2 129:5 130:12	disposal 200:21	Division's 25:5 68:19, 24,25 69:6 74:5	dollar 28:3, 12,20 100:3 106:1 131:3 149:14,15 158:17 188:14,15	downward 103:17
discussed 25:6 43:9 76:16 91:14, 19 127:14	dispute 128:23 139:1	divulge 127:21		DPU 5:15 20:7 56:3,4,6, 18,23
	disputed			

DPU'S 19:21	20 41:25 63:17 64:11 75:19 90:19 95:22 102:3	105:19 183:17	economically 58:5	94:3
draw 39:6		earnings 112:25	economics 10:13 77:13	elaborating 168:25
drawn 157:3	duties 83:6			electricity 85:3
Driftwood 88:7	<hr/> E <hr/>	East 1:9 2:18, 23 3:10 55:21 83:5	effect 16:15 61:23 91:8 168:17 192:25 197:18	elicit 7:11
drive 88:8 109:7 131:1	each 10:17 23:21 26:18 32:1,9 54:19 102:10 118:17,19 121:7 122:5,8 146:15 149:5, 9 157:7,10,11 190:21 198:8, 12,14,18 199:5	EBA 97:10	effectively 66:16 167:5	eligibility 9:21 95:25
driver 40:25 181:1		economic 33:15 58:4, 10,14 59:9 64:1 66:4,9 71:23 72:1 73:13 75:25 76:3,8,11 79:14 80:18 81:13 94:10 95:12 99:21 106:15 109:9 113:5,6 114:7,23 117:1 119:5, 17 121:7,20 122:16 123:4 125:1,4,11, 12,19,23 126:2 127:11, 20 128:3 132:1 133:18 134:5 136:4, 14 142:7 144:3 149:20 150:23 151:22 159:6 188:8 199:11	efficacy 171:17	eligible 95:21
driving 112:20			efficient 40:9	eliminate 149:24 151:4 199:10
drop 113:24			EIA 21:22	eliminated 117:24 126:17 172:2
DSM 150:19, 20,21	earlier 65:17 81:16 91:14, 19 114:15,16 130:9 141:20 146:2 151:17		EIA'S 21:23 22:1	eliminating 150:1
duly 55:8 82:21 87:24 108:18 162:15	early 80:10 81:21 91:20 146:19 170:6		eight 115:6 199:8	elsewhere 30:18
Dunlap 118:11 160:25 171:2	earn 57:13 79:8 89:25 90:14 99:12		either 24:5 77:3 78:25 80:23 87:19 91:20 107:13 134:8 170:24 179:13 187:18 200:2	embedded 31:24 72:17 76:20
durability 165:25	earned 91:7		elaborate	emphasize 148:2
during 37:15,	earning 90:18			employed

83:3,9 162:22	137:24	135:6,10	equity 57:17,	establish
employer	138:19 139:2	144:8	23 58:19 59:6	69:19 74:2
55:15	155:10,17,20		60:19 61:15	89:15
employment	159:9 162:25	entirety 85:24	62:22 67:19	established
55:24 83:1	163:6,7	144:15	68:6,23 69:3	70:10 91:3
108:23	177:14,16,22		168:15	143:4
encourage	178:10,12,23	equal 37:22	equivalent	establishment
199:12,13,14	179:1,12,22,	167:20	17:2 131:18,	91:24
end 8:10	24 180:12,15,	184:16	20	estimate
27:10 28:17	18 181:1,19,	equation 72:9	erosion	116:16
40:5 59:11	20,24 182:4	77:11 79:21	116:22	estimated
75:10 90:17	184:16 186:7	196:23	errata 88:17,	21:17 22:2
133:11 161:2	188:10,24	equipment	18,22	155:10
169:13	189:2 193:7	41:9,13,18,	especially	167:18
endorsement	enough 28:4	19,23,24 42:5	57:21 115:17	estimates
165:17	34:14 66:3	58:9,12,15,21	138:10	10:18 37:16
ends 64:8	102:12 114:9	59:5,13,16,	147:12,13	184:15
energy 3:1,5	127:9	17,23 60:5,9,	200:12	estimating
5:22 10:18	ensure	22 61:2,4,8,	essence	60:25
12:4,7,9	121:19 172:5	11,12,13,21	180:17	evaluate
21:21 28:1	183:22	62:1 63:21	196:19	29:13 113:22
29:5 33:15	ensures	64:4,17,19,23	199:23	147:25
49:18,20 52:6	144:15	65:2,11 66:9,	essentially	184:24
54:6 97:11	ensuring	12,14,17,23	17:2,4 76:16,	evaluated
98:10 99:9,17	102:2	67:14 68:18	19 79:16	51:12 67:2,3
101:4 112:12	entered 51:15	69:9 71:20	124:17,18	116:2,24
115:14,18,19,	enters 193:25	72:6,7,12	130:15	evaluating
21,22,24	entire 11:13	73:1 75:24	142:14	68:21 100:6
116:16,21	12:7,9 53:9	76:3,9,23	178:17	106:8
119:23 129:9	64:25 134:16	77:2,5,7,10,	182:18 195:8,	
133:4,13	entirely 35:8	16 78:22,25	10 196:1	
134:1,9,16,25		79:2,9 80:14,		
		19 170:1		
		equities		
		169:15		
		170:11		

evaluation 119:17 158:6, 11 166:4	68:8 76:10 114:22 124:12 137:6 142:6 149:12, 13 152:25 181:11 188:14	49:1 55:10 70:20 71:13 75:15 82:23 88:1 108:5,20 120:11 162:17 192:1	excerpt 104:6 176:19 177:4, 7	6:18 20:11, 21,25 34:25 36:5,10 51:16 56:3,4,6,18, 23 82:15 84:10 111:12, 13,14,15,21 163:12,14,17 164:18 192:21 193:15
evaluations 113:3			excess 52:3 90:18	
Evans 25:5	everybody 11:2,4,9 100:25	examine 198:20	exchange 183:25	
even 7:19 9:20 16:11 23:24 24:1,20 28:18,20 60:7 68:12 81:21 86:5 95:10 97:21 99:7,13 103:18 114:16 116:20 122:17 126:11 133:17 135:21 142:17 158:14,16 170:22 177:13 179:5 199:20	everyone 6:7, 17	examined 55:9 82:22 87:25 108:19 125:23 162:16	exclude 170:20 187:11	exhibits 84:6 88:15 89:2 93:1,7 109:15 111:10,11,17 163:13,15,18 175:10 191:17
	everyone's 75:11	examining 124:6 127:22	excluded 126:6 136:20	
	everything 137:19	example 58:11 67:5 73:9 127:18 128:17,21 173:18 186:6 195:22 196:12	excluding 171:1	exist 89:21 117:18 138:4
	evidence 51:15 59:3,4	examples 197:6,9	excuse 74:4 107:1,16 122:4 145:20 160:12 162:3 181:7 183:12 188:5	existing 37:12 76:9,23 77:2,4 79:9 80:19 91:18 112:8,18 138:22 172:16,18 182:7,18,20 195:17
event 103:19 155:13 197:13 200:11	exact 38:7 79:10 132:6 185:3	exceed 11:6 116:15 194:1	excused 107:17 161:25 162:4	
events 42:1 98:14	exactly 19:14 100:8 125:13 127:6 200:18, 20	exceeding 172:11	exercise 171:16 190:9	exists 117:1
every 13:6,15 15:13 24:22	examination 4:1,4,6,7,8, 10,11,12,13, 14,15,17,18, 19,21,22,23	except 6:7 15:13 129:2	exhausted 194:6	expand 101:25
			exhibit 5:4	expansion

115:13	84:19	extend 80:11	F	188:12 189:22
expect 28:23, 25 29:1 30:5	experts 84:22	extended 80:19 140:1	face 180:21	factored 28:15
expectation 40:22,24 193:6	expiration 37:13	extension 37:9 138:22	faces 118:6	factors 49:21, 25 50:7,22 122:14 123:7, 14 129:13 138:8,12 148:3,5,6,9 159:5,8,10 170:7
expected 129:10 133:13 138:18 172:15 186:7	explain 24:25 51:18 76:2,12 123:21 127:8 143:8	extensive 85:13	facilitate 170:16	facts 104:19
expecting 134:17	explained 21:25 22:19 86:2 89:23	extensively 93:10	facilities 1:3 6:6 37:12 95:21 112:9 139:6 167:20 177:22 180:9, 11 182:7	fail 199:6,9
expenditures 119:15	explaining 21:8	extent 160:19 182:22 186:22	facilities' 179:23	failed 171:5
expense 172:14	explains 85:14 145:5	extra 180:23 182:21	facility 24:22 121:7 179:11 180:10	fails 170:21 187:15
expenses 97:5	explanation 76:14 84:5	extraordinary 196:17	fact 9:1 26:14 27:15 50:19 61:12 89:18 90:17 102:16 103:11,12 105:17 123:3 132:5 136:25 138:3,6 141:24 146:25 152:1 157:24 161:7 174:2 178:8 184:21 185:22 186:12	fair 71:9 94:12 96:22 102:12 127:9 146:16
expensive 122:19	explore 193:13	extrapolate 115:21		fairly 122:22, 25 126:7 127:23 128:4, 11 149:17 151:4
experience 97:24	exposure 149:21	extrapolation 29:12 53:3,7 113:13 115:11,16		fall 40:15 41:2 68:15
experienced 67:24	expressed 9:19,24	extreme 135:21		
expert 25:5	expressly 167:14 168:1	extremely 67:25		

falls 103:4	68:21 92:25 93:1,6,8 139:11 140:4 146:2 148:9 175:10	final 39:25 58:18 96:1 133:23 152:15 154:20	34:1 35:25 39:9 42:17 55:8 57:6,18 68:25 82:18, 21 87:24 93:6 98:24 101:13 108:18 120:12 141:23 144:5 152:1 162:15 166:7 167:13 192:8 199:1	flipped 144:8
familiar 8:20 70:7 97:14,18 188:12,17 192:24	Fifth 2:18,23	finally 61:18 86:3 172:13		float 9:12
far 7:16 19:14 128:7 136:24 137:7 166:19	figure 51:6 68:5 75:6 117:24 140:5, 6	financial 49:20 57:8,9, 19 170:16		Floor 1:9 2:18,23 55:22
fashion 108:8				flowed 143:12
favor 115:25 168:10 186:21	file 9:13,15 81:6 90:4 171:20	find 59:2 76:13 159:17 198:10	five 24:10 48:14 59:2 69:24 70:2 123:2 126:12, 13 128:15 136:14	flowing 90:25
favorable 167:7	filed 9:6 35:11 56:2,7 83:7,8,14,17 88:11 93:22 101:1 104:1, 25 105:21,22 109:12,22 110:3 113:20 176:4,14 181:5 190:3,5 192:17 193:1	finding 42:16, 18,22 43:7		flows 12:13
February 40:16 113:25 139:16 140:22		findings 148:14	five-minute 107:24 108:5, 10	focus 123:18 142:19
Federal 165:6		finds 98:10 103:20	five-year 58:13	focused 34:24 121:18
feel 186:16	filing 8:12,17 9:6,9,16 40:15 88:16 114:1,14 119:18,25 139:16 166:3 172:12	finish 40:4	fixed 130:1, 17 177:12	focusing 27:14
feeling 69:12		finished 82:8 120:11	flat 143:20	follow 68:18 200:5
feels 68:22		fire 54:8	flawed 14:6 115:11 116:2	follow-up 71:7,10 127:9 150:10 156:16 197:2
FERC 41:14		firm 162:24	flaws 14:7 113:4,11	follow-ups 192:7
few 66:2	filings 60:15 189:13	first 20:22 21:1 29:4	flesh 43:2	following 16:23 43:14

94:4 124:1 125:6	format 199:21	105:16 106:1	fundamentall y 199:17	31:20 32:10, 18 51:11
follows 55:9 82:22 87:25 98:25 108:19 162:16	forthcoming 173:15	framing 198:23	further 17:16 80:1 82:4,6,8 87:16 103:16 106:17 113:22 118:4 145:13 152:9 162:7 165:23 184:10 191:14 194:21 198:20 200:3 201:2,3	52:4,9 53:13, 14,22 54:2,8, 14,17 115:2,8 122:6,18 124:11,14 147:2,5,9,10, 13 148:21,24 170:24,25 171:8 187:18, 24 188:2 199:15
footnote 177:9,25 178:6 179:15 190:13	forward 21:11 54:14 73:23 74:7 79:7 87:10 89:18 96:6 103:14, 19 105:11 148:11 152:3 170:12 172:4 174:2 197:16, 25 198:1,21	frequency 41:8	fresh 75:11	gave 71:15 150:13 151:25 155:16
force 130:19 136:22	found 18:6 21:22 26:16 52:2 54:6 115:10 116:12,20 117:21 145:6 155:21	front 8:17 33:22 37:19 154:9 179:4 181:5 185:10, 11,25 188:19 193:7	future 59:7,10 61:3 68:2,15 90:6 91:25 94:19 100:11 102:14 106:12 119:15 138:2, 5 147:10 167:14 168:1 173:16 184:12	Gavin 83:14
forecast 13:4 16:12 22:5, 18,21,23 23:4,18,21, 23,24 52:4 184:17 186:8, 24	four 11:17 15:25 24:7 25:20 123:1	front-end 143:24	frustrations 104:22	GE 136:9,16
forecasted 167:21	four- 58:13	full 21:6 55:14 66:22 67:23 72:7 77:7 80:20 170:2	G	general 90:6 97:19 98:21 102:4 159:22 171:20 190:14 197:7 198:1
forecasts 18:12 21:21, 23,24 22:1,6 89:24	Fourth 55:22 171:10	fully 86:2 116:17 173:20	gap 126:7,12	generally 82:8 193:2
forget 142:15	fraction 38:4 68:14	function 177:14 178:22	gas 15:9 17:2 18:6,8,12,15, 17 21:15,18, 19,20,25 22:5,21,23 23:1,3,18 24:17 28:16	generate 106:3 138:18 180:13,20
forgot 132:16	frame 100:25 102:23			generated 99:23,24
form 172:13				

106:11 123:12	153:19 156:10 183:4 195:10 198:7	good 8:8,9 49:3 55:12,13 57:5 66:2 75:17,18 76:6 84:18 89:11 93:6 106:12 107:14 108:6 110:23 112:3 121:4,5 132:22 146:16 154:12 164:24 175:14,15 192:14	167:21 greater-than 184:17 greatest 144:13 greatly 112:23 133:15 grid 41:24 grounded 198:25 group 20:22 93:2 grouped 117:20 growing 112:24 growth 169:12 guarantee 38:20 161:17 guaranteed 119:23 160:17 guarantees	94:18 160:13, 15 guess 19:17 34:9 37:7 64:14 97:2,7 105:5 152:23 189:11 195:9, 14 guidance 94:21,24 95:1,4 guidelines 41:14 96:6 gut 146:15 <hr/> H <hr/> H-i-g-g-i-n-s 162:21 haircut 195:10 haircuts 195:17 half 117:22 118:2 160:25 hand 192:8 handed 10:22
generates 181:23 generating 103:18 180:23 generation 37:17 54:8 179:25 182:19,20 Georgia 109:7 getting 6:17 104:23 150:3 192:12 GIBSON 2:6, 10 gigawatt 37:16 115:20, 23 123:11 138:18 give 57:2 64:4 88:4 97:25 100:10,25 103:3,5 106:13 132:15 146:23,24 147:2 148:23	given 28:23 30:5 60:9 98:18 101:22 106:10 112:14 119:4, 21 123:9,18 125:1 130:10 138:10 147:9, 11 155:7,21 156:21 160:9, 14,15 166:11 174:2 195:17 gives 42:14 149:8 198:8 giving 102:8 148:23 161:16 186:10 Glenrock 15:23 16:1 118:12 128:2 149:2 171:2 goal 125:15 goes 8:4 10:10 24:25 102:6,9 103:19 123:9 191:7 gone 142:21	Goodnoe 15:24 16:2 118:10 126:10 171:4 grant 86:1 granted 48:7 56:22 84:9 89:5 106:22 111:20 164:17 191:19 graphically 117:25 great 133:7 150:7 greater 25:12, 16 26:5 105:20	greatest 144:13 greatly 112:23 133:15 grid 41:24 grounded 198:25 group 20:22 93:2 grouped 117:20 growing 112:24 growth 169:12 guarantee 38:20 161:17 guaranteed 119:23 160:17 guarantees	94:18 160:13, 15 guess 19:17 34:9 37:7 64:14 97:2,7 105:5 152:23 189:11 195:9, 14 guidance 94:21,24 95:1,4 guidelines 41:14 96:6 gut 146:15 <hr/> H <hr/> H-i-g-g-i-n-s 162:21 haircut 195:10 haircuts 195:17 half 117:22 118:2 160:25 hand 192:8 handed 10:22

20:7 192:16	131:20	156:25 160:6	39:6,23 53:8	17:22 22:11
handy 42:14	135:16 150:4, 23 162:15 189:21	170:13 192:20,21 193:15 201:19,20	64:7 66:11 67:1 70:2 71:15 81:4 82:15,16 123:10 131:18 136:7 139:15 144:2 146:9 151:16 152:23 154:8 160:6 169:15 170:15 172:24 177:5 178:3 195:22 196:5	53:14 115:2 127:23 128:4 130:1 146:4 147:2 149:3 171:2
happen 106:2 138:23 147:1 169:25 197:25	Hayet 4:17 5:20 84:22 86:2 108:17, 22,25 111:24 120:2,10,13, 18 121:4 151:9,11 161:23,25 162:3 198:5, 22	heat 18:24 19:1,4,13 23:2 51:2,13, 25 52:1 54:2		higher 11:5 13:6,14 14:10,19 15:18,21 27:24 114:2 118:7 128:20 141:23,24 147:6,8,16, 18,23 148:21, 23,24 149:15 151:19
happened 65:20 146:2 196:5 197:24	Hayet also 85:8	Heber 55:21	Here's 159:3	
happening 29:11 105:9 106:7		heightened 152:23 153:20		
happens 27:12	Hayet's 108:14	help 7:2 41:13 72:20 82:17	Hickey 3:5,6 8:11 63:1,2 78:1,4 86:22, 23 92:20,21 120:21,22 175:1,2 201:12,13	highest 144:13 148:21
happy 73:3 76:6	heading 101:8	helping 153:24		highlighted 129:8 194:8
harbor 94:22		helps 76:12	Higgins 4:20 5:8,10,12 162:12,14,21, 22 172:20 174:17,18,21 175:14 186:5 191:13 192:3, 24 194:25 201:5	highly 155:9 166:7
hard 68:11	hear 9:15 75:22 158:21 173:1,6	Hemstreet 41:8 136:8,18		Hill 15:24 16:1 118:11 127:19 128:1, 19 149:2 157:19
harmless 94:17 155:13 161:4,9,16	heard 30:11 127:4 139:20 154:21 160:9, 18	Hemstreet's 41:12 119:12		
HATCH 3:2		here 7:8 9:2 11:3,24 12:23 18:3 25:6,24 28:1 29:11, 19,25 37:7 38:18,23	Higgins' 164:13	Hills 15:24 16:2 118:11 126:10 149:3 171:3,4
having 55:8 82:21 87:24 100:21 108:18	hearing 1:7 10:23 36:5 42:12,23 43:8 100:19 137:13 146:2		high 8:1	

hit 50:11	123:11	144:22	illustrates 26:8	implications 173:19 174:12,14
Hogle 2:13	138:19 167:19 180:12,14,16, 24 181:11,24	identified 27:20 35:5 111:8 113:9 118:6 119:12 151:18 163:12,14,16 164:14 165:14 190:15 194:2, 4	illustrating 161:20	implicit 28:13 65:9
hold 94:17 155:12 161:9, 16	182:19,21 189:2		impact 21:18 50:12,25 79:11,13 90:3 113:19 128:24 129:14 130:16 139:25 141:15	implicitly 57:24
holding 161:4	however 39:20 59:18 69:6 85:24 99:6 117:11 129:24 152:2 171:24			implied 18:24 57:23
holistically 150:14		identify 72:21 125:11,22 192:20		implies 60:19 78:21
Honigman 1:14	huge 150:1		impacts 35:13,21,22, 24 49:19,20 57:9 91:1 99:17 113:22 114:19 173:23 174:14 176:1	importance 60:3 68:23
Hoogeveen 38:19	hundred 11:25 13:2,18 16:13,25 25:10,15,21 26:10 51:24 94:23 95:5,6, 14 139:9	identifying 127:10 171:18		important 40:25 62:22 68:20 72:24 74:1 122:15 169:15 180:9 200:23
Hoogeveen's 94:16 96:5		ignore 24:23 61:12 142:13		
hook 137:2		ignoring 28:14,18	impair 165:22	
hope 161:11	hundreds 181:10		implement 65:3 97:23	impose 119:7
horizon 113:7 121:19,20	hypothetical 190:9,10	II 118:11 126:7,9,10 127:19 128:1, 18,19,21 149:2 171:3	implementati on 80:14	imposed 160:1
horse 158:13	I			impossible 8:2
hour 179:1 182:7	Idaho 19:22 20:17 21:11 22:16	III 128:2 149:2 171:2	implemented 70:6 172:17	impress 161:11
hours 37:17 115:20,23	idea 61:22	illustrate 34:22	implementing 98:11	impression

137:15 160:10	118:10 119:8 126:8 130:5 165:24 188:9	incorporate 81:15	180:18,25 181:24 182:4, 16 188:15 190:24	individual 7:4,7 28:22 121:8 122:4 130:9 149:9 198:9
improve 79:16 168:20	included 66:9 71:20,22 72:1,4,5,8 73:2 75:24 76:2,10,12 77:11,12 78:16 79:14, 16 81:24 97:5 99:25 104:7 119:16 136:9 148:3 173:3 177:15 193:4, 6	incorrectly 195:9	incur 59:22	individually 149:4
improvement 154:15		increase 101:23 102:1, 21 105:15 112:16 114:4 129:21 130:24 131:3 180:15 182:6	incurred 98:9	indulgence 71:6
inaccuracies 133:6			INDEX 4:1	
inaccurate 139:18		increased 102:3,24 114:17 186:13 188:16	indicate 26:7 28:21 35:22 37:5 38:13, 14,23 40:6 48:6 56:21 84:8 89:4 102:22 106:20 111:19 164:16 191:18	indulging 159:15
inadequately 59:12,20	includes 117:19			inequity 69:4, 7
inappropriate 63:13	including 49:25 61:1 72:7 73:1 77:7,17 98:15 111:8 116:13 118:7	increases 116:20		inertia 41:19, 24
inappropriatel y 58:25		increasing 101:16 102:17 105:23 112:12,24 186:11	indicated 22:10 24:14 40:13 94:17 111:15 115:6	inertial 41:14, 25
incentive 96:18 98:23	income 40:20			influence 160:4,5
inclined 117:12	inconsequent ial 118:2	increment 100:12 182:23	indicates 11:5 21:2 101:9 114:22 115:4 122:17	information 9:4 21:21 34:15 40:2,3, 7,12 42:10 50:16 51:17 70:4 74:13 90:11 92:7 98:13,17 104:23 105:3, 25 117:7 125:16
include 22:11 60:21 65:6 83:13 87:9 90:7 94:19 99:22 100:3 102:25 109:14	inconsistency 9:18	incremental 12:4,8 29:4,6 37:17 99:23 138:19 172:9 179:24	indication 107:20	
	inconsistent 70:10 166:17, 24		indications 162:4	

130:10 152:6, 13	30:17	8:21 16:17	168:10	issue 26:13
informed 84:21	intent 39:23	23:9 28:16	169:10 170:3	27:3,5 36:24
inherent 24:24	intention 75:1	29:11,15,20, 24 30:13	180:22 182:5	43:2 57:16
initial 65:15 199:7	interest 6:11 42:16,19,23 43:7 50:4	40:12 48:5	183:24	58:18 59:7
inputs 145:24	63:3 73:23 91:16 103:7 104:7 176:20	49:12 50:2, 15,17,21	186:11	60:3,19 61:15
installation 37:25	interested 74:10 173:9	51:15 58:18	196:21	62:20,21 64:3
instance 14:6	interests 106:9 170:14	68:4,15 84:6	investments 174:5	67:19 68:23
instead 11:10 113:15 114:12 115:12 171:20	intergeneratio nal 57:17 58:19 59:6 60:3,19 61:15 62:22 65:12 67:19 68:6,23 69:3,7	90:2 91:22	invited 9:12	73:22 74:18, 20 78:3 82:4
intact 53:6	interpreting 68:13	92:5 96:1	involve 40:1	86:8 90:13
integral 183:18	INTERWEST 3:5	98:20 105:2, 24 106:18	involved 70:1 146:4 176:21	94:14,22 97:1
integrated 165:20	intimately 69:25	122:14 123:6	ipad 192:11	98:22 104:21, 23 146:18
intend 7:9 119:5 140:7	into 7:6,22	130:11 137:1	IRP 11:11,20, 21 35:7	171:16
intended		144:10 148:2	114:16	173:14
		150:22 153:4	166:18,21	176:25 177:3, 6,7 178:3
		154:18	168:9 171:7	186:2 194:17, 20 197:4
		156:12 158:8	175:24,25	198:4 201:16
		159:11 170:7	181:9 192:25	issued 20:16 95:1
		172:15	193:4 194:3,4	issues 7:3 11:19 26:13
		173:22 174:8	199:7	27:1,20 28:14
		193:25	irrespective 169:5	85:14 104:4
		introduced 84:19	IRS 94:21,24 95:1,3	126:22
		invested 132:12	isolation 171:18 176:1	138:11
		investing 149:18 174:3		174:12
		investment 65:14,16 66:6 79:20 112:8, 14 127:21 128:8 153:10, 11 156:7 165:3,4,8		176:24
				item 77:21
				items 72:22 90:2 126:24

J	190:22 199:6	126:15	labeled 20:13 100:23 176:11 181:4	189:12
JAMES 3:2	jurisdictional 119:19	Kevin 4:20 5:8,10,12 162:12,14,21	lack 165:18	late 9:20 109:18 113:21 156:1 166:9
Jeff 71:21	justification 58:3 59:9 60:14 169:9	key 166:8 169:22	laid 199:7	later 81:6 115:21 186:2
Jetter 2:18 174:24	justified 60:10 144:25	kilowatt 179:1 182:6 189:1	Lake 1:10 2:14,19,23 3:3,10 55:22 83:5 163:3	latest 60:15 81:3 117:4 161:1
Jim 146:3	Justin 2:18	kind 66:19 146:12 151:17 156:20,24 198:6,16	language 21:13 22:3	law 94:5,19 113:2,10,18 114:19
jjetter@agutah.gov 2:20	K	kinds 29:13 156:4	large 21:18 142:11 165:18	lead 116:21 130:20,25 135:16 142:2 149:7
JOB 1:15	Kansas 196:12	Klamath 195:25	largely 38:15, 24 39:19 40:19	leads 58:18 124:25 125:1
Joelle 60:16	Katherine 2:6	knew 68:12	larger 130:2 174:10,16 180:19 186:11	Leaning 15:13,24 16:1 24:22 25:10, 14 26:1 115:5 124:16 149:4 170:21 171:5 187:11,14,24 188:13 190:22 199:5
Jordan 2:4	katherine@mrg-law.com 2:8	knock 149:25	Larsen 71:21	least 9:7,22 14:6 22:16
jump 137:16	KCH-14 188:5	knowledge 59:25 69:1 72:11,14	last 9:13 11:16 34:25 41:2 52:20 62:13 87:5 95:23 101:14 150:9 176:15 183:5 188:19	
juncture 166:9	keep 151:5 184:23	L		
June 9:6	keeping 61:5	label 34:5		
Juniper 15:13,24 16:2 24:22 25:10, 14 26:2 115:5 124:16 149:4 170:21 171:5 187:11,15,24 188:13	Kennedy 109:1			
	kept 53:6			

26:10,17 29:9 57:23 60:6,9 64:2 65:14 66:25 69:9 72:22 94:14 125:11,19,23 126:2 127:11, 20 128:3 132:1 133:18 134:5 136:4, 14 142:6 144:9 166:20 170:20 176:25 189:12 199:10,11	72:6,12 73:1 75:24 76:3 77:7,10,16 195:11 legally 195:13 legislation 105:13 length 60:8 62:16 less 21:16,17 24:2 129:9 148:15,16,23 151:20,22 186:8 let 6:17 30:15 67:20 100:18 107:18 125:17 127:9 140:10 143:6, 8 168:25 176:8 181:3 letter 20:18 Levar 2:2 4:8, 19,23 6:2,22 7:14,23 8:5 20:3 40:8 42:11 43:6 48:4,10,14, 18,21 52:13, 16 54:22 55:1 56:20 62:6,10 63:1,4,8	65:23 69:16 70:13,18 71:5,8 73:5, 14,20 74:3, 16,25 75:3,8, 13 78:1,5,8, 11 79:24 80:2 81:9 82:3,7, 11 84:7 86:16,19,22, 24 87:2,14,18 89:3 92:15, 18,20,22 106:19,24 107:3,8,12,18 108:1,9,13 110:6,14,19 111:18 120:4, 9,16,20,23 145:14,17,19 151:7,13 156:15,19,23 159:14,19 161:22 162:1, 6,10 164:15 174:19,23 175:1,4,8 191:16,21 192:10 194:23 195:3 197:1,3 200:1 201:1,4,7,11, 14 level 8:1 98:4 146:5,13,14 154:25 155:10 levelization 143:18,20,21	178:5,7 levelized 114:10 140:18,25 141:21 143:15 145:8, 25 167:2 171:8 levelized/ levelized 144:23 145:2 levelizing 143:16 lever 169:22 200:10,21 levers 200:23 life 32:12 37:9,13 50:18 61:11 67:5 80:20 119:25 133:2,8 143:24,25 144:7 169:14 170:2 light 10:14 165:17 like 10:5 11:10 19:5 20:12 25:5 48:1 50:9	51:5 55:5 73:25 81:13 82:13,16,18 93:8 101:12 102:12,18 131:17 137:12,14 139:9,11 140:4 153:11, 12 154:4 158:25 159:8 175:16 181:6 196:16 198:15 likelihood 147:18 148:21 likely 34:16 49:15 70:23 85:2 113:11 116:10 134:21 135:3 147:11 148:16 174:4 likewise 43:4 limit 119:19 149:21 limited 85:7 86:1 87:8 91:11 119:4, 14 limiting 118:13
--	--	--	--	---

line 10:10 27:4 35:17 37:5,7 39:25 49:9 51:3 52:1 72:21 96:13 100:9 101:22 104:13 109:24 110:1, 7,10 123:15, 17 129:17,25 130:5 140:18, 24 141:13,14, 19,20 160:1 163:24 164:5 181:7,8,16 183:6,15 184:9,11 187:10,14 190:8 193:17, 18,24	16:13 17:17 18:6,15 31:3 32:4 34:3,12, 19,23 123:19 Lisa 3:5 lisahickey@ newlawgroup. com 3:8 list 82:15 111:15 126:6 128:2 129:1,4 listed 149:5 listen 172:22 listening 172:25 litany 28:14 little 23:8 41:6 50:6 69:4 101:22 102:14 131:10,18 136:3 137:17 158:25 184:9 186:22,25 189:10 live 57:2 lives 80:12,	15,24 LLC 3:6 load 169:12 194:7 loaded 143:25 193:5 lobby 42:20 located 49:18 lock 173:17 long 102:4 103:23 138:2 158:19 166:18 long-term 35:13,21 37:6 49:19 51:2 172:1,7 183:25 193:25 194:2, 3,6 longer 57:14 58:10,16 59:18 60:5 95:4,5 104:6 113:12 138:24 longer-term	33:15 Longson 3:9 looked 42:2 54:17 198:22 looking 30:14 36:8 76:21 108:2 122:8 124:21 125:18 138:4 141:17 142:25 146:9, 11 149:1 152:11,17 157:7,12,17 158:13 159:1 186:4 199:13 loose 64:8 loses 161:2 losing 9:21 lost 69:12 118:1 161:5 183:2 lot 26:21 35:1 50:8 93:15 94:4,22 100:15 103:12,19 106:10 142:4 145:23 152:16	154:21 158:15 loudly 23:8 low 12:1,3,15, 17,20,23 15:9 16:7,12,13, 17,19,22,24 17:2,9,10,15, 17 18:13,17 19:19 21:19 22:17,21 23:1,3,14,15, 21,24,25 24:16 28:16, 17 31:16,20 32:10,18 51:10 52:7,9 53:13,18,22, 24 54:1,14, 15,17 115:8 122:6,17 123:6 124:11, 14 147:5,9 170:25 187:18 188:2 198:12 199:15 low-end 186:25 low/low 17:14 18:3 lower 15:21, 23 21:18,23 27:24 71:24 79:19,20
lined 54:18 lines 10:7 35:23 38:10 72:5 93:22 96:20 104:11, 15 Link 4:10 11:22 12:18, 24 18:11,19 52:23 75:7, 13,17 77:6 78:2 80:4 100:1 173:5 188:7,13 Link's 14:18				

113:23 118:7 180:4 181:24 194:4 195:24 196:6,10	magnitude 112:14 131:3 165:13	169:25 170:8 180:22 183:23 185:5, 9,10,12 186:3,16 198:14	MANNING 3:9	110:16
lower-risk 194:5	maintained 112:18	makes 40:4 60:18 61:2	many 49:11 122:23 152:7 191:7	matching 60:10
lowest 49:17 85:4 144:6	maintains 57:21	making 14:25 64:5 76:24 79:5 94:18 98:21 126:24 148:10 152:11 189:17	Marengo 118:11 126:7, 9,10 128:18, 21 171:3	material 43:8, 10
Lowney 2:9 4:16,18,21 63:5 86:25 92:23,24 93:5 106:16 120:24,25 121:3 145:13 175:5,6,9,13 191:13	maintenance 165:25	manage 38:16,24 39:20	margin 28:11 155:16	materialize 112:22 116:18 149:23
lunch 108:3,6	majeure 130:19 136:22	management 130:21	marginal 54:5 151:4 176:25	materially 27:16
<hr/> M <hr/>	major 114:4	managing 161:14	marked 56:6	math 14:1 128:14
	majority 34:18 93:17	mandated 196:3	market 11:13 19:8 33:14 51:2,12,25 52:1,6 54:2 103:13 105:1, 5,16,18 179:24 180:2, 3 181:11 182:15 193:7	matter 57:7 61:23 63:14 102:15 158:19 181:18 201:15
made 36:22 60:1,16,24 109:22 111:9 114:13 118:18 139:20 155:15 163:23 168:13 175:24 178:1 183:16 189:11,20	make 8:12 9:2 10:4 12:12 15:1 25:25 42:22 43:7 52:22 54:5 61:25 65:10 74:6 78:17 81:13 94:10 96:1 103:3 114:5,17 125:5 142:6 148:4,14 149:18 152:4, 12 154:7 158:23 163:20 165:16	Mangelson 5:18 83:14, 16,23 84:10	Mary 1:14	matters 57:6 70:1
Madre 3:6		manifest 149:22	mas 191:6	may 1:12 5:8 7:2 8:2 39:4 48:12 50:10 58:8,14 79:22 95:2 98:8 104:2 106:2, 12 108:15 112:15 134:15 146:8
		manner 172:3	match 60:6	
			matched 67:7	
			matches	

151:18 153:10 161:25 165:22 176:14 192:17 193:1	128:22 143:20 152:15 153:8 155:2 158:14, 15,24 160:21 186:23 195:12,13,14	92:4	13:15,18 14:19 131:11 190:20	met 184:19
maybe 7:12 27:23 48:13 69:17 108:3 127:7 131:17 150:24 192:12,13 195:21	meaning 14:3,4	mechanism 85:12 89:13, 16,23 90:15, 17,22 91:1,4 92:6,11 97:6, 10 98:25 99:5,9,11,13 171:10,13 172:2 200:10	meet 169:11, 12 194:7	method 26:17,23 53:3 166:4,9,12, 17,20 167:3, 4,6 189:8 193:4 199:7
Mcdowell 2:6, 10 4:3,9,10 6:8,16 7:1,18, 25 8:7 20:6 23:12 31:9, 11,13 40:10 43:12 48:1 52:14,15 63:4,6 71:5, 11,14 72:23 73:8,25 74:25 75:5,12,16 77:24 86:24 87:1 92:22 120:24 175:5	means 7:15 89:20 161:6 170:11	mechanisms 96:17	meeting 160:12 182:1 193:4	methodology 11:10 15:18 29:12 53:2,5 166:20
Mcdowell's 6:15	meant 124:19,20	medium 12:1, 2,15,17,20,23 13:9,23 14:8, 13,14 16:7, 15,20 17:1 18:12,16 23:14,15,20 25:15 26:10 31:16,20 32:10 51:11 52:7,8 53:13, 18,23 122:6 124:10,11 170:24 187:18,24 190:20	megawatt 29:7 139:10 167:19 180:14,24 181:11,24 182:19	methods 86:12 161:6 175:25
Mcfadden 149:3 171:2	measure 29:3 150:21,24 152:24 167:1	medium-priced 13:3	megawatts 37:22 112:6	metric 26:19 50:18,23 199:12
mean 27:21 50:9 65:20 99:10 123:21	measured 167:18 168:7 170:23 184:15	medium/low 18:3	menos 191:6	metrics 10:17,19 171:7
	measurement 166:9 171:7	medium/medium	mention 60:18	Michigan 88:8
	measures 85:9 136:9 150:21		mentioned 87:7 179:17 193:10	microphone 23:9 192:11, 13
	measuring 26:18		mentions 178:8	middle 128:9 141:4 193:17
	mechanics		merit 198:19	might 29:6,17 42:20 68:12

82:17 112:21, 22 116:17 136:19 147:24 159:25 165:4	minor 163:22	modeled 114:7 129:21 139:15 175:20 178:24 179:2, 7	172:15	103:10,12,19, 22 105:18,25 117:1,6 118:14 122:18 124:22 136:3 140:8 142:4, 23 143:3 145:9 147:11 148:9,15,16, 25 149:8 151:22 156:20 186:7, 17
Mile 15:24 16:1 118:11 127:19 128:1, 19 149:2 157:19	misrepresenti ng 102:19	modeling 11:11 14:20 29:3 113:10 114:8,10,25 115:15 116:7 117:4 119:22 133:1,6 138:11 140:14,21 141:1,9,18,21 143:7 144:1, 19	moment 20:2 48:13 63:6 75:5 79:23 97:25 103:3,5 104:13 168:25 175:11 183:4	
million 66:16, 20,24 67:17, 18,19,23 68:5,7 114:18 126:1 163:25 164:1,6 182:19 188:16 190:23 191:5	miss 199:19		money 132:12 149:18 154:17	
millions 133:7	mitigate 35:25 86:6 153:24		monopoly 169:17	Moreover 170:25
mind 52:22 75:11 154:24 155:5 156:17 161:20 169:16	mitigated 116:12	models 11:20,21 14:6,15 27:1, 6,7,8,10,11, 12 31:16 32:24 35:7 113:16 115:13 133:24 138:7 187:25	month 9:5	morning 6:3 8:8,9 33:17 35:1 49:3 55:3,12,13 57:5 66:2 75:17,18 76:6 84:18 87:20 89:11 93:6 112:3,4 127:15
Mine 156:20	mitigating 153:25		months 8:18 9:22 102:15 194:1	most 18:11, 14,16 30:25 34:16 35:2 40:9 49:15 52:8 54:7 85:2 93:21 94:13 117:14 125:3,11,19 132:1 134:21 135:2,3 153:22 167:6 174:8
minimis 189:16	mitigation 154:23	moderate 122:22 123:2 147:10	Moore 2:22 4:15 62:6 78:8 82:11 87:20,21 88:2 89:1,6 92:13 106:24 107:1, 16 145:15 162:6 174:20	
minimum 122:16 179:4	mitigations 136:9	modifications 168:20	more 10:2 17:8 19:1 22:2 23:8,9 28:11 59:24 64:6,12 81:13 85:7 102:9	
	mix 67:22	modified 171:25		
	mlongson@ mc2b.com 3:11			
	model 26:8, 10 29:2,3,5,6 32:19 114:11 139:12 145:1 158:9 190:22 191:11			

motion 42:12, 21 48:7 56:21,22 84:8,9 89:4,5 106:20,21 111:20 113:20 164:16,17 191:19 motives 142:23 Mountain 1:2 2:5,13 5:3 6:4,10,19 165:1,11 166:3 169:2 191:15 192:18 194:17 move 99:14 106:17 111:7, 16 129:5 132:23 164:12 170:12 191:14 192:12 moves 56:18 89:1 moving 73:23 198:1 MSP 86:11 87:5	much 19:1 35:25 37:6,7 43:12 49:3 85:7 104:6 113:23 130:2 132:21 133:15 146:23,24 147:2 148:23 152:6 154:8 multi-colored 7:16 multi-state 86:4 multicolored 7:24 multiple 166:13 Murray 4:13 5:18,19 82:19,20,25 83:3 84:11,13 86:14,17 must 49:8,12 97:4 175:20 <hr/> N <hr/> name 55:14 83:1,3 88:4,6 108:23,25	162:19,21 nameplate 37:25 names 158:4 natural 18:6, 8,12,15,17 21:15,19,20 22:23 23:1,3, 18 52:4,9 53:13,14,22 54:2,14,17 navigate 7:9 8:2 near-term 19:5,13 121:20 173:20 nearly 112:6 114:18,19 necessarily 94:25 98:25 102:10 103:22 115:23 123:5 127:7 128:23 134:18 135:20 137:13 138:25 143:2, 20 144:2,4 147:15,19 148:20 177:5	186:2 188:22 197:18 necessary 43:2 114:11 170:17 171:14 172:4 176:3 necessity 165:19 need 14:3 30:4,8,12 42:6,25 63:15 67:17 89:15, 22 99:10 109:22 112:20 113:3 125:17 140:9 148:9 152:6 153:16,17,18 154:4,10,19 169:16 174:5 179:7,19,20 180:3,8 181:10 182:1, 2,11,12 192:8 193:12,20 194:2 199:25 needed 169:11,12 199:17,20 needs 194:3 negative 49:4 150:25	177:12 neither 59:3 net 15:14 21:17 24:11 32:17 33:10 34:18 36:9 37:4 50:8,10, 13,23 76:20 77:14,22 79:11,13 81:23 112:11 113:14 114:17 122:9 124:12,15,16 125:23 126:2, 13 127:12,22 128:6 129:14 132:3 133:19, 21 134:5 135:20 158:5, 10 166:13 169:4 170:22 171:6 172:9 179:1 187:16 nets 78:21 never 65:20 115:14 144:21 153:10 new 8:12 9:4, 9 60:16 61:22 79:2,3 80:14, 20 89:13,15, 23 90:23 93:18 94:25
---	--	--	--	--

98:16 142:18, 23 143:2 153:13 166:1 174:5 180:13, 20 182:11,12 192:13	178:5,7 179:15 187:17 199:1, 2	normal 64:1 80:8 113:15	20:18,23 83:16,25 88:13 109:16 113:21 163:14	numerical 27:1
newly 91:4	nominal/ nominal 143:7 178:24 179:2	North 2:14 3:6	NPV 36:3,13, 15,18	O
next 55:5 61:19 68:8 79:10 96:20 100:14 101:20,22 105:8 107:24 128:16,19 132:23,24 193:21	nominally 64:2	Nos 5:6,15,20 56:23 84:10 106:23 111:21 191:20	number 14:23 34:4,11,21 35:4 36:21 37:18 42:14 50:15 54:10 65:1 66:19 86:1 109:25 110:7 127:21 128:8,16 130:7,8,11 139:20 142:11 147:20 159:6 163:25 173:2 191:5,9 192:19	O&m 119:15 154:14
nexus 180:7	non- confidentially 130:12	note 62:14,17 125:14 130:5 134:8 136:19 137:4 140:6 168:19	oath 6:14 75:14 120:10	objecting 17:7
nine 32:24 33:7 114:22, 25 146:21 147:16,19 158:7 199:9	non-fixed 130:23,25 131:22	notes 60:21 101:15	objection 42:18 48:7 74:21	objections 56:22 84:9 89:5 106:21 111:20 164:17 168:22 191:18
ninth 9:5	non-levelized 114:12 121:11,12 140:25 141:5, 6,12 145:25	noteworthy 60:18	numbers 6:24 7:4,22,24 11:15,16 17:25 19:1,6, 11 24:25 25:20,21,23 28:16 36:14, 15 52:7,9 53:1,24 81:25 128:9 159:7 191:1 199:4	objective 146:6,13 198:6,16
nobody 149:11 151:1	nonconfidenti al 103:11 111:1	nothing 82:5, 8 99:3 178:6 201:3	notice 185:24	objects 42:21 48:5 56:21 84:8 89:4 106:20 111:19 164:16 191:17
nominal 32:9 36:11,14 50:14 114:12 121:15 131:12 141:8, 9 143:10 145:8 170:23	None 56:12 63:10	noticed 9:17 146:21	numeric 37:2 140:7 198:11	
	nonlinear 29:8	notion 26:20 118:13 144:21		
	nonperforma nce 160:3	November		

obligated 97:22	48:13 58:5 66:18,21 70:24 91:17	179:12	23 161:15 171:8 174:15 176:24	opening 62:2
observations 60:17	110:10 135:24 144:12 169:10	Oklahoma 156:2	179:10,14 180:20 181:19 183:5, 12 184:10	operate 91:5 96:24 138:24 161:7
obviating 174:5	offer 48:2 59:3 84:6 167:9	old 142:3,4, 17 196:18	187:21 190:4 191:4,5 195:5 197:1 198:7,9	operating 59:17 112:9, 19 154:12,16
obviously 63:18 67:21 100:17 140:9	offered 11:22 12:17,19 53:16 155:6 163:6	once 80:20	ones 6:25 7:1 34:24 53:19 128:5	opinion 9:1 50:21 70:22, 23 89:14 92:6 106:5 108:4 179:19
occur 9:16 50:17 98:13 133:14 135:7, 23 137:3 172:17 183:22	offering 22:23 169:19, 20 200:9	one 6:11 9:3, 20 17:8 19:25 20:2 26:5,16 27:11 28:16 31:19,20,21 32:17 39:7, 12,22 40:25 43:11 48:13 50:17,21 53:14 58:11 63:6 69:17 70:17 71:6 72:17 74:1 75:5 76:18,21 79:22 81:13 94:13 95:18 104:4 109:23 113:6 114:22 123:1 126:6, 22,23,24 127:19 140:12 146:4 148:25 149:5, 12,13 150:9, 14 152:18 154:20 156:20 157:16,18 158:9,19 159:2 160:3,	online 160:16 161:1 172:25	opportunities 161:2 194:5
occurred 95:23	office 2:21 5:17 82:15,18 83:4,7,9 84:20 85:21 86:3,8 87:21 88:9 89:1 101:1,8,15,21 102:16 108:24 109:5, 8 111:7,9,12, 13,14 154:10 162:7 193:7		only 15:23 18:20 19:25 24:2,10 29:3 32:17 34:24 36:25 43:10 61:2,3 67:23 71:9 86:1,10 91:11 98:21 102:25 115:5 118:2 123:9 124:14 125:24 130:24 134:4 137:20 152:19 159:1 169:20 182:4 194:1,4 196:18	opportunity 74:14 83:8 132:14,15 160:12 165:4, 8 168:9 172:22 183:24 184:21 196:20
occurring 147:6,18,23				opposed 42:4 177:22 178:12
occurs 135:12 186:6				opposite 186:6
OCS 5:18,20 84:10 111:21 145:4	Office's 84:20 87:6 105:18		open 87:10 184:23 186:4, 9	optics 167:7
October 83:25 114:3	offset 59:13 177:13			optimal
off 20:1 38:6				

115:13 118:14 138:6	172:8	50:14,18,25 58:13,17,23 59:5,24 60:12 61:11,13 62:1 64:3 66:15 67:5,6,21,22 68:10 69:11 77:3,15 80:15,24 105:8 115:23 133:1,8 143:24,25 144:7 155:14 161:8 167:18 168:8 170:22 171:6 172:21 184:15 185:17 186:13	overruns 129:9 130:21 131:1	package 64:25 65:1
Optimizer 26:24 27:23 29:2 53:6	others 35:5 50:22 82:17 83:9 195:16		overstated 52:6 115:24 116:8	pages 20:22 31:6,11 41:3
optimizing 113:16	otherwise 65:8 199:24		own 22:21 23:1 24:21 52:4,8,22 54:9 135:19 198:19	Palo 11:12,13 12:2,3,18,19, 23 13:17 14:18 15:11, 12 16:14,16, 19,25 17:1, 10,17,22 18:5,7 22:20, 25 23:15,17, 23,25 25:15 26:10 33:17 51:23 52:24 53:9,17,20,25 54:4,7,13,16
option 157:4, 5,8,9 184:24	outcome 135:11,12 137:7 146:9 147:21 149:11 168:21		P	
options 157:11				
order 19:22 20:11,13,15, 24 21:1,6 22:3,17 27:16 86:6 95:20 137:17 139:9 196:6 201:16	outcomes 30:6 134:14	overall 7:5 32:7 36:24 77:12 81:15, 22 90:3 99:6 103:22 127:13 151:2 168:22 170:19 171:23	P.C. 3:2	
ordered 195:19 196:13	outperforms 187:6		p.m. 201:20	paper 6:23 10:25 104:7 176:20
orders 146:5	output 12:10 177:14 178:23 179:1		Pacificorp 114:8,13 115:12,14 116:24 118:9, 23 119:1,8, 11,14,24 136:21 137:2, 6 139:21 160:2 161:3, 13 177:11 189:1	Par 14:5,14 26:24 27:23 31:15 32:19, 24 35:6 53:6 99:25 113:15 115:13
Oregon 2:7, 11 5:9,13 176:16 177:17 178:22 179:5 188:19 189:4, 13,23 190:6	outside 39:13,20 88:22 160:4 161:5 174:12 197:7	overcome 168:22		paragraph 21:7,14 94:4 101:14,20
	outstanding 25:1 101:24	overrun 129:20 130:2, 16 131:4,16, 19,21,22 132:2,5 133:25 134:25 159:9	Pacificorp's 18:9 86:6 114:5,22,24 115:5,8,10 116:1,11,15 181:9	Pardon 23:7 70:16 74:12
original 61:11	over 17:8			

parenthetical 178:1	159:23 165:17 166:11	192:16	196:12	perform 185:19
Park 109:7		pause 175:10	people 150:20	performance 160:10 165:25 186:13
part 20:10,25 21:9 41:9 51:25 53:5 67:18,20 72:12,15 76:12 92:1 94:13,20 103:11 117:2 127:15 165:11 173:22 183:18 186:15,18,19 187:2,6 196:20,22 197:14	parties 42:17 73:24 75:9 98:4 148:18, 20,22 170:13 177:6 parts 59:1 party 42:21 56:20 84:7 107:19 111:18 161:13 162:2 164:15 191:16 pass 95:17 passed 93:18 96:2 passing 178:1 179:5 path 10:1 160:24 198:11 Patricia 2:17 pattern 118:3 Paul 5:23	pay 59:22 61:3 66:12,22 68:17 169:10 paying 66:13 68:4 182:24 189:1 payment 59:13 177:21, 23 178:10,12, 13,17 179:11, 12,13 PC 2:6,10 PCC 135:1 Peaco 4:3 5:5 6:7,12,13,16 8:8 20:7 23:7 48:23 52:18 55:2 73:18 127:15 148:9 151:16 159:9 198:21 peak 139:10 pending 113:18 pension	percent 11:25 12:14,16,18, 21,22,24 13:2,18 14:18 15:11,12 16:9,14,16, 18,19,25 17:1,11,18 18:20 19:20 22:7,18,20, 22,25 23:4,21 24:1 25:10, 15,21 26:10 36:20 37:3 51:24 53:21 54:6,12 57:22 67:24 94:23 95:5,6,14 113:25 117:22 119:23 129:21 130:2, 7,22 131:6 132:9,16,24 133:12,15 134:8 155:16, 17,18 percentage 130:3,6 132:18 perfectly 137:5,10 154:11	performed 24:5 34:7 67:8 76:10 129:12 performing 117:20,21 118:5 126:17 185:16 perhaps 86:5 126:5 158:23 186:10 period 11:14 19:7 33:6 37:9 42:24 53:7,9 58:13, 17 59:6 60:4, 7,13 61:1,14 62:2,16 64:1, 3,11 65:13 67:6,10 69:9, 12 77:4 90:7, 19 115:21 133:11 155:14 166:6 167:19 168:8 170:22 171:6 173:11 174:15 176:2 185:18
participate 88:16				
participated 55:24				
participation 201:18				
particular 11:6 39:8 41:18 64:1 129:7 141:15 171:25 188:14				
particularly				

187:17	Phillips 58:11	plant 25:10 66:7 71:22 72:1 168:16 169:13,24 170:6,10 172:16,18 173:3 174:3, 16 184:4,5 185:8 196:9 197:21	pointed 26:14,20 29:10 90:9 138:11 177:18	65:4 68:24,25 69:6 105:19 147:7 160:3 182:10,12 193:11 194:10 200:22
periods 59:1	physically 172:25		pointing 26:13 182:14	positions 84:21
permit 117:12	pick 154:7		points 26:21 28:17 133:7 146:1 168:14 191:7	positive 28:10 49:5 114:23 115:1, 2 151:2
permitted 70:17	picked 81:5	plants 185:16,18	policy 32:24 114:23 115:1 124:21 135:15 146:22 148:6, 7 158:7 159:2,13	possibility 100:11 116:25 131:7 134:7,15,20
person 73:18	picking 66:19 167:5	play 50:14		possible 50:9 71:7 105:7 135:7,9,10
perspective 152:22	place 90:20 97:11 99:13 166:21 169:20 182:24	pleased 72:24		possibly 130:18,24 144:6
pertaining 94:5		PLLC 3:9	portfolio 118:14 126:16 150:23,24 151:2	postpone 63:14
pertains 57:7 86:7	placed 80:21 153:21	Plus 131:20	portion 65:17,18 68:1 96:14 117:24 132:20	potential 93:12 99:11 100:2 113:2,9 149:20 154:14,22
Peterson 4:5 5:15 55:6,7, 17 57:1 62:4, 8,13 66:3 70:14,22 72:6 74:4 75:23 173:4,18	places 18:4 152:6	point 36:13 42:9 57:11 58:1 62:13 63:24 72:24, 25 74:1 87:5 92:3 106:13 125:4 128:23 132:19 138:10 144:6, 11,24 145:6 148:4 168:23 176:8 178:11 182:8 185:13 197:12,22 200:8	Portland 2:7, 11	potentially
Peterson's 75:19 76:13	plan 81:6 117:3 138:6 165:20			
phase 165:7	plane 107:17			
Philip 3:1 4:17 5:20 84:22 108:17, 25	planning 121:19		position 21:11 22:4,5 63:19 64:17	
	plans 115:13			

9:9 92:1 130:19 135:16 138:23	pre-filed 164:9,13,21 175:17 179:18	present 36:9, 11,12 37:4 50:8,10,13, 15,23 67:13, 14 68:6 75:19 79:12,17 84:14 183:24	186:8 presumes 159:1	16:14 17:18 18:5,6,7,8,17 21:15,18 22:1 33:14,17 52:2,9 54:4,7, 18
power 1:3 2:5,13 5:3 6:5,10,19 41:23 113:14 156:6 165:11 166:4 169:2 172:9 179:2 182:15 189:13 191:15 194:17	pre-marked 56:3	presentation 74:6 82:14 111:25 162:9	pretty 123:2,3 132:22 149:16 154:8	pricing 13:3 176:21 177:2
Power's 165:1 192:18	precedent 69:6	presented 20:21,23 56:14 92:8 93:24 109:21 114:3 121:23 181:2	previously 81:17 131:16 164:14 180:2	primarily 58:4 112:12 118:19 119:5 193:25
Powerdale 58:22	precedential 58:21 195:21	presenting 108:14	price 11:12 12:2,3,15,18, 19,23 16:7 18:12,15 19:18,19 21:12,15,19, 20 22:16,21, 23 23:1,17, 18,25 28:1,17 32:24 51:24 52:3,4,24 53:9,12,15, 17,21,25 54:1,2,8,13, 14,16,17 102:10 103:1 104:18 114:23 115:1, 2 124:21 135:14 146:21 148:5, 7 158:6,7 159:1,12	primary 117:9 194:16,20
practice 57:12 171:14	precisely 76:7	presents 58:12 117:25	printed 110:20	principle 162:24 163:5
pre-approval 85:8,23 86:1 97:22 99:1 119:19 170:4 171:4 183:22 197:15	prefer 75:10 152:2	preserved 117:23 118:3, 6	prior 38:16 52:1 105:3 114:14,25 115:8 140:22 166:10 176:5	probability 28:18 147:6, 17
pre-approve 86:10	preferable 171:20	President 155:4	probably 73:21 76:12 108:2,6 124:25 152:9	
pre-approved 98:3,5	prefiled 56:4, 5,7,14 104:9	pressure 103:17	priced 27:25	
	prepaid 196:11	presumably 189:15	prices 11:12	
	prepare 56:2 88:11 111:24 163:10	presume		
	prepared 57:1 84:13 89:7 109:11 164:20			

problem 144:18 183:12	169:22 170:4	129:10 132:25 134:1, 16 140:14 143:12 144:14,15,19 155:10,18 167:21 182:7 186:7	131:2 133:9 135:17 140:13 141:15 143:24 146:15 148:11 149:9 151:6 160:13, 16 165:1,3, 17,19,21 166:5 167:15 168:3,5,12,23 169:10 170:9, 12,18,20,21 172:17 174:1 180:17,18,19 181:2 182:2 184:22 185:15 186:20 187:5, 10 188:16 190:21 195:25 196:1 198:12,18 199:5,16,20	project-specific 29:16
problematic 166:7	produce 13:14,18 14:19 17:4 18:8 25:11 27:2 28:20 73:9 115:14 124:15 133:2, 13 155:11 169:3 180:11	professional 149:7		projected 105:10 165:22 169:8 185:15,17 187:16
problems 10:14 26:8 34:20 35:4 92:4,6 113:8, 9 152:7	produced 15:18,23 24:7 36:5 115:18 116:17 122:9 133:12 135:21 145:7 167:20 179:23	profile 144:5, 8 151:19		projects 9:10, 20 10:3,14,17 15:19 24:2,24 26:22 27:16, 22 28:19,22, 24 29:13 30:13 32:1,23 37:8 57:20,25 58:6 59:10 65:2,10 81:14 84:25 85:2,5, 7,11 86:7,10, 11 89:19,20, 22,25 90:7, 13,19 91:12, 15 95:11 99:24 102:18 103:13,20 106:8 112:11, 17,23 115:7 116:5,8,9,11, 17 117:13,15, 21,22 118:2, 5,8,15,21 119:2,5,10, 12,16,25 121:20 122:5, 9,17,18 123:4,5 124:24 125:1, 3,4,10,18,22
procedural 113:21	producer 188:25	profits 112:25		
proceed 57:4 82:13 84:16 89:10 108:7 117:13 119:2 164:23 170:19	produces 13:20 25:16 26:4 124:12 182:20	Program 165:7		
proceeding 83:11 91:11 114:15 123:5 152:5 162:3 166:10 167:22,25 173:11,12	producing 26:25 27:24	project 7:3,4, 5,7 8:13 11:6 12:7 13:16 15:6,13 20:17 24:21 26:18 27:3,19 29:17 30:24 32:8,9, 12,17,21 36:20,24 40:14 50:18 58:3 72:18 77:12 81:1 85:23 100:6 106:14 112:15 116:23 124:12,15 126:2 127:13, 19,25 129:14 130:9,21	project's 21:16 29:21 30:5 60:14	
PROCEEDING S 1:7 6:1	production 36:8 39:9,22 49:16 59:8 85:3 94:23 95:6,9,14 103:16 112:12 114:6		project-by-project 30:7 31:15 36:25 113:4 115:4 116:3 124:10, 20 157:23 158:1,5,10	
process 8:23 74:10,22 85:16 86:4 89:17 159:16 165:20			project-cost 72:9 73:2	

126:16 127:11,24 128:3,12 129:3 130:1 132:1,14 133:2,18 134:2,5 135:24 136:3, 10,13,15 138:9,17 142:7 149:13, 24,25 150:14 151:4,18,22, 24 152:3 154:19 156:4 157:8,11 158:8 167:1,7 169:3 170:17 171:5,12 178:24 179:20 180:8 195:14 198:9 199:9,11 200:7,12	64:20,21,22, 24 67:16 68:21 80:7 81:3 90:17,23 91:6,21 97:13 112:5 118:20 165:2 167:9, 11 172:7,8 180:13 182:17 183:18 186:15,18,19 195:8 196:20	protect 155:23 156:12 protected 137:10 protection 85:9 119:7 143:9 155:1 protections 136:8,15 protects 137:6 provide 24:11 36:19 37:21 38:2 41:6 53:1,4 72:25 83:1,20 84:16 109:3 110:25 112:2,11 119:5 124:9 131:10 132:3 133:19,21 139:6 170:22 171:6 187:16 provided 6:21 15:5 16:8 30:23 31:14 32:22 33:5, 10,13 51:23 90:11 101:9 111:15 118:16,20 136:16	137:25 167:22 192:4 provider 169:17 providers 169:18 provides 32:7,8 41:23, 24 74:13 155:5 providing 169:7 174:4 provision 136:22,23 provisions 94:17,22 95:19 136:20 137:1 prudence 97:5 98:19 167:24 184:22 prudent 91:16 98:12 103:20,21 106:8 prudently 97:23	prussell@ hjdlaw.com 3:4 pschmid@ agutah.gov 2:20 PTC 35:24 38:14,20 39:2,15,18 59:12,19 60:7 66:12,14 68:4 95:21 112:13 114:25 118:7 131:13 134:17 140:18,25 141:6,9 152:10 155:11 171:8 172:1,7 PTCS 9:10,21 36:19 59:13, 21 67:5 68:17 95:25 114:9 116:16,21 119:23 121:12,15 139:12,15 141:21 145:8 160:18 161:3, 5 165:6 166:17,18,21, 24 167:3 170:23 172:2, 4 175:20 176:5 177:1, 12,14,21 178:5,7,9,22
property 57:13 172:14, 16 proportion 30:17 130:1 proportionality 29:1,15,20, 22,24 30:8, 13,19 proposal 19:23 57:10 61:8,25	proposals 67:3 95:23 96:1 101:25 118:17 155:25 proposed 57:20 58:6 85:11 89:13 90:22 91:4 92:10 153:23 169:5 171:11, 12,25 172:3, 11 173:18 184:11 186:5 proposes 59:15 proposing 60:23 61:22 64:25 187:7 proposition 28:3,7 165:3			

179:6,10,14 180:20 187:17	103:16 134:7 137:1 156:11 158:8,9 159:3 185:24 198:21	131:18 177:22 179:11	40:1 51:3 52:1 93:3	105:7 171:13 192:14
public 1:1,8 2:17 5:8,12, 14 6:3 36:22 42:13,16,19, 23 43:7,11 50:4 55:18 165:19 173:24 176:15 190:5, 15	puts 63:22 144:9,13	quantification 127:13	questions 6:15 7:10,11 8:1 15:3,4 21:1 40:4,5, 11 41:10 49:4,5,9 51:1 52:12,17,21 54:21,24 56:14 62:5,7, 9 63:7,9 66:2 69:15,18 77:25 78:2,10 80:1,3 81:8, 10 83:19 85:18 86:17, 18,20 87:1, 13,17 88:23 92:16,17,19, 25 93:7,8 106:17 107:4, 6,10 110:3 120:13,15,17 121:1 125:16 139:11 140:5, 9 145:13,18 151:9,10 156:14 161:21 164:8 174:9,20,22, 25 175:7 191:14 192:4 194:22,24,25 195:1 196:25 200:25	quoting 181:17
purchases 179:25 180:3 181:11 182:16 193:7	putting 63:21 65:12 135:17 198:11	quantity 127:1		R
purely 58:10 63:25 197:25	PV 11:25 13:3 25:10	question 8:14 10:12 14:14 16:23 21:13 25:19 28:13 30:3 64:10 65:22 67:9 69:13 70:17 71:7,9 73:17 74:1 75:9,22 87:10 97:19 105:5 131:5 133:8 135:2 145:21 146:16,17,22 147:3,14 149:1 150:9 151:6 152:15 154:20 156:24 160:22 172:22 175:16 192:23 194:7 195:6,22 197:2		R-a-m-a-s 88:7
PURPA 178:19	Q			R.P.R. 1:14
purpose 22:12 180:23	QF 181:17 182:15 194:18			RACKNER 2:6,10
purposes 104:16 144:1 154:17 175:23 192:20	QFS 178:9 182:1			raise 147:3
pursue 57:19 65:10 178:14	qualification 9:10 38:14, 15,20 39:2,15 95:14 96:5 105:14	questioned 176:5	quick 95:18	raised 146:18 148:8,9 160:22
put 14:24	qualifier 95:18	questioning		raises 186:2
	qualifies 95:6			Ramas 4:15 5:7 85:10,14 87:22,23 88:6 92:13,16 93:6,9 106:16 107:5,13,16, 21 119:18
	qualifying		quite 78:19	ramble 145:20
				Ranch 118:12

171:3	58:4 59:7,11, 19,20,22 60:12,23 61:3 66:18 69:10 90:21 95:4,17 102:2 112:16 137:6 143:13 149:8 150:3 153:20,21,25 154:16 155:13 167:12 174:12	15:18 16:18 22:7 28:9 30:14,16 RBA 102:1 re-created 123:23 re-debate 63:18 re-openers 187:3 reactive 41:23 read 21:12 97:17 reading 153:4 reads 98:7 193:24 real 8:20 143:21,22 167:2 171:7 178:4,6 realization 165:22 realized 35:24 101:23	really 9:14 17:14 34:24 71:11 75:9 96:13 117:18 152:7 154:10 158:17 159:15 177:20 180:19 197:12,22,24 198:7 199:3, 10,25 200:21 realm 131:7 134:7,20 reason 18:1 107:19 114:4 124:23 142:20 143:9 162:3 179:6 183:21 199:16 reasonable 23:2 49:17 54:8 85:4 118:21 126:19 133:14 134:14 138:13 167:19 168:4 172:5 174:8 184:15 185:17,20 187:1 201:17 reasonablene ss 19:18 22:4	115:16 reasoning 100:15 reasons 58:11,14 100:13,17 195:18 reassess 184:21 reassessed 81:5 reassessment 186:4 rebut 74:18, 19 rebuttal 5:21 40:14 71:20 73:6 88:14 92:8 109:17 111:14,22 118:12 REC 100:4 101:15,23 102:14 103:22 104:8, 16,18 105:14 106:2 188:14, 15 190:11,14 191:9 REC'S 188:9,
range 38:8 66:16 126:8 149:16 165:9 190:14 rank 27:16 rate 18:24 19:1,4,13 23:2 40:21 51:25 52:2 54:2 68:11 79:4 90:1,4,6, 14,18 91:6 92:1 98:21 99:12 102:4 112:24 113:24 143:22 168:1, 14 171:21 195:24 197:6, 7,10,11,17, 19,25 198:1 ratemaking 61:9,10,16 141:15 171:14,16 197:13 ratepayer 85:9 96:8 118:22 119:7 155:23 156:7, 12 161:4,9, 15,16 176:1 ratepayers	rates 51:2,13 91:7 96:16 143:13,24 171:18 172:5 179:8 183:25 186:12 196:6 rather 138:9 150:14 171:19 178:10 181:19 185:11 ratio 11:3,5 13:2 24:2 25:12,16 26:5 27:5 38:7 127:14,23 128:9,10 129:2 rational 76:14 ratios 13:14, 23 14:10			

20,22 189:15, 21	93:21	recommendat	20:2 48:5,13, 22 55:16	105:14,15,18, 20 106:4,11 190:22
recall 8:13 19:12,14 24:17 28:4 30:8,11 32:25 33:20 40:16 41:10,12,16 49:9 51:3 71:18 73:6 105:25 137:13 146:17 192:3 194:15	recently 166:22	25 9:21 21:9 87:6 94:9,11 117:10 119:18 152:1, 4,12,13 153:11 155:15 156:10 168:19,24 170:19 187:13 189:12,17 197:10	71:12 106:18 120:10 162:20	redacted 88:12 110:21
recapturing 79:3	recess 20:4,5 48:19,20 108:10,12 120:5,8	recommendat	recover 57:13 65:13 77:1 90:21 112:7 171:11,21	redirect 4:4,8, 22 15:3 48:10,22 49:1 52:12 63:9 70:20 106:25 107:1,2 145:15,16,17 191:22 192:1
receive 59:8, 19 60:23 64:19 65:5 68:16 85:7 97:21 102:2 124:8,9 188:24	recognition 113:18 189:3	ions 85:20 93:24 94:2 126:25 167:10	recovered 67:5,15 80:13,15 90:24 91:19	redistributed 184:25
received 101:16 102:7, 10 103:2 105:23	recognize 10:24 153:9	recommendat	recovering 65:18 183:16	reduce 17:11 22:17 23:4 34:16 118:22 168:2 183:25 200:14
receives 196:1	recognized 189:7,24	recommend	recovery 57:25 58:9, 12,15,21,23 59:1,4 60:8 63:25 64:5,19 65:11 71:19, 22 77:16 85:11 89:15, 23 96:17 99:4 119:15 167:15 168:2 170:6 184:12	reduced 12:16 22:6 23:20 60:6,12 65:1 114:19 132:21,24 133:16 170:9 178:9 194:18
receiving 69:10	recognizing 116:1 197:20	d 14:12 85:8 104:12,16 118:16,19 168:20	recross 52:14 71:13 194:24	reducing 16:15 17:15, 18 23:25 60:25 66:17 117:17
recent 30:25	recollection 6:6,10 71:25 94:20 193:3 194:9 196:13	recommending 100:5 150:18 194:18 197:12,14 200:19	RECS 99:22, 23 100:12 102:1,22 103:10,12,19	
	recommend 14:24 62:15 89:12 91:10 92:10 118:24 119:3,14,22 164:25 167:13,25 168:13 172:6 173:13 184:23 185:3 187:10	recommends 85:5,21 86:8 184:12		
		record 9:2		

reduction 40:20 133:3 134:1,25 155:20 159:8 168:13 172:16 185:7 197:5,13 200:8	21:10 109:25	regardless 76:25 91:6 142:22	relationship 127:12 185:20	170:3
reductions 116:21	refined 139:15	regulator 59:4	relative 26:22 54:5 79:19 126:25 127:2, 22,24 128:12, 17,18,20 130:3 165:8 169:5 182:7	remaining 25:1 38:18 39:11,12 59:23 61:11 66:22
reexamine 185:20	refinement 139:17	regulatory 57:12,25 85:15 89:17 91:25 195:24 196:7,8,10,11 197:19	relatively 58:17	remember 104:21
reexamining 186:9	reflect 22:15	reiterate 81:2	release 132:17	removal 59:17
refer 15:8 51:17 96:21	reflected 43:10 178:11 179:8	reject 14:2 85:22,25 152:2	released 132:17	remove 59:15
reference 33:23 100:1 101:1 103:25	reflecting 177:21	rejected 85:6, 16 89:14 90:16 92:11 118:20 172:7	relevant 49:22 50:2	removed 59:14
referenced 94:21	reflection 178:17	rejects 22:15 141:14	reliability 49:20 153:17 169:11	removes 96:17
referred 41:18	reform 40:19 91:1 93:9,12 94:9 95:22	related 85:18 93:11 94:9 109:15 111:11 113:10 115:14 123:14 156:20	relied 36:14 141:21	removing 170:1
referring 13:1 19:3,11 27:3 30:2,19 31:18 39:12 124:22 127:6 176:9 194:12	refresh 71:25	relate 93:7	relying 95:20 97:15	renewable 97:10 99:17 101:4 188:10, 24 189:2
refers 12:24	regard 104:22 146:19 149:10	relation 165:10,14	remain 28:15 38:15 39:19	repeated 93:25
	regarding 62:13 75:23 84:23 85:10 105:14		remained	repeatedly 26:20
				replace

163:25 164:6 169:13 replaced 91:13 replacement 115:18 replaces 182:18 replies 110:4 report 113:23 128:7 142:9 reported 79:19 114:1 REPORTER 1:14 repower 1:3 6:6 66:11 77:1 78:22 79:8 112:5,20 116:14 117:15 118:10,23 119:4,11 122:19 repowered 66:14 80:20 115:22 116:17 118:21	119:25 136:10 139:6 167:20 179:23 180:11 repowering 10:14,17 14:7 20:17 24:11, 21 30:24 33:10 34:16 37:21 41:9 57:10,20 58:3,6 59:10 64:21,22 65:3 66:12,21 71:23 76:4,18 77:8,9,21 78:23 79:18 84:25 85:1,23 89:19 90:13, 19 95:20 99:24 102:18 112:17 115:6, 17,19,25 116:9,23,25 117:5,11,13, 18,22 118:2, 14,15,17,20, 25 119:2,16 129:14 146:10 149:8, 9 157:8,9,20, 21 158:18 165:1,2,3 166:25 167:15 168:3, 12 169:19,21 170:18 171:22 172:17 179:20	180:10 181:23 182:2 184:13,22 198:12,14 represent 20:15 33:3 104:5 143:15 176:18 180:3 representatio n 8:19 14:21 17:6 42:3 114:10,13 representatio ns 139:21 represented 54:15 191:1 represents 122:4 reprice 12:3 request 1:2 6:4 8:24 49:6 73:10 85:22, 25 117:11 118:25 requested 50:4 requests 74:14 144:25	require 9:4 125:16 151:23 155:15 required 24:15 98:2,19 119:8 165:18 194:6 requirement 5:6 32:9 57:7 78:22 79:12, 17 85:13 99:10 104:17 requirements 8:20 89:21 90:3 96:25 99:7 112:7 143:14 144:10,20 169:11 193:5 194:7 requires 35:12 100:18 148:13 requiring 170:11 reserve 168:1 reserved 91:22 160:11 resolved	93:16,18 94:6,11 resource 1:3 6:5 8:12 35:11 49:7 50:4 89:13 90:15,16,25 91:4 92:5,10 97:23 98:9,12 99:2,9 112:19 116:24 117:3, 6 154:5,6 165:20 171:10 178:18 179:20 180:4 182:1,2 193:5 194:2,3,5,6 resources 37:23 86:2,5 101:25 102:21 103:15 112:18,21 116:14 117:1 118:10,23 119:4 133:12 138:23 154:12,16 156:6 182:11, 13,24 193:12, 21 RESP 5:19 respect 14:13 30:24 35:21, 23 38:13
---	--	--	--	--

57:17 58:1 95:19 109:20 173:2 181:16 185:6	responsibility 119:9 161:3	7,8 131:9 137:19 142:11,17 145:7 147:4 187:23 188:3 190:22	17,20 78:16, 24 79:1,3,9, 11,20 81:17, 18,19,20 90:1,15,19 91:6 99:13 168:14 169:23 170:2, 9 183:17 185:8 186:11 195:10,24 196:1,6,21 200:8,14	102:3,7,15, 16,23,24 103:22 104:9, 16 105:23 106:4 171:23
respectfully 74:14	responsive 9:13 83:17 109:17 111:13	retail 49:17	return-of 65:17	reverting 114:24 115:7
respond 35:20 74:14 85:17 100:20 122:21	result 13:19 14:19,22 29:8,9 49:15 79:20 85:2 103:15 106:12 117:16 133:10 134:5 143:22 144:11 145:9 166:15 195:20 196:23	retained 80:21 172:10	returned 24:10 197:23	review 49:7 72:16 83:8 97:9,12 99:5, 6,8 165:12
responded 144:24		retired 37:12 65:16 80:10 168:16 169:13,23 170:3,6,10 172:18 173:3 174:16 183:17 184:4, 5 185:8 196:9,22 197:21 200:9, 15		reviewed 30:22 94:15 99:8 113:5
responding 194:12		retirement 81:21 196:17, 18		reviewing 101:10
response 7:11 10:6 35:16 38:10 41:15,25 51:6 56:7 73:10,15 76:13 84:11 88:15,19 90:10 93:20 96:14,15 109:18 111:13 114:21 115:3 117:19,25 118:4 121:6, 24 123:16 124:2 125:7 129:7,18 140:4 163:16, 24 183:7,11 184:8 187:8 190:19	results 13:12, 13,14,15 15:9,16,17 16:20 17:5 18:10 24:7,8, 11 25:14 26:9,15,19, 21,25 27:2,8, 13,17,21,23 28:6,22 31:15,24 32:16 34:8,9, 10,17,19 53:6 76:22 113:20 115:6,25 116:3,5 117:19 121:23 123:18 124:6,	retiring 81:16	returns 196:11	reviews 101:3
		return 57:13 59:5 60:22 61:2 64:10, 11,15,16,18 65:5,6 66:5,6 72:7 73:1,2, 11,12 76:9,23 77:2,7,8,10,	reveal 50:10 revenue 5:6 32:9 78:21 79:12,17 85:11,13 89:21 90:3 96:25 99:7,10 104:17 105:20 112:7 143:14 144:10,19 revenues 100:11 101:15,23	revisited 118:13 reward 61:5 149:20 RFP 117:8 RICK 4:10 Ridge 149:3 171:2 right-hand

128:7	118:6 129:6,8 148:16 149:22 155:1 157:10,20,21 165:9,23 167:10 168:4 198:12,13	109:7	running 17:19 113:15 115:12 138:7	137:14 150:9 155:20 157:3 175:17 179:9, 10 182:5 183:10
rise 144:6		roughly 36:19 77:5 80:25 123:11	runs 32:1,15 33:4 34:2,5, 13 35:2,6 76:17,19 100:1 145:24 146:8,12	sale 102:1,7, 10,22 106:1
risk 21:15,19 28:14,17 38:18 39:2,8, 10,11,15,22 49:19 85:5 95:8,15 96:6, 7,8 98:2 112:14,21 116:11,14 118:22 122:14 126:20 129:9, 13 132:13 134:13 136:21,22 146:14 148:3 149:12,19 151:19 152:16,23,25 153:5,20,22, 25 154:22,25 155:12 156:3, 7,9 158:12 159:5,10,23 170:5 185:12	rmoore@ utah.gov 2:24 RMP 5:5,6,8, 10,12 10:23 24:15 48:5,9 51:15 100:23 106:18,23 176:11 181:4 183:15 189:25 191:20	round 191:9 rounded 191:5 rounding 191:8 rounds 114:14 166:10 191:10	Russell 3:1 4:6,21,22 62:10,12,24 78:5,6 86:19, 20 92:18,19 120:17,19 162:11,12,18 164:12,19 174:17 191:21,23 192:2,15,22 194:21 201:7, 9	sales 103:2 Salt 1:10 2:14,19,23 3:3,10 55:22 83:5 163:3
risk-weighted 25:4	Robert 2:22 Rocky 1:2 2:5,13 5:3 6:4,9,19 165:1,10 166:3 169:2 191:15 192:18 194:17	route 73:21 row 26:2 189:17 rows 25:24 51:18 RTM 85:14 96:16,21 97:6,8 98:20, 21,24 99:2 171:16,19,24 172:1,6,13	Russell's 63:9 <hr/> S <hr/> safe 94:22 said 7:15 15:5 28:2 29:23 30:7 39:18 68:21 105:22 126:21 127:6 128:4 130:9	same 11:2 16:20 17:4 26:19 27:10 33:6 42:9 56:13,15 72:10 76:20 77:3 78:21 79:6,10 80:22 83:20 88:23, 24 100:14 110:3,4 112:8 114:19 121:14 129:4 132:6 141:9 142:12 143:13 144:12 151:3 152:4 163:23 164:5,8,10 175:20 176:6 179:7 181:15, 25 182:2 189:1,17
risks 9:9,23 24:23 25:1 28:18 38:14, 15,21,23 39:1,2,6,12, 18,20 84:24 116:7,12	Rolling 149:3 171:3 room 74:21 162:2 Roswell	run 16:12,13 27:7 34:23 170:5		

sat 160:5	67:1 80:22 102:20 106:11 121:15 135:3, 14 144:1,4 148:13 157:15 160:22 185:25	170:25 171:9 186:24 187:18	21,25 54:1, 13,16	195:11,15,17, 18,19 196:6, 10
satisfied 167:23		schedule 9:12,23 80:8 113:21 119:11	scripts 12:18, 19 51:23 52:3 53:12 54:14	sees 151:1 162:2
satisfy 155:2			search 198:6	select 132:14
savings 117:16 154:14	says 101:14, 22 143:11 159:3 178:6 179:15	Schmid 2:17 4:4,6,8,11 20:1 23:7 31:7 48:11, 12,16 49:2 52:11 55:3,4, 11 56:17,25 62:4 63:8,10 70:16,21 71:4 73:14,16 74:12,23 78:11,12,14 79:22,25 82:3,5,10 86:16,18 92:16,17 120:12,14 174:23,25	second 21:6, 7 48:13 57:11 58:1 101:20 128:1,2 149:6 166:16 168:7 193:14 200:5	sell 102:9 103:10,17
say 10:15 11:25 19:2 25:22 35:2 37:7 66:15 68:11 69:5 74:10 76:25 77:19 78:20 80:17 96:16 103:4 109:1,3 121:19 124:8 125:22 127:4, 7,25 130:22 132:19 134:22,23,24 135:1,6,8 137:12,13 141:13,22 142:13 147:21 155:8 160:1,18,23 161:5 173:17 179:14 180:21 186:6, 25 190:13 191:10 199:22	scaled 170:20 187:10		section 42:13,14 99:16 100:4 103:5,8 104:8 106:6	sense 27:14 40:4 54:5 65:11 74:6 131:19 183:23 185:5, 9
	scaling 8:12			sensitivities 33:14 131:10 137:20 139:8
	scenario 15:9 18:20 24:17 32:18 53:14, 23 59:25 78:25 122:3, 18 124:11,14 133:24 134:4, 6,21 135:4 190:21 199:24	Schmid's 48:22	seek 90:6	sensitivity 36:23 129:12, 20 133:18 137:18 145:24 146:8, 11 155:19
	scenarios 31:16 32:10, 25 52:5 122:6,12 124:21 135:21 146:22 148:15 166:13	scope 8:13	seemed 126:18	sentence 96:20 101:14
		SCR 25:5,7 146:3 152:21	seems 73:25 74:6 137:12, 14 142:8	separate 53:17,19 77:21 91:2 151:23 152:5 173:12
saying 22:24 39:17 66:11		script 22:25 51:24 52:24 53:9,15,17,	seen 106:7	

185:14 197:21	set 10:16 13:20 19:9 30:25 34:2 35:3 85:7 117:15 119:4 126:19 139:14	sharing 168:4 186:9	147:2,5 148:11 149:13 150:13 157:1, 12,18 158:16, 18 161:12 165:11 169:4 170:20 171:1, 12,24 172:2, 10,15 177:15 179:14 184:25 186:3 188:23 189:2, 7,8,24	135:19 187:24 188:2 190:20 199:2
separately 53:25 54:16 117:21 198:18	setting 64:7, 14 171:18	sheet 63:23	side 72:9,16 73:2,12 79:21	
separation 175:24	settled 6:17	shift 69:8	Sierra 3:6	
September 41:3 83:15 88:12 109:15 163:11	settlements 59:1 155:25	shifting 96:16 152:25	signal 192:12	
sequence 26:22	seven 15:23 16:1 118:11 127:18 128:1, 17,19 149:2 157:19	short 40:2 58:17 135:14 176:19	significant 28:10 105:15 116:4,7,22 117:16,23 126:15 183:21	
series 49:4	several 85:8 92:4 116:9 148:19 186:23 188:19	short- 35:12, 21	shouldn't 157:2,7	
serious 166:6	shaded 6:24 7:1,8,20,24	short-term 35:22,23 49:19 194:5	show 13:13 24:2,20 28:7, 11 34:18 36:13,15 76:22 138:9 142:7,11 166:13	significantly 168:10
serve 170:15	shading 7:16	should 22:6 24:15 35:19 39:5,24 49:8 50:21 51:19, 20 58:16 61:19 62:22 69:5 85:16,25 86:10 95:15 96:8 100:7 104:5 106:10 110:1 117:10 118:9,20 119:1,6,8,14 123:19 124:8, 9,19,22 134:11 143:10,18 146:23,24	showed 32:17 114:23	similar 27:13 114:20 146:20 156:1
service 1:1,8 6:3 58:13,22 59:5,14 61:6 63:21 64:24 80:21 90:8,20	shape 140:8 141:19 143:5	showing 24:11 27:10	shows 15:13 25:11 51:10, 12 81:23 118:1 131:25	simple 13:22, 25 14:2 25:4, 9,13 26:4
services 2:21 5:17 49:16 83:4 88:10 101:2 108:24	share 86:10 87:8,9 151:20	shown 34:22 42:6 146:5	shown 34:22 42:6 146:5	simply 13:19 63:25 76:8 116:13 169:7 177:25 178:7
session 8:3				since 25:23 30:22 42:2 69:25 70:1,6 71:8 94:5

104:25 105:16 144:11 150:5 165:7 168:23	149:24,25	solar 117:2,6	198:15	55:21 83:5 163:3
single 13:15 50:15 114:22 124:12 159:6 171:16	sizable 68:14 150:6	sold 103:1 187:2	somewhat 146:6	Southwest 2:7,10
single-issue 197:13	size 28:24 65:3 158:18	solely 182:22	somewhere 38:8 63:22	span 102:4
single-item 197:5	skewed 186:20	solid 140:18	sorry 15:25 19:3 25:13 29:18 31:7,10 39:23 42:19 70:7 104:13, 15 127:25 135:22 137:16 153:6 164:2 183:2,9 184:8	speak 23:8 70:12 140:9 178:3
singled 196:15	Slightly 26:6	solve 69:8	somebody 137:14	speaking 177:20
sir 78:4 120:22 201:13	slimmest 200:13	somehow 110:14 186:12	sort 7:2 34:25 67:8 125:10 139:14 140:8, 17 141:4	special 99:11
sit 42:20	small 29:4 38:4 112:22 115:3 116:20 122:25 123:3 128:11 133:20,22 149:16,17 150:22,25 158:14 190:23	someone 186:1	sound 9:6 192:13	specific 15:4 41:6 60:18 72:21 94:8 99:22 100:17 136:3 140:7, 12 187:3 192:23 195:22 200:12
site 198:9	Snarr 2:22 4:13,17 62:7, 9 78:9,10 82:12,13,24 84:5,12 86:14 107:23 108:7, 15,21 110:17, 24 111:7,23 120:2,5 145:15,16 161:25 162:7, 8 174:20,22	something 20:19 22:24 28:23 50:20 63:16 64:12 74:8 95:7,13 100:17 126:21 139:10,12 143:8,23 149:18 152:22 153:4 154:24 155:5 175:17 179:17 192:12 195:11,15 196:2,4	sounds 70:3 131:17	specifically 19:20 21:10 94:21 102:17 129:13 163:10 184:20 185:4 187:6
sitting 144:2			source 181:19,20	spell 88:3 162:19
situation 154:1 157:4			sources 190:15	spend 150:5
six 8:18 9:22 32:1 86:6 118:8 125:18, 19 135:24 136:5 146:7			South 1:9 2:18,23 3:10	

168:25	22:14 52:20	statutory	143:16	162:25 163:6
spent 150:7	67:21 76:8	57:7	144:18 150:3,	stream
spoke 159:9	80:17 93:2	stemming	7,23 151:2,4	159:16
Springs 3:7	186:21	113:12	159:6 191:12	streaming
SR 32:18	started 92:25	step 17:16	stipulated	43:9
	93:9	137:7	69:19	Street 163:3
	starting 146:1	Steven 2:22	stipulation	strong 155:8
	193:17		19:22 20:11,	strongly 92:9
staff 21:9,11,	state 49:18	steven.	22,24 21:10	173:13
14,19,20,24	55:14 82:25	snarr@	70:10 195:23	structure
staff's 21:11	88:3,4 90:1	agutah.gov	stipulations	57:22 175:24
22:4	96:15 108:22	2:25	195:20	structured
stake 153:14	123:17	Steward	stop 43:9	196:8
stand 6:7,14	162:19 163:3	60:16,21	stopped	struggling
7:19 94:1	statement	61:7,18 62:14	135:13	69:4
162:13	39:4 69:2	71:15 72:8	story 159:12	studied
189:20	86:13 125:6	173:4	straight	134:11 148:7
198:19	161:13 180:7,	Steward's	180:21	studies 24:6,
standard	8	81:3	straight-	7 30:23,24
24:22 142:10	states 21:14	still 6:14 9:11	across	31:23 32:2,9,
146:6,13	71:21 86:6	30:1 74:5	143:20	13 33:3,7,9,
153:20 198:6	105:13	75:14 77:1	stranded 66:7	19 34:3,8,11
standpoint	155:25	90:20 94:13	67:4 80:10	114:18
34:10 199:22	193:20	95:12,13	91:13	137:18
stands	stating 76:8	97:9,12,22	strata 65:18	study 11:14
141:18	statute 35:10,	98:1,18 99:5,	Strategies	15:14 34:17
start 6:9,15	12 49:6	12 112:4		
	97:15,17,21	116:2 117:1		
	98:1,5,7,25	120:10 132:2,		
	99:1,3	6,7,9,15,20		
	152:17,20	133:19		
	198:7	135:21		
		136:21,25		

61:20,25 62:14,17 63:15 69:20, 23 76:10 81:6 114:1 123:9 134:15 142:1 152:9 174:10	112:13 113:19 150:2 substantially 105:1,6,7,11 117:17 substantive 96:14 substantively 95:24 substituting 181:19 successful 119:9 such 10:1 83:9 95:4 97:9 99:4 117:2,7 131:1 134:11 170:11 194:6 sudden 114:5,16 suffer 34:19 sufficient 135:14 169:9 suggest 27:18 58:8 137:5 144:17,	20 158:22 198:16,17,18, 20 suggested 67:12 135:25 197:5 suggesting 63:13 70:9 150:13 157:18 179:16 suggestion 60:1 suggests 61:7,18 179:6 Suite 2:7,10, 14 3:2,10 163:3 summarize 41:17 summarized 10:19 71:18 84:20 summarizing 148:12 summary 28:2 40:12 71:16 84:13 85:21 89:7,9	111:24 118:24 120:1, 11 126:22 129:6 139:14 164:20 172:19 175:18 179:18 supplement 82:4 supplemental 10:6 31:5,8, 12 35:15 36:4 40:15 88:14 110:23 113:25 119:12,17,24 139:16 166:3 172:12 supplier 188:25 supplies 188:25 support 41:8 43:1,5 57:25 192:18 supported 144:22 supporting 166:14 supports	132:5 suppose 187:4 supposed 64:2 surcharge 172:9 surprises 135:12 surprisingly 114:2 surrebuttal 5:10 42:8 56:5 83:15,23 90:10 91:9 93:11,25 94:8 109:16 111:12 113:1 163:13 surrounding 86:4 93:12 165:21 susceptible 184:1 sustained 133:3 134:1 sworn 55:8
--	--	--	---	--

82:21 87:22, 24 108:18 162:15	tables 31:19 148:4 158:6	153:22 160:2 161:3 165:9 170:7 181:18 182:24	technique 115:16 140:19	test 10:13 17:21 18:23 19:12 52:2 90:6 129:20
symmetrical 87:11 186:17	take 7:12 8:19,21,22 12:2 17:9,10 23:3 30:12 39:11,14,21 42:3,12 48:19 49:12 50:2,21 107:23 108:10 122:14 132:13 147:19 148:2 149:12 152:8 157:19 159:11 165:5 172:15 173:22 174:7 195:24 201:15	talk 132:17,18 136:2,25 145:25 154:14 182:22	technology 138:4,5	tested 18:5 19:4 51:12,25 52:2
system 18:9 23:2 26:24 27:23 29:2 50:11 53:6 54:6,9 76:18 79:6 113:15 192:14		talked 34:2 36:11 39:8 50:6,8 53:3 123:13 130:6 135:25	telephonically 2:13	testified 38:19 55:9 62:15 72:8 82:22 85:10 87:25 93:10, 15,23 108:19 137:9 162:16 173:2 178:21 179:22 180:2 181:9,16 182:10 183:15,23 185:5 188:7, 13,18,21,23
systematicall y 133:3		talking 18:25 26:12,14 35:1 41:17 69:22 159:25 191:8	Temple 2:14 3:10	
T			temporarily 43:9	
table 10:19, 25 24:20 26:7 31:18 109:25 110:1 114:21 115:3 117:19 118:4,18 121:23 122:4 123:19,24 124:1 125:9, 10,15,18 131:8 133:23 136:2,5 139:14 140:12 145:11 149:1 158:3 187:22 188:5 190:20 191:8	taken 1:8 12:14 20:5 29:15,20,24 48:20 53:21 58:12,21 59:5 64:23 65:3,17 108:12 120:8 138:12 144:7 147:7 171:15	talks 154:9	ten 35:25 39:9 59:11 60:7 61:1 196:18	testify 100:10 177:11
	takes 65:4	tax 36:8 40:19,21 59:8 91:1 93:8,12, 18 94:5,9,19, 24,25 95:6,9, 15,22 103:16 113:2,10,18, 24 114:6,19 140:15 143:9, 12 144:14,15, 19 165:6 172:14,16	ten-minute 48:15,19	
	taking 17:15, 17,18 23:24 63:21 64:16 90:2 123:6 138:8 143:22	technical 55:18	ten-year 60:12 173:17	testifying 88:5,9 102:13,16 151:17
			term 77:3 103:23 113:12 185:7	testimonies 88:21 89:12 92:8 93:25 109:20 110:4
			terms 14:25 97:20 98:22 154:22,25 168:20 169:19 180:7 182:8 194:18 199:12	testimony 5:7,8,10,12,

15,18,20,23 9:13,18,19 10:5,6 11:19, 22 12:22,25 18:4 24:14, 18,24 27:15, 20 30:25 31:3,4,5 32:5 34:4,20 35:5, 16 38:10,17 41:1,2,6,13 42:4,9 43:14 51:6 55:3 56:4,5,7,11, 15 57:2,5 58:7 60:17 67:12 70:14 71:16,19,20, 21 72:5 73:7 74:5 75:20 76:17 81:3,25 83:7,8,10,14, 15,17,24 84:6,19 87:19 88:13,14,15, 19 89:2,8,24 90:9,10,11 91:9 92:3 93:11,21 94:8,16 95:2, 3 96:9,22 99:15,16 100:2,4,5,9, 14 102:8 103:2,8 104:1,5,6,10, 25 106:6 108:14 109:11,14,16, 17,18,24 110:8 111:3, 8,10,12,14,25	112:4 113:1 114:3,14,21 115:3 117:19, 25 118:4,13, 18 119:13 121:6,24 123:16,20 124:4 125:7 129:7,18 131:8 138:16 140:4 145:3,4 154:21 156:12 159:3, 23 160:20 161:23 163:6, 11,13,16,21, 24 164:9,14, 21 166:11 172:23 173:6 175:18,19 176:5,10,14, 19 177:4,9, 16,18,20 179:4,16,18 181:5,12,15, 21 182:9,14 183:2,3,7,8,9 184:2,8 187:9 188:17 190:3, 5,7,19 192:4, 8,16,24 193:1,24 194:8 197:8, 16 199:3,8 201:5 testing 126:18 130:15 tests 115:15	Thad 2:2 than 11:5 13:6,14 14:11,19,22 21:16,17,23 22:2,24 24:3 25:12,16 26:5 27:24 28:11 58:6 65:17 71:24 77:9,19 105:11 114:2, 15 122:19 128:20 129:10 141:20 149:8, 15 150:14 154:3 159:12 167:21 169:20 171:19 178:10 181:25 185:11 186:7, 8,22,25 their 9:13 37:13 54:6,8, 15 80:24 83:10 85:19 154:17 160:19,23 161:6,7 188:24,25 198:19 themselves 149:22 168:22 therefore	66:18 123:3 138:24 142:5 153:19 154:2 161:8 172:6 thereof 91:16 103:21 thermal 179:25 thing 27:10 121:14 143:14 187:2 things 23:19 26:16 49:7, 12,25 50:9 51:17 130:19, 20,25 152:18 154:18 174:8 185:25 186:22,24 198:8 thinking 7:21 75:10 third 57:16 166:23 170:19 thought 75:9 110:10,20 159:16 183:10 thousand	37:22 38:5 thousands 181:10 three 33:19 57:6 58:19,23 114:25 115:2 166:6,10 187:25 189:12,17 194:19 through 7:9 8:2 10:7 11:10,14,24 16:6 31:2,6 32:17 33:6 34:23 90:25 91:20 93:18 108:4,5 111:11 123:10 124:7 126:17 137:21 138:7 140:1 141:10 143:12,13,23 160:6 173:23, 25 174:1 177:7 181:11 186:1 193:7 throughout 103:14 160:7 Thursday 1:12 tie 64:8
---	--	--	---	--

194:14	timing 50:24 98:22	tool 29:13,14	tracking 85:12 89:13 90:15,16 91:1,4 92:5, 11 99:9 171:10 172:1	196:15
tied 63:25 64:3 185:12	title 42:13 55:15	top 21:8 101:19 125:9, 18 140:5 159:24 182:20	treatment 61:10 81:4 95:25 140:14 166:25 172:14 178:5, 7 199:2	
time 1:13 8:22 10:2 19:7 42:24 50:15,25 58:17 63:3, 17,19,22 64:11 65:13 69:10 81:13 102:23 104:20 105:16 106:1 108:2 113:7 114:19 138:2, 10 142:12 144:11,13 145:6 146:25 147:11 152:8, 19 155:14 157:16,19 158:9 160:16 167:19 171:21 173:11 184:16 185:18 192:25 196:14 197:19 201:17	to-2036 116:6 142:10 to-2050 115:10 116:1, 6 123:18 142:14,19	topic 99:14 173:7 Tormoen 3:5, 6	traditional 57:12 transaction 152:25 178:19 181:17 transactions 154:10 180:3 193:8,25 transcript 43:11 transferring 91:21 translate 103:22 transmission 153:13 156:5 trap 150:20	treats 177:12 tremendous 189:6,21 tried 148:4 troubling 166:8 true 17:3 18:19,23 24:1 39:1 40:18 49:11,14 57:21 60:11 78:15 122:9, 22 130:18 133:5 136:13 143:14 188:18 true-up 96:21 truing 96:24 truth 55:8 82:21 87:24 108:18 162:15
timeline 8:16	today 9:16 56:13 57:2 70:15 83:20 84:14 85:17 88:24 91:14, 19 105:6 110:3 111:25 129:6 139:14 141:19 161:23 164:8 172:3,23 173:5 174:3,4 175:18 180:11 201:5, 19	total 24:5 31:23 34:10 37:3,25 117:18,23 129:21 131:2 132:8,9 133:12 134:13 toward 59:11 towards 102:9 Township 88:8 track 172:4 tracked 18:7 172:3 tracker 172:7	treated 176:6	
times 54:2 68:21	together 32:23 88:15 138:8,12 told 128:13 took 16:6 95:1 197:18			

try 8:1 30:15 67:20 100:20 105:2 125:4 149:20 150:20 198:9, 14	twenty 77:5	152:19 194:3 195:21	93:12 94:5 165:21	underlies 10:25
trying 25:22 39:6 145:20 161:11 199:17	twice 163:23	<hr/> U <hr/>	uncertainty 86:4,7 93:15	underlying 181:1
turbine 154:12	two 11:15 16:22 23:19 24:2,6 25:21 26:3,4,12 27:6,7,8,9 29:7 31:19 34:25 51:11, 23 53:18 54:18 58:24 69:17 76:17 84:19 113:5 114:14 123:1 128:9 129:2, 3,8 131:9 148:7 154:6,7 157:10 163:22 164:7 191:12 198:24	U.S. 21:21 UAE 5:23 118:16 162:12 163:12,14,15, 17 164:18 192:21 193:14 UAE'S 165:16 168:22 ultimate 85:19 133:10 143:22 ultimately 26:9 96:1 116:15 155:1 unable 72:21 89:25 90:14 161:1 unbundled 190:10 uncertain 106:13 uncertainties	unclear 62:18 unconditional 161:18 undepreciate d 168:15 under 6:14 13:3 15:12 24:16,20 25:10,17 28:19 29:14, 19 33:9 35:11 53:10 57:12, 14 67:15 75:14 86:11 90:16,21,22 91:5,7 97:12, 20 98:5 101:8 103:4 112:15 120:10 122:5, 12,17 124:10, 14 126:1 155:18 161:3 187:16,18,24, 25 190:22 194:20 199:7, 23 201:16 under- frequency 41:25	undermine 22:5 60:13 understand 7:20 11:23 12:13 29:2,22 33:1 35:10 37:20 41:20, 22 67:9 129:1,13 155:2 173:24 understandin g 9:11,25 18:22 30:1 42:1 49:13, 23,24 50:5 66:3,8,10 95:3,22 96:3, 4,23 97:7,20 99:1,20 100:1 155:24 understands 11:4,9 58:2 understate 14:15 understated 14:7 understood
turn 10:5 16:16 19:16 20:10,12 21:5 35:15,17 41:1 42:24 51:5 93:20 96:9 99:15 101:7, 19 121:25 123:15,23 125:7 129:17 131:8 136:1 140:3 172:21 183:1 186:22, 24 187:8,21 189:25 190:7, 18 193:14,23	two-and-a- half 182:19 type 153:10 154:5 185:3 typed 109:25 typical 61:9, 10,16 153:5, 8,9 154:1 165:2 typically 60:9 70:18 150:19			
Turning 51:14				
turnover 67:21,24				
turns 185:18				

81:12	153:22	upside 199:18	using 10:17 11:11 12:4,12 13:2,17,23 14:17 17:22 29:3 31:15 32:18,23 33:14 35:7 114:10,12 131:12 141:1 142:3,18 170:23 171:6 187:17	utilized 53:15 152:20
undertake 169:19	unlikely 68:1 135:1,2	use 30:16 33:17 90:6 113:13 130:11 144:5 154:17 160:11,12 200:11		utmost 103:7
undesirable 145:7	unnecessary 85:15 112:17			<hr/> V <hr/>
undoubtedly 68:2	unneeded 181:18			valid 148:10 189:20
uneconomic 115:5,7 116:10 135:18 142:12 155:21 181:19	unopposed 113:20	used 11:12 12:20 18:19 23:14 27:25 52:24 53:1,2, 4,7,8,18 58:10,16 59:18 60:6 61:13 62:1 115:12,20 121:10 139:17,18,19 140:22 141:10 155:19 166:18 168:8	UT 2:14	validate 26:9 27:11,12
	unprecedented d 59:25 61:14, 16,25		Utah 1:1,8,10 2:19,23 3:1,3, 10 5:22 55:22 83:5 90:2,21 119:19 163:4, 7 169:17,21 170:15 174:12 195:22	valuable 188:20,22
unfixed 130:3	unrecovered 91:12,17,21 196:9			valuation 166:16,17,23 167:6 175:25
unheard 155:24	until 12:9 61:19 63:14 120:6 197:18			value 12:23 17:19 33:14 34:21 36:9, 11,12 37:4 50:13,15,23 52:6 59:24 60:25 67:13, 14 68:6 79:12,17 99:22 100:4 139:2,7 141:20 143:5 150:22,25 151:2 189:5, 6,8,10,16,22, 23 190:9,10, 14,21 191:10 198:11
uniformly 26:15		useful 54:10 57:14 58:10, 16 59:18 60:6 61:13 62:1 169:14 170:2, 4	Utah's 86:10 87:8,9	
unit 29:7 158:9	unusual 168:24		Utilities 2:17 5:14 55:19 173:24	
units 138:24 158:4	upcoming 62:17		utility 5:9,12 49:16,18,21 55:17 73:21 74:17 153:10 156:3,8 165:2 176:15 190:5	
unknown 198:13	updated 117:4,5	Users 3:1 5:22 163:7		
unless	upgrade 154:11	uses 19:8 166:4	utility's 98:11	

values 12:21, 22 18:8 27:24 49:5 50:9,10, 19 51:22 140:8 171:8 188:9 190:15	25 23:15,16, 17,23,25 25:15 26:11 33:17 51:23 52:24 53:9, 17,20,25 54:4,7,13,16	16:20 virtue 76:24 79:5 80:22 voltage 41:8 volume 106:1 voluntary 1:2 6:4 8:12,17 35:11 49:6 97:14	150:20 152:7 182:22 193:13 198:4 199:19 wanted 19:16,20 21:12 25:3 36:15 38:9 42:8 74:10 94:7,10 142:5 wants 143:16 water 28:19 watt 38:8 way 12:13 40:9 69:8 70:9 73:4,9, 23 74:2 76:11 78:15,19,20 106:13 114:6 126:13 139:15 143:11,17,18, 19 144:3,18 145:5 147:21, 24 151:3 154:3 155:19, 23 157:1,14 158:13,25 164:10 179:13 181:25 185:16 196:15 198:16 200:13,15	ways 131:4 176:6 website 110:11 weight 14:24 106:10,14 146:23,24 147:2,22 148:23 weighted 14:3 168:10 weighting 147:4,9 Wells 55:21 went 19:14 32:16 145:7 161:8 183:11 West 2:14 3:2 whatever 43:2 65:2 178:18 197:23 whatsoever 178:6 whereas 26:19 whether
valuing 166:21 167:3, 4	verification 73:11			
variability 30:14	verify 72:25 76:7			
variables 135:16	version 110:18,21	<hr/> W <hr/>		
variation 122:24 124:24	versions 12:24 88:12 111:3	wait 61:19,24		
various 110:3 195:18 198:20	versus 67:10 178:5 191:3	waive 63:2 175:2		
vast 34:17	vett 173:20	walk 177:6		
vehicle 170:15	view 61:17 62:18 68:19 87:11 95:13 96:7 106:9 142:8 147:8 149:17 151:3, 20 152:18 153:15,16 173:9 175:24	want 6:17 15:1 18:2 19:17 24:6 25:25 34:9 41:6 52:20,21 63:12 64:13 71:12 74:7 78:2 81:12 82:4 100:16 103:3 105:24 127:7,20 132:13 137:16 148:1 149:20		
Verde 11:12, 13 12:2,3,18, 19,23 13:17 14:18 15:11, 12 16:14,16, 19,25 17:1, 10,17,22 18:5,7 22:20,	views 79:6 virtually			

10:12 34:15 49:14 50:3 57:8,11 64:15,24 66:4 70:8 71:25 72:17 75:24 76:25 78:22 90:12 100:6 106:8 173:10 184:24 197:4 199:18	whole 71:1 151:23 171:15 187:2 whom 88:5 162:22 wide 122:24 124:24 126:7 will 8:1 21:17 22:1 32:15 33:21 37:21 40:1 42:10 43:10 49:15 50:23 51:17 57:24 58:5 59:7,8,10,12, 18,22 60:5,12 61:3,4 65:10 66:15 68:2,3, 15,16,17 70:24 75:6 85:2 89:25 90:13 93:25 103:16 112:11,24 120:5,6 123:12 125:14 129:9 130:14 136:10 143:12 144:20 147:1 149:11 160:16 161:5 164:12 168:21 169:25 173:15 182:8 183:22 187:2	196:21 199:10 201:15 willing 39:10, 14,21 95:8,16 willingness 38:20 wind 1:3 6:6 37:22 41:19, 24 84:24 85:1,5,23 86:9 90:12 91:18 101:25 102:18 103:15 112:6, 12 116:14 117:13 118:10,23 119:2,4,25 133:11 138:22 139:6 150:23 154:12 156:6 165:1,3 167:15 168:12 wind-free 41:19,23 wind/new 153:13 wishes 187:4 within 19:7	27:1 38:15, 21,22,24 39:2,7,19 57:18 72:8, 17,18 99:3 134:20 142:1 160:19 without 7:10 8:3 58:6 65:11 66:21 76:18 77:9 79:2,7,18 89:22 99:13 100:20 102:8 117:17 123:6 138:4 166:11 167:4 withstand 132:2 withstanding 167:8,24 witness 4:2 6:20 23:10 31:10 55:5 60:16 73:6,22 74:18,19 82:19 107:14, 22,25 108:16 110:9 151:12 159:17 161:24 162:5 201:6 witnesses 75:6 82:9 84:19 85:17	173:2,6 wonder 107:17 wondering 195:13,15 word 97:2,3 words 67:16 80:12 128:10 139:18 155:17 work 10:24 Workpapers 5:5 works 110:12 worse 61:2 70:24 worst 117:21 126:17 199:24 worth 35:3 write 91:17 written 201:16 wrong 95:2
--	---	---	---	--

144:23	yesterday		
152:21	6:14 8:10		
157:14 183:3	19:21 25:6		
	28:2 36:6		
Wyoming	38:18 39:8		
136:11	40:13 41:7		
154:22	71:16 72:8		
	75:14 76:17		
	94:16 136:7		
Y	172:23 173:4		
	201:19		
year 29:7	yet 29:6 90:20		
67:16 81:6			
95:23 118:1	yours 13:24		
144:5 176:15	94:11 110:16		
180:12,14,16,			
24 181:11	Yvonne 2:13		
year's 160:25			
years 18:20,	Yvonne.		
25 29:4 35:25	hogle@		
37:8,15,20	pacificorp.		
39:9 52:25	com 2:15		
58:23 59:2,	Z		
11,24 60:8,24			
61:1 67:22,25	Zenger 9:24		
68:9,10,18			
69:18,24 70:2	Zenger's 9:19		
77:5 80:13			
81:1 105:8	zero 15:9		
146:2 166:20	24:17 32:18,		
170:1 173:23,	21 68:9 77:23		
25 174:1,4,5	78:21 79:13		
189:17	115:8 170:25		
194:19	191:11		
196:18,19	199:15		
yellow 6:23			