In the Matter Of:

In Re: RMP - Significant Energy Resource Decision

HEARING, VOLUME II, DOCKET NO. 17-035-40

May 30, 2018

Job Number: 451405

BEFORE THE PUBLIC SERVICE COMMISSION OF UTAH

In the Matter of the) Docket No. 17-035-40
Application of Rocky)
Mountain Power for)
Approval of a Significant) HEARING
Energy Resource Decision)
and Request to Construct)
Wind Resource and) VOLUME 2
Transmission Facilities)

May 30, 2018 9:00 a.m.

Location: Utah Public Service Commission 160 East 300 South, 4th Floor Salt Lake City, UT 84111

Reporter: Teri Hansen Cronenwett Certified Realtime Reporter, Registered Merit Reporter

Job No. 451405

1	A P P	Page 259 E A R A N C E S
2		
3	Board Members:	Thad LeVar, Chairman David Clark
4		Jordan White
5	For Rocky Mountain	Katherine A. McDowell
6	Power:	Adam Lowney MCDOWELL RACKNER GIBSON PC
7		419 SW 11th Avenue, Suite 400 Portland, Oregon 97205
8		katherine@mrg-law.com
9	For the Division of Public Utilities:	Patricia E. Schmid
11		Assistant Attorney Generals 160 East 300 South, 5th Floor
12		P.O. Box 140857 Salt Lake City, UT 84114-0857 (801) 366-0335
13		jjetter@agutah.gov
14	For the Office of	Robert Moore
15	Consumer Services:	Steven Snarr Assistant Attorney General
16		160 East 300 South, 5th Floor P.O. Box 140857
17		Salt Lake City, UT 84114-0857 (801) 366-0353
18		stevensnarr@agutah.gov
19	For Utah Clean Energy:	Hunter Holman
20		Utah Clean Energy 1014 2nd Avenue
21		Salt Lake City, UT 84103 (801) 363-4046
22		Hunter@utahcleanenergy.org
23		
24		
25		

1	For Utah Association	Page 260 Phillip J. Russell
2	of Energy Users:	HATCH JAMES & DODGE, P.C. 10 West Broadway, Suite 400
3		Salt Lake City, UT 84101 801-363-6363
4		801-363-6666 Fax Prussell@hjdlaw.com
5		, and the second
6	For Utah Industrial Energy Consumers:	Chad C. Baker PARSONS BEHLE & LATIMER
7		201 S. Main Street, Suite 1800 Salt Lake City, UT 84111
8		(801) 532-1234 cbaker@parsonsbehle.com
9		cbaker@parsonsbenre.com
10	For Western Resource Advocates:	Sophie Hayes Western Resource Advocates
11	Advocates.	150 South 600 East 2A
12		Salt Lake City, UT 84102 sophie.hayes@westernresources.
		org
13		Steven S. Michel Western Resource Advocates
14		409 E. Palace Avenue, Unit 2 Santa Fe, NM 87501
15		smichel@westernresources.org
16	For Interwest Energy	Lisa Tormoen Hickey
17	Alliance:	Mitch M. Longson TORMOEN HICKEY LLC
18		14 N. Sierra Madre Colorado Springs, CO 80903
19		(719) 302-2142 lisahickey@newlawgroup.com
20		
21		
22		
23		
24		
25		

1	INDEX	Page 261
2	Witness	Page
3	RICK LINK	
4	Cross-Examination by Mr. Baker	264
5	Redirect Examination by Ms. McDowell	267
6	Examination by Commissioner White	269
7	Examination by Commissioner Clark	277
8		
9	WAYNE OLIVER	
10	Witness Summary	282
11	Examination by Ms. Hickey	289
12	Examination by Ms. McDowell	293
13	Examination by Mr. Jetter	302
14	Examination by Mr. Russell	304
15	Examination by Mr. Baker	328
16	Examination by Ms. Hayes	334
17	Further Examination by Ms. McDowell	335
18	Further Examination by Mr. Jetter	339
19	Further Examination by Mr. Baker	342
20	Examination by Chairman LeVar	343
21	Examination by Commissioner Clark	344
22	Examination by Commissioner White	351
23	RICK VAIL	
24	Direct Examination by Mr. Lowney	356
25	Cross-Examination by Mr. Jetter	366

		Page 262
1	Cross-Examination by Mr. Snarr	381
2	Examination by Mr. Russell	397
3	Examination by Mr. Baker	408
4	Redirect Examination by Mr. Lowney	416
5	Cross-Examination by Mr. Snarr	419
6	Examination by Commissioner Clark	420
7	Examination by Commissioner White	426
8	NITUUT MODITIIA	
9	NIKKI KOBLIHA	401
10	Direct Examination by Mr. Lowney	431
11	Cross-Examination by Mr. Moore	435
12	Examination by Commissioner White	437
13	Examination by Commissioner Clark	439
14	CHAD TEPLY	
15	Direct Examination by Mr. Lowney	442
16	Cross-Examination by Mr. Michel	463
17	Cross-Examination by Mr. Jetter	464
18	Cross-Examination by Mr. Moore	468
19	Cross-Examination by Mr. Russell	476
20	Cross-Examination by Mr. Baker	485
21	Examination by Commissioner Clark	500
22	Examination by Chairman LeVar	506
23	Examination by Commissioner White	509
24	JOELLE STEWARD	
25	Direct Examination by Mr. Lowney	512

1	Cross-Examination by Mr. Jetter	Page 263 518
2	Cross-Examination by Mr. Moore	520
3	Cross-Examination by Mr. Baker	533
4	Cross-Examination by Mr. Lowney	535
5	Cross-Examination by Mr. Moore	536
6	GREGORY JENNER	
7		
8	Direct Examination by Mr. Longson	538
9	Cross-Examination by Mr. Moore	544
10	Examination by Commissioner White	546
11	Examination by Commissioner Clark	547
12	Examination by Chairman LeVar	549
	TONI C ZENCED	
13	JONI S. ZENGER	
14	Direct Examination by Mr. Jetter	551
15	Cross-Examination by Ms. Hayes	563
16		
17		
18	EXHIBITS	
19	No.	Page Marked
20	DPU Cross 5 Staff Final Comments	381
21	UAE Cross 2 Rebuttal Testimony of Wayne	210
22	Oliver	319
23		
24		
25		

1	Page 264 May 30, 2018 9:00 a.m.
2	PROCEEDINGS
3	CHAIRMAN LEVAR: Okay. Good morning. We're
4	back on the record in Public Service Commission docket
5	17-35-40, the application of Rocky Mountain Power for
6	approval of a significant energy resource decision and
7	voluntary request for approval of the resource decision.
8	We were in the middle of cross-examination for
9	witness Rick T. Link for the utility. Are there any
10	preliminary matters before we continue with that
11	testimony? Not seeing anything from anyone.
12	So Mr. Link, if you want to take the stand.
13	You are still under oath from yesterday. And I believe
14	it was Mr. Baker's turn to cross-examine.
15	RICK LINK,
16	was called as a witness, and having been previously
17	sworn, testified as follows:
18	CROSS-EXAMINATION
19	BY MR. BAKER:
20	Q. Good morning, Commissioners. Thank you and
21	good morning, Mr. Link. I just have a few questions for
22	you this morning. Your model includes assumptions of
23	the generation profiles of these wind projects; is that
24	correct?
25	A. Yes, it does.

Page 265 And where did these generation profile 1 0. 2 assumptions come from? 3 Α. The generation profiles are based on the 4 information supplied with the bids that were submitted into the 2017R RFP ultimately backed by the historical 5 data sets that were a requirement as part of the RFP in 6 terms of wind speed and their own assessment, using 7 their own experts, to derive essentially what we call a 8 9 12 by 24, which can get converted into an 8,760 hour 10 wind generation profile. 11 And then we subsequently had our own expert review that data and information to confirm whether 12 13 those profiles and ultimate expected performance levels were -- were accurate in accordance with the data that 14 15 were provided. 16 And from -- from these assumptions, you 0. generate the PTC value of the project; is that correct? 17 The PTC value is more a reflection of the 18 aggregate energy at any given point in time, or through 19 20 annually. So it's -- in other words, the PTC value 21 doesn't matter, the time of day in which the generation 22 is being produced. It's more a reflection of just the 23 total output, the total megawatt hours.

So what other assumptions are in your PTC

24

25

0.

value?

- 1 A. It's essentially the total volume by year. So
- 2 megawatts hours by project by year times the PTC value
- 3 dollars per megawatt hour.
- 4 Q. And the PTC values help drive your claimed
- 5 economic benefits of the combined projects; is that
- 6 correct?
- 7 A. Yes. The PTCs are a critical element of the
- 8 net benefits that we're projecting for these projects.
- 9 I think in aggregate we're at about 1.2 billion or so of
- 10 gross PTC benefits for the projects.
- 11 Q. And is the company guaranteeing the PTC values
- 12 used in its economic model?
- 13 A. The company is guaranteeing the qualification
- 14 for the PTCs, but we are not guaranteeing that the wind
- 15 will blow.
- 16 Q. Or that the generation profiles will actually
- 17 meet what are estimated; is that correct?
- 18 A. Correct. The generation profiles on an hourly
- 19 basis across the year, as I indicated, are backed by the
- 20 historical data set supplied by the bidders, and then
- 21 validated by our own third party experts. But the
- 22 actual, again, hourly profiles are not in and of
- 23 themselves a critical driver to the PTC benefit. That's
- 24 more just aggregate generation levels.
- MR. BAKER: No further questions.

Page 267 1 CHAIRMAN LEVAR: Okay. Thank you. 2 Ms. McDowell, do you have any redirect? MS. MCDOWELL: Yes, I just have one question 3 4 for Mr. Link. 5 REDIRECT EXAMINATION BY MS. MCDOWELL: 6 And you were asked some questions about the IE 7 Q. 8 report, specifically page 81 of the IE report. Can you 9 turn to that? So yesterday there was some discussion around the modeling of PTCs and how that impacted the 10 11 bid valuation. Do you recall those questions? 12 Α. Yes. 13 And you were asked some questions about the 14 second full paragraph of the IE report. I'd like to 15 direct your attention to the third full paragraph of 16 that report. And can you give me your interpretation of what that third paragraph means as it relates to the 17 18 paragraph you were questioned about yesterday? Chair LeVar, at this point I'll 19 MR. BAKER: 20 object to the question for the same reason that counsel 21 objected to other questions yesterday. We have the 22 author of this report, who will testify before us. can ask him about his understanding or his reasons for 23 24 writing that paragraph, I suppose. 25 CHAIRMAN LEVAR: Ms. McDowell, do you want to

Page 268 1 respond to the objection? 2 MS. MCDOWELL: Well, we can ask that question 3 to Mr. Oliver, but those questions were asked to 4 Mr. Link yesterday. So I think it's fair to get his interpretation of not just the second paragraph, but 5 also the third paragraph. 6 CHAIRMAN LEVAR: Yeah. Considering the extent 7 of discussion during cross-examination, I think I am 8 9 inclined to deny the objection and allow the question to 10 go forward. 11 So the paragraph states that the independent 12 evaluator essentially concluded, or did not believe that 13 any bid was -- had an inherent competitive disadvantage associated with any of the parameters of the 14 15 solicitation process. So I believe, if I recall the line of 16 17 questioning yesterday, was in regard to the treatment of PTCs, and how that might influence selections of a BTA, 18 a build transfer agreement, versus say a power purchase 19 20 agreement. And I believe in my response I had indicated 21 that ultimately the IE, from what I recalled in the 22 report, found that it didn't cause a competitive 23 disadvantage, and I believe that reference to the third 24 paragraph is where I recall that being stated.

MS. MCDOWELL:

That's all I have.

Thank you.

25

Page 269 1 CHAIRMAN LEVAR: Okay. Thank you. Any 2 recross based on that question? I am not seeing any indication from anyone. Commissioner White, do you have 3 any questions for Mr. Link? 4 5 EXAMINATION 6 BY COMMISSIONER WHITE: It's been a while since yesterday. 7 0. Yeah. I wanted to return to something you were explaining your 8 9 summary about, the response of the company to the commission's order on the RFP with respect to how it 10 11 performed the solar RFP. 12 And what I thought I heard you say was 13 something to the extent that -- and let me back up here 14 for a second. I recognize that we have had new portions of the -- your testimony with respect to that report. 15 The analysis and part of the report itself has been 16 stricken. So I certainly don't want to stray there. 17 But could you go back and explain again what, 18 how that -- how the company responded to the 19 commission's direction in terms of including wind. 20 21 I think I heard you correctly, tell me if I am wrong, 22 that wind was included in the analysis of the solar RFP? 23 Α. And I can respond without addressing any 24 of the information that has been struck from the record 25 in my testimony.

```
Page 270
 1
               So when -- as -- because we were -- we were
 2
     processing the two RFPs in parallel, they were on
 3
     slightly different staggered schedules, but they were
 4
     still being done concurrently with one another. We had
     received, you know, initial pricing from the solar RFP
 5
     at various stages of our evaluation of bids in the wind
 6
 7
     RFP, and then ultimately received best and final pricing
     from the solar bidders in the solar RFP in coordination
 8
 9
     with the wind RFP process.
               And as we received that information, we were
10
11
     updating our sensitivities in this docket to account for
12
     the solar RFP bids. So initially we had kind of the
13
     initial bids, the indicative offers that informed our
     solar sensitivities, and then ultimately we had best and
14
     final pricing from the solar RFP that we brought into
15
     the winds RFP to perform those sensitivities.
16
17
               And I think what's key, and how I feel we
     responded to the concerns raised in your order for the
18
19
     RFP approval, is that when we performed the
20
     sensitivities, we allowed our model to choose from all
21
     bids, the wind and the solar.
               So we didn't hard code the wind projects into
22
23
     the model's portfolio. We allowed it to choose from
24
     those bids and the solar bids, and it could choose any
25
     combination it wanted to based on the economics to
```

Page 271 arrive at essentially the least cost portfolio. 1 2 So that was why I made the statement yesterday 3 in my summary that the sensitivities essentially were 4 analyzed as if those bids were submitted into a single That's how we would evaluate them if they were 5 done through a single RFP. And our models in those 6 cases continued to choose the wind projects, along with 7 the solar projects. 8 9 So when the solar bids were introduced as an alternative, it didn't displace the wind bids as a 10 result of that. It continued to choose them, and then 11 12 it added the solar bids to it. And fundamentally, 13 that's the rationale behind my statements in the position that the -- the solar bids do not displace the 14 15 wind projects, they are best viewed as really an 16 incremental opportunity in addition to the wind 17 projects. There was discussion yesterday about 18 0. price policy scenarios and the company's use of the 19 official forward price curve. Can you walk me through 20 21 how that was utilized in this RFP versus how that 22 particular data set is used in other scenarios that the 23 company utilizes it? For example, the IRP or other -other dockets. 24

Yeah. We use our official forward

25

Α.

Sure.

1 price curve, the easy answer is really for everything 2 that we do. So it gets used in our avoided cost 3 It gets used in power cost studies. pricing. 4 The term obviously varies there. Net power costs are typically a one year view. But it's still the 5 same official forward price curve that we use 6 7 essentially throughout our business to support our financial analysis of projects, to support our position 8 for which we trade around, to support really all of our 9 10 analysis that we perform. 11 We routinely update our official forward price 12 curve no less than every quarter. And our process for 13 establishing what our official forward price curve is, 14 fundamentally has not changed for many, many years. And 15 that process is one in which we, at the end of a given 16 trading day, at the end of, let's say, of a calendar quarter. 17 So first quarter March 31st, as long as that's 18 19 a weekday, our traders in our front office have exposure 20 to where the market is transacting on that day, where 21 it's closing for various market hubs, both power and 22 natural gas. They -- they lock those prices down at the 23 end of that trading day, and we use that data for essentially the first six years of the term of our 24 25 forward curve, so actual observed market quotes of where

Page 273 the market is transacting to form our official curve. 1 2 I would highlight that that -- those set of 3 data get validated by our risk management team to ensure 4 that they are consistent with their independent assessment of broker quotes that they received for that 5 same trading day to make sure that they're within reason 6 of what an independent broker is seeing in the market. 7 And then beyond that six year period, we use a 8 9 fundamentals based or fundamental-driven forecast, and 10 then we blend the two together over a one year 11 transition period. So in year seven, it's an average of 12 essentially the prior year's -- let's say January price 13 of market and the subsequent forward year of the forecast so that we get a blended transition of market 14 to the fundamentals forecast. And that's done for 15 16 natural gas. 17 And then for power, we use that gas price forecast to inform our electricity price projections on 18 the wholesale market, using a model that has the same 19 gas price information to get that fundamentals period. 20 21 And so that same curve is used throughout the company. 22 And is that -- is that typically industry 23 practice? I mean, I guess what I am wondering is what other options are there in terms of data sets used if 24 you are doing, or trying to do future pricing 25

				_
COM	par	ıs	on	s?

1

- 2 A. Yeah. In my experience, that general concept
- 3 is what I am familiar with from my counterparts that I
- 4 speak to routinely through IRPs or other forums; and
- 5 even within our affiliates, let's say within Berkshire
- 6 Hathaway, a very similar process is used.
- 7 Each company can use slightly different
- 8 assumptions around how much market they use, whether
- 9 it's six years, four years, longer periods, and which
- 10 fundamental curves they use. So I think but
- 11 conceptually from my experience, a lot of utilities do a
- 12 very similar approach to establish their base forecast.
- 13 Other alternatives that I have seen in other
- 14 forums is just to rely on, let's say, something like an
- 15 Energy Information Administration kind of reference case
- 16 type forecast, and we haven't done that. That forecast
- 17 is actually higher than our current official forward
- 18 price curve as it stands today. And that's primarily
- 19 because sometimes that EIA forecast can become a little
- 20 stale. It's not updated as often relative to some of
- 21 the other forecasts that we have access to, which we
- 22 review every quarter along the way.
- So as changes are being implemented in
- 24 fundamental markets that these forecasters are seeing,
- 25 we try to stay on top of that to make sure we have kind

- of the most current and up-to-date information
- 2 available.
- 3 Q. Thanks. And I guess the final question --
- 4 sorry. The final question is, in terms of carbon
- 5 policy, where does the company derive that? I mean,
- 6 obviously that's -- from a political standpoint, that's
- 7 a real moving target right now. But just help me
- 8 understand where the company derives that.
- 9 A. Sure.
- 10 Q. Those different options.
- 11 A. The pricing that we have used in our analysis
- 12 here is also based off third party. So the same third
- 13 party forecasters that produce the natural gas price
- 14 forecasts that we review, and ultimately use to
- 15 establish not only our official curve but our low and
- 16 high price scenarios, also produce various scenarios
- 17 that include different CO2 price levels in their
- 18 assumptions.
- 19 And so we rely on those forecasts to help
- 20 derive where -- in this docket essentially our medium
- 21 and high price assumptions would fall. For the low
- 22 case, we use zero, conservatively throughout the entire
- 23 time frame.
- 24 And so we really rely on those. They are
- 25 intended to be kind of proxy price assumptions for

Page 276 future regulations, because obviously we're a little 1 2 uncertain how anything might be implemented, if it is implemented at some point in time, whether it's a tax or 3 4 a cap and trade or some other structure to try to regulate those emissions. 5 But regardless of the structure, the 6 regulatory paradigm behind those price forecasts, the 7 concept is, there is still some incremental cost that 8 9 has to be accounted for if there is a policy, and what's 10 an appropriate level or range that might be required to 11 achieve certain levels of emission reductions over --12 over time. So they're estimates. They're forecasts. 13 The numbers that we are using are relatively 14 low. You know, we don't start the CO2 price assumption in the medium case, I think until around 2030. So a 15 full 10 years into the operation of the proposed 16 projects. And the price point on those are relatively 17 low and not hugely impactful to the economic analysis. 18 The high case it starts, I think in 2026, and 19 20 it's a little bit higher price point, but not nearly as 21 high, let's say, as some other alternatives, like a 22 social cost of carbon or some of those other numbers 23 that have been tossed out there. COMMISSIONER WHITE: Thank you. 24 That's all 25 the questions I have. Thank you.

```
Page 277
 1
               CHAIRMAN LEVAR:
                                Thank you. Commissioner
 2.
     Clark.
 3
               COMMISSIONER CLARK:
                                    Thanks.
 4
                            EXAMINATION
 5
     BY COMMISSIONER CLARK:
 6
          0.
               Good morning, Mr. Link.
 7
               Good morning.
          Α.
               I also want to ask a few questions about the
 8
          Q.
 9
     work that you did with the final results of the solar
     bid process in relation to the projects that are under
10
     consideration in this docket, the wind projects. And
11
12
     you mentioned that the model was selecting both the
13
     projects in question here plus some solar --
14
          Α.
               Uh-huh.
               -- projects, or the wind and solar projects.
15
          Q.
     The -- what I am interested in is the relative value of
16
     the projects that were selected. So -- and I am -- I
17
18
     certainly -- my questions are not intended to draw from
     your -- invite you to share confidential information, or
19
     invite you to the -- the material that's been stricken
20
21
     relative to sensitivity modeling that you did with
22
     respect to the solar projects.
23
               But I'd like to get a sense of where the
     relative values are as you reviewed them, wind versus
24
     solar. Were the solar projects sprinkled among the
25
```

- 1 wind? Were the solar projects coming in all of lesser
- 2 value than all the wind? Were they all of higher value
- 3 than the wind projects in question? What did -- what
- 4 would that look like?
- 5 A. Sure. So our primary focus -- I'll start by
- 6 answering, and noting that our primary focus on the
- 7 sensitivities for the solar analysis were done through
- 8 that 2036 time horizon, and that's primarily because
- 9 that's the study period, as I think I noted yesterday,
- 10 where our models are choosing the projects among the --
- all of the options, whether it's solar or wind.
- 12 And so in reference to the results from those
- 13 studies, we -- we ran our sensitivities two ways, really
- 14 to help answer this specific type of question. So we
- 15 first ran, as I described in response to Commissioner
- 16 White's question, allowing all bids to be chosen,
- 17 whether they are wind or solar, and in that case it
- 18 choose both.
- 19 We also, of course, have in this proceeding
- 20 the 18 cases for the wind projects, kind of the wind by
- 21 itself without consideration of any of the solar bids.
- 22 And so to kind of close that loop, we also ran
- 23 sensitivities that were solar only and did not allow the
- 24 wind bids so that we could get a sense of how everything
- 25 compared and stacked up to one another.

```
Page 279
               And essentially what we found when comparing
 1
 2
     the wind-only to the solar-only proposals through that
 3
     2036 case, using our base case assumptions, is that the
 4
     wind and transmission projects produced more value than
     the solar projects, in terms of a PVRRD benefit.
 5
               It's not to say that the solar projects, in
 6
 7
     and of themselves, didn't lower system cost. And so
     there is still, you know, very much so an economic and
 8
 9
     opportunity to fill our remaining capacity needs with
     those projects as well. They provide incremental
10
11
     benefits, but the wind was proportionately higher.
12
               I think we found that they were very similarly
13
     situated or got a little closer when we went to the low
     gas zero CO2 price policy sensitivity under that,
14
15
     through 2036 perspective.
16
               But I would highlight then that when we ran
17
     them together, given the fact that they both showed
     value independently, when the model chose -- had the
18
     ability to choose from all of them and chose both solar
19
20
     and wind, the aggregate of the PVRRD of that combined
21
     renewable portfolio, which was over a thousand megawatts
22
     of solar and over a thousand megawatts of wind in
23
     aggregate, had a higher overall PVRRD benefit than what
     we're showing for just the combined projects in this
24
     case, as summarized in my testimony.
25
```

Page 280 What conclusion would you draw from that? 1 0. 2. Α. I think the most important conclusion that I 3 draw that's pertinent to this proceeding is that there's 4 an opportunity for us to pursue the solar as supported by that analysis, suggesting that there is value to 5 doing the solar in addition to the wind. But regardless 6 of where that ultimately lands, and we're continuing to 7 have active discussions with solar developers to 8 9 identify, and if there's value there, to pursue those 10 projects. 11 But regardless of what happens there, the 12 economics of the wind and transmission, the combined 13 projects in this proceeding, are retained and will only grow if we add the additional resource. So if we don't 14 do any solar, we have got that documented in my 15 testimony. If we end up adding the solar to it and find 16 those additional opportunities that we think bring value 17 to our customers, that won't in any way harm the 18 economics that we're seeing from the combined projects. 19 20 Those economics will be retained. 21 0. Could you also conclude that the solar 22 projects are more valuable than the wind projects? I haven't concluded that, based on the 23 24 testimony and the analysis that I have performed. 25 this starts to dabble a little bit into the area of the

- 1 restricted information.
- Q. Okay. I appreciate it. And the model run
- 3 that addressed both, and that selected wind and solar
- 4 together, does that outcome give you any -- any
- 5 indication of how they -- how -- any ability to rank
- 6 order them, the ones that are selected from a value
- 7 perspective? Is it simply, it's in or it's out, or does
- 8 it -- or can you assess some -- some differences in
- 9 value?
- 10 A. I think it could be -- it could be estimated
- 11 from the information we have available to us. We
- 12 haven't performed that estimate to try to rank order
- 13 project by project how that would exactly work. To kind
- of model it explicitly outside of an estimate, I think
- 15 would require, you know, ident -- having all of the
- 16 resources in the aggregate wind and solar portfolio, as
- 17 a starting point.
- We have that simulation of what system costs
- 19 are, and then stepwise removing one project at a time,
- 20 to try to get a sense of what its marginal contribution
- 21 is to that overall aggregate portfolio value. And we
- 22 haven't gone through and done all of those model runs
- 23 independently at this stage.
- 24 COMMISSIONER CLARK: Thank you. Those are my
- 25 questions. Thank you.

1	Page 282 CHAIRMAN LEVAR: Okay. Thank you. And I
2	don't have any further ones. So thank you, Mr. Link.
3	We appreciate your testimony
4	THE WITNESS: Thank you.
5	CHAIRMAN LEVAR: yesterday and today. And
6	I think we are going to move to Mr. Oliver next to go a
7	little bit out of order to accommodate his schedule. So
8	if you will come to the stand.
9	Mr. Oliver, do you swear to tell the truth?
10	THE WITNESS: Yes, I do.
11	WAYNE OLIVER,
12	was called as a witness, and having been first duly
13	sworn, testified as follows:
14	CHAIRMAN LEVAR: Okay. Thank you. And let me
15	just make a few comments before he starts. His
16	statutory role in this process is a little bit unique.
17	He's employed by the commission. We have elected during
18	his testimony today not to engage one of our commission
19	attorneys in an adversarial role in this process. So to
20	accommodate his testimony and cross-examination, I think
21	the way we're going to move forward is, we'll allow him
22	to give a summary of his report, and then we'll allow
23	any of the attorneys in the room to cross-examine.
24	We will entertain objections to any
25	cross-examination questions from any from any party.

- 1 So in the essence of him having a dedicated attorney,
- 2 we'll entertain those objections if the -- if the need
- 3 arises. So feel free to do so.
- 4 So Mr. Oliver, why don't you start by just
- 5 explaining your relationship with the commission in this
- 6 docket, the work you performed and summarize your final
- 7 report.
- 8 THE WITNESS: Thank you, Chairman LeVar,
- 9 Commissioners Clark and White. My name is Wayne Oliver.
- 10 I am president of Merrimack Energy Group Incorporated.
- 11 My business address is 26 Shipway Place in Charlestown,
- 12 Massachusetts.
- 13 Merrimack Energy was retained by the Public
- 14 Service Commission of Utah to serve as independent
- 15 evaluator for PacifiCorp's 2017 renewable energy
- 16 requests for proposals. Merrimack Energy's involvement
- 17 as IE began at the initiation of the solicitation
- 18 process, at the time of development of the RFP, and
- 19 continued through evaluation and selection of the
- 20 preferred resources.
- 21 As part of the IE's assignment, we are
- 22 required to prepare a final report on the solicitation
- 23 process, which is intended to provide an assessment of
- 24 all aspects of the solicitation process, including the
- 25 IE observations, conclusions, and recommendations. The

```
Page 284
 1
     IE report was filed as part of this docket on February
 2
     27th, 2018.
 3
               The RFP was undertaken under the Utah statutes
 4
     dealing with energy resource procurement, which
     establishes the requirements for undertaking the
 5
     solicitation process and defines the role of the IE.
 6
 7
     Merrimack's Energy's -- Energy's final report provided a
     description of the entire solicitation process up
 8
 9
     through the final selection of the preferred resources.
               In that regard, I will focus on our primary
10
11
     conclusions regarding the solicitation process. I will
12
     first address my observations regarding the
13
     implementation of the solicitation process, as it
     pertains to the Utah statutes. I will then discuss the
14
15
     risks that are present in this process, which could
16
     potentially affect customers.
17
               From a solicitation process perspective, we
     found that the 2017R RFP generally conformed to the
18
     requirements of rule R 746-420, and that all bidders
19
20
     were treated the same and were provided the same level
21
     of information at the same time. All bidders provided
22
     the same information in their proposals, that allowed
23
     for a consistent and equitable evaluation.
24
               The evaluation methodology used by PacifiCorp
25
     was the same general methodology as adopted for its
```

Page 285 integrated resource plan, and was based on the same 1 2 models as used for IRP assessments, including the SO, or 3 system optimizer model, and the planning and risk PaR 4 The IE found that the benchmark resources provide the same information as all other proposals and 5 6 were evaluated using the same methodology and 7 assumptions. The results of the solicitation process 8 9 illustrate that the pursuit of wind resources to take advantage of the production tax credits should result in 10 11 significant savings to customers based on the SO and PaR 12 model runs. 13 The result of the RFP was that cost for wind resources were lower than the cost of -- than the costs 14 included in the original IRP analysis, and the benefits 15 to customers even higher than projected. The IE found 16 17 that the initial short list evaluation and selection was 18 reasonable. The IE also found that PacifiCorp's selection 19 2.0 of the final portfolio of wind resources was a 21 reasonable selection based on the economics of the 22 resources selected, and given the transmission 23 constraints associated with the position of various 24 resources in the interconnection queue. 25 The final resources selected were the top

Page 286 ranked projects from an economic perspective. 1 While the 2 process overall was undertaken in an effective and 3 consistent manner, consistent with Utah statutes, the IE believes there are still several risks that need to be 4 considered in any final decision on the value of the 5 resource proposals put forward by PacifiCorp. 6 Merrimack Energy concluded that the capital 7 cost of PacifiCorp's benchmark resources should be 8 9 closely scrutinized to ensure that the costs on which the economic evaluation was based are realistic. We had 10 11 some reservations in our assessment, both of the initial 12 cost of the benchmarks as described in our report on the 13 benchmark resources, and also of the best and final offers of the benchmarks. In the latter regard, we were 14 concerned about the continuing lowering of costs for the 15 benchmark resources relative to the pricing of other 16 17 wind proposals submitted. As IE, one of our primary concerns with 18 utility ownership resources competing with third parties 19 20 is the case where the utility ownership option wins the 21 bid with a low cost estimate of its capital and 22 operating costs but then experiences higher actual 23 costs, or cost overruns relative to the winning proposal that could have resulted in a different resource 24 25 selection if the costs had been more realistically

Page 287 anticipated and properly accounted for. 1 2 Therefore, we are concerned, based on the 3 benchmark costs relative -- relative to other wind 4 projects that were competing with the risks that actual capital costs for PacifiCorp's benchmark resources could 5 have been higher than bid. 6 The second major risk we were concerned about 7 is the PTC risk. We raised the issue in our report on 8 the design of RPF that transmission facilities are not 9 completed on time, the benefits of the PTCs could be 10 11 lost or eroded. The PT benefits -- PTC benefits are 12 significant and drive the economics of these resources. 13 Merrimack Energy included a table in our final report that listed the expected PTC benefits for each 14 project based on PacifiCorp's analysis, including the 15 estimated levels of generation for each PacifiCorp owned 16 17 resource. PTC benefits can be eroded depending on 18 several factors, including whether or not the actual 19 20 capacity factors of the wind resources are lower than 21 expected based on wind resource studies. A third major 22 risk is the cost associated with the transmission 23 facilities, either as a result of potential cost 24 overruns or one or more wind generation projects fails. 25 One of the concerns we had, as described in

Page 288 1 our RFP design report, was that PacifiCorp's contracts 2 attempted to shift risks onto PPAs and BTAs suppliers 3 who were asked to absorb the risk that the transmission 4 facilities would not be completed in time to be able to garner all the PTC benefits. We noted that assigning 5 6 risks to counterparties who cannot manage that risk was 7 a concern. Finally, one of the primary issues the IE is 8 9 required to address in its assessments of the solicitation process is whether the solicitation process 10 11 is consistent with Utah statutes, 54-17-101, and is in 12 the public interest taking into consideration whether it 13 will most likely result in the acquisition, production and delivery of electricity at the lowest reasonable 14 cost to retail customers of an effective utility located 15 in the state, including 1, long-term or short-term 16 17 impaction, 2, risks, 3, reliability, 4, financial impacts on the affected utility, and 5, other factors 18 determined by the commission to be relevant. 19 2.0 In our view PacifiCorp's selection of the 21 final portfolio of wind resources is in the public 22 interest based on the wind proposal submitted, albeit 23 subject to cost risks associated with the benchmark 24 resources and other risks as discussed previously. 25 Since PacifiCorp's solicitation is based on

- 1 procurement of wind resources, combined with new
- 2 transmission capacity, it is not possible to determine
- 3 if this combination meets the lowest reasonable cost
- 4 standard, since the analysis did not determine other
- 5 resources, including solar resources would have been
- 6 included in a final least-cost, or least-risk system
- 7 portfolio.
- 8 Thank you, and that concludes my initial
- 9 comments.
- 10 CHAIRMAN LEVAR: Okay. Thank you, Mr. Oliver.
- 11 I think we'll go next to Ms. Hickey. Do you have any
- 12 questions for Mr. Oliver?
- MS. HICKEY: Good morning. Thank you, Chair
- 14 LeVar. Just a couple.
- 15 EXAMINATION
- 16 BY MS. HICKEY:
- 17 Q. I think that first of all, sir, my name is
- 18 Lisa Tormoen Hickey. I represent the Interwest Energy
- 19 Alliance. We're a trade association of wind and solar
- 20 developers working with renewable -- with environmental
- 21 groups.
- 22 I wanted to leave aside most of what you said
- 23 but for the recommendations specific to future RFP. Was
- 24 one of the goals of your work to develop recommendations
- 25 that might be viewed going forward into future RFPs?

- 1 A. One of our, you know, tasks was to provide
- 2 recommendations as part of the process, and we did
- 3 include several recommendations in our report.
- 4 Q. Do any of those recommendations apply to all
- 5 sorts of RFPs for renewable energy, including RFPs
- 6 directed to solar resources as opposed to just wind
- 7 resources?
- 8 A. Do you have a specific reference in the report
- 9 to that?
- 10 O. Yes. Now, I have a redacted nonconfidential
- 11 copy, but I will refer you to part B at the very end,
- 12 recommendation. My page 83.
- 13 A. Okay.
- Q. So I am assuming because it's at the end, and
- 15 these are general recommendations, that these
- 16 recommendations might apply to future RFPs; is that
- 17 true?
- 18 A. That's correct, yes.
- 19 Q. Now, you talked about a transmission workshop,
- 20 and I understand the PacifiCorp did pull a transmission
- 21 workshop in effect, combined with another workshop;
- 22 isn't that true?
- 23 A. Well, I quess I -- you know, we have been in
- 24 several PacifiCorp solicitations, and we have -- and
- 25 other solicitations requested a -- or suggested a

- 1 transmission specific workshop. And that -- those were
- 2 held by PacifiCorp. And those workshops, I would --
- 3 that type of workshop I would have considered consistent
- 4 with the workshop of the entire solicitation that was
- 5 presented in this case.
- 6 Q. Would that be important in the solar RFP?
- 7 A. Transmission issues and interconnection issues
- 8 are important in any RFP, but I think -- you know, so I
- 9 would say it would be applicable to a solar RFP as well.
- 10 Q. Would the spreadsheet model recommendation
- 11 number -- second bullet, simplifying that model, would
- 12 that improve RFPs going forward related to solar
- 13 resources?
- 14 A. I'm not sure if those models were used with
- 15 the solar valuation or not, but certainly we -- you
- 16 know, the model is -- the model is very detailed. All
- 17 the models were very detailed, but they were somewhat
- 18 cumbersome to review and evaluate, and that was the
- 19 issue we were focusing on.
- 20 But we were able to track through and follow
- 21 the results, you know, fairly easily. But it was -- not
- 22 fairly easily, but we had to do a lot of, you know,
- 23 review back and forth to different tabs in the model.
- 24 But I think it really needs to be, you know, cleaned up
- 25 and better organized more than anything.

Page 292 1 0. Does that improve transparency for you in your 2 role as an independent evaluator? 3 Α. Yes, it would. 4 Your third bullet point relates to benchmark I think you have talked about that. Would 5 that -- would that recommendation apply to solar 6 resources also, if benchmark projects were included? 7 Well, if there's a benchmark project, for any 8 Α. 9 type of resource, I mean, one of the things that we focus on is really scrutinizing in detail the resource 10 11 costs relative to market benchmark, and based on our own 12 knowledge of being involved in a number of different 13 solicitations with different types of resources, and we also attempt to ensure that all costs are accounted for 14 15 by the utility in its cost structures. So it really 16 would apply to any type of resource. 17 If there is anticipated a solar RFP going 0. forward, would you want the opportunity to review the 18 RFP in advance, as you did this wind RFP, in order to 19 20 set it up to incorporate some of these recommendations? 21 Α. Yes. And ideally as an independent evaluator, 22 you had -- it's preferable to get involved up front in 23 the process, to at least be able to review the initial RFP and provide comments if there's anything we see in 24

the RFP that could affect the integrity of the

25

- 1 valuation, integrity of the process.
- 2 Q. As to your fourth bullet point related to the
- 3 terminal value, would that apply to solar resources?
- 4 Would that recommendation apply?
- 5 A. I'm not certain about that. If terminal value
- 6 is just used for the wind RFP because of the unique
- 7 aspects of the assets, that would apply to wind as
- 8 opposed to solar.
- 9 MS. HICKEY: Thank you. I have no more
- 10 questions.
- 11 CHAIRMAN LEVAR: Okay. Thank you.
- 12 Mr. Holman, do you have any questions for Mr. Oliver?
- MR. HOLMAN: Thank you, Mr. Chair. No, I do
- 14 not. Thanks.
- 15 CHAIRMAN LEVAR: Okay. Thank you. Ms. Hayes?
- 16 MS. HAYES: No. Thank you, Mr. Chairman.
- 17 CHAIRMAN LEVAR: Okay. Thank you. I think
- 18 I'll go to Ms. McDowell next.
- MS. MCDOWELL: Thank you.
- 20 EXAMINATION
- 21 BY MS. MCDOWELL:
- Q. Good morning, Mr. Oliver.
- 23 A. Good morning.
- 24 Q. I'm Katherine McDowell, here on behalf of
- 25 Rocky Mountain Power.

- 1 A. Good morning.
- Q. Thank you for your testimony today. I just
- 3 have a few questions. I believe your testimony was that
- 4 you, on the ultimate question of whether this
- 5 solicitation and results were in the public interest,
- 6 your opinion is that it was in the public interest,
- 7 correct?
- 8 A. Yes. The overall results associated with the
- 9 wind solicitation, which I was a part of, were in the
- 10 public interest and are estimated to provide substantial
- 11 benefits.
- 12 Q. So in -- and you supported, just going back to
- 13 the RFP approval process, I did review your testimony in
- 14 that case, and it -- your testimony did support the
- 15 wind-only solicitation, the targeted solicitation; isn't
- 16 that correct?
- 17 A. Well, as I recall, I don't have my testimony
- 18 in front of me, but we did support the process of going
- 19 forward with the wind RFP. But we also raised the issue
- 20 that a solar -- we thought a solar RFP could be
- 21 dovetailed on the wind RFP.
- 22 Q. And I -- let me just quote. I didn't -- I
- 23 wasn't able to print out the transcript, but I am just
- 24 going to quote a section of your testimony from the
- 25 transcript and ask you to accept it, subject to check,

- 1 that it sounds like a reasonable statement of your
- 2 position. I think it does capture what you just said.
- And this is a quote from the transcript at
- 4 page 161 of the December 19th, hearing. "It seemed to
- 5 me that if the solicitation process that PacifiCorp has
- offered today, based on issuing this RFP at this time
- 7 for wind resources only, and a separate RFP for other
- 8 renewable resources as soon as practicable, is not
- 9 unreasonable and provides a significant opportunity to
- 10 test the market and assess the potential system benefits
- 11 associated with other renewable resources."
- Does that sound like your position from the
- 13 RFP process?
- 14 A. It sounds consistent and reasonable, yes.
- 15 Q. And is it your understanding that PacifiCorp
- in fact did conduct a concurrent solar RFP?
- 17 A. Yes. I am aware that PacifiCorp did conduct a
- 18 separate RFP, yes.
- 19 Q. So just going to your statement that while the
- 20 wind resources provide significant benefit and are in
- 21 the public interest, you cannot determine whether
- 22 wind-only resources are in the lowest, are the lowest
- 23 reasonable cost without an integrated procurement
- 24 process. I think you included that in your summary,
- 25 that conclusion. Do you recall that?

Page 296 1 Α. Yes. 2 Q. So you were not the IE for the solar RFP, 3 correct? 4 Α. That's correct. And you haven't studied all the testimony and 5 analysis in this proceeding; is that true? 6 I have read, you know, different pieces of 7 Α. testimony, but not all of them. 8 So I assume your limited scope of work 9 contributes to a conclusion that you cannot say whether 10 11 the wind resources are the lowest-cost resource; is that 12 correct? 13 Well, my scope of work really ended at the 14 time I -- we submitted the report in terms of, you know, 15 reviewing any resources. And at that time, you know, 16 basically what we had presented to us, you know, by 17 PacifiCorp was, what I looked at was more of a parallel evaluation, you know, the SO -- the SO and PaR model 18 results for wind versus the SO and PaR model results for 19 20 all the solar. 21 It was, you know, no integration at that 22 It was basically just -- you know, it was really a parallel evaluation process, based on the last 23

information I had from, you know, as the IE in this

24

25

process.

Page 297 1 0. So you would agree that the commission could 2 make that cost determination if it had that information, the information that integrated the results of those two 3 4 RFPs, correct? Objection. I believe that 5 MR. BAKER: 6 question is outside the scope of Mr. Oliver. I think he had appropriately described what his scope was, and it's 7 not to continue beyond after his report here. 8 9 CHAIRMAN LEVAR: Do you want to respond to the 10 objection? 11 MS. MCDOWELL: Yeah. I mean, this just goes 12 to his statement about while he believes the results of 13 this RFP process are in the public interest, it's difficult for him to conclude, given his scope of work, 14 15 that they are the lowest-cost resources available. am just exploring how it is that the commission could 16 make that determination, which is the ultimate 17 determination in this case. 18 CHAIRMAN LEVAR: And I think he is -- I think 19 20 he has given answers to what the scope was and what his 21 recommendations covered. I think to that particular 22 question I am going to sustain the objection. 23 0. (By Ms. McDowell) So is it your understanding that when the commission makes that public interest 24

determination, that the commission looks at several

25

- 1 factors? You know, I think you listed the multiple
- 2 factors, the low cost factor ones, but there is several
- 3 other factors?
- 4 MR. BAKER: Objection. I don't believe his
- 5 scope of work includes opining on what the commission
- 6 should consider in making the overall public
- 7 determination. He looked and talked about what his --
- 8 his interpretation is based on the specific RFP, not
- 9 what the commission should decide based on the broader
- 10 statutory scheme.
- 11 CHAIRMAN LEVAR: I think I am going to
- 12 overrule that objection. I think his statutory
- 13 relationship with the commission is advisory to the
- 14 commission. So I am going to allow him to answer this
- 15 question.
- 16 Q. (By Ms. McDowell) Do you need me to restate
- 17 the question?
- 18 A. Yes, if you could please.
- 19 Q. Yes. So ultimately the question that the
- 20 commission needs to determine is whether these resources
- 21 are in the public interest, and the commission looks at
- 22 several factors. And that low cost factor is one of
- 23 five; is that correct?
- 24 A. That's correct. Yes.
- 25 Q. So I just want to review a couple of the key

- 1 conclusions of your report. Would you agree that the
- 2 response to this RFP was robust?
- 3 A. Yes, it was, and we -- that was one of our
- 4 conclusions in our report.
- 5 Q. And just again, was your ultimate conclusion
- 6 that PacifiCorp complied in general with the rules and
- 7 statutes that pertain to the RFP process in Utah?
- 8 A. That -- that was one of our conclusions, yes.
- 9 Q. And I think you also mentioned that PacifiCorp
- 10 used a consistent and equitable evaluation process, and
- 11 by that, were you meaning that with respect to all of
- 12 the bids presented, it applied the same modeling
- 13 methodology?
- 14 A. Yes. You know, the same modeling methodology,
- 15 same assumptions, same input forms that all the bidders
- 16 had to put -- all the bidders, including the benchmarks,
- 17 had to provide the same level of information.
- 18 Q. And that was the 20 year SO modeling. Is that
- 19 the modeling and evaluation you are referring to?
- 20 A. The modeling and evaluation took several
- 21 forms. It was -- you know, the short list analysis, it
- 22 was based on the spreadsheet model and the more detailed
- analysis based on the SO and PaR models.
- 24 Q. So you mentioned that you had some concerns
- 25 about whether the benchmark bids could be potentially

Page 300 understated in terms of the costs. 1 Do you recall that 2 part of your summary? 3 Α. Yes, I do. 4 Are you aware that under this process, the commission preapproves the amount of costs only up to 5 the company's estimates for the cost of the projects? 6 7 Α. I am not -- no, I am not -- I am not aware of that specific --8 9 Well, let me just ask you to assume that 10 hypothetically. Assume that the commission is approving 11 only the amounts that were bid into the process, only 12 the amounts of the estimate, and that any amount over 13 those estimates would be closely scrutinized by the commission and would have to be established to be 14 15 prudent. 16 Would that address the concerns you had about 17 the commission closely scrutinizing the actual costs of the bids? 18 19 Α. Well, certainly there are a number of ways of doing that, and one is to establish, you know, a firm 20 21 There's -- you know -- but it's, you know, it's cap. 22 not my -- you know, I don't look at it as my role to 23 firmly state that that's the way it should be done. But 24 that's a requirement in some -- you know, that's one

25

option, I guess.

Page 301 The other is, you know, the prudent standard 1 2 and how broad that could be. But it's, you know, that's 3 really, you know, up to the commission to determine, you 4 know, that -- that process. 5 But I -- I raise that because there's, you 6 know, there's some consideration that if, you know, you 7 know, how do you define that prudent standard? And if costs, you know, end up being a lot higher than 8 9 anticipated, you know, the PPA bids are firm, they have 10 to live by the bid they submit. Whereas, you know, I 11 have seen cases where they are self build or benchmark 12 could, you know, increase the price of it, and they may 13 not have won under that original price, but they could win under the, you know, under the low price. 14 15 And that's my concern. And as IE, that's one 16 of the things we focus on all the time that, you know, making sure that the pricing is reasonable and that, you 17 know, all costs for the benchmark are accounted for. 18 19 And that's what we try to do. 20 So your recommendation would be in a -- in a 0. 21 statutory scheme where the costs are preapproved up to 22 the estimate, and then prudence has to be established 23 for anything above that, that the commission apply a strict prudence standard? 24 25 I think, yeah. In a case like this, I think, Α.

- 1 yeah, that prudent standard should be -- should be
- 2 fairly strict.
- 3 MS. MCDOWELL: That's all I have. Thank you.
- 4 CHAIRMAN LEVAR: Okay. Thank you,
- 5 Ms. McDowell. Mr. Jetter.
- 6 EXAMINATION
- 7 BY MR. JETTER:
- 8 Q. Hi. Good morning, Mr. Oliver. My name is
- 9 Justin Jetter. I'm an attorney with the Utah Attorney
- 10 General's office, and I represent one of the Utah's
- 11 regulatory agencies, the Division of Public Utilities.
- 12 A. Good morning.
- 13 Q. I have just a few brief questions for you this
- 14 morning. You described the comparison a little bit,
- 15 that you didn't have that available to you in your
- 16 analysis to directly compare the solar RFP results along
- 17 with the wind results. Is that accurate?
- 18 A. Yes. The only thing we had was the
- 19 presentation that PacifiCorp provided us that identified
- 20 the results. But again, that was -- we looked at it as
- 21 more of a parallel path evaluation. It was, you know,
- 22 two separate evaluations.
- Q. Okay. Thank you. And are you aware, there
- 24 was no all-source RFP, and so is it accurate that there
- 25 wasn't information on current bid prices for other

- 1 resource options?
- 2 A. That's correct, yes.
- 3 Q. And so it would be fair to say that those
- 4 could be cheaper; we just don't know?
- 5 A. That's -- that's a -- I can accept that
- 6 statement, yes.
- 7 Q. Okay. And would you accept -- would you agree
- 8 that if we were seeking to fill capacity need with a
- 9 lowest-cost alternative resource, it would be prudent to
- 10 review all types of generation that could provide that
- 11 capacity?
- 12 A. You know, utilities, you know, generally, you
- 13 know, apply different -- different approaches, but I
- 14 think for, you know, for a capacity need, it should
- 15 be -- I would say, you know, given the market as it is
- 16 today with so many different options out there, I would
- 17 say that an all-source RFP would be an appropriate way
- 18 of filling a capacity need. And in fact, many utilities
- 19 are doing that right now.
- 20 Q. Thank you for that. I would like to just
- 21 change gears just a little bit to ask you a question
- 22 about some of the bids that were excluded because of
- 23 queue position in the transmission queue.
- 24 Is my understanding accurate that there were
- 25 some PPAs that may have been lower cost resources if

- 1 they had been at a more preferential spot in the queue
- 2 for transmission?
- 3 A. There was one PPA that potentially could have
- 4 been lower cost.
- 5 Q. Okay. In your experience, would you say that
- 6 if third party developers had advanced knowledge of what
- 7 the queue position cutoff would be, that would have
- 8 given them some advantage ahead of time to be able to
- 9 secure an earlier queue position?
- 10 A. Well, I don't know if it would allow them to
- 11 secure an earlier queue position, but it may have
- 12 affected how they -- how they bid, or if they bid.
- Q. Okay. Thank you. Mr. Oliver, those are all
- 14 of my questions. Thank you for your time and your
- 15 report. It's been very useful for the parties.
- 16 A. Thank you.
- 17 CHAIRMAN LEVAR: Thank you, Mr. Jetter.
- 18 Mr. Moore.
- 19 MR. RUSSELL: The office has no questions.
- 20 Thank you.
- 21 CHAIRMAN LEVAR: Okay. Thank you.
- 22 Mr. Russell.
- 23 MR. RUSSELL: Thank you, Chair LeVar.
- 24 EXAMINATION
- 25 BY MR. RUSSELL:

- 1 O. Mr. Oliver, my name is Phillip Russell. I'm
- 2 an attorney representing an industrial consumer group
- 3 called the Utah Association of Energies or UAE. I do
- 4 have a few questions for you.
- 5 COURT REPORTER: Can you pull your mic closer
- 6 to you?
- 7 MR. RUSSELL: Yeah, sorry. She chastised me
- 8 about that before the hearing started, and I'm
- 9 apparently not a very good listener.
- 10 Q. (By Mr. Russell) Your report addresses the
- final short list, correct?
- 12 A. Yes.
- 13 Q. And that final short list consisted of four
- 14 projects totaling approximately 1,300 megawatts of
- 15 capacity, correct?
- 16 A. Subject to check, it should be correct.
- 17 Q. Yeah. And are you aware that the -- that one
- 18 of those projects has been removed from consideration in
- 19 this docket?
- 20 A. Yes, I am.
- 21 Q. Okay. And that's the Uinta project, correct?
- 22 A. Correct.
- 23 Q. And that is the one of the four that would not
- 24 have interconnected in the new -- on the new
- 25 transmission line that's also being considered, correct?

- 1 A. It's my understanding.
- 2 Q. Do you have an understanding as to why the
- 3 Uinta project has been removed?
- 4 A. Not -- not totally. I don't fully understand
- 5 that, you know, justification behind the decision.
- 6 Q. Okay. As we have discussed, the Uinta project
- 7 didn't interconnect to the new transmission segment, and
- 8 so it could be built without incurring the expense of
- 9 that transmission line, right?
- 10 A. That -- that's my understanding, correct.
- 11 Q. And you note in your report that the costs of
- 12 the transmission line are approximately \$700 million,
- 13 right?
- 14 A. I believe that's correct.
- 15 Q. Yeah, and just -- if you need to check it,
- 16 it's on page 85 of your report, towards the top.
- 17 A. I -- subject to check, I think it's correct.
- 18 Q. All right. When the company conducted its
- 19 economic review and analysis of the initial short list
- 20 that it developed, and then to narrow that initial short
- 21 list down to the final short list, it imposed the cost
- 22 of the transmission projects on all of those initial
- 23 short list projects, right?
- 24 A. I'm sorry. Could you repeat that? Are you
- 25 talking about the initial -- the short list evaluation?

- 1 Q. Yeah. After they had the initial short list
- 2 of projects, to narrow that initial short list to the
- 3 final short list, they imposed the costs of the
- 4 transmission projects on those initial short list
- 5 projects, right? To get it down to the final short
- 6 list?
- 7 A. That's my recollection, but I am not sure if
- 8 you -- if you could point me?
- 9 Q. I believe it's on page 31 of your report.
- 10 A. My report -- my report pages may be slightly
- 11 different than yours, so...
- 12 Q. That -- that that may be the case. I'm in a
- 13 section in -- that's section 4, bid, evaluation,
- 14 methodology, and there's a subsection titled short list
- 15 evaluation methodology.
- 16 A. Okay. I have that.
- 17 Q. Okay. And I don't know what page we are
- 18 working with so let's just work from that sub header
- 19 down.
- 20 A. Okay.
- 21 Q. It's the third paragraph starting the nominal
- 22 levelized. Do you see that?
- 23 A. Right.
- Q. Okay. And it states, "The nominal levelized
- 25 net benefit reflects interconnection network upgrade

- 1 costs but does not include the cost of the
- 2 Aeolus-to-Bridger/Anticline transmission line, which
- 3 would be captured in the economic analysis in forming
- 4 selection of the final short list." Do you see that?
- 5 A. Yes.
- 6 Q. Okay. So does that -- does that refresh your
- 7 recollection as to the question I had originally asked?
- 8 A. Yeah. Yeah. Certainly the -- the only
- 9 network upgrade costs are included in the initial short
- 10 list evaluation, but the full transmission costs were
- 11 included in the final.
- 12 Q. And that was true with respect to projects
- 13 that did not require the new transmission line in order
- 14 to interconnect, correct?
- 15 A. Yes.
- 16 Q. Okay. Including Uinta?
- 17 A. Yeah. I, you know, again subject to check,
- 18 but I'm -- you know, there's a lot -- there's a lot of
- 19 data that was available. You know, the company's
- 20 looking at a portfolio. So, you know, the transmission
- 21 costs for the Aeolus-to-Bridger/Anticline project were
- 22 included in that evaluation.
- Q. Okay. Thank you. So let's imagine a scenario
- 24 where the transmission project costs were only imposed
- 25 on those projects that required the transmission line to

- 1 be built in order to interconnect.
- 2 So those projects that did not require the
- 3 transmission line, like Uinta and presumably others, is
- 4 it possible that we could have ended up with a different
- 5 mix of resources in the final short list than those
- 6 currently being presented in the final short list?
- 7 MS. MCDOWELL: I think I am going to object to
- 8 this question on the basis that I think it goes outside
- 9 his -- the scope of his report, which is to evaluate the
- 10 resources that were presented, not to get into
- 11 hypotheticals about what other -- how else it could have
- 12 been done, what else could have happened.
- 13 CHAIRMAN LEVAR: Mr. Russell, could you repeat
- 14 the question again, and then respond to the objection?
- MR. RUSSELL: Sure. The question was if --
- 16 and, again, we're talking about the fact -- or we're
- 17 talking about the imposition of transmission project
- 18 costs on all projects that were selected to the initial
- 19 short list, and narrowing those down to the final short
- 20 list, regardless of whether those projects required the
- 21 new transmission segment to interconnect.
- 22 And the question was, is it possible that if
- 23 the transmission project costs were imposed only on
- 24 those that required the new transmission segment to
- 25 interconnect, is it possible that we might have ended up

```
Page 310
     with a different final short list, if those PPAs or bids
 1
 2
     that were outside of that transmission constraint were
 3
     not burdened with the cost of the transmission line?
 4
               In response to counsel's objection, I'll note
     that Mr. Oliver was involved from this process before
 5
     the RFP was written. He's been involved in this process
 6
     from the timing of the selection of the bids, through
 7
     the initial short list. He was involved in the
 8
 9
     narrowing down from the initial short list to the final
     short list.
10
11
               I think this question is well within
12
     Mr. Oliver's purview as an evaluator of whether this RFP
13
     was fair and transparent.
14
               MS. MCDOWELL: So I think part of my concern
15
     here is that I believe that the record is getting
     confused by exactly how the transmission costs were
16
17
                They were not assigned on a project by
     assigned.
     project basis, and I think that is the predicate for the
18
19
     question. And somehow or other we got from this part of
20
     the report to that conclusion, which is really not what
21
     happened. And I think -- I am concerned about now we're
22
     getting into a hypothetical that is based on a
23
     misrepresentation of how the costs were assigned in this
24
     RFP.
25
               CHAIRMAN LEVAR: Okay. Considering that and
```

- 1 considering the explanation, I think I'm going to allow
- 2 Mr. Oliver to answer the question. If you feel like any
- 3 follow-up questions are appropriate for clarity after
- 4 everyone has asked questions, I think we'll allow that.
- 5 But I think it's an appropriate question for him to
- 6 answer at this point.
- 7 A. Okay. Yeah, it was my understanding, the
- 8 transmission costs were just -- the total transmission
- 9 costs, it was, you know, basically the analysis was cost
- 10 and benefits. And the transmission costs were applied,
- 11 you know, the costs for transmission was applied, you
- 12 know, to the cost of the portfolio. So, you know, the
- 13 SO model selected a number of two different portfolios,
- 14 and then, you know, those portfolios were evaluated
- 15 through PaR. So transmission was applied overall, not
- 16 individually to each project.
- 17 Q. (By Mr. Russell) Well, yeah. And I wasn't
- 18 suggesting that the transmission costs were imposed on
- 19 each project, on a project-by-project basis. But what I
- 20 think you just said was that the SO model assumed the
- 21 cost of the \$700 million transmission project regardless
- 22 of whether the bids that were being evaluated required
- 23 that project to interconnect, correct.
- A. There's my understanding, yes.
- Q. Okay. I want to ask a different set of

- 1 questions now. One of the projects as we discussed is
- 2 the Cedar Springs project, right?
- 3 A. Correct.
- 4 Q. And that, I -- as I gather in the final short
- 5 list, is a -- is a combined BTA and PPA project, yes?
- 6 A. That's correct.
- 7 Q. How -- how was that evaluated? Was it
- 8 evaluated as a single project or two separate projects?
- 9 Because those are different formats and I'm curious as
- 10 to how -- how you evaluated that -- that project.
- 11 A. Well, it was -- several different options
- 12 there. One was, the project was offered as a separate,
- 13 like you said, 200 megawatt BTA and 200 megawatt PBA,
- 14 and those were evaluated separately based on the type
- 15 of -- you know, the how PPA was evaluated with its costs
- 16 and benefits, and how BTA was evaluated with its costs
- 17 and benefits and then combined.
- 18 And the second option was it was basically
- 19 399, 400 megawatt PPA, and that was evaluated as a PPA.
- 20 The BTA, PPA option was the one that was included in
- 21 the -- as -- in the final -- the final short list.
- Q. Yeah, and the question I am trying to ask, is
- 23 it -- was that evaluated as two separate projects?
- 24 Really one approximately 200 megawatt BTA, and then one
- 25 approximately 200 megawatt PPA?

- 1 A. No. You, I guess, the guestion -- I don't
- 2 know if I can ask the question back. But are you
- 3 referring to the initial short list or the final short
- 4 list?
- 5 Q. The final.
- 6 A. Well, the final short list, it was -- it was a
- 7 combined project basically as a 200 megawatt PPA and a
- 8 200 megawatt BTA.
- 9 Q. Yeah, I understand that. I'm just trying to
- 10 figure out how -- how you could evaluate that as a
- 11 single project, when it does have two different formats.
- 12 And I'll tell you why I am asking.
- There's a considerable amount of time in you,
- 14 you know, space spent in your report discussing the
- 15 different evaluations of BTA projects versus PPA
- 16 projects. And I think the Cedar Springs may give us a
- 17 sense of how you went about ensuring that those were
- 18 evaluated on a level basis.
- 19 A. Well, you know, the projects were evaluated as
- 20 they were offered. So the PP -- you know, again, it
- 21 was -- it was a portfolio. But that portfolio does have
- 22 different -- would have different line items, I guess,
- 23 for lack of a better term. And the 200 megawatt PPA was
- 24 evaluated as a PPA, and the 200 megawatt BTA was
- 25 evaluated as a BTA option.

- HEARING, VOLUME II, DOCKET NO. 17-035-40 05/30/2018 Page 314 1 So it would be -- the company would eventually 2 own that project, and it would be included in the rate 3 base and evaluated like any other rate base project 4 would be. Okay. Let's talk about PPA projects and BTA 5 projects more generally. Your understanding is that the 6 first model run -- say you got all the bids in, you have 7 got some PPAs and some BTAs. The first model run would 8 9 be -- would go through the company's system optimizer model, right? 10 11 Well, the bids come in -- the first run is Α.
- basically based on a spreadsheet model. That would include different cost -- cost and benefit items depending on the type of resource. And that's basically just a spreadsheet model. So, and you know, it would basically project out over time depending on how many years.
- So if it's a BTA, it would be -- you know,
 have revenue requirements associated with it, you know,
 primary cost components. If it's a PPA, then it's the
 bid price, times the generation. So it would be an
 annual cost. And that that would be, you know, you
 would model that depending on that cost structure.
- Q. Sure. And what length of time would you study those projects?

- Page 315

 A. The PPA was over the term of the bid, whether
- 2 it was the 20 years plus. You know, the bidders had an
- 3 option of offering an extension. That was one of the
- 4 issues that we suggested earlier on to put the BTA and
- 5 the PPA options on an equal footing. And the BTA
- 6 options were evaluated over 30 years.
- 7 Q. Okay. So you know, in an effort to put the
- 8 BTA and the PPAs on an equal footing, you actually
- 9 evaluated them based on the length of the project and
- 10 not cut off at some time, some year?
- 11 A. No. We're talking about now, again, the
- 12 initial evaluation, the short list evaluation that was
- 13 based on the term of the project.
- 14 Q. Sorry. I missed that last part. The initial
- 15 was based on the term of the projects?
- 16 A. The term bid, yes.
- 17 Q. And that could be different for each bid?
- 18 A. That's correct.
- 19 Q. Okay.
- 20 A. One thing to keep in mind, just to follow up,
- 21 is that it's cost and benefits. So there's really not
- 22 a -- I don't look at it as being a bias there, because
- 23 the cost and the benefit side is, you know, equally
- 24 accounted for, whether it's 20 years or 30 years.
- 25 It's -- you know, you are evaluating the costs and the

- 1 benefits of those resources over the time period that
- 2 they had -- that they are bid at basically.
- 3 Q. But in order to capture all of those costs and
- 4 benefits of each project, you carried the analysis out
- 5 to the term of each bid, right?
- 6 A. Correct.
- 7 Q. Okay. I want to ask you some questions that
- 8 touch on some of the questions that Ms. McDowell posed
- 9 to you, and that relates to your statements. You know,
- 10 I'll point to it here.
- 11 A. Okay.
- 12 Q. I think it's on page 71. It's my page 71,
- 13 anyway. This is your table 20.
- 14 A. Okay.
- 15 Q. And you look at the second bullet point under
- 16 general requirements there. Do you have that?
- 17 A. Okay. Yes, I do.
- 18 Q. Okay. And on the left-hand side you cite the
- 19 commission rule stating the solicitation process must be
- 20 designed to lead to the acquisition of electricity at
- 21 the lowest reasonable cost, and I actually want to focus
- 22 on your statement on the right-hand side.
- 23 The very last sentence there states, "However,
- 24 it is not possible to determine if the wind only
- 25 resources offer the lowest reasonable cost without an

- 1 integrated resource procurement and evaluation process
- 2 that also includes solar and potentially other
- 3 resources."
- And I guess the question I have is, is it your
- 5 belief that in order to determine whether a resource
- 6 selected is the least cost, we need to test it against
- 7 the whole market? Is that the idea here?
- 8 A. Well, like I said, as I mentioned before, I
- 9 mean, I think -- there are different ways of designing a
- 10 solicitation. In some cases it's tested against the
- 11 entire market. In other cases it's, you know, defined
- 12 based on, you know, what type of product you are looking
- 13 to fill.
- If it's a resource need for firm capacity, you
- 15 know, as opposed to just a, you know, an intimate
- 16 resource, for example, you know, you could have
- 17 different -- different types of solicitations.
- 18 But what I was saying here, the point I was
- 19 trying to make here is that I couldn't, as you know,
- 20 based on the information that I had -- I couldn't make
- 21 that determination, because I didn't, as I mentioned
- 22 before -- what we had at the end of the period when the
- 23 report was completed was a parallel evaluation for the
- 24 solar bids and the bids, and that was it.
- You know, how much, what the total of, you

- 1 know, the benefits were from solar versus wind and, you
- 2 know, some discussion about how, if you add both of them
- 3 together, it would still be additional benefits, you
- 4 know, incremental benefits. But that was it. It was
- 5 no, you know, assessment of how the -- you know, how the
- 6 bids stack up. Like, was it two wind bids and then
- 7 three solar bids or what? I mean, we had no idea how
- 8 that -- how they were integrated.
- 9 Q. Do you recall testifying in a separate docket
- 10 in this -- in this matter -- actually not in this
- 11 matter. It's a separate docket -- in this commission,
- 12 regarding the solicitation process itself?
- 13 A. In this solicitation process?
- 14 O. Yeah. So there was -- there was the docket
- 15 that related to what the solicitation process would look
- 16 like.
- 17 A. Right, right. Okay.
- 18 Q. And now we have done the RFP, or we're
- 19 finalizing the RFP I guess?
- 20 A. Right.
- 21 Q. And we, you know, proposed to select some
- 22 resources. What I want to ask you about is the initial
- 23 scope of your work related to the solicitation process.
- 24 Do you remember testifying in that docket?
- 25 A. Yes, I do.

Page 319 1 Okay. I have got some of your testimony I 0. 2 want to ask you some questions about. It will take me a second to hand it out here. 3 4 For purposes of the record, I will note that I 5 have handed out Mr. Oliver's September 13th, 2017, rebuttal testimony -- prefiled rebuttal testimony in 6 docket 17-035-23 that we will mark as UAE Cross Exhibit 7 8 2, and I'll ask you to take a look at it and see if you 9 recognize it. (UAE Cross Exhibit No. 2 was marked.) 10 11 Yes, I do recognize this testimony. Α. 12 Q. (Mr. Russell) And was this the testimony that 13 you submitted in that docket? 14 Α. Yes, it was. Okay. Let's turn to the next to last page, 15 Q. 16 and it's line 258. And on that line you begin a sentence that states, "Whether the RFP will most likely 17 result in the acquisition, production and delivery of 18 19 electricity at the lowest reasonable cost to retail 20 customers, the potential benefits to customers, and the 21 ability of the process to meet public interest 22 requirements will not be known at the time of issuance 23 of the RFP." 24 Can you tell me, and I know we're going back a

little bit, what was -- what was your thinking with

25

- 1 respect to that particular statement?
- 2 A. Well, I mean, this is a -- I look at this is a
- 3 results oriented issue, that you really -- you know,
- 4 that's one of the issues that we opine on at the end of
- 5 the process once the process takes place. But it's not
- 6 known and knowable at the time the RFP is issued.
- 7 Q. So you are saying just because you are at the
- 8 front of the process, you don't know the answer?
- 9 A. Correct.
- 10 Q. Is what you are telling me now?
- 11 A. Exactly.
- 12 Q. And we just read some -- going back to your
- 13 testimony in, excuse me, your final report, in this
- 14 docket, you have just said that looking at the wind and
- 15 solar on parallel tracks, you can't say whether the wind
- 16 projects selected here are the least cost, right?
- 17 A. From the information that we have, we can't.
- 18 Q. And I want to direct your attention to page
- 19 80 -- it's my page 84 of your report. It's in your list
- 20 of conclusions.
- 21 A. Okay.
- Q. There's a bullet point in that list of
- 23 conclusions that starts, "one of the primary issues."
- 24 Do you see that?
- 25 A. Yes, I do.

Page 321 1 0. Okay. There's -- I want to talk to you about 2 a sentence maybe two thirds of the way down that starts, "Since PacifiCorp's solicitation." Do you see that? 3 4 Α. Right. Okay. "Since Pacific Corp's solicitation is 5 based solely on the solicitation for system wind 6 resources, it is not possible to determine if other 7 resources would have been included in the final 8 9 least-cost, least-risk system portfolio, potentially displacing one or more wind resources." 10 11 And so you testified that your testimony at 12 the front end on the solicitation process was results 13 oriented, and now that you have seen the results, your conclusion is that you still can't tell whether this is 14 15 the least cost, right? 16 Α. That's correct. And I -- as I understand also, that the process has changed a bit. As we've gone 17 along we're -- you know, initially the discussion was 18 19 about, you know, taking advantage of a unique 20 opportunity as an intermittent resource, and now we are 21 talking about filling a resource need. So there's a 22 difference there. 23 And that's why it's very hard to make a 24 determination at the end of the day whether or not this 25 solicitation process, you know, meets the provisions

- 1 listed here.
- Q. Okay. Let's switch gears to another of the
- 3 public interest factors, which is whether there was a
- 4 robust response.
- 5 A. Okay.
- 6 Q. I'll ask you to turn to, it's back to page 71.
- 7 It's that table 20 we were looking at earlier.
- 8 A. Okay.
- 9 Q. And it's the fourth bullet point from the top
- 10 in the general requirements.
- 11 A. Okay.
- 12 Q. And on the left do you see that you've got
- 13 the -- you cite the commission rule and state, "Be
- 14 designed to solicit a robust set of bids." And you --
- 15 your testimony and your report indicated there was a
- 16 robust set of bids, right?
- 17 A. Correct.
- 18 Q. Okay. You also have a statement in -- in
- 19 response to this element of the public interest factors
- 20 that says, and I am going to read it. I'll help you get
- 21 there. There's a sentence that starts in, you know,
- 22 that middle that says, "While there was a robust
- 23 response." Do you see that?
- 24 A. Yes.
- Q. Okay. "While there was a robust response, it

- 1 became obvious later in the process that based on the
- 2 interconnection queue, bidders who had only initiated
- 3 project development had little or no chance to compete."
- 4 Do you see that?
- 5 A. Yes.
- 6 Q. How does the fact that there were very few of
- 7 the bidders could compete, while there were a number of
- 8 bidders, how does that affect your evaluation as to
- 9 whether the response was robust?
- 10 A. Well, the response itself was robust. You
- 11 know, there were a number of bid -- we received a number
- of bids and a number of different types of bids, you
- 13 know, PPAs and BTAs. So from -- you know, that's how I
- 14 would define a robust response is the initial -- initial
- 15 response from the bidder. So the bidders at that point,
- 16 you know, felt confident that they, you know, they had
- 17 good projects they were willing to, you know, offer
- 18 those projects into the solicitation.
- 19 Q. Does the robustness -- pardon me. Does the
- 20 robustness of the response -- in your determination of
- 21 whether a response is robust, do you consider whether
- 22 those -- whether the bids can provide competition for
- 23 the benchmark resources?
- 24 A. When we look at a robust response -- when we
- 25 look at response to bids, we were looking at basically,

- 1 initially at this point, when I say robust, it really
- 2 just gets into how many bids did you receive, what types
- 3 of bids. Were they, you know, all of one type or
- 4 different types?
- 5 And we also look at what -- how many megawatts
- 6 are offered relative to how much the company is looking
- 7 for. And in this case we -- you know, there was much
- 8 more than the company was looking for. So that's how I
- 9 would define robust.
- 10 Q. Okay. All right. That's fair. I'm going
- 11 to -- let's go back to this. It's your rebuttal
- 12 testimony in the prior docket.
- 13 A. Okay.
- 14 Q. And I'll point you to that same page. It's
- 15 actually the very next sentence, starting on line 261.
- 16 Do you have that?
- 17 A. Yes, I do.
- Q. Okay. You say, "However, the IE believes that
- 19 there are several off-ramps which are inherently
- 20 included in the solicitation process in schedule that
- 21 can lead either to termination of the solicitation by
- 22 PacifiCorp, or an opinion by the commission, IE or other
- 23 parties to suggest the solicitation process not
- 24 continue, if it appears that the public interest
- 25 standards will not be met."

```
Page 325
               And does this -- does this kind of go back to
 1
 2
     your statement about your -- the sentence that we read
     previously that you were kind of at the front end of the
 3
 4
     process and you don't know how it's going to turn out?
     You are focused on the result, right?
 5
               Right. Like for example here, if there were
 6
          Α.
     only four bids or three bids or very -- only the
 7
     benchmark bids were offered, then maybe it's, you know,
 8
 9
     you know, the IE may conclude or commission may conclude
10
     that it's really not a robust process.
                                              There's no
11
     competition. You know, do you even go forward with it?
12
               So it's that type of thing, I mean, that you
     could -- that's why I was talking about off-ramps.
13
     There'd be different points in time that you would have
14
15
     an idea whether or not at least it's going to be a
16
     competitive process where, you know, bidders have the
     opportunity to compete.
17
                      And let's -- I'm going to talk about
18
19
     this idea of the off-ramps, because, again, you are at
     the front end of this process. You are kind of looking
20
21
     into the future, and if the process doesn't yield
22
     competition or several other factors, you are saying,
23
     you know, we can -- we can decide not to go forward.
     can terminate it, right?
24
25
          Α.
               Right.
```

- O. Okay. And let's look at this -- the next
- 2 question and answer actually asks you to describe those
- 3 off-ramps, or at least some of them. And I want to read
- 4 the first two. You indicate that there are five.
- 5 A. Yeah.
- 6 Q. You state in your answer here on line 269, you
- 7 say, "There are five off-ramps or key decision points in
- 8 the solicitation process that could result in a go or no
- 9 go decision for the solicitation process." And I'll
- 10 just read the first two here.
- 11 You state, "The first off-ramp is the response
- 12 of bidders. If there is not a robust response from
- 13 bidders, resulting in little or no competition for the
- 14 benchmark option, this could be one basis for
- 15 terminating the solicitation process." I'll stop there
- 16 for a second.
- 17 You indicate that if the -- if the bids do not
- 18 result in competition for the benchmark resources, that
- 19 this could be an off-ramp, right?
- 20 A. Correct.
- 21 O. Right. And we've talked a little bit about --
- 22 there was -- there was a lot of response from bidders,
- 23 but you indicated in your report that that response
- 24 didn't necessarily result in a lot of competition for
- 25 the benchmark resources, right?

Page 327
A. Sorry. Could you repeat that, please?

- Q. Yeah. When we were looking at the table 20 in
- 3 your report, you indicated that while there was a robust
- 4 response, that robust response didn't necessarily yield
- 5 a lot of competition for the benchmark resources, right?
- 6 A. Well, in the initial -- when the bids were
- 7 initially submitted, it did. There were a number of
- 8 different -- you know, there were a number of PPA bids
- 9 and benchmark and BTA bids that were submitted.
- 10 Q. Yeah. But as you indicate in your discussion
- 11 of the interconnection queue, a lot of those were not
- 12 viable as a result of that -- the interconnection
- 13 process, right?

1

- 14 A. Yeah. As we found out at the end of the day,
- 15 right. That's correct.
- 16 Q. Yeah. So I am kind of drawing a distinction
- 17 between the initial response from bids and whether those
- 18 bids could have provided competition and whether they
- 19 did. And your indication, I think from your report, and
- 20 correct me if I'm wrong, is that at the end of the day,
- 21 while we got a lot of bids, they didn't provide a lot of
- 22 competition for the benchmark resources, right?
- 23 A. At the end of the day, it -- they didn't. But
- 24 we didn't know that -- I didn't know that at the time.
- Q. No. Understood. Yeah, yeah. So let's talk

- 1 about the second off-ramp. So we're at line 73 of your
- 2 prior testimony. "The second off-ramp will occur at the
- 3 time of the initial short list selection. Bidders
- 4 selected for the initial short list will be required to
- 5 provide a system impact study. If competition is
- 6 affected because bidders are not able to secure an SIS,
- 7 this could also signal lack of competition and
- 8 jeopardize the process going forward, particularly since
- 9 PacifiCorp transmission will likely undertake the
- 10 studies."
- Now, I don't have a specific question about
- 12 the SIS, but, again, this is your concern that even if
- 13 we get a lot of bids, something could happen during the
- 14 process that results in those bids not providing
- 15 competition for the benchmark resources, right?
- 16 A. That's correct, yeah.
- 17 MR. RUSSELL: Okay. I don't have any further
- 18 questions for Mr. Oliver.
- 19 CHAIRMAN LEVAR: Okay. Thank you,
- 20 Mr. Russell. Mr. Baker.
- MR. BAKER: Thank you.
- 2.2 EXAMINATION
- 23 BY MR. BAKER:
- Q. Good morning, Mr. Oliver.
- 25 A. Good morning.

- 1 Q. My name is Chad Baker. I represent an
- 2 intervention coalition known as the Utah Industrial
- 3 Energy Consumers. I just have a couple of follow-up
- 4 questions for you.
- In the -- well, one, I believe in your report,
- 6 or in your testimony here today, you have alluded to
- 7 PPAs being less risky from a customer perspective; is
- 8 that correct?
- 9 A. Yeah, that's correct.
- 10 O. In the selection of the resources of a BTA
- 11 versus a PPA, and how you try to put them on equal
- 12 footing, did that evaluation consider the risks to
- 13 customers of these different vehicles?
- 14 A. In doing the overall evaluation or --
- 15 Q. Yes.
- 16 A. Well, it -- we tried to account for that as
- 17 part of the -- as reviewing the quantitative evaluation,
- 18 you know, at that point. Basically, as I mentioned, you
- 19 know, the list selection process, ensuring that, you
- 20 know, that all the costs and benefits for each of --
- 21 each of the options was, you know, was carefully looked
- 22 at and that type of thing.
- 23 So we looked at it from a quantitative
- 24 perspective. We didn't put any adders on or anything
- 25 for, you know, for qualitative.

- 1 O. So the -- if I understand correctly, there was
- 2 no quantitative assignment of the reduced -- of the
- 3 reduction in risk that a PPA may provide?
- 4 A. No. There was not at that -- not at that
- 5 stage in the process.
- 6 O. And --
- 7 A. And by the way, we did actually -- based on
- 8 our design report, we did scrutinize the contracts
- 9 pretty closely as well, to identify those issues.
- 10 Q. When you say you "scrutinized the contracts,"
- 11 did you scrutinize the final contracts or the exemplar
- 12 contracts that were submitted in the bid package?
- 13 A. The pro forma contracts, were included in the
- 14 bid package.
- Q. When -- when you were discussing the -- the
- 16 queue position and its impact on some of the bidders, I
- 17 can't recall, do those become nonviable because either
- 18 the transmission costs necessary to connect them to the
- 19 system had to be imposed and that sent it off, or were
- 20 they actually imposed and that made them nonviable?
- 21 A. No. My recollection was that -- when we get
- 22 to that point and I think we -- I mention in my report
- 23 that I was, you know, surprised by, you know,
- 24 disappointed by the, you know, that result.
- 25 That -- what happened at that point, for those

- Page 331 1 projects to be connected they would -- they would -- the 2 company would have to build out Gateway South and 3 Gateway West as I recall, and the costs associated with 4 those would be substantial. But it was never -- it was never quantified in the evaluation. 5 Thanks for that clarification. 6 0. Is guaranteeing the -- having the company guarantee the 7 8 costs and capacity factors one way to address your concerns about project actuals equaling forecast? 9 I had -- say it --10 Α. 11 We had had a discussion earlier about your Q. 12 concern. I believe there's, you talked about cost 13 overruns? 14 Α. Right. Q. I also believe you talk about capacity 15 16 factors, and actuals not generally being below forecast. And so would hard guarantees on costs and capacity 17 factors be one way to address that concern? 18 19 Α. I think costs can be, you know, subject to -you know, again, you know, I want to make policy, don't 20 21 try to suggest policy. But you know, certain -- you 22 know, close scrutiny of the cost is one thing as I, you
- The capacity factors is somewhat difficult

know, have talked about before, and I think that's

23

24

reasonable.

- 1 because it is subject to, you know, to the wind and that
- 2 type of thing and the forecasts and of, you know, of
- 3 generation profiles that are submitted. But, you know,
- 4 the I -- I think, you know, how -- if the company is
- 5 required to, or any company is required to meet the, you
- 6 know, generation level to similar to how PPA would have
- 7 to meet those levels, I think that would be one way of,
- 8 you know, handling that.
- 9 So PPA is basically committed to, you know, to
- 10 meeting the, you know, within some limits of meeting
- 11 those levels. I think that type of provision could be
- 12 applied to any resource.
- 13 O. If we focus on cost for a moment then. So
- 14 guarantee on the costs would be one mechanism to address
- 15 your concern of actuals not equaling forecasts, correct?
- 16 A. Yeah. I think a cap on the costs or something
- 17 along those lines.
- 18 Q. Would -- would a cost cap provide better rate
- 19 payer protection than a prudence review of cost overruns
- 20 once the concrete's already been poured?
- 21 A. I am not sure. I don't know if I can answer
- 22 that question.
- 23 O. Okay. That's fine. I think the record has
- 24 established that, so I will leave it at that. And with
- 25 that, I have no further questions for you today. Thank

Page 333 1 you. 2 Α. Thank you. 3 CHAIRMAN LEVAR: Okay. Thank you, Mr. Baker. 4 I think what we're going to do after a short break is, since we don't really have an opportunity for redirect 5 for Mr. Oliver, I think the fairest way is to give 6 7 everyone one more shot if they have follow-up questions. So after a short break, I will ask everyone whether you 8 9 intend to do any follow-up questions, and if there are, for those who do, we will go in generally the same 10 11 order. So we will break until about 10:45. Thank you. 12 (Recess from 10:33 a.m. to 10:47 a.m.) 13 CHAIRMAN LEVAR: Okay. I think we're ready to 14 go back on the record. We apologize that so many of our 15 hearing breaks happen when one or the other of the restrooms are being cleaned. We were discussing options 16 17 other than just not getting them clean, which I don't think is the best option. We'll continue to -- we might 18 make some of our morning breaks a little bit longer just 19 20 to accommodate, if people are taking the elevator down 21 to the first floor. 22 With that, I think we will just go in the same 23 order that we previously had questions. So I'll first 24 go to Ms. Hickey. Do you have any follow-up questions 25 for Mr. Oliver?

Page 334 MS. HICKEY: No, sir. 1 Thank you. 2 CHAIRMAN LEVAR: Okay. Thank you. 3 Mr. Holman. 4 MR. HOLMAN: I have no questions. Thank you. 5 CHAIRMAN LEVAR: Ms. Hayes. 6 MS. HAYES: Yeah, just really briefly. Thank 7 you. 8 EXAMINATION 9 BY MS. HAYES: 10 My name is Sophie Hayes. I'm representing Q. 11 Western Resource Advocates. You have testified a bit 12 about how some of the evaluation criteria includes 13 looking at IRP models. Is that correct? 14 Yeah. The quantitative evaluation criteria is 15 based on the IRP modeling approach. 16 And you have also been asked a bit about 0. whether an all-source RFP would give you a 17 representation of sort of the full range of resources 18 19 able to meet -- cost effectively meet end capacity need; 20 is that correct? 21 Α. I was asked that question, yes. 22 Is it your understanding that in the -- in the 23 lead-up to this RFP, that the IRP itself selected wind resources? 24 25 That's my understanding. I mean, I think that Α.

Page 335 1 was what initiated the solicitation process. 2 Q. Okay. Thank you. MS. HAYES: No questions. No other questions. 3 4 CHAIRMAN LEVAR: Ms. McDowell. 5 FURTHER EXAMINATION BY MS. MCDOWELL: 6 Thank you. So Mr. Oliver, I just have a 7 0. 8 couple of questions for you. Beginning with your -- the 9 testimony that you were handed, UAE Cross Exhibit 2. 10 you have that? 11 Α. Yes. 12 Q. So can you turn to page 9 of that testimony. 13 I want to direct your attention to your testimony at line 1 -- beginning on line 185, where you state, "While 14 I did not specifically state a recommendation for 15 resource eligibility, I believe that a targeted 16 solicitation is reasonable given the unique 17 circumstances associated with the potential value to 18 19 customers of procuring additional wind resources at this time to take advantage of the PTC benefits." 20 21 So what I wanted to ask you about that 22 testimony is, is I recall from reading the transcript 23 that you testified that an all-source RFP would potentially take quite a bit longer than a targeted RFP; 24 is that correct? 25

- 1 A. I -- subject to check, that's correct.
- 2 Q. So in your experience, generally, an
- 3 all-source RFP is a more complex and protracted process
- 4 than a targeted RFP?
- 5 A. Yes. And at the time that I submitted this,
- 6 as I recall, the company was looking at more of an
- 7 intermittent type, you know, to meet a specific need to
- 8 take advantages of the PTCs. And as I understand now,
- 9 the solicitation or the justification has changed to be
- 10 more of a resource need.
- 11 So that's why -- that was the gist here was
- 12 basically, you know, a tighter solicitation is generally
- 13 more applicable or can be more applicable for an
- intermittent-type resource as opposed to a, you know, a
- 15 capacity-type resource where you are looking for -- you
- 16 know, or an all-source may be more applicable.
- 17 Q. So you could have a resource need that would
- 18 be both, correct? Where you would be both seeking an
- 19 economic opportunity and looking to meet capacity need,
- 20 correct?
- 21 A. That's correct, yes.
- 22 Q. So I also wanted to ask you a question about
- 23 the issues on the assigning of transmission costs. I
- 24 was concerned the record might have gotten a little
- 25 confused. So just to take it back, because I think some

- 1 of the questions were about Uinta. Could the model
- 2 here, or could the RFP have chosen Uinta without any
- 3 other bid, if it was the lowest-cost resource?
- 4 A. The model was basically designed to establish
- 5 the least-cost portfolio as a resource, so it could have
- 6 selected Uinta without, you know, without the
- 7 transmission.
- 8 Q. In that -- is it your understanding in that
- 9 case that the costs of the Aeolus-to-Bridger line would
- 10 not have been assigned to the Uinta bid?
- 11 A. Well, that's correct, yes. I never expected
- 12 it, you know what I mean. From all we knew that the
- 13 Uinta was basically a, you know, didn't need the
- 14 Aeolus-to-Bridger/Anticline line to, you know, to become
- 15 part of the portfolio.
- 16 Q. So the last question I have for you was on the
- 17 interconnection issues you discussed. So you indicated
- 18 that the short list was compiled before any of these
- 19 transmission issues, interconnection issues became --
- 20 surfaced, became known; is that correct?
- 21 A. That's correct.
- 22 Q. And can you turn to page 84 of your -- of your
- 23 report. I wanted to ask you a little bit about the last
- 24 bullet on that page. So there you talk a little bit
- 25 about the interconnection issue, and before I ask you

- 1 about your report, can you confirm that ultimately
- 2 between the initial short list and the final short list
- 3 there was only one resource that changed?
- 4 A. The -- in the -- in the portfolios, that was
- 5 correct. However, you know, as I mentioned before,
- 6 there was one PPA that both IEs had suggested that be
- 7 included. In our recommendation on this final short
- 8 list, we had suggested that a PPA be included on that
- 9 list.
- 10 O. And that PPA did not -- was not able to
- 11 interconnect; is that correct?
- 12 A. It was further down in the queue, that's
- 13 correct.
- Q. And ultimately on page 84, you concluded, and
- 15 this is the -- I think the second line from the bottom
- 16 of the page, "While the IE had concerns over the basis
- 17 of this constraint, these projects were the lowest-cost
- 18 options available." So were you referring to the final
- 19 short list there?
- 20 A. Yes. The final short list that was selected
- 21 were the lowest-cost projects, without constraints on
- 22 the transmission. You know, with the, you know, as I
- 23 mentioned, I think there were -- the PPA was close, at
- 24 least in the initial evaluation, based on different
- 25 sensitivities. But I think overall these four projects,

you know, based on the methodology were the, you know,
were the least cost projects.

- MS. MCDOWELL: That's all I have, thank you.
- 4 CHAIRMAN LEVAR: Okay. Thank you,
- 5 Ms. McDowell. Mr. Jetter.
- 6 FURTHER EXAMINATION
- 7 BY MR. JETTER:
- 8 Q. Thank you. I have just a few very brief
- 9 follow-up questions. Just to clarify for the record,
- 10 when you were discussing the final short list that you
- 11 recommended being the lowest-cost option, is it your
- 12 understanding that that is the same project being
- 13 proposed in this docket today by Rocky Mountain Power?
- 14 A. I'm not sure. Could you repeat that please or
- 15 clarify that?
- 16 Q. So the final short list that you recommended
- 17 as being the least cost option, did that include the
- 18 Uinta project?
- 19 A. Well, the -- we sort of looked at the Uinta
- 20 project as being a separate project, because of the --
- 21 you know, I mean, it was part of the portfolio that was
- 22 included. But, you know, our focus was really, you
- 23 know, I say more on the projects that were competing for
- 24 interconnection on the Aeolus-to-Bridger/Anticline line.
- Q. Okay. Would it be fair to say that in your

- 1 analysis, the three projects, plus Uinta, offered more
- 2 benefits to customers than the three projects without
- 3 Uinta?
- 4 A. As I recall, the Uinta project offered
- 5 positive benefits. So that would be the case, yes.
- 6 Q. Okay. And so the option, the final short list
- 7 that you had recommended may have been better for
- 8 customers than the final short list being presented
- 9 today?
- 10 A. If Uinta -- if Uinta was on the final short
- 11 list, it would have added some positive benefits.
- 12 Q. Okay. Thank you. And changing gears just
- 13 very briefly. This is on page 86 of my version, which
- 14 is, the one I am looking at is the redacted version, and
- 15 what I am looking at is the header that says B,
- 16 recommendations.
- 17 A. Okay.
- 18 Q. And you had some discussions about what was
- 19 known by who about this and at what times about the
- 20 transmission constraints. Would you just read the first
- 21 sentence of the first bullet point there?
- 22 A. "Merrimack Energy recommended that PacifiCorp
- 23 hold a transmission workshop for bidders," is that the
- 24 one?
- 25 Q. Yes.

- 1 A. "Transmission workshop for bidders as they
- 2 have for previous solicitations."
- 3 Q. Okay. And do you know if PacifiCorp in fact
- 4 held the recommended workshop for that?
- 5 A. In my view they didn't.
- 6 Q. Okay.
- 7 A. It was one slide in the -- the bidders'
- 8 conference presentation that talked about transmission
- 9 issues, but it really didn't get into interconnection.
- 10 So, you know, I don't -- I don't think that was
- 11 sufficient to what I was thinking of, but, you know, I
- 12 didn't push it either.
- I mean, I guess -- and I, again, I mean, we
- 14 did have calls, the IEs did have calls with PacifiCorp's
- 15 transmission group to, you know, during the process.
- 16 One I think on the end of October, I think was the last
- 17 one, the end of October.
- 18 Q. Okay. And do you know if any of the bidders
- 19 were privy to the information that you gained through
- 20 those phone calls?
- 21 A. No, not that I am aware of. I don't -- but I
- 22 don't know what the bidders knew.
- 23 Q. Okay --
- A. I mean, you know, I sort of look at this very
- 25 sophisticated bidders, that, -you know, bidding

- 1 throughout the industry and the whole process as well.
- 2 So you know, I -- I would assume they were pretty, you
- 3 know, they would have been somewhat knowledgeable about
- 4 the process. But I don't know for a fact.
- 5 MR. JETTER: Okay. Thank you. Those are all
- 6 my questions. Thank you.
- 7 CHAIRMAN LEVAR: Okay. Thank you. Mr. Moore.
- 8 MR. MOORE: No questions. Thank you.
- 9 CHAIRMAN LEVAR: Thanks. Mr. Russell.
- 10 MR. RUSSELL: I don't have any further
- 11 questions for the witness, but I would like to take the
- 12 opportunity to move for the admission of UAE Cross
- 13 Exhibit 2.
- 14 CHAIRMAN LEVAR: If any party objects to that
- 15 motion, please indicate to me. I am not seeing any
- 16 objection, so the motion is granted. Thank you.
- 17 Mr. Baker, do you have any further questions?
- 18 MR. BAKER: Just a couple follow-up. Thank
- 19 you.
- 20 FURTHER EXAMINATION
- 21 BY MR. BAKER:
- 22 Q. So in some of the conversation about your
- 23 understanding of the initial RFP and what it was for,
- 24 can you clarify, am I correct that it was your
- 25 understanding it was premised on an economic opportunity

Page 343 for PTCs? 1 2. Α. Yeah, yes. And so would you say that an RFP for 3 0. 4 intermittent resources would help you identify the lowest-cost resource for a firm resource need? 5 6 Α. No, not necessarily. 7 MR. BAKER: Thank you. No further questions. 8 CHAIRMAN LEVAR: Okay. Thank you, Mr. Baker. 9 EXAMINATION 10 BY CHAIRMAN LEVAR: 11 I have just one follow-up to an answer you Q. 12 gave to Mr. Jetter during his first round of 13 questioning, and he was talking about the restrictions 14 that came later in the process with respect to transmission queue position. And I believe I heard your 15 answer to one of his questions to say, I don't know if a 16 bidder or potential bidder could have improved their 17 queue position if they had known that information 18 19 earlier. 20 I'd like to ask you to follow up a little bit 21 on that. Are you saying it would have been difficult 22 for a potential bidder or bidder to improve their queue 23 position if they had known the information earlier, or was that something impossible? 24 I mean, I guess, bidders could -- you know, 25 Α.

Page 344 queue is public information. So they can always look at 1 2 that and apply as soon as they can in terms of, you know, once they -- there is indication the RFP is coming 3 4 out, they can, you know, submit their application, you know, immediately. That would be one way, I guess, of 5 6 improving the queue position. But if others are already in there, then, you 7 8 know, they are going to be behind other projects that are ahead of them, because the queue is a serial queue 9 and whoever is in first. 10 11 Now, the one thing I always looked at, and I 12 believe Mr. Link mentioned in one of his -- and I don't 13 recall what round of testimony it was, that bidders could always, you know, could move up in the queue if 14 someone withdraws from the queue or perhaps is not 15 16 selected in an RFP and decides that, you know, they are going to withdraw their project or not pay the fees. 17 That's another way the bidders could move up, if someone 18 19 else drops out. 2.0 CHAIRMAN LEVAR: Okay. Thank you. Ι 21 appreciate that clarification. Commissioner Clark, do 22 you have any questions for him? 23 COMMISSIONER CLARK: Yes. Yes. Thank you. 24 EXAMINATION

25

BY COMMISSIONER CLARK:

Page 345 1 I'd like to begin with the way transmission Q. 2 interconnection requirements were addressed, and I think I became a little confused about that during the -- your 3 4 earlier examination as well. So I am going to -- I may be going over some very routine areas, but as I 5 understand it, I think you told us that the 6 Aeolus-to-Bridger/Anticline transmission upgrade costs 7 were -- were basically treated as though they -- they 8 9 were -- would be encountered regardless of any of the 10 projects under consideration. Is that -- is that an 11 accurate characterization? 12 Α. Well, the Bridger -- those costs were included 13 in the final evaluation. But they -- you know, they weren't allocated to any projects. They were just, you 14 know, the projects that were selected would be -- would 15 16 have to connect to that line. So those costs were just, you know, overall part of the, you know, the cost 17 18 evaluation that was applied to the projects, you know, 19 that were going to be connecting to the Bridger 2.0 Anticline line. 21 0. So initially at least there were wind bids 22 from projects that wouldn't have interconnected with 23 that line, right? 24 That's correct. Α. And so when they were evaluated, how were the 25 **Q.**

Page 346 1 costs of the transmission upgrades treated with respect 2 to them? 3 Α. Well, the initial evaluation, the short list 4 evaluation, they were -- none of the bids were allocated any costs to that line. So all the bids were evaluated 5 the same without any of those costs. They were only 6 included -- the only costs included were their specific 7 interconnection costs. 8 9 So short list was selected, and then the SO 10 model was then used to select the portfolios. And there 11 were two portfolios selected, which resulted -- as I 12 recall, two bids that weren't -- that wouldn't connect 13 to the -- two small bids that wouldn't connect to the Aeolus-to-Bridger/Anticline line. 14 15 And one of the portfolios was selected then 16 for the PaR analysis, and the PaR analysis picked that portfolio where -- was it three projects were, as I 17 recall, three projects I believe were -- would 18 19 transport -- would connect to that line, and then the 20 other project was the Uinta project that provided benefits but didn't -- didn't connect to that line. 21 22 Thank you. With regard to queue position and 23 its effect on the ultimate selections, if parties had known, or bidders had known that their queue position --24 position would be so influential in the ultimate 25

outcome, and I think you suggested that it would have

been desirable for them to learn that through a workshop

earlier on in the process, because maybe they wouldn't

- 4 have bid if they had known that, is that -- am I
- 5 characterizing your report accurately to that point?
- A. Yes. I think the more information they would
- 7 have known, it would have been beneficial to them one
- 8 way or another. You know, whether they decided to bid
- 9 or, you know, decide, you know, different location or
- 10 something. I don't know what they could have done
- 11 differently. But, you know, they were sophisticated
- 12 bidders, I guess that's the one thing. The majority of
- 13 them were -- were very sophisticated.
- 14 Q. Just hypothetically, if they had understood
- 15 that, had then chosen not to participate in the process
- 16 because it -- for whatever reason, would you have
- 17 considered the participation of just the three bidders
- 18 that remained to be a robust response to the -- to the
- 19 RFP?
- 20 A. Probably not. Because it would -- it would
- 21 have been probably less than the total capacity of the
- 22 trans -- you know, the company was looking for, but it
- 23 doesn't mean that, you know, that the RFP should be
- 24 canceled.
- I guess at that point it would -- you know, we

- 1 would have brought it to the, you know, commission's
- 2 attention that there's not a big response here, but
- 3 that, you know, that maybe there's a different way of
- 4 proceeding with this process. And I think that's what
- 5 the outcome might have been if no one bid.
- 6 O. In other words we would have been at the
- 7 position of exercising one of the options that you have
- 8 described would have been available to us when you gave
- 9 your testimony in the RFP proceeding, right?
- 10 A. One of the off-ramps, right.
- 11 Q. One of the off-ramps?
- 12 A. Right.
- 13 Q. Looking at UAE Cross Exhibit 2, and that
- 14 testimony on page 9 about targeted solicitation.
- 15 A. Yes, I have it. Yes, I have it here.
- 16 Q. So knowing what you know now about the
- 17 objectives of the solicitation process, if you had -- if
- 18 you had known -- had that same knowledge when you gave
- 19 this testimony, would you have felt different about
- 20 limiting the resources that could respond to just wind
- 21 resources?
- 22 A. And that knowledge would be that this is now
- 23 more of a resource capacity need type?
- Q. However you understand it to be now. I mean,
- 25 I'm going to ask you to explain that in some detail in a

- 1 minute so...
- 2 A. If -- if it's a capacity need or resource need
- 3 that's -- that is being looked at here, I would have
- 4 suggested something different, yes.
- 5 Q. So can you take us through sort of what you
- 6 understood the nature of your assignment to be in
- 7 relation to the objective at the outset of your
- 8 engagement, and then how that evolved over time to the
- 9 issuance of your final report, and sort of when it --
- 10 when you became aware of the changing nature, and how
- 11 you became aware of the changing nature of your
- 12 assignment as -- or the objectives of the RFP process as
- 13 you understood them?
- 14 A. Well, I think when we started the process, I
- 15 had -- you know, as I recall, the whole objective was,
- 16 this was a unique opportunity to take advantage of the
- 17 PTC benefits. And the company was going to issue an RFP
- 18 to solicit bids for wind resources that would be, you
- 19 know, targeted to that ben -- to taking advantage of
- 20 that benefit, and that would be, you know, that would
- 21 basically require transmission upgrade to meet those
- 22 requirements in Wyoming.
- When we were -- shortly after we were
- 24 retained, we actually submitted a number of questions,
- 25 probably 30, 40 questions, to the company to try and get

- 1 a better understanding of the whole nature of the
- 2 process and the company, because I really wasn't sure at
- 3 that time whether, you know, even on interconnection on
- 4 what would the allowance be.
- 5 You know, are you interconnecting just to that
- 6 Aeolus-to-Bridger/Anticline line? You know, that type
- 7 of thing. So the company provided, you know, pretty
- 8 detailed responses back, which provided our better, you
- 9 know, knowledge of what -- what the solicitation process
- 10 was, which is then reflected here.
- 11 You know, I understood the process at that
- 12 point to be a unique opportunity, and that's why I
- 13 thought, you know, I said, you know, my view was
- 14 probably should be issued to see if there are very
- 15 positive benefits that are out there.
- 16 Q. And the unique opportunity would have been the
- 17 potential to build wind resources with the benefits of
- 18 the production tax credits, correct?
- 19 A. Correct. And I don't recall when -- when I
- 20 knew when -- or when I heard that the company's, I don't
- 21 know if its objectives or what's the right word here,
- 22 but that the -- that it became more of a resource need
- 23 as opposed to, you know, just, you know, energy
- 24 procurement need to, you know, or energy procurement
- 25 requirement to maximize the PTC benefits.

Page 351 I don't recall the date. But it seems like it 1 2 has shifted over time, and I -- at least that's the 3 impression I get. But our involvement, like I said, 4 really terminated or didn't continue once we filed the report in mid February. 5 We have been involved a little bit in 6 negotiations, but in terms of the testimony and the 7 proceeding and who is -- you know, you know, who is 8 9 testifying to what, I haven't been following that on a constant basis. 10 11 Q. Those conclude my questions. Thanks very 12 much, Mr. Oliver, for your assistance to the commission. 13 Α. Thank you. 14 CHAIRMAN LEVAR: Okay. Thank you. Commissioner White. 15 16 EXAMINATION 17 BY COMMISSIONER WHITE: 18 Q. Good morning. 19 Α. Good morning. 20 Just following up on a couple questions from 0. 21 Commissioner Clark. Was there ever a question in your 22 mind that the purpose of the RFP was to take advantage 23 of an opportunity with respect to wind and the associated DBCs to fill a need, meaning a capacity 24 that's now a capacity that's now being fulfilled by 25

Page 352 front office transactions? 1 2 In other words, I mean, is it in your mind, is there a question that they were not pursuing an economic 3 4 opportunity to pursue a generation resource to not supply load? I mean to fill a load requirement? 5 I guess in my view, initially, I was under the 6 Α. 7 impression it was mostly an energy procurement as 8 opposed to a capacity -- to capacity procurement. 9 0. Well, yeah, and I apologize. Energy capacity, 10 mostly energy? 11 Right. Α. 12 Q. Okay. Well, let me ask you a question 13 about -- you mentioned something -- you keep referring to sophisticated bidders with respect to the 14 transmission issue. Understanding that the transmission 15 information is publicly available on Oasis, et cetera, 16 is there something that you would recommend specifically 17 that, you know, if we go back in time to specifically 18 19 the company would have conveyed through a workshop to 20 these bidders? 21 Α. Well, as I mentioned, I think, you know, some

22 of the previous solicitations that we have been IE for 23 PacifiCorp, we did have -- we did require -- suggest the company have a workshop for bidders and they did. And 24 25 that workshop generally included just the overall

Page 353 1 assessment, overall description of the system, what some 2 of the planned additions were to the system, how to get 3 into the queue, you know, to apply for, you know, 4 interconnection service, that type of thing. So I didn't see that as a major effort, but I 5 thought it was something that could be, you know, put 6 7 together fairly quickly and would at least, you know, something -- that would have provided some value to 8 9 bidders. Even though they were sophisticated bidders, there may have been some information that they weren't 10 11 -- they would at least have the opportunity to ask 12 questions, you know. 13 And I know they did in other forums but, you know, through the, you know, the Q and A process, but 14 they could have directly asked questions to the 15 PacifiCorp transmission folks. 16 17 COMMISSIONER WHITE: Thank you. I have no further questions. 18 19 CHAIRMAN LEVAR: Thank you, Mr. Oliver. 20 appreciate your participation in this docket and your 21 testimony today. Let me just ask both commissioners and

Mr. Oliver, or if anyone sees a potential need for

colleagues if there's any reason not to excuse

22

23

Page 354 1 indication from anyone in the room. So thank you, 2. Mr. Oliver. 3 THE WITNESS: Thank you very much. 4 CHAIRMAN LEVAR: Before we go back to Rocky Mountain Power's next witness, Ms. Hickey, is your 5 6 witness here yet? MS. HICKEY: He is in town on his way over. 7 CHAIRMAN LEVAR: Well, maybe we'll try to get 8 that witness in this afternoon or in the morning. Would 9 either of those work? 10 11 MS. HICKEY: Yes, sir. Perhaps we could 12 revisit later this afternoon a break or something. 13 CHAIRMAN LEVAR: Okay. Thank you. MS. HAYES: Mr. Chair, I apologize for 14 15 interrupting. While we're discussing that, I am wondering if I could ask what you are considering in 16 terms of the general order of witnesses. Are you 17 planning to go in the same order that you have been 18 19 calling on attorneys? I am just trying to get a sense 20 of when my witness may come up. 21 CHAIRMAN LEVAR: Sure. Well, not necessarily. 2.2 I have been trying to do cross-examination trying to 23 group similar positions together. 24 MS. HAYES: Sure. 25 CHAIRMAN LEVAR: That's not necessarily -- I

Page 355 1 hadn't thought about who I would go it to next after --2 MS. HAYES: Okay. 3 CHAIRMAN LEVAR: Typically we go to the 4 division and the office next, but where we have some parties with positions more similar to the utility than 5 the division and the office, it might make sense to go 6 to -- in the order we have been doing cross-examination. 7 8 As I think about your question right now, I'm probably 9 inclined to do that. 10 MS. HAYES: Okay. 11 CHAIRMAN LEVAR: Obviously, we have one timing 12 need. But other than that, I think that's probably 13 where you are going, is to go -- I assume Utah Clean 14 Energy and Western Resource Advocates before we go to the division and the office, if there's no objection to 15 16 If anyone does have an objection, let me know that. 17 now. MR. RUSSELL: Chair LeVar, I don't have a 18 specific objection to that. That does put my witness 19 20 going last, and we may have some travel requirements. 21 I'll discuss that with him during the lunch break and 22 see if there's not. I don't know that it's an issue, 23 but it may be. 24 CHAIRMAN LEVAR: Okay. You know, I think the parties in these proceedings have generally been 25

Page 356 1 flexible to try to meet travel needs of witnesses. 2 order we go in typically doesn't have too much 3 substantive impact, but we want to be open about it. So 4 thank you. 5 MR. LOWNEY: The company's next witness is Rick Vail. 6 7 CHAIRMAN LEVAR: Okay. Mr. Vail, do you swear to tell the truth? 8 9 THE WITNESS: I do. 10 CHAIRMAN LEVAR: Thank you. 11 RICK VAIL, 12 was called as a witness, and having been first duly 13 sworn, testified as follows: 14 DIRECT EXAMINATION BY MR. LOWNEY: 15 16 Mr. Vail, could you please state and spell 0. your name for the record? 17 Yes. It's Rick Vail. It's R-I-C-K, V-A-I-L. 18 Α. Okay. Mr. Vail, how are you employed? 19 Q. 2.0 I am the vice president of transmission for Α. 21 PacifiCorp. 22 And in that capacity, did you file direct 23 testimony, supplemental direct and rebuttal testimony, second supplemental direct testimony and surrebuttal 24 testimony in this case? 25

- 1 A. Yes, I did.
- Q. And Mr. Vail, do you have any corrections or
- 3 changes to that testimony today?
- 4 A. I do have one correction. It's on my
- 5 surrebuttal testimony. That correction is on page 21.
- 6 It's on line 461. And I need to add the words "segment
- 7 D-1" after "energy Gateway West."
- 8 Q. I'll just give everyone a moment to reflect
- 9 that change before we go one.
- 10 CHAIRMAN LEVAR: Could I ask you just to
- 11 repeat that change.
- 12 THE WITNESS: Yes. So it's surrebuttal
- 13 testimony, page 21, lines 461. Following the words
- "Gateway West," we need to add "Segment D-1."
- 15 Q. (By Mr. Lowney) Mr. Vail, with that change, if
- 16 I were to ask you the same questions today that are
- included in your prefiled testimony, would your answers
- 18 be the same?
- 19 A. Yes, they would.
- MR. LOWNEY: I would move to admit Mr. Veil's
- 21 testimony as it was in the record.
- 22 CHAIRMAN LEVAR: Okay. If any party objects
- 23 to that motion, please indicate to me. I am not seeing
- 24 any objection in the room, so the motion is granted.
- 25 Thank you.

Page 358 MR. LOWNEY: Mr. Vail is available for 1 2 cross-examination and commissioner questions. 3 CHAIRMAN LEVAR: Do you want to put in a 4 summary? MR. LOWNEY: 5 I'm sorry. 6 0. (By Mr. Lowney) Mr. Vail, have you prepared a summary today? 7 Α. I have. 8 9 All right. Please proceed. You bet. I have to check, is it still 10 Α. 11 morning? So good morning, Commission Chair LeVar, Commissioner Clark and Commissioner White. I oversee 12 13 the transmission system planning, the administration of the company's open access transmission tariff or OATT, 14 15 the customer generation interconnection requests and the regional transmission planning initiatives for 16 17 PacifiCorp. My testimony describes substantial and 18 immediate customer benefits resulting from the 19 2.0 construction of the transmission projects. The 21 centerpiece of the transmission projects is the proposed 140 mile, 500 KV Aeolus-to-Bridger/Anticline 22 23 transmission line also known as segment D-2 of the 24 energy -- of the company's energy gateway transmission 25 expansion projects.

1	Page 359 This transmission line has been in development
2	since 2007 and is part of the long-term transmission
3	plan designed to strengthen the company's and the
4	region's transmission system to better serve customers.
5	The unprecedented opportunity before the commission
6	today allows the company to construct this line with
7	minimal customer rate impact.
8	So first, I'm going to address the need for
9	the Aeolus-to-Bridger/Anticline transmission line. The
10	end the Aeolus-to-Bridger/Anticline transmission line
11	is needed today. The transmission system in southeast
12	Wyoming is currently constrained with generation
13	capacity behind the TOT 4A cut plane exceeding
14	transmission capacity.
15	From a transmission planning perspective,
16	there is no reasonable basis to conclude that the
17	company will not need to construct the
18	Aeolus-to-Bridger/Anticline line in the relatively near
19	future. Although the company has been able to defer
20	construction of this line by upgrading the existing
21	transmission system and implementing alternative
22	transmission technologies, the upgrades that we have
23	made are not a long-term solution for this line.
24	Given the existing constraints on the Wyoming
25	transmission system, the addition of the new

- 1 transmission capacity is the only long-term feasible
- 2 solution. It is not a question of if
- 3 Aeolus-to-Bridger/Anticline line will be constructed.
- 4 It is a question of when.
- 5 This means that the real question presented by
- 6 this case is whether it is in the public interest to
- 7 construct the Aeolus-to-Bridger/Anticline line in 2020,
- 8 when it is subsidized by the PTCs, or after 2020, when
- 9 it is not.
- 10 Foregoing today's opportunities presents
- 11 substantial downside risk for customers. Current plans
- 12 call for the construction of this line by 2024. But
- 13 even that date is not certain. A small change in the
- 14 generation resources or a change in load could require
- 15 the line to be built without the benefit of the federal
- 16 production tax credits as an offset to the costs as
- 17 provided for in the company's open access transmission
- 18 tariff.
- 19 It is possible that an interconnection or
- 20 transmission customer could also trigger the need to
- 21 construct the Aeolus-to-Bridger/Anticline line before
- 22 2024, and the cost to accelerate that construction would
- 23 ultimately be borne by the -- and paid for by the retail
- 24 customers.
- The sheer volume of new wind projects that are

Page 361 being developed in the transmission constrained area, 1 2 southeastern Wyoming, indicates that there is a very 3 real risk the company could be forced to construct this 4 line through one of those old mechanisms. This means the retail customers would bear the full cost of 697 5 million dollars, with only the revenue from third party 6 7 transmission customers as an offset. This is not an insubstantial or speculative risk. 8 I want to talk a little bit about the benefits 9 of the Aeolus-to-Bridger/Anticline line. First the 10 11 Aeolus-to-Bridger/Anticline line will increase the east 12 to west transmission capacity by approximately 951 13 megawatts. It will also enable the company to more efficiently utilize existing generation resources in 14 Wyoming that serve loads in Wyoming, Idaho, Utah, and 15 the Pacific Northwest. 16 17 Second, with the transmission projects, the company will also be able to interconnect up to a total 18 of 1,510 megawatts of resources in the prime region --19 20 prime wind region in southeastern Wyoming, including the 21 three wind projects selected in the 2017R RFP. 22 The third benefit is that the transmission 23 projects will improve system reliability. Currently the 24 company operates its system to ensure that we meet 25 and/or exceed all acceptable reliability and performance

Page 362 standards. Due to the long lead time required to 1 2 construct high voltage transmission lines, however, the 3 company must be proactive to ensure that it remains in 4 position to effectively meet its obligations in the face of future uncertainty or changing circumstances. 5 In particular, the North American Reliability 6 7 Corporation, NERC, has established system planning requirements intended to ensure that the bulk electric 8 9 system will operate reliably over a broad spectrum of system conditions and following a wide range of probable 10 11 contingencies. 12 The Aeolus-to-Bridger/Anticline line has been included in a required annual reliability assessment as 13 part of the company's short-term and long-term plans to 14 dependably meet both NERC and WECC reliability 15 requirements. The company has thoroughly and 16 17 comprehensively studied the transmission projects to verify that the expected benefits will materialize. 18 Most importantly, the company has obtained its 19 20 final phase 3 path rating from WECC. This WECC approval 21 is critical, because it allows the company to 22 interconnect this transmission line into the wider 23 transmission system in the entire area and reliably 24 operate the project at its approved rating. 25 The company has also completed all of the

Page 363 interconnection studies required for the wind projects 1 2 and completed the Aeolus west transmission path transfer 3 capability assessments. The results of the final transfer capabilities 4 assessments demonstrate that the company's initial 5 assessments were conservative, and confirm that the 6 7 transmission projects will increase transmission capability by approximately 200 megawatts more than what 8 was originally anticipated or is factored into the 9 benefit calculation. 10 11 More detailed studies of the wind projects 12 that were selected in the 2017R RFP, also increase the 13 interconnection capabilities from -- it was originally 1,270 megawatts, up to 1,510 megawatts. 14 15 The company is confident that the remaining studies confirm that the estimated costs and benefits of 16 the transmission projects, also as addressed in my 17 testimony, the risk of the transmission projects have 18 continued to decrease over the course of this case, and 19 20 the costs have become more certain. 21 There is now greater cost certainty for the 22 transmission projects because of the competitive market solicitations that have occurred during this case. 23 24 company's bid solicitation process for EPC contractors 25 for the Aeolus-to-Bridger/Anticline line have confirmed

Page 364 the company's initial cost estimates. 1 Because the line 2 represents approximately 85 percent of the total cost of 3 the transmission projects, cost certainty for that 4 portion of the project has increased. The company is ready to build and confident that we can deliver the 5 6 project on budget. The risk of delay beyond 2020 has also 7 decreased over the course of the case as project 8 9 implementation has continued. The company has extensive past experience implementing projects comparable in 10 11 scope to the transmission projects and on similar 12 construction schedules. 13 Like past projects, the company intends to use contracting provisions to provide greater price 14 15 certainty and to ensure, through all available means, the contractors meet the deadlines required for the 16 transmission projects to become operational by the end 17 of 2020. 18 19 Finally, the company did not mismanage its 20 generation interconnection queue, or attempt to use the 21 generator interconnection queue to bias the outcome of 22 the 2017 request for proposals. The company's treatment 23 of all projects in its generation interconnection queue, 24 whether bidders or not, was consistent with the terms 25 and conditions of its open access transmission tariff.

1	Page 365 The facts that the full build-out of Gateway
2	South was trigged as queue position number 708 has been
3	public knowledge. It was public knowledge prior to the
4	issuance of the 2017R RFP, and it has been public
5	knowledge and out on Oasis since 2015.
6	The interconnection restudies which change the
7	assumption of the inservice date for the bridge
8	sorry, Aeolus-to-Bridger/Anticline line resulted in
9	increasing the interconnection capability, prior to that
10	study. And Gateway South went from being triggered at
11	queue position 708, down to queue position 713.
12	So the final restudy of that generation
13	interconnection queue actually included more projects
14	that would be available to interconnect with the
15	addition of the segment D-2 line than were originally
16	assumed prior to the completion of those studies.
17	In summary, this case does really present us
18	an unprecedented opportunity to obtain the numerous
19	benefits that the transmission projects provide with
20	little customer rate impacts, primarily because of the
21	PTCs generated by the wind projects. This is a unique
22	time-limited opportunity to build a much needed
23	transmission line and actually save customers money by
24	doing so.
25	If the company delays the construction of the

Page 366 Aeolus-to-Bridger/Anticline line until PTCs are no 1 2 longer available, the customer rate impact will be significantly greater when the line is required to be 3 4 built. Thank you. Mr. Vail, does that conclude your summary? 5 Yes, it does. 6 Α. MR. LOWNEY: And now Mr. Vail is available for 7 cross-examination and commissioner questions. 8 9 CHAIRMAN LEVAR: Okay. Thank you, Mr. Lowney. Ms. Hickey, do you have any questions for Mr. Vail? 10 11 MS. HICKEY: No. Thank you, sir. 12 CHAIRMAN LEVAR: Okay. Thank you. 13 Mr. Holman. 14 MR. HOLMAN: I have no questions. Thank you. 15 CHAIRMAN LEVAR: Okay. Ms. Hayes. 16 MS. HAYES: No questions. Thank you. 17 CHAIRMAN LEVAR: Thank you. Mr. Jetter. MR. JETTER: I do have a few questions. 18 19 CROSS-EXAMINATION 2.0 BY MR. JETTER: 21 0. Good morning. 2.2 Α. Good morning. 23 0. Do you have your direct testimony in front of 24 you? 25 Yes, I do. Α.

Page 367 1 0. Would you please turn to -- this is page 19, 2 and there is a question beginning on line 429, and the answer concludes on line 433. Would you please read 3 4 that question and answer? Starting on 429? 5 Α. 6 Q. Yes, please. Okay. "Will the transmission projects also 7 Α. 8 enhance the company's ability to meet the reliability 9 standards applicable to its transmission system? Yes, 10 although the company currently meets or exceeds the 11 applicable reliability standards and criteria, the 12 addition of the transmission projects will allow the 13 company to more efficiently meet or exceed those standards and criteria." 14 Thank you. And is that an accurate statement 15 Q. 16 that the current transmission in that area currently meets or exceeds the applicable reliability standards 17 and criteria? 18 19 Α. Yes, that's an accurate statement. 20 Q. Thank you. 21 MR. JETTER: I am going to -- if I may 22 approach? I would like to present a cross-examination 23 exhibit. 24 CHAIRMAN LEVAR: Yes. 25 MR. JETTER: Limited copies of this. I only

- 1 have one extra copy of it.
- Q. (By Mr. Jetter) Would you please identify
- 3 what the cover page of this document is?
- A. The cover page states that this is the 2017
- 5 integrated resource plan before the Public Utility
- 6 Commission of Oregon.
- 7 Q. Okay. And does this on the, I guess the
- 8 right-hand side of that first page, the final -- or
- 9 excuse me, it says "staff final comments." Is that
- 10 correct?
- 11 A. Yeah, that's what the cover page states. I
- 12 don't see anything on the next page to verify. But,
- 13 yeah, it looks like it's that document.
- Q. Okay. Thank you. And turning to the second
- 15 page of this document, I haven't reproduced the entire
- 16 document here, would you start -- there's a header that
- 17 is a No. 3. And would you read that header along with
- 18 the rest of this document down to the end of that
- 19 paragraph before the next header that starts with the
- 20 No. 3?
- 21 A. You would like me to read that whole section?
- Q. Yes, please.
- 23 A. "PacifiCorp concedes that its proposed
- 24 transmission line is not needed to address short-term
- 25 reliability concerns on a stand-alone basis. In the

- 1 absence of a new wind acquisition, PacifiCorp would not
- 2 construct or acquire the new transmission line.
- 3 Representatives of PacifiCorp have repeatedly
- 4 acknowledged this fact.
- 5 "Staff: Quote, Without the 100 -- I'm sorry,
- 6 1,100 megawatts of wind would PacifiCorp build this
- 7 transmission line?
- 8 "PacifiCorp: No. In essence that's what
- 9 we're trying to demonstrate, this transmission line paid
- 10 for by the benefits of the wind.
- "Staff: So there is no reliability need to
- 12 put this transmission in place at some point; is that
- 13 correct?
- 14 "Right. We are currently compliant with the
- 15 NERC reliability standards and expect to be going
- 16 forward."
- 17 Q. And I could actually just stop you there. I
- 18 think we can skip that next paragraph to speed things up
- 19 a little. Is it accurate that at the bottom of those --
- 20 that transcript portion that you have just read, there
- 21 is a footnote notation for No. 26?
- 22 A. Yes.
- 23 Q. And if you go down to footnote 26, does that
- 24 read, "Approximately 2 hours 20 minutes to 2 hours 30
- 25 minutes of the September 14th, 2017, LC67 special public

Page 370 meeting"? 1 2. Α. Yes, it does. Do you have any reason to believe that that is 3 0. 4 an incorrect transcription of that public meeting? I don't believe that is incorrect. As I 5 noted in my summary, I think I have been very clear in 6 7 testimony all along, PacifiCorp is currently in compliance with the NERC reliability standards in 8 southeastern Wyoming. But I would also add that any 9 10 small change in circumstance could change that, and one 11 of the primary tools we have is our long-term 12 transmission planning in order to make sure that we're 13 ready to address those needs when that time does come. And you described this morning your opinion is 14 that if -- or let me actually ask you that. Is it your 15 opinion that if a third party generator in that area 16 17 were to require network upgrades on that transmission line, that Utah rate payers would pay for those costs? 18 Can you clarify on which transmission line and 19 Α. 20 when you are speaking of network upgrades what you are 21 referring to? 22 Q. Okay. 23 Α. So I can be specific. Are you talking 24 generation interconnection network upgrades? So I am speaking to, yes, interconnection 25 Q.

- 1 network upgrades that would be required to interconnect
- 2 a third party generator, anywhere, I believe it's north
- 3 or northeast, depending on how you look at the map, of
- 4 the cut plane that you have described where the
- 5 congestion is.
- 6 A. And just so I can be responsive to the
- 7 question, are these network upgrades part of the
- 8 company's long-term transmission plan?
- 9 Q. No.
- 10 A. Okay. And so what was the question?
- 11 Q. So the question is, is if a third party
- 12 generator seeks an interconnection agreement for a
- 13 long-term generation interconnection -- excuse me. A
- 14 long-term interconnection for a large generator in that
- 15 area, and it requires network upgrades, is it your
- 16 testimony today that rate payers of Rocky Mountain Power
- 17 would pay for those upgrades?
- 18 A. Yes. Let me just clarify to be clear here.
- 19 What we're talking about is a FERC jurisdictional
- 20 generation interconnection request. In that case the
- 21 network upgrades, the way FERC looks at those network
- 22 upgrades is that they benefit all users of the
- 23 transmission system so they would be rolled into the
- 24 formula rates.
- 25 And then at the same time, PacifiCorp would

- 1 come in for recovery on those network upgrades, and then
- 2 basically the -- the transmission so, again, you have to
- 3 be careful here. We went from interconnection being
- 4 FERC jurisdictional. They would also have to come in
- 5 for a transmission service request.
- 6 When they enter into that transmission service
- 7 request, they pay transmission service, and that
- 8 transmission service that is collected would then be
- 9 credited back to the individual states.
- 10 O. And are you aware of an instance where --
- 11 maybe describe to me the most recent two or three
- 12 instances briefly where a third party generation
- interconnection that are not approved PPAs between -- by
- 14 any of the six states that PacifiCorp serves, have
- 15 interconnected required network transmission upgrades
- 16 and that those upgrades have been paid for by customers,
- 17 in those six states.
- 18 A. I'm sorry. I followed most of that. So,
- 19 again, I just want to clarify. Are we talking a FERC
- 20 jurisdictional interconnection? So you have a FERC
- 21 jurisdictional generation interconnection request.
- Q. I would actually say, a FERC jurisdictional
- 23 interconnection request.
- A. Well, the answer is different, and it's
- 25 different depending on the state. And that's why I am

- 1 asking for clarification.
- Q. So what I am asking you to describe is a
- 3 situation where a third party generation provider
- 4 interconnected and Utah rate payers were responsible for
- 5 the cost of any network upgrade that was required as a
- 6 result of that interconnection.
- 7 A. So off the top of my head, I don't have a
- 8 specific example. I will say this. Almost all FERC
- 9 jurisdictional interconnection requests that have a
- 10 network upgrade requirement would then roll into the
- 11 retail rates. They would be part of the capital
- 12 addition that the company would have.
- 13 Q. Okay. I'd like permission to approach the
- 14 witness again. Again, provide a document.
- I have handed you -- is this accurate that
- 16 what I've handed you is a cover page that identifies
- 17 this document as a 7th Circuit United States Court of
- 18 Appeals order, citation 798 F.3rd 603? And it's Pioneer
- 19 Trail Wind Farm LLC versus FERC?
- 20 A. This -- that's what it reads. Yeah.
- 21 O. Okay. And I have highlighted a portion of
- 22 that on page 3 of that document.
- 23 MR. LOWNEY: I'm going to object, before we
- 24 get too far down this path. I don't think there's been
- 25 any basis established for Mr. Vail to be testifying

page 374

about a 7th Circuit case, particularly one that doesn't

involve PacifiCorp, Rocky Mountain Power. It involves

difference generators. It involves different utilities.

It involves an RTO. It's in the 7th Circuit.

MR. JETTER: I think this is perfectly within

6 the scope of his testimony that Utah customers would be

7 paying for upgrades to this transmission line. And

8 rather than print out the roughly 2 or 3,000 pages that

9 are PERC orders 2003 A, B, C, and I think it's D, as

10 well as there's a new FERC order 845 that also addresses

11 this, I thought it might be easier to summarize those

12 from a federal Court of Appeals to ask the witness if

13 his understanding matches the understanding of what the

14 federal court who wrote this opinion is on who would pay

15 for those upgrades.

16 CHAIRMAN LEVAR: I will note we didn't get a

17 copy of it. So I'm at a little disadvantage on dealing

18 with the objection. But it might be premature to rule

on the objection until we hear what kind of questions he

20 asks. I don't know that I am ready to prohibit any

21 questions about this order, but it might depend on the

22 specific questions.

MR. JETTER: Maybe it would be easier if I

24 read it, and then ask if this is consistent with his

25 understanding. Would that --

```
Page 375
               MR. LOWNEY: Well, I guess I would -- if I
 1
 2
     could ask one question. (Mumbling.)
 3
               COURT REPORTER: Is your mic on?
 4
               MS. MCDOWELL: Yeah. Mr. Vail, have you ever
     seen this order before?
 5
               THE WITNESS: No, I have not.
 6
               MS. LOWNEY: Are you familiar with the facts
 7
     of this case?
 9
               THE WITNESS: Not at all.
               MR. LOWNEY: Are you familiar with MISO's
10
11
     interconnection rules?
12
               THE WITNESS: No, I am not.
13
               MR. LOWNEY: And it appears MISO is the party
     that the RTO that is whose interconnection issues are at
14
     stake in this case.
15
16
               THE WITNESS: Correct.
17
               MR. LOWNEY: I would just offer that in
18
     support of the objection.
19
               CHAIRMAN LEVAR: Let me just ask you this
     question, Mr. Lowney. Considering the testimony that
20
21
     Mr. Vail just gave about interconnection costs, what
22
     would you propose is the right forum for Mr. Jetter to
23
     present this, I guess, rebuttal position?
24
               MR. LOWNEY: Well, I think there -- you know,
25
     there's the company's open access transition tariff.
```

- 1 There's potentially orders that maybe involved
- 2 PacifiCorp that Mr. Vail may be familiar with. You
- 3 know, I have no problem with him perhaps asking
- 4 questions here. I just don't want Mr. Vail to testify
- 5 about what the 7th Circuit did or didn't decide relative
- 6 to a tariff that is not the company's tariff.
- 7 CHAIRMAN LEVAR: I think again, subject to
- 8 objections, if you have any further as we go on, I think
- 9 I'm going to allow Mr. Jetter to do as he described, to
- 10 let him read this excerpt from this case and then ask
- 11 Mr. Vail, to the extent of whatever knowledge Mr. Vail
- 12 might or might not have, and we'll see where we go from
- 13 that point forward.
- MR. BAKER: Commissioner LeVar, I apologize
- 15 for the quick interruption. But Mr. Jetter, could you
- 16 please recite the case cite for us since we don't have a
- 17 copy?
- 18 MR. JETTER: Yes. It's 798 F.3rd 603.
- I believe we're at the point, is that correct,
- 20 we can go ahead?
- 21 CHAIRMAN LEVAR: Yes. Yes.
- Q. (By Mr. Jetter) Would you please go ahead and
- 23 read that highlighted portion.
- 24 A. It states, "In 2003, FERC standardized the
- 25 generation interconnection process to which we

- HEARING, VOLUME II, DOCKET NO. 17-035-40 05/30/2018 Page 377 reluctantly refer to as the GIP, following the industry 1 2 Under the GIP the interconnection customers, jargon. 3 such as Pioneer and Settlers, submit requests to the 4 grid operator, in this case MISO. MISO then produces studies to assess the impact of the projects on the 5 6 grid. "These studies identify what additional 7 upgrades are needed to ensure that those additional 8 9 connections do not adversely affect the grid. studies also inform interconnection customers what the 10 11 costs of the upgrades will be. The step is supposed to enable the customers to decide if in fact they want to 12
- 13 be connected to the grid or perhaps even build the
- plants at all. The interconnection customers cover the 14
- cost of MISO's studies." 15
- Thank you. Now, was your understanding that 16 0.
- PacifiCorp's OATT, do you believe that PacifiCorp's 17
- process is different from what has been described that 18
- 19 have you just read?
- 2.0 The process -- so you gave me a highlighted Α.
- 21 portion. I just note if you go to the next paragraph
- 22 down, it starts getting more specific about the
- different studies and titles of studies that are 23
- performed. So I think we would probably need to -- I 24
- 25 would need to understand a little bit more.

Page 378 One other thing, and I'll be very clear on 1 2 this, because FERC is really specific with the language 3 that they utilize, and so when the circuit court here 4 says these studies also inform interconnection customers what costs the upgrades will be, they are not being 5 6 specific. 7 And I, as we got to spend some time together a while back on interconnection terminology and FERC, the 8 9 language of FERC is very -- is very specific. And in this case, you know, it doesn't say generation 10 11 interconnection network upgrades. It just says 12 upgrades, which in my mind could be either just the --13 what we would call a direct assign charge to the customer, just to be able to plug into the system. 14 15 it could include network upgrades. I don't know. So it's hard for me to -- I 16 17 just think there's some ambiguity in the language that the circuit court chose to use in that statement. 18 Thank you for that explanation. But you are 19 0. not aware of any instance that you can identify where 20 21 it's actually happened that a third party 22 interconnection customer required a network upgrade and 23 Utah rate payers were burdened with that cost? 24 Again, I don't have a specific example off the Α. 25 top of my mind. I'd be happy to come back with, you

- 1 know, 40 or 50 examples, because that's very common
- 2 within the interconnection process. I just -- I don't
- 3 have one off the top of my head.
- 4 Q. And isn't it true that in your standard power
- 5 purchase agreements that you have for third party
- 6 generators, specifically typical qualifying facilities,
- 7 that it requires those facilities to pay for all network
- 8 upgrades?
- 9 A. So I am on the transmission side of the
- 10 business. I do not negotiate or see the power purchase
- 11 agreements. I cannot answer that question.
- 12 Q. Okay. Are you aware of any qualifying
- 13 facility having interconnection that required a network
- 14 upgrade that would have not been paid for by the
- 15 interconnecting qualifying facility?
- 16 A. Okay. So again, just to be clear, we're
- 17 talking about a QF here, which is a state jurisdiction.
- 18 So I am not sure which state you're referring to. But
- 19 depending on the state, primarily the qualified
- 20 facilities would be paying for the network upgrades
- 21 themselves. My answers up to this time have been
- 22 focused on FERC jurisdictional, which is a different
- 23 answer.
- 24 Q. Thank you. And I am looking at the map on
- 25 page 6 which is RAV-1SR. Could please turn to that

Page 380 1 page? 2. CHAIRMAN LEVAR: Which testimony is this from? 3 MR. JETTER: This is the surrebuttal testimony 4 of Mr. Rick Vail, and it's --Sorry, one SR? 5 Α. (By Mr. Jetter) RAV-1SR, and this is page 6 6 0. of 6. 7 Okay. I am there. 8 Α. 9 Are you aware of anywhere that would be on this map, or in the vicinity of this map, that Rocky 10 Mountain Power intends to construct generation other 11 12 than these wind projects that would then connect to this 13 line? 14 Α. I am not aware. 15 Thank you. Q. 16 MR. JETTER: I have no further questions. 17 Thank you, Mr. Vail. CHAIRMAN LEVAR: Thank you, Mr. Jetter. 18 Mr. Moore. 19 20 MR. MOORE: Mr. Snarr will be handling the 21 questions. 2.2 CHAIRMAN LEVAR: Did you have an exhibit to 23 enter into evidence? MR. JETTER: Oh, I do. And I don't remember 24 25 what number I was at.

```
Page 381
 1
               CHAIRMAN LEVAR: Just the staff comments.
 2
               MR. JETTER: Yeah. We could call it DPU Cross
     Exhibit probably at five. I think five is --
 3
 4
               CHAIRMAN LEVAR: Yeah, I don't know. Do you
     want to call it five?
 5
 6
               MR. JETTER: Yes. I think the court reporter
 7
     actually --
               (Discussion off the record.)
 8
 9
               CHAIRMAN LEVAR: Is there any objection to the
10
     motion to enter that into evidence? I am not seeing
11
     any. So the motion is granted.
12
               (DPU Cross Exhibit No. 5 was marked.)
13
               MR. JETTER: Okay. Thank you.
14
               CHAIRMAN LEVAR: Okay, Mr. Snarr.
15
               MR. SNARR: Thank you.
16
                         CROSS-EXAMINATION
     BY MR. SNARR:
17
               Mr. Vail, I'd like to touch on two or three
18
     areas. Should be brief though.
19
20
          Α.
               Okay.
21
               First, in your surrebuttal testimony filed in
22
     May of 2018, at line 445, you indicate that because
23
     the -- of the wind interconnection requirements, the
     date for the completion of the transmission facilities
24
     was moved up from 2024 to 2020; is that correct?
25
```

- 1 A. I am sorry. I didn't hear your exact wording
- 2 on that. I would just note, yeah, from a long-term
- 3 transmission plan standpoint, we moved the segment D-2
- 4 line to be in service in 2020 instead of 2024.
- 5 Q. And that's because of the new wind that you
- 6 are planning to service there, right?
- 7 A. Yeah. It's to take advantages of the time
- 8 limited opportunities of the BTCs, correct.
- 9 Q. Okay. Now, if the 2 -- if the 2024 date
- 10 represents the company's best estimates of an inservice
- 11 date associated with the need for new transmission
- 12 facilities, but for those deadlines related to wind and
- 13 PTCs, then why wasn't the 2024 date used in the base
- 14 assumptions for the modeling analysis that took place
- 15 concerning the transmission facilities?
- 16 A. Which modeling assumptions?
- 17 Q. The modeling that took place to analyze the
- 18 benefits and to determine whether the project should go
- 19 forward.
- 20 A. So I'll just probably clarify. My guess is
- 21 what we're talking about is the IRP, and then what came
- 22 out of the preferred portfolio of the IRP?
- 23 Q. It's the RFP and the portfolio of wind and
- 24 transmission that we're looking at today in this
- 25 proceeding.

Page 383 1 Α. And --2 Q. Mr. Link's analysis. Why wasn't the 2024 date 3 used as a basis to bring those transmission facilities 4 into the analysis instead of the 2020 date? Objection. The RFP modeling is 5 MR. LOWNEY: in the purview of Mr. Link's testimony. He is the one 6 7 that testified on this issue. He testified both in prefiled testimony as well as here during his live 8 9 presentation. So I think this question was -- should have been, and I think was, directed to Mr. Link in 10 11 several different respects during his testimony in the 12 hearing. 13 CHAIRMAN LEVAR: Mr. Snarr, do you want to 14 respond to the objection? And I think your microphone 15 is not on. MR. SNARR: I'll bring it closer. I think 16 17 Mr. Vail testifies about the change of the date from 2024 to 2020. He indicates that it's 18 19 appropriate to build the transmission facilities in 2020 20 because they are intertwined or codependent with the 21 wind facilities. 22 And I am just asking if that's the case, then looking at the question of whether we should build or 23 24 not build should have started with the assumption that 25 the 2024 facility should have been modeled as 2024

- 1 facilities. If he knows an answer to that question,
- 2 that's fine. If he doesn't know or want to refer to
- 3 back to Link, I understand.
- 4 CHAIRMAN LEVAR: I think that's an appropriate
- 5 way to go forward. Mr. Vail, do you -- if you have --
- 6 if you can answer that question, do so. Just indicate
- 7 whether you can't.
- 8 THE WITNESS: Yeah, I don't know that I can
- 9 answer that question.
- 10 O. (By Mr. Snarr) Okay.
- 11 A. I would just kind of repeat my answer though.
- 12 Because I don't want to not be responsive. You know,
- 13 again, what we did is took that 2024 date, and in order
- 14 to be able to capture those PTC benefits, moved the line
- 15 into 2020. So in my mind if you were going to do any
- 16 kind of modeling that captures the PTC benefits, you
- 17 would need to have the 2020 date of the transmission
- 18 line as the basis for that modeling.
- 19 Q. Let me just check my notes here. Referring to
- 20 your testimony, in your surrebuttal testimony, I am
- 21 looking now at page 9, I believe it is. In any event --
- 22 in any event lines 238 to 240. If you could --
- 23 A. So in my surrebuttal I am seeing that as page
- 24 11.
- 25 Q. I am sorry. Thank you.

- 1 A. Okay. I am there.
- 2 Q. You address there -- you indicate that if the
- 3 solar projects were built instead of wind projects, that
- 4 the transmission facilities would still be needed but
- 5 the construction would more likely be moved back to
- 6 2024; is that correct?
- 7 A. That is correct.
- 8 Q. Now, in response to questions that were
- 9 proposed by division counsel, you -- you were
- 10 described -- you were asked to address whether or not
- 11 the transmission projects were actually needed to
- 12 improve the standards of your transmission system or
- 13 whether or not they would -- your transmission system
- 14 was currently in compliance with reliability standards,
- 15 right?
- 16 A. Yes, I was asked those questions.
- 17 Q. Okay. And is it your testimony that your
- 18 system would be able to maintain the sort of reliability
- 19 through 2024, but for the opportunity to construct these
- 20 facilities earlier?
- 21 A. Yeah. I think my testimony is pretty clear.
- 22 I mean, right now the company's best estimated time
- 23 frame to build the Aeolus-to-Bridger/Anticline line is
- 24 2024. And again, I want to be very clear and on the
- 25 record that we are currently compliant with NERC

Page 386 reliability standards. 1 2 As I mentioned in my summary, though, it can take a pretty small shift in load or a small shift in 3 4 the generation resources that would trigger the immediate need to build this line for a reliability 5 standard reason. And it's a little bit 6 counterintuitive, and I do want to kind of get this 7 point across. 8 9 In Wyoming one of the biggest challenges we face in meeting the NERC reliability standards is not 10 11 additional load. It's actually a low load period when 12 you have the wind all of a sudden comes up and you have 13 a lot of wind generation in that area, as the thermal fleet is also generating. So there's been some 14 discussions around load forecast declining and stuff 15 like that, but one of the real difficult or challenges 16 17 that we face in eastern Wyoming area is actually a low load period with high wind. So it's a little bit 18 counterintuitive to some of the discussions we've had. 19 20 Following up on that, Mr. Vail, under your 0. 21 current proposal, my understanding is that the company 22 will be adding significant megawatts of new wind capacity; is that correct? 23 24 Yes, that's correct. Α. And what's the amount of that new wind 25 0.

- 1 capacity?
- 2 A. I believe it's 1,150 megawatts.
- Q. Okay. And at page 24 of your surrebuttal, at
- 4 line 519, you indicate that the company would be adding
- 5 951 megawatts of transfer capability; is that correct?
- 6 A. Yes, that is correct.
- 7 Q. Now, you also indicated that earlier something
- 8 about the capacity behind the TOT 4A cut plane. Here is
- 9 the question I have. If you are adding more wind
- 10 capacity than transmission capacity, won't that add to
- 11 the problem that you already mentioned in which the
- 12 transmission system in eastern Wyoming is currently
- 13 constrained with generation capacity behind that TOT 4A
- 14 cut plane?
- 15 A. No. That's actually not the case. We will
- 16 actually be relieving the constraint here pretty
- 17 significantly. We're talking about 1,150 megawatts of
- 18 load -- excuse me, 1,150 megawatts of wind being added
- 19 to the system. Certainly the wind doesn't blow all the
- 20 time. When we have that 950 megawatts of transfer
- 21 capability, we're going to not only be able to harness
- 22 all the new wind and the existing wind that is there,
- 23 but during significant periods throughout the year,
- 24 we'll also be able to harness additional generation out
- of the DJ and the Wyodak plants, that are behind that

- 1 constraint.
- 2 So it comes down to a little bit of a matter
- 3 of how much the wind is blowing and when it's blowing.
- 4 But for the majority, or for significant hours
- 5 throughout the year, we will actually be able to get our
- 6 existing resources out of Wyoming more effectively than
- 7 we do today.
- 8 Q. Thank you. Now, going back to the basic
- 9 driver for this, the transmission projects. I note in
- 10 your direct testimony of June 2017, I am looking at page
- 11 13. You mention at line 298, you have described the
- 12 transmission projects and wind projects as codependent.
- Now, isn't it true that the codependence of
- 14 these projects and their combined economics is the
- 15 primary driver for proposing the current construction of
- 16 your transmission project?
- 17 A. Again, if what you are referring to is the
- 18 construction time line to get it in service by 2020, the
- 19 idea is to be able to build this transmission line and
- 20 take advantage of the PTCs, yes.
- 21 O. Thank you. Do you recall when the possible
- 22 construction of this transmission segment or line was
- 23 first contemplated or put into plans for the company?
- A. The projects, I'll call it, you know, was
- 25 first thought about or from a concept standpoint was

- 1 2007, I believe. And active work on the project began
- 2 in 2008, I believe.
- 3 Q. And I did review your 2008 IRP which listed
- 4 the line and described its justification. May I read
- 5 that for you? Or I can provide you a copy.
- 6 A. Yeah. A copy would be fantastic.
- 7 Q. I have additional copies, but I think my
- 8 question's going to be limited. Let me know if someone
- 9 else needs one.
- 10 Mr. Vail, I have highlighted a few lines there
- 11 that are talking about the, as I believe the D-2 segment
- 12 of the line that is at issue today. Do you see that
- 13 area highlighted in blue?
- 14 A. I do.
- 15 Q. Would you please read that for us?
- 16 A. It says that -- sorry. "The last section will
- 17 connect the new annex substation located near Bridger
- 18 substation to the Populus substation that is being
- 19 constructed as part of the Populus to Terminal segment.
- 20 When completed in 2014, the entire segment will move
- 21 wind or other resources from eastern Wyoming to a
- 22 critical hub Populus, located near Downey, Idaho.
- 23 Q. Now, that's the same one we're talking about
- 24 as part of the Aeolus-to-Bridger line you are proposing
- 25 to construct; is that right?

- 1 A. Well, what this segment actually refers to
- 2 here is going from Bridger substation to Populus. And
- 3 so it's actually the segment D-3. And again, just for a
- 4 little bit of clarification, the Gateway West was broken
- 5 down into two segments initially. We had segment D,
- 6 which went from Windstar all the way over to Populus.
- 7 And then we had segment E that went from Populus over to
- 8 Hemmingway.
- 9 Later, I believe it was in the 2013 IRP, we
- 10 broke the segments apart into D-1, D-2 and D-3. And so
- 11 the segment referenced here, Bridger to Populous, is
- 12 actually D-3 and not segment D-2. D-2 is the segment
- 13 that we're discussing here today.
- Q. Okay. With respect to the segments that are
- 15 part of this Aeolus-to-Bridger Gateway project, this
- 16 indicates that at least some aspects of that -- that
- 17 project were being contemplated to meet the needs of
- 18 wind and other resources to move it from eastern Wyoming
- 19 to the west; is that right?
- 20 A. That is correct.
- 21 Q. And isn't that what you are contemplating by
- 22 the transmission project that is the subject of these
- 23 proceedings?
- A. Yes. This is a subsequent to move basically
- 25 from southeast Wyoming to the Bridger hub.

- 1 Q. So as early as 2008 in your IRPs, you are
- 2 discussing this potential project, even though the
- 3 inservice date has obviously slipped, but you are
- 4 discussing this kind of transmission project to really
- 5 aid the addition of new resources to move out onto the
- 6 system and to move westward; isn't that correct?
- 7 A. So just to clarify, you know, I was not part
- 8 of the 2008 IRP process. I just want to kind of frame
- 9 that up. When the Energy Gateway projects were first
- 10 conceptualized, there was, you know, forecasted
- 11 significant load growth along the Wasatch Front. There
- was plans to build significant resources in Wyoming and
- in other places throughout the territory.
- So, you know, I would just say that if you
- 15 kind of go back to 2008, the world was very different,
- 16 and we had this economic crisis that relate -- you know,
- 17 significantly changed, I think, everybody's plans. And
- 18 so you know, again, back then, just to kind of be clear,
- 19 it was to add additional renewables and then try to
- 20 serve the significant load growth that at that time was
- 21 anticipated along the Wasatch Front.
- 22 Q. All right. Just one last area of questioning
- 23 here. In your surrebuttal testimony filed in May of
- 24 2018, I am looking at pages 35 and 36, you discuss the
- 25 company's assumption that 12 percent of the revenue

- 1 requirement for the transmission projects will be
- 2 recovered from third party transmission customers
- 3 through FERC rates or FERC established OATT rates; is
- 4 that correct?
- 5 A. Yeah. It is. Can I just ask the line
- 6 reference again? I'm sorry.
- 7 Q. Lines 35, 36.
- 8 A. So I am on page 35 and 36. Just the lines.
- 9 Q. Okay, excuse me. I missed the line reference.
- 10 I'm sorry. It's at page 35, 36, and I didn't have the
- 11 line reference noted here.
- 12 MS. SCHMID: 750?
- MR. SNARR: Counsel suggests 750.
- 14 A. Okay.
- 15 Q. (By Mr. Snarr) But the --
- 16 A. Here what -- basically what you are talking
- 17 about is the 12 percent assumption of third party
- 18 transmission.
- 19 Q. That's right.
- 20 A. Thank you. I'm there.
- 21 O. Does that reflect basically the current
- 22 allocation in terms of cost recovery through the OATT
- 23 process?
- A. Yes, it does. That's a, you know, basically
- 25 our best information today of what the third party

- 1 transmission revenues are on the system.
- Q. Now, of course, that would leave then 88
- 3 percent to be recovered from retail rate payers?
- 4 A. Yes, that's correct.
- 5 Q. And just following on that, the next few lines
- 6 you discuss that the estimated third party revenues
- 7 should continue consistent with historical data, which
- 8 is -- to continue with historical data; is that correct?
- 9 A. Yeah, I do. And just to note, we also get,
- 10 you know, updated load and resource forecasts from
- 11 all -- all users of the transmission system. And so
- 12 what we've kind of seen recently is that a number of our
- 13 third party transmission customer load are actually
- increasing a little bit, faster than PacifiCorp's load
- 15 forecast.
- So, again, there's been quiet a bit of
- 17 discussion in this case on the load forecast here, and I
- 18 would just note that we're starting to see additional
- 19 load increases from our third party transmission
- 20 customers over and above what we're seeing from
- 21 PacifiCorp load standpoint.
- 22 Q. You also note, I believe, that the PacifiCorp
- 23 load is expected to decline. Isn't that correct?
- 24 A. I would just clarify that. I am not expecting
- 25 the load to decline. What we are talking about is the

Page 394 load forecast continues to decline. 1 When you -- when 2 you develop transmission, you actually have to develop 3 to peak load. And we are not seeing a decline in peak 4 What we're seeing is a decline in the forecast -the forecasted growth of peak load. 5 In light of the discussions as you have 6 Q. Okay. explained it there, the company would not realistically 7 be put at risk if this commission were to determine that 8 9 retail customers should be protected by the 10 establishment of a cap at 88 percent for their revenue 11 responsibility for the transmission projects; isn't that 12 correct? 13 I am sorry. Could you repeat the question. I am really contemplating that this 14 15 commission, in order to protect retail rate payers, 16 might establish a cap, a cap of 88 percent maximum recovery through Utah retail rates for anything that 17 would come through the use of this transmission project. 18 19 And I am suggesting to you that the company really wouldn't be put at risk if that cap at 88 percent was 20 21 established by this commission; isn't that correct? 22 So prior to answering the question, you know, 23 I quess looking at it, would a cap protect rate payers

answer is yes. I would just add to it though, just like

and lock PacifiCorp, the company at 88 percent?

24

25

HEARING, VOLUME II, DOCKET NO. 17-035-40 - 05/30/2018 Page 395 1 anything that goes through a prudence review, you know, 2 this is -- this is, you know, based on the best 3 information that we have today. 4 If, for some reason, like a third party transmission customer load were to be, you know, lost or 5 something like that, you know, I think I would go back 6 to, is it anything that the company has done at fault or 7 not, and try to determine then -- you know, would we 8 want to make, you know, that commitment. And I don't 9 10 know if I am in a position today to be able to say the 11 company would be willing to take on that commitment. 12 Q. Two follow-ups to that. Excuse me. 13 follow-ups to that. Number one, I am really asking you to comment on the factual presentation you made. And 14 that is, that historic data for third party transmission 15 16 customers seems to be steady or increasing? 17 Α. Correct. 18 0. And that your current forecast for PacifiCorp 19 load may decline? 2.0

- Α. Okay.
- 21 0. As a factual matter.
- 22 Α. Correct.
- 23 Q. All right. And then the other question, would
- 24 you --
- 25 Let me just clarify. Again, I am not saying Α.

- 1 that PacifiCorp's load would decline. I'm saying that
- 2 the ratio of third party load to PacifiCorp load could
- 3 change.
- 4 Q. All right.
- 5 A. I just want to be, for the record.
- 6 Q. It's more likely that the change would be
- 7 something that would move PacifiCorp's percentage a
- 8 smidgen below 88 percent as opposed to going above 88
- 9 percent, based upon the facts you have presented in your
- 10 testimony?
- 11 A. Correct.
- 12 Q. All right. And you indicated that you were
- 13 concerned about whether or not it would be appropriate
- 14 to allow for any kind of penalization of the company for
- 15 something that might be out of their control; is that
- 16 right?
- 17 A. I think I did make that statement, yes.
- 18 O. And wouldn't it also be a concern for this
- 19 commission to determine whether or not some kind of cost
- 20 fly-up or result might be out of the control of rate
- 21 payers, and that the rate payers themselves might need
- 22 to have protections?
- 23 A. And I would say, I would look to the
- 24 commission, as it's probably a part of their
- 25 responsibility, yes.

1	Page 397 Q. All right. Thank you.
2	MR. SNARR: I have no more questions.
3	CHAIRMAN LEVAR: Okay. Thank you, Mr. Snarr.
4	I think it's probably an appropriate time for a break.
5	So why don't we recess for one hour, and then we'll
6	continue with cross-examination of Mr. Vail. Thank you.
7	(Lunch recess from 12:13 p.m. to 1:14 p.m.)
8	CHAIRMAN LEVAR: Okay. Good afternoon. We're
9	back on the record, and we are continuing with the
10	cross-examination of Mr. Vail. You are still under oath
11	from this morning.
12	THE WITNESS: Okay.
13	CHAIRMAN LEVAR: And we'll go next to
14	Mr. Russell.
15	MR. RUSSELL: Thank you, Chair LeVar.
16	CROSS-EXAMINATION
17	BY MR. RUSSELL:
18	Q. Mr. Vail, I want to ask you some questions,
19	but I'll have you turn in your surrebuttal testimony to
20	page 4.
21	A. Okay. I'm there.
22	Q. Okay. Thanks. I want to look at this
23	sentence on lines 78, which states, "In my previously
24	filed testimony, I explained that the
25	Aeolus-to-Bridger/Anticline line is necessary to relieve

- 1 the existing congestion on the system, and that without
- 2 the new transmission line, the company's ability to
- 3 deliver resources to load will remain constrained."
- 4 And I want to get a better understanding what
- 5 is meant by transmission congestion, and whether that's
- 6 different than an a constraint, and if so, how.
- 7 A. No. It's -- I think those two terms are
- 8 fairly interchangeable. What I am trying to explain
- 9 here is, is that we currently have a situation where we
- 10 have more generation behind the TOT 4A cut plane than we
- 11 have transmission capability.
- 12 Q. And you are talking about current existing
- 13 generation or potential generation?
- 14 A. Existing generation.
- Q. Okay. Are any of the -- is any of the -- any
- 16 of that existing generation behind that cut plane
- 17 scheduled to be retired in the coming years?
- 18 A. I don't know the exact retirement dates of
- 19 each of the different facilities. The Dave Johnson
- 20 plant does have a retirement life to it. I am not sure
- 21 of the date, though. It's within eight to ten years.
- 22 Q. Yeah. We can get it out if we need to. I'll
- 23 represent to you that I believe the 2017 IRP indicates
- 24 an expectation that the four units at Dave Johnson will
- 25 be retired by 2028. Does that sound --

- 1 A. That sounds about right.
- Q. Okay. What other generation resources behind
- 3 that cut plane are you aware of that are scheduled for
- 4 retirement in the coming years?
- 5 A. Again, I am not the -- I don't have the exact
- 6 date. The Wyodak plant would also have a retirement
- 7 life to it. I'm not sure of that date.
- 8 Q. And -- and I'm disadvantaged because I'm not
- 9 sure I totally understand what a cut plane is. So I'm
- 10 not sure what's behind it.
- 11 A. Sorry. The Wyodak plant would be another one
- 12 that would be along that portion of the transmission
- 13 system that is constrained.
- Q. And would retirements at Jim Bridger assist in
- 15 this relief of congestion or no?
- 16 A. No. This transmission line basically
- 17 terminates at the Jim Bridger plant. So what we're
- 18 trying to do here is take the existing transmission
- 19 system from eastern Wyoming and transport it over to the
- 20 Jim Bridger hub. So retirement to Jim Bridger would not
- 21 impact the existing constraint on the cut plane I
- 22 referred to.
- Q. Okay. Thanks. And then just to circle back,
- 24 those retirements will help alleviate some of the -- the
- 25 existing congestion on the system, correct?

Page 400 They will certainly help alleviate the 1 Α. 2 congestion. What it actually does is create some 3 additional reliability issues out in that area. If you 4 think in terms of a couple of these coal-fired plants, they are very large spinning masses. 5 One of the things I have talked about is the 6 7 voltage support and reliability in that area. One of the additional benefits of this transmission line is 8 9 getting that bigger pipe to help support the voltage and stability out in that area. The retirement of those big 10 11 spinning mass units will actually create more of a 12 reliability issue, even though it would help alleviate 13 some of the constraint that's there. Also in your testimony, you used the term 14 voltage support, and I'm not sure I totally understand 15 what voltage support is, and you indicate that the 16 transmission projects will help strengthen reliability 17 by adding voltage support. What are you referring to 18 19 there? 20 So a couple of items on the voltage support. Α. 21 One of the examples I gave a little bit earlier was, 22 when we have a pretty low load situation in eastern 23 Wyoming area, and the wind really starts to blow, the voltage levels can get very high. 24

And then you can also have high wind

25

- 1 generation type of situation, and all of a sudden the
- 2 wind stops blowing. And then those generators come off
- 3 line or stop producing at the same amount, and then that
- 4 actually creates a low voltage situation.
- 5 So what we have is quite a bit of generation
- 6 out there that's on an existing 230 KV transmission
- 7 system, and by adding this 500 KV line, we're in essence
- 8 doubling the size of the pipe that connects those
- 9 generation resources to our loads.
- 10 Q. But by adding the wind projects you are also
- 11 adding more wind out there, correct?
- 12 A. Yeah, that's correct.
- 13 Q. There was a -- there's a statement in the
- 14 transfer capability assessment that's attached to your
- 15 testimony. I don't know that we need to go through it.
- 16 It refers to -- we can, I am not trying to prevent you
- 17 from doing that. It refers to a 230 KV substation at
- 18 the Latham substation and that that particular
- 19 substation requires voltage control. Maybe you can
- 20 speak to that a little bit.
- 21 A. Yeah. So one of the components of the energy
- 22 division 2020 transmission projects here is a voltage
- 23 control or voltage support device at the Latham
- 24 substation. We are still in the process of finalizing
- 25 the sizing of that particular device. We assumed what

- 1 I'll call worst case or very conservative, that we would
- 2 need a roughly 350 megabar synchronous -- I'm sorry,
- 3 static voltage controller there.
- 4 Currently we are at, from an internal studies
- 5 standpoint, we think it will be closer to 250 megabars,
- 6 and we're finalizing the dynamic studies right now with
- 7 an outside consultant that will finalize the size of
- 8 that device within the Latham substation.
- 9 Q. All right. Thank you. And tell me why that
- 10 particular voltage control substation, or why voltage
- 11 control is required at that substation.
- 12 A. So again, I talked a little bit about
- 13 current -- the current situation out in southeastern
- 14 Wyoming, and, you know, we are going to add this 500 KV
- 15 line, which helps us support. But we are also adding
- 16 1,150 megawatts of wind, and so that device is, you
- 17 know -- one of the key factors as I talked about the
- 18 voltage going up or down, that device is a very fast
- 19 acting voltage control device. It will help control the
- 20 voltages out in that area.
- 21 O. Would a device like that installed on the
- 22 existing transmission system assist with the existing
- 23 voltage issues?
- 24 A. Yeah. It certainly would assist, not to the
- 25 same degree. So again, I talked a little bit about that

- 1 2 -- the 230 KV lines out there. When we add this 500
- 2 KV line, it's going to be a lot lower resistance line,
- 3 and it basically doubles the size of the pipe.
- 4 So right now we've got basically three 230 KV
- 5 lines out there. When we add this one 500 KV line, it's
- 6 going to basically be double the size of the wire going
- 7 out there. So this device can be much more effective
- 8 with a 500 KV line in service versus the 230 -- having
- 9 it on 230 system and not that 500 KV line there.
- 10 Q. Okay. Thank you. I am going to switch gears
- 11 to your testimony that relates to the NTTG, or Northern
- 12 Tier Transmission Group. My specific questions relate
- 13 to your testimony starting at line 225 in your
- 14 surrebuttal testimony.
- 15 A. Okay. I am there.
- 16 O. Okay. You state on line 225 that "NTTG
- 17 concluded that the NTTG area would be reliably served in
- 18 the year 2026 only by including several proposed
- 19 transmission projects, including the
- 20 Aeolus-to-Bridger/Anticline line."
- 21 I want to talk a little bit about what the
- 22 NTTG area is. That's not just PacifiCorp rate payers or
- 23 PacifiCorp concerns, correct?
- 24 A. No. There are additional members of the
- 25 Northern Tier Transmission Group, and a number of those

- 1 are interconnected to PacifiCorp's transmission system.
- 2 Q. And the reference here that you quote in that
- 3 line that I just read comes from the regional
- 4 transmission plan, correct?
- 5 A. Correct.
- 6 Q. And in creating that regional transmission
- 7 plan, there was an assumption that the wind projects
- 8 here would be interconnected, correct?
- 9 A. Yes, that is correct.
- 10 Q. And also that there would be other
- 11 transmission projects built, separate and apart from
- 12 this one as well, correct?
- 13 A. Correct.
- Q. And the regional transmission plan is not a
- 15 construction plan; is that right?
- 16 A. No, it's not. You know, again, from a
- 17 transmission planning standpoint, we are required by
- 18 FERC order 1,000 to participate in regional transmission
- 19 planning, and it is what it is, is a long-term
- 20 transmission plan of the entities that make up each of
- 21 the different regional planning organizations.
- 22 Q. And in creating that regional transmission
- 23 plan, the process does not consider redispatch or
- 24 reoptimization of generation resources, correct?
- 25 A. I'm sorry. I am pausing. I honest -- I do

- 1 not know that I know the answer to that question.
- Q. I've got a copy of the regional transmission
- 3 plan -- excuse me. I've got a copy of that plan. If I
- 4 showed it to you, would that help?
- 5 A. Yeah, definitely.
- 6 Q. While the witness reviews the document, I have
- 7 handed him a copy of the Northern Tier Transmission
- 8 Group 2016, 2017 regional transmission plan. I've got
- 9 copies here if anybody else wants one. I'm mostly just
- 10 trying to refresh his recollection. It is -- Mr. Vail,
- 11 when you're ready. Sorry.
- 12 A. No, you are fine. You are correct. I mean,
- 13 it states right in here. "Does not consider the
- 14 redispatch of reoptimization of resource assumptions."
- 15 Q. Okay. Thank you. Is it your understanding
- 16 that the process of creating this plan permits
- 17 stakeholders to request studies be done after the plan
- 18 is -- has been formulated?
- 19 A. Yeah. So again, there is a -- it's a very
- 20 public process. There are stakeholders that can request
- 21 different studies based on, you know, different
- 22 scenarios. Primarily they tend to be policy-driven-type
- 23 scenarios that -- of policies that may or may not have
- 24 been enacted yet.
- 25 Q. And are you aware of a request for a study to

- 1 be performed in which Wyoming coal plants are
- 2 redispatched down when Wyoming wind is assumed to be
- 3 high?
- 4 A. So I'll clarify -- I'll clarify just a little
- 5 bit. You know, my understanding is that some of the
- 6 stakeholders of the Northern Tier Transmission Group
- 7 submitted a policy study recommendation into the 2019,
- 8 2020 planning cycle to NTTG. I am not familiar with all
- 9 of the details of what that request is.
- 10 Q. Okay. I get that you may not be familiar with
- 11 all the details. Do you understand that it includes a
- 12 request to study the plan with reduced generation from
- 13 coal resources when Wyoming wind generation is high?
- 14 A. Subject to check, I think that was the basic
- 15 idea of that study request.
- 16 Q. And you indicated that there is -- this is a
- 17 study request. Is there a process to grant those types
- 18 of requests?
- 19 A. Yeah, so the NTTG has a number of different
- 20 committees. They have a steering committee, and they
- 21 also have a planning committee. Those requests are
- 22 submitted to the planning committee, and then eventually
- 23 a recommendation goes to the steering committee, and
- 24 they either approve or not approve the request for the
- 25 study to move forward.

- 1 Q. And this particular study that we have been
- 2 talking about, do you know whether that -- where that is
- 3 in the process?
- 4 A. Again, subject to check, it was just within
- 5 the last couple of weeks, I believe, that NTTG made some
- 6 modifications to the study request. And based on those
- 7 modifications, they have agreed that they will study
- 8 that policy consideration.
- 9 Q. And so that -- that policy consideration will
- 10 be studied in the next regional training commission plan
- 11 or what?
- 12 A. Yes. So right now the process is, we start
- 13 gathering what base cases will be utilized. Each of the
- 14 member utilities submit their different integrated
- 15 resource plans, along with their long-term transmission
- 16 plans, and then any public policy or stakeholder studies
- 17 that are requested. And so that study process will be
- 18 kicking off here shortly.
- 19 Q. And it will conclude when roughly?
- 20 A. Roughly, it will be about one year study time.
- 21 A draft -- draft study reports come out. Then there's
- 22 stakeholder meetings to review those draft studies, and
- 23 there's a final report that is generated, approved by
- 24 the steering committee, and then issued -- or my best
- 25 guess is, we're probably about 18 months from having

Page 408 that study finalized and issued. 1 2 Q. Okay. Thank you. 3 MR. RUSSELL: I don't have any further questions. 4 5 CHAIRMAN LEVAR: Okay. Thank you. Mr. Baker. MR. BAKER: Thank you, Chairman LeVar. 6 7 CROSS-EXAMINATION BY MR. BAKER: 8 Good afternoon, Mr. Vail. Can I direct you to 9 your surrebuttal testimony on page 15, lines 312 through 10 11 313? 12 Α. Okay. I am there. In that you state that the tower technology is 13 14 neither new nor undeveloped; is that correct? That is correct. 15 Α. 16 Can I refer you to your supplemental testimony Q. 17 on page 6? Supplemental direct and rebuttal. 18 Α. 19 Q. Direct -- yes. Say your February testimony. 20 On page 6, lines 115? 21 Α. I am sorry. I am not --22 Q. Still getting there. 23 Α. -- there yet. I apologize. So we're at second supplemental direct. 24 Sorry, no. I was correct first. January. 25 Q. Ι

Page 409 1 apologize. 2. Α. So supplemental --Supplemental direct and rebuttal. 3 0. 4 Α. And I'm sorry. What was the page number? 5 0. Page 6. 6 Α. Okay. I'm there. Lines 115 through 116. 7 0. 8 Α. Okay. And starting towards the end of line 115, "The 9 0. company decided it could use a new tower design." Is 10 11 that correct? 12 Α. Yes. 13 On lines 118 through 119 you describe that the company is in the process of developing and taking -- or 14 and testing these revised structures; is that correct? 15 That is correct. 16 Α. 17 Can we please go to your exhibit RAV-2. Q. RAV-2 is in the initial application. 18 Okay. I am there. 19 Α. 20 That -- that drawing has, I read three Q. 21 different dates on it; is that correct? 22 Α. Yes. It looks like there's an original and 23 then two revisions. And what's the date of the last revision? 24 0. January 23rd of 2015. 25 Α.

Page 410 chat was

- 1 Q. Is this the drawing of the new design that was
- 2 referenced in your supplemental direct testimony?
- A. No. This is, you know, indicative design of
- 4 what the transmission towers are going to look like. We
- 5 will be utilizing the same kind of L-shaped members.
- 6 This is not the final design, just to be clear. Also,
- 7 there's six different, you know, tower designs that will
- 8 be utilized on this project.
- 9 Q. And the -- this -- this design for the 500 KV
- 10 is -- towers, is this the major tower design associated
- 11 with the -- I believe you said the Anticline portion was
- 12 85 percent of the cost of the transmission project?
- 13 A. Yeah. So this is the main, what you call
- 14 tangent tower, that will be utilized on the project. So
- 15 we talked about the towers being 85 percent -- I'm
- 16 sorry. The cost of the Aeolus-to-Bridger/Anticline line
- 17 was about 85 percent of the overall project cost. Out
- 18 of the towers that will be utilized for the 140 miles of
- 19 this, about 80 percent of them will be this particular
- 20 tower.
- 21 I just note this was -- this is a preliminary
- 22 design, and throughout this case and throughout the
- 23 process, we have been finalizing the design, and we're
- 24 currently in testing on the final tower designs.
- Q. Can I return you to your supplemental direct,

- 1 lines 148 through 151?
- 2 A. I am there.
- 3 Q. You testified then that the company was still
- 4 in the competitive selection process for an EPC
- 5 contractor for the Aeolus-to-Bridger/Anticline line; is
- 6 that correct?
- 7 A. Correct.
- 8 Q. At the time that those bids went out, did you
- 9 have the final drawing of these towers that are going to
- 10 comprise 80 percent of the 140 mile line?
- 11 A. I do not know the answer to that.
- 12 Q. Did the EPC contractors bid on the final tower
- 13 design?
- 14 A. To the best of my knowledge, yes. I am not
- 15 the -- I am not exactly sure, though, what -- what date
- 16 we sent them, you know, the updated drawings. I would
- 17 have to verify that date.
- 18 Q. On page 6, actually, earlier we testified that
- 19 during your supplemental direct testimony you indicated
- 20 that the company was still developing and testing the
- 21 structures, correct?
- 22 A. We're in final testing of -- of the final
- 23 three structures. We've now had three of the structures
- 24 pass final tests, and we're in testing on the final
- 25 three.

- 1 O. Yes. So now you have -- you have completed
- 2 that, but in January of 16th, you said you were still
- 3 developing and testing, and I believe it said the design
- 4 was not yet complete.
- 5 A. If you could just direct me so I can, you
- 6 know, verify that that's my testimony. It sounds
- 7 correct. If you could just give me the line numbers,
- 8 I'd appreciate it.
- 9 Q. Yes. Again, so we -- we're discussing on line
- 10 118 and 119, is it says, you are developing and testing
- 11 revised structures?
- 12 A. There, you go, yep. Thank you.
- 13 Q. And so in January, as you were still
- 14 designing, revising and testing, and you were still in
- 15 the bid process, I don't -- I am having trouble
- 16 understanding how they could have had the final design
- 17 in their bid package.
- 18 A. So just to be clear, one of the key elements
- 19 when you bid on a transmission line is having,
- 20 obviously, where those sites are going to be located,
- 21 what the terrain is like, but getting a good idea of
- 22 what the steel cost is going to be on those towers.
- 23 So the design is new to the company, this is
- 24 not a new transmission design out in this the world. I
- 25 mean, this -- these particular transmission towers have

- 1 been, you know, utilized all over the world to build
- 2 transmission lines.
- 3 So while it's a new design to the company, the
- 4 number of members, the weights of the members, the tower
- 5 heights are well known. There's a lot of standard
- 6 industry estimating that you can pull in order to get a
- 7 very accurate cost estimate of what it would take to,
- 8 you know, build towers like this.
- 9 So I would just submit that, you know, again,
- 10 I would need to check the date that they had the final
- 11 design. If they did not have it prior to going out for
- 12 that initial contract bid, then, you know, as soon as we
- 13 have that final design, which is a key element before
- 14 you enter into final negotiation with the contractor to
- 15 bid on this, you would want to, you know, be able to
- 16 hand that off.
- But from a cost estimate standpoint, we're
- 18 very comfortable that there is plenty of data out there,
- 19 or again accurate cost estimate of the weights and what
- 20 it would cost to erect these towers.
- 21 O. And I think earlier you also testified that
- 22 your contracts are going to provide mitigation measures
- 23 from potentially cost overruns, for example, associated
- 24 with, you know, the bidding on the project, and I am
- 25 adding that example. I think you had said though that

- 1 the contract had -- would include mitigation measures on
- 2 cost and schedule; is that correct?
- 3 A. So just to be clear on the answer there, the
- 4 way I would answer that is, you know, we enter into
- 5 engineering procurement and construction contracts, and
- 6 those are fixed price contracts that also have, you
- 7 know, clearly identified performance targets for the
- 8 contractors to meet. And I am not trying to be evasive
- 9 on the answer. I just -- I want to be clear on what I
- 10 am answering.
- 11 Q. No, I appreciate that. You answered my
- 12 question on that. Now, those performance targets and
- 13 some of the other terms, those were subject to
- 14 negotiation during your bid selection process, correct?
- 15 A. So to be clear, we've gone out to bid and we
- 16 selected a contractor. We have not, you know, signed
- 17 the final contract, and we have not provided even a
- 18 limited notice to proceed at this time. We certainly,
- 19 with the transmission line being part of the critical
- 20 path here, we need to have clear understanding of where
- 21 we are through the regulatory process prior to
- 22 committing, you know, dollars to the construction of
- 23 this line.
- Q. So the final contract hasn't been signed, but
- 25 you have a final contract that is ready to be signed?

1 Subject to approval by the commission?

- 2 A. I don't believe we have the -- the final
- 3 numbers. Let me back up. I would say, I am not a
- 4 hundred percent sure of where we are as far as the
- 5 contract being ready to sign or not sign. I know
- 6 there's a number of terms and conditions. What we have
- 7 is the firm price, you know, fixed bids from the
- 8 contractors, and we will finalize the negotiation on
- 9 those contracts once we understand what the regulatory
- 10 environment looks like.
- 11 Q. And so just so I understand, there are still
- 12 terms and conditions associated with the contract that
- 13 have not been finalized?
- 14 A. Again, I would answer, I do not know exactly
- 15 where we are at on that final contract. So I would -- I
- 16 would have to go back to the delivery team and ask that
- 17 question. I don't have that exact detail.
- 18 I know we're in the final stages of getting
- 19 that contract completed, but I don't know exactly where
- 20 we are at today.
- 21 O. So is it fair to say that there is not in this
- 22 record a final contract that is representative of the
- 23 exact deal you hope to strike with your PC contractor?
- A. Again, we don't have a contract signed today.
- 25 So I think the answer would be, you're correct.

```
Page 416
 1
                           Thank you.
                                        No further questions.
               MR. BAKER:
 2
               CHAIRMAN LEVAR: Okay. Mr. Lowney, any
 3
     redirect?
 4
               MR. LOWNEY: Yes. We just have a few
 5
     questions.
 6
                       REDIRECT EXAMINATION
     BY MR. LOWNEY:
 7
               Mr. Vail, do you recall when you were being
 8
          0.
 9
     asked questions about the fact that the
     Aeolus-to-Bridger/Anticline transmission line is
10
11
     included in the company's long-term transmission plan,
12
     and as part of that plan will be constructed in 2024, if
13
     not constructed in 2020. Do you recall those lines of
14
     questions?
15
               Yes, I do.
          Α.
16
               And has the company -- and let me preface one
          0.
     more question. You were asked specifically about
17
18
     whether or not or how the company accounted for that
     fact in its RFP modeling. Do you recall those
19
20
     questions?
21
          Α.
               Yes.
22
               And has the company quantified the impact of
23
     including that transmission line in the base case
     modeling?
24
25
               Yes, we have. If we looked at Mr. Link's
          Α.
```

- 1 testimony, had we included the modification or the cost
- 2 of the transmission line in that base case,
- 3 conservatively it would have added an additional \$300
- 4 million worth of benefits to customers, I think in --
- 5 across all of the policy cases.
- 6 Q. And Mr. Vail, you were also asked a series of
- 7 questions about the company's current compliance with
- 8 all of the applicable reliability standards. Do you
- 9 recall those questions?
- 10 A. Yes, I do.
- 11 Q. And just because the company is compliant
- 12 today, does that necessarily mean that the company will
- 13 be compliant in the future?
- A. No, it doesn't. And, you know, the long-term
- 15 transmission plan is one of the key tools to ensure that
- 16 we will be compliant going forward. If I were to answer
- 17 today that we were not compliant, that would have --
- 18 that would be a pretty bad miss on my part.
- 19 So what we have to do is continue, and we do
- 20 every year, we analyze the reliability of the system.
- 21 As I mentioned, any small changes out in the eastern
- 22 Wyoming area, in particular, you know, load in that area
- 23 or load along the Wasatch Front, could easily, you know,
- 24 generate the need for that line in the very near future.
- 25 So the long-term transmission planning really

- 1 is the key tool to monitor and ensure that we're
- 2 compliant with our reliability standards prior to the
- 3 point where we're not, because failure is a million
- 4 dollars per day, per incident fine from NERC.
- 5 Q. Mr. Vail, you were also asked a series of
- 6 questions related to the company's assumed third party
- 7 transmission revenue. Do you recall those questions?
- 8 A. I do.
- 9 Q. And just to be clear, because the record got a
- 10 little muddled, at least from my perspective, the
- 11 company has not agreed to guarantee the third party
- 12 transmission revenue in this case, has it?
- 13 A. No. The company has not quaranteed that.
- 14 Q. Okay. One more question. I think it will be
- 15 my last. Do you recall when you were being asked
- 16 questions regarding the voltage support benefits of the
- 17 new transmission line?
- 18 A. Yes.
- 19 Q. Now, would you agree that adding the new --
- 20 the new wind projects does not compromise the voltage
- 21 support benefits that are assumed for that transmission
- 22 line?
- 23 A. Yes. That's correct. I -- when I was trying
- 24 to explain the existing 230 KV transmission line system
- 25 and then adding 500 KV line, that 500 KV line basically

- 1 doubles the size of the wire that's going into that
- 2 area. It's also a lower impedence line. So with that
- 3 line there, it provides significant voltage support.
- 4 And then, again, when you add in that additional
- 5 reactive device, having that 500 KV line in there is a
- 6 large benefit to the voltage support that we need in
- 7 that area.
- 8 MR. LOWNEY: Thank you. I have no further
- 9 questions.
- 10 CHAIRMAN LEVAR: Okay. Thank you. Please
- 11 indicate if Mr. Lowney's questions on redirect prompt
- 12 any recross. My Snarr? Anyone else for recross? Just
- 13 so we'll know. Okay. Mr. Snarr.
- 14 RECROSS-EXAMINATION
- 15 BY MR. SNARR:
- 16 Q. Thank you. Mr. Vail, the questions that were
- 17 just asked prompt me just to ask a question or two for
- 18 clarification.
- 19 A. Okay.
- 20 Q. In connection with the OATT process
- 21 establishing rates, we talked about third party
- 22 transportation revenues.
- 23 A. Yes, we did.
- 24 Q. And we also talked about the percentage ratio
- 25 that I'll just say leftover for PacifiCorp to cover

- because of its load; is that right?
- A. Yeah. So we talked about the PacifiCorp's
- 3 share of the transmission system is roughly 88 percent,
- 4 with third party being 12 percent.
- 5 Q. And you recall that my question was aimed at
- 6 whether or not this commission might consider some sort
- 7 of cap on the amount of revenues that would flow through
- 8 PacifiCorp to the retail rates of the Utah jurisdiction;
- 9 is that right?
- 10 A. I believe that that is what you said, yes.
- 11 Q. And we did not address in our questioning any
- 12 limits or magnitude of what might be happening with the
- 13 third party transportation rates; is that correct?
- 14 A. To the best of my knowledge, that is correct.
- 15 Q. Those clarifications are fine. Thank you.
- 16 CHAIRMAN LEVAR: Okay. Thank you, Mr. Snarr.
- 17 Commissioner Clark, do you have any questions for
- 18 Mr. Vail?
- 19 COMMISSIONER CLARK: Yes.
- 20 EXAMINATION
- 21 BY COMMISSIONER CLARK:
- 22 Q. I'd like to understand better the implications
- 23 of the planned retirement, I think I can call it planned
- 24 retirement, or at least the assumed retirement Of the
- 25 Dave Johnson units in 2028. The capacity of those units

Page 421 1 is roughly what in the aggregate? 2. Best guess in the 700 megawatt range. I know one of them is 220, so it's going to be 3 0. 4 7 or 800 or something like that roughly? Yeah, subject to check. I apologize. 5 should know that off the top of my head. 6 So that's going to be a significant reduction 7 0. in the load that that transmission line is currently 8 called upon to address; isn't that true? 9 10 I would just say that I would just kind Α. Yeah. 11 of reverse it. Obviously, there would be less 12 generation on the system when that coal unit retires. 13 One of the, you know, difficult aspects from a transmission planning standpoint is understanding where 14 15 the replacement resource is going to come from. At the request at one of our other state's 16 proceedings, you know, we were asked to do a study of 17 what it would take to -- if we did not build the 18 Aeolus-to-Bridger/Anticline line and you retire DJ and 19 20 you want to stick additional replacement resources back 21 there, and the cost of that alternative was actually a 22 little bit more expensive than the Aeolus-to-Bridger transmission line, primarily because in order to 23

24

25

basically get the same benefits, you have to put a whole

bunch more 230 KV transmission lines in the area to keep

Page 422 1 the stability. 2 So it's not a simple question to answer. know, I would say that certainly when that resource 3 4 retires, there will be replacement resources. where exactly they are going to be located or what types 5 of resources they are eventually going to be, I don't 6 know the answer to that. 7 Just assume then, since we don't know 8 0. 9 that, the replacement resources are not interconnected 10 with that line. They are somewhere else. If you were 11 to -- and the plant that's under consideration in this 12 application is not built for whatever reason. 13 come to 2024, or at least we approach it, and we look at that retirement of Dave Johnson generation. 14 15 How would you address whatever reliability 16 concerns, voltage support concerns you might have, frequency control concerns, whatever they are, that 17 result from the retirement of that plant? How -- what 18 19 are your options to address those? 20 There are a couple of different options. Α. 21 we talked about the large spinning mass. You can put --22 certainly put additional synchronous condensers out in 23 that area. I will say the company has not had the opportunity to fully study and understand from a 24 25 frequency response standpoint. That's a relatively new

Page 423 NERC reliability standard. 1 2 And one of the largest concerns, is having 3 these large spinning masses taken out of the system 4 because they do provide very effective frequency response. So one of the alternatives obviously could be 5 one synchronous condenser. It could be a number of 6 synchronous condensers out in that area. It could also 7 be, you know, additional transmission build. So again, 8 9 a lot of it will depend on the kind of assumptions that -- or what the system is like when that day 10 11 happens. 12 I will say though, even with the retirement of 13 the Dave Johnson plant, when this transmission line, the existing wind resources that are out in that area, the, 14 15 you know, again, assuming that you add new resources, and with the repowering effort as well, there is an 16 17 opportunity to basically keep that pipe, the new pipe pretty full with the resources that would be out there. 18 19 So again, the answer is going to be -- it 20 depends a little bit, but certainly large synchronous 21 condensers, capacitor banks and potentially additional 22 transmission into the area to provide that voltage 23 support when DJ retires. Roughly what's one large synchronous condenser 24 cost to install? 25

Page 424 1 So a modest sized synchronous condenser, we Α. 2 did the standpipe synchronous condenser in Wyoming. I think it was in the neighborhood of \$36 million, \$40 3 4 million for the total project. Is it also possible to spin the generator and 5 create the inertia, but not generate power, and is that 6 a technique that at least people are examining these 7 days in order to provide the inertia in areas where 8 there are a lot of renewable or variable generation 9 resources that are being installed and there's a need 10 11 for the inertia? 12 Α. Yeah. So from PacifiCorp's standpoint, I don't believe we -- we certainly haven't attached any 13 cost to that or done an evaluation on it. 14 15 certainly being looked at and talked about in the 16 industry itself. 17 To your point the larger integration of renewables into the system and then retiring of the 18 spinning mass is creating a big concern. So yes, those 19 20 are some of the alternatives that are being evaluated. 21 I don't know of any specific examples where they are 22 being utilized today. 23 And then just to give you one more option, certainly it would be a conversion to, let's say, 24 25 natural gas of the existing plant, which would

- 1 accomplish similar to, you know, the idea you are
- 2 talking about.
- 3 CHAIRMAN CLARK: Thank you very much. Those
- 4 are my questions.
- 5 CHAIRMAN LEVAR: Okay. Thank you.
- 6 Commissioner White.
- 7 EXAMINATION
- 8 BY COMMISSIONER WHITE:
- 9 Q. Good afternoon. We may be retreading some old
- 10 ground, but I just want to make sure I'm clear, because
- 11 I know there's been some back and forth in terms of
- 12 cross today. It's left a few issues at least in my mind
- 13 confused.
- Bring me back to why -- what was driving the
- 15 need for this project that was set to go in place in
- 16 2024, and maybe talk a little bit more about the NTTG or
- 17 the long-term transition planning process.
- 18 A. Sure. So a number of drivers. You know, one
- 19 of the things that we have been able to do over the last
- 20 several years is take what I'll call incremental or
- 21 smaller steps to improve the reliability out in that --
- 22 in the southeastern Wyoming area.
- 23 You know, we have added dynamic line ratings
- 24 to the system out there. We added the synchronous
- 25 condenser as well. We have also done some voltage

- 1 control type of activity as well. And so again, one of
- 2 the main drivers of that line is a combination of many
- 3 things. It is the existing congestion.
- Without going into too much detail, there is a
- 5 nomogram, and the path that we're talking about here,
- 6 the TOT 4A path, is heavily impacted by another path
- 7 that is the TOT 4B path. So that interaction can
- 8 extreme -- can limit the transfer capabilities that you
- 9 get out of the system.
- 10 So we evaluated 23 different system elements
- 11 at the 230 KV level that when they are taken out of
- 12 service, it has an impact on that nomogram, which then
- 13 has a direct impact on the capacity of the TOT 4A. And
- 14 that can be a pretty limiting constraint out in that
- 15 area.
- The second thing is, trying to find windows of
- 17 opportunity to take those different segments out of
- 18 service for maintenance activities. I am not answering
- 19 your question.
- 20 Q. Well, yeah. Maybe I bring it down even
- 21 further level. What is the suspect here? Is this wind?
- 22 What is causing the need? What is the congestion being
- 23 caused by?
- 24 Because I guess what I am trying to get at --
- 25 let me get to the point here, is what input is the NTTG

- 1 process utilizing to get to the point where they are
- 2 saying, yes, we think that there is a need here? Is it
- 3 being called by planned future projections for wind in
- 4 that area? Is it -- I guess, I am just trying to figure
- 5 out what is the --
- 6 A. Okay. Fair enough. I think I understand
- 7 where you are going. So from an NTTG perspective, all
- 8 of the segment D energy Gateway West has been part of
- 9 each of the planning cycles for a number of years now.
- 10 Certainly the NTTG organization takes the input from
- 11 each of the different member utilities.
- I will note, though, and this is one of the
- 13 reasons why PacifiCorp decided to sub segment, segment D
- 14 into D-1, D-2, and D-3. During the previous NTTG
- 15 planning cycle, PacifiCorp submitted the entire segment
- 16 D, and the NTTG did their study. This was prior to any
- 17 new wind generation even being contemplated, or the
- 18 combined projects being considered.
- 19 The NTTG plan could not -- and they wanted an
- 20 example to do cost allocation from, and they made a
- 21 generic project from Aeolus to Jim Bridger area, and
- 22 that project was needed in that plan in order for it to
- 23 be able to solve just the power flow studies in the 2026
- 24 time frame.
- 25 So there is a lot of value to this particular

- 1 segment, and what's contributing to that, certainly it's
- 2 a combination of a couple of things. It's the fairly
- 3 weak 230 KV transmission system. It's the fact that we
- 4 have a lot of generation that is a long way from
- 5 basically the load center. And then it is also the
- 6 variability of the wind resources that are behind that
- 7 constraint.
- And so based on the inputs that NTTG was
- 9 given, they identified what is in essence this exact
- 10 Aeolus-to-Bridger/Anticline project as needed by 2026 in
- 11 order to solve their case in the previous planning
- 12 cycle.
- 13 O. That's helpful. So is it safe to assume then
- 14 that, you know, putting aside who gave input, but the
- 15 solution is driven by an assumption there will be wind
- 16 causing issues in that area?
- 17 A. So in that -- in that particular study cycle,
- 18 there was no additional new wind. It was based on the
- 19 existing resources, and then any of the resources in the
- 20 member companies' IRPs that were identified, and I
- 21 don't -- from a PacifiCorp standpoint, Mr. Link could
- 22 speak to what was in there, but I believe it was only a
- 23 couple hundred megawatts of wind that were required.
- 24 But again, in order to solve that, there was
- 25 no -- none of this new wind in the combined projects

- 1 assumed, and the line was still found to be necessary.
- 2 Q. So you know, I want to -- I want to circle
- 3 back to a couple questions that Mr. Jetter was asking in
- 4 terms of who -- who pays for what. This project that,
- 5 you know -- let's just, you know, assume, you know, that
- 6 NTTG's plan is, you know -- you know, ultimately the
- 7 solution requires -- by NERC. It's got to happen in
- 8 2024.
- Now, who again pays for that in 2024, absent
- 10 the potential opportunity to offset it with the benefits
- 11 from the PTCs? Who pays for that then?
- 12 A. It would be the PacifiCorp retail customers,
- 13 and then there would be the revenue credit back from
- 14 third party transmission customers. So the line would
- 15 go into service.
- 16 Those costs -- I am assuming PacifiCorp would
- 17 come to the states for some kind of regulatory recovery,
- 18 and at the same time, the year following that asset
- 19 going into service, it would be included in the FERC
- 20 formula rate. And then that 12 percent revenue, credit
- 21 assumption, would flow back to the states as a credit.
- 22 Q. And that's based upon PacifiCorp's current
- 23 OATT? I mean, putting aside case law, et cetera, that's
- 24 based upon -- that construct for cost allocation is
- 25 based upon PacifiCorp's current OATT?

Page 430 And I would just -- I mean, significant 1 Α. Yes. 2 for precedent, certainly that it's, you know, considered a network transmission asset. Yes. 3 4 COMMISSIONER WHITE: That's all the questions 5 I have. Thank you. 6 CHAIRMAN LEVAR: Okay. Thank you. I don't 7 have anything to add to that. So thank you for your testimony, Mr. Vail. 8 9 THE WITNESS: Thank you. 10 CHAIRMAN LEVAR: Would this be an appropriate 11 time to go out of order and get Mr. Jenner from 12 Interwest Energy Alliance on the stand? Are there any 13 objections? MR. LONGSON: Chairman, we would prefer that 14 Mr. Teply go first from the company. 15 (Discussion off the record.) 16 MR. LONGSON: We would prefer that Mr. Teply 17 18 go first. I think that might make more sense before Mr. Jenner. 19 20 MR. JETTER: And since we're discussing this, 21 I'd like to bring up a brief discussion that some of the 22 parties have had during the lunch break today, which 23 was -- would be that we have -- all the -- I quess the intervening parties have agreed that, excluding 24

25

Interwest going at this point, that the division would

Page 431 follow the company's witnesses, then followed by the 1 2 Office of Consumer Services, and the intervenors after that, generally, possibly making some readjustments in 3 4 there for certain witnesses that may have to leave town, if that's okay with the Commission. 5 I think everyone else is either not objected 6 or agreed that that would be a way to go forward. 7 8 CHAIRMAN LEVAR: Okay. Assuming there's no 9 objection from any other the parties, we'll plan to 10 proceed that way. 11 MR. JETTER: Thank you. 12 CHAIRMAN LEVAR: Okay. So PacifiCorp's next 13 witness. 14 MR. LOWNEY: Company calls Nikki Kobliha. 15 CHAIRMAN LEVAR: Ms. Kobliha, do you swear to tell the truth? 16 17 THE WITNESS: Yes. 18 CHAIRMAN LEVAR: Thank you. 19 NIKKI KOBLIHA, 20 was called as a witness, and having been first duly 21 sworn, testified as follows: 22 DIRECT EXAMINATION 23 BY MR. LOWNEY: Ms. Kobliha, could please state and spell your 24 name for the record. 25

Page 432 Nikki Kobliha. N-I-K-K-I, K-O-B-L-I-H-A. 1 Α. 2 And how are you employed? Q. I am vice president, chief financial officer 3 Α. 4 and treasurer of PacifiCorp. And in that capacity, did you file 5 supplemental, direct and rebuttal testimony in this 6 7 case? Yes, I did. 8 Α. 9 And do you have any corrections or changes to 10 that testimony today? 11 No, I do not. Α. 12 Q. And if I were to ask you the same questions 13 that are posed in that testimony, would your answers be 14 the same? 15 Yes, they would. Α. 16 MR. LOWNEY: I would move to admit Ms. Kobliha's supplemental, direct and rebuttal 17 18 testimony into the record. 19 CHAIRMAN LEVAR: Okay. If any party objects to that motion, please indicate to me. I am not seeing 20 21 any objection, so the motion is granted. 22 Q. (By Mr. Lowney) Ms. Kobliha, did you prepare 23 a summary for the commission today? 24 Yes, I did. Α.

Please proceed.

25

Q.

Page 433 So good afternoon, Commissioner 1 Α. Thank you. 2 Chair LeVar, Commissioners Clark and White. 3 pleased to be here today to discuss with you my testimony in this matter. 4 My testimony -- in my testimony I discuss the 5 relevant provisions of the federal tax code that the 6 7 company relies on to obtain the benefits of the federal wind production tax credits or PTCs, which provide 8 significant value to the projects. I also outline the 9 relevant provisions of the federal income tax reform 10 11 that was enacted in December of 2017 and confirm that 12 there are no changes in the federal income tax law as it 13 relates to PTCs. The internal revenue code provides that a wind 14 15 facility can generate a PTC equal to an inflation adjusted 1.5 cents per kilowatt hour of electricity that 16 17 is produced and sold to a third party for a period of 10 years beginning on the date that the facility is placed 18 in service. 19 2.0 PTCs, however, are being phased out. A wind 21 facility is eligible for 100 percent of the PTCs. So as 22 long as the construction began prior to January 1st, 23 2017. A taxpayer can demonstrate that construction began by incurring more than 5 percent of the eventual 24 25 total cost of the facility.

1	Page 434 The company is relying on this 5 percent safe
2	harbor in order to demonstrate that it has met the
3	construction of each sorry. We're relying on the
4	safe harbor to demonstrate that construction of each one
5	of the wind facilities selected in 2017 RFP, began
6	construction prior to that January 1st, 2017, date and
7	are therefore eligible for 100 percent of the PTC.
8	In addition to the 5 percent safe harbor
9	requirement, the wind facility must satisfy the
10	continuity of construction requirement. The company
11	intends to meet this requirement through the four year
12	calendar year safe harbor, which in our case means that
13	the facilities must be placed in service no later than
14	December 31st, 2020. The company plans to have the wind
15	projects placed in service by that December 31st, 2020,
16	date in order to qualify for the 100 percent of the
17	PTCs.
18	In December of 2017, congress passed and the
19	president signed HR1, more commonly referred to as the
20	tax act. The passage of the tax act resulted in several
21	changes that impacted the company, most notably the
22	reduction of the federal tax rate from 35 percent to 21
23	percent, and the modification of the bonus depreciation
24	rules related to public utility property.
25	The tax act, however, does not make any

1	Page 435 modifications to the federal income tax code or any
2	Internal Revenue Service guidance related to the value
3	of the PTCs, or of the methods by which the company
4	intends for the wind projects to qualify for 100 percent
5	of the PTCs. The enactment of the tax act therefore
6	resolved the uncertainty that existed in late 2017,
7	because the impacts are now known as incorporated into
8	the company's analysis. That concludes my summary.
9	MR. DOWNEY: Thank you. Ms. Kobliha is
10	available for cross-examination and commissioner
11	questions.
12	CHAIRMAN LEVAR: Okay. Thank you.
13	Mr. Longson, do you have any questions?
14	MR. LONGSON: No questions. Thank you.
15	CHAIRMAN LEVAR: Thank you. Mr. Holman.
16	MR. HOLMAN: I have no questions. Thank you.
17	CHAIRMAN LEVAR: Ms. Hayes.
18	MS. HAYES: No, thank you.
19	CHAIRMAN LEVAR: Thank you. Mr. Jetter.
20	MR. JETTER: No questions. Thank you.
21	CHAIRMAN LEVAR: Mr. Moore.
22	MR. MOORE: Just one quick question.
23	CROSS-EXAMINATION
24	BY MR. MOORE:
25	Q. You mentioned that they have to be in service
1	

- 1 by 2020 to get a hundred percent of PTCs?
- 2 A. Correct.
- Q. It's true, isn't it, that if they miss that by
- 4 one day, they get zero percent of the PTCs?
- 5 A. Not necessarily. So it's not going to be an
- 6 all for nothing provision where the entire project has
- 7 to be placed in service. Of course, the project has to
- 8 be generating electricity and getting somehow onto the
- 9 grid. But I wouldn't say it's going to be, it's a one
- 10 or none type of situation.
- 11 Q. Are you talking about turbines, or are you
- 12 talking about the projects? You mentioned that they
- 13 were phasing them out. They are not phasing them out in
- 14 the last years, are they? I mean, if you miss by one --
- if a project misses by one day, they don't go down to 80
- 16 percent. They go down to -- all the wind turbines that
- 17 are not functioning go down to zero percent; is that
- 18 correct?
- 19 A. So yeah. I think that's what I meant in terms
- 20 of components of the project. So we intend, of course,
- 21 to have everything complete and in service by that date,
- 22 and I think we have guaranteed that qualification
- 23 position. But if you were to look at, let's say, you
- 24 know, 9 out of 10 towers was in service. Then you would
- 25 receive PTCs so long as they are generating and putting

Page 437 1 electricity onto the grid. 2 So in that scenario, that might be one tower that wouldn't qualify for PTCs, unless you can say that 3 4 there is an allocation of the 5 percent safe harbor dollars that you could say maybe it qualified for 80 5 6 percent, and you have one more year to place that particular tower in service. So it kind of depends. 7 8 MR. MOORE: I have no further questions. 9 CHAIRMAN LEVAR: Okay. Thank you, Mr. Moore. 10 Mr. Russell? 11 MR. RUSSELL: No questions, Chair. Thank you. 12 CHAIRMAN LEVAR: Mr. Baker. 13 MR. BAKER: No questions. Thank you. CHAIRMAN LEVAR: Commissioner White? 14 15 COMMISSIONER WHITE: I just have one question. 16 EXAMINATION BY COMMISSIONER WHITE: 17 18 You know, the statute that we were looking at in terms of standards, you know, asks us to determine 19 the public interest based upon, you know, factors 20 21 including these costs, risk, liability. 22 But the one I haven't heard a lot on, and 23 wondered if you have any thoughts on, is the financial impacts on the effective electric facility and 24 whether -- and I know that's not necessarily in your 25

- 1 testimony, but if that's something you have an opinion
- 2 as to -- as to whether this project affects it, and how
- 3 it affects it?
- 4 A. Sure. So we report on the business plan
- 5 process every year, and in our last planning cycle, we
- 6 did include the projects that we are proposing here, at
- 7 least some subset, you know. As you know, they have
- 8 continued to evolve. And through that we were able to
- 9 assess our, you know, financial needs, where going out
- 10 to the bond market or modifying our dividend payments,
- 11 for example, or using cash from operation.
- 12 So all those things combined in our analysis
- would lend me to conclude that, yes, we have the ability
- 14 to fund and finance all these projects through our
- 15 access to the markets would be the main source of
- 16 funding.
- 17 O. The Oregon commission issued an order where
- 18 they have not acknowledged the short list. Has there
- 19 been any nonconfidential information from the market as
- 20 to whether or not that would potentially affect the
- 21 potential, you know, lending or borrowing for those
- 22 projects?
- 23 A. So we actually don't borrow on a
- 24 project-by-project basis. It's more of a big picture,
- 25 here is the entire needs of the company. So we would

- 1 have never looked at, when we go out to market, this
- 2 particular project, you know, isn't being acknowledged.
- 3 Therefore, maybe there isn't a cash flow that you would
- 4 expect.
- 5 That would never come into our conversations.
- 6 It's definitely more big picture as to what's happening
- 7 with the company.
- 8 COMMISSIONER WHITE: Thanks. That's all the
- 9 questions I have.
- 10 CHAIRMAN LEVAR: Okay. Thank you. Before we
- 11 go to Commissioner Clark, I failed to ask Mr. Lowney if
- 12 he had any redirect based on Mr. Moore's cross.
- 13 MR. LOWNEY: I do not.
- 14 CHAIRMAN LEVAR: Okay. Thank you.
- 15 Commissioner Clark.
- 16 COMMISSIONER CLARK: I'm desperately trying to
- 17 find something in the --
- 18 THE WITNESS: Taxes are my favorite subject.
- 19 EXAMINATION
- 20 BY COMMISSIONER CLARK:
- 21 Q. So I'm just going to ask you to help me rather
- 22 than try to find it in the IE report. But I guess I am
- 23 following up on what Mr. Moore was asking you about. Do
- 24 you have general familiarity with the investment tax
- 25 credits that apply to solar projects?

- 1 A. Yes, I do.
- 2 Q. So as I understand it, at some point, and I
- 3 can't remember if it's the end of 2020 or 2021, those
- 4 tax credits start to glide away. But the glide path is
- 5 like a reduction from a hundred percent one year to 80
- 6 percent, to 55 or 60 or something like that. In other
- 7 words, it steps down over a period of years. Is that
- 8 true with respect to ITCs?
- 9 A. Yes. So the investment tax credit is on a
- 10 phase-down plan. So if construction begins prior to the
- 11 end of 2019, or you could say January 1st, 2020, then
- 12 the project would still be eligible for the 30 percent
- 13 investment tax credit.
- The next year, so calendar year 2020, it goes
- down to 26 percent. And then it steps down to 22
- 16 percent in the next year. And then it steps down to 10
- 17 percent for projects that begin after 2020. And then
- 18 projects where construction starts after 2027 is zero
- 19 percent.
- Q. Okay. And with respect to the PTCs that apply
- 21 to wind, we're not in a similar type of step-down
- 22 transition at the end of 2020. Am I -- is that accurate
- 23 generally?
- A. There is also the phase down with the PTCs,
- 25 where construction has to begin prior to 2017 to get a

- 1 hundred percent. 2018 was 80 percent. 2019 was 60
- 2 percent, 40 percent, and then it goes to zero.
- 3 Q. So it would harken back to the time that
- 4 construction began, rather than it going into service,
- 5 2021, or 2022 or 2023?
- 6 A. Yeah. In terms of the PTCs, that's where that
- 7 four year calendar safe harbor comes in in terms of
- 8 completing the projects. The ITCs are a little bit
- 9 different in there actually isn't any guidance out there
- 10 for what does the beginning of construction mean. Like
- 11 our 5 percent safe harbor we have for PTCs.
- 12 And there also isn't any guidance about that
- 13 four year calendar safe harbor at this point from the
- 14 IRS. Parties have asked for that guidance to know what
- does it actually mean that you began construction for a
- 16 solar facility.
- 17 COMMISSIONER CLARK: Thanks very much. That
- 18 helps me.
- 19 CHAIRMAN LEVAR: Thank you. I don't have any
- 20 further questions. So thank you for your testimony
- 21 today.
- 22 THE WITNESS: Thank you.
- 23 MS. LOWNEY: The company's next witness is
- 24 Chad Teply.
- 25 CHAIRMAN LEVAR: Good afternoon, Mr. Teply.

Page 442 Do you swear to tell the truths? 1 2 THE WITNESS: Raise my hand? 3 CHAIRMAN LEVAR: You can raise it or not. Do 4 you swear to tell the truth? 5 THE WITNESS: I do. 6 CHAIRMAN LEVAR: Okay. 7 CHAD TEPLY, was called as a witness, and having been first duly 8 9 sworn, testified as follows: DIRECT EXAMINATION 10 11 BY MR. LOWNEY: 12 Q. Mr. Teply, would you please state and spell 13 your name for the record. 14 Sure. My name is Chad -- my name is Chad Teply. That is spelled C-H-A-D, T-E-P-L-Y. 15 16 And how are you employed, Mr. Teply? Q. I am employed as the senior vice president of 17 Α. strategy and development for Rocky Mountain Power. 18 And in that capacity, did you file direct 19 Q. testimony, supplemental direct testimony, second 20 21 supplemental direct testimony, and surrebuttal testimony in this case? 22 23 Α. I did. 24 And do you have any changes or corrections to that testimony today? 25

Page 443 I do not.

- Q. And if I were to ask you the same questions,
- 3 would your answers be the same?
- 4 A. Yes, they would.

Α.

- 5 MR. LOWNEY: I would move for the admission of
- 6 Mr. Teply's testimony and accompanying exhibits, and I
- 7 would just note before we -- in support of that motion,
- 8 in the exhibit list that we provided, we will not be
- 9 moving for the admission of certain exhibits that are
- 10 struck through.

1

- 11 And those consist of several highly
- 12 confidential documents that have been superseded by
- 13 subsequent -- either subsequent exhibits or, for
- 14 example, several of the exhibits relating to the
- 15 McFadden Ridge project. And that's no longer part of
- 16 the case. So I can walk through those exhibits. That
- 17 would be CAT1-1. CAT1-7.
- 18 CHAIRMAN LEVAR: If everyone has this list, it
- 19 may not be necessary to walk through. Does everyone
- 20 have the list that shows the strikethroughs?
- 21 MR. DOWNEY: I did distribute it, and I have
- 22 more copies for everybody.
- 23 CHAIRMAN LEVAR: Okay. I don't think it's
- 24 necessary for you to walk through all the ones you have
- 25 stricken through it. Is there any objection to entering

- 1 these into the record, with the exception of the ones
- 2 that are stricken through on the exhibit list?
- 3 Mr. Russell.
- 4 MR. RUSSELL: No objection from UAE, although
- 5 I would like clarification. Some of these exhibits
- 6 remain marked highly confidential. I am just curious
- 7 whether that designation remains on the exhibits. And I
- 8 ask that question partly because some of these were
- 9 marked a number of months ago. So I don't know whether
- 10 they remain highly confidential or not.
- MR. LOWNEY: The ones that are marked highly
- 12 confidential remain highly confidential.
- MR. RUSSELL: Okay. Thanks.
- 14 CHAIRMAN LEVAR: With that clarification, is
- 15 there any objection to the motion? I am not seeing any
- 16 objection, so the motion is granted. Thank you.
- 17 Q. (By Mr. Lowney) Mr. Teply, have you prepared
- 18 a summary?
- 19 A. I have.
- 20 Q. Would you please proceed.
- 21 A. Sure. Good afternoon, Chair LeVar, Commission
- 22 Clark, Commissioner White. My testimony in this
- 23 proceeding describes the wind projects that were
- 24 initially submitted as proxies in the company's
- 25 application in this docket, and those that were

Page 445 ultimately selected via 2017R RFP for which we seek 1 2 approval of the significant energy resource decision. 3 Two of the three originally submitted 4 benchmark projects remain in the final short list, when considering TB Flats 1 and 2 as a single project at this 5 6 point. 7 As discussed by Mr. Link, the company's 2017 IRP or integrated resource plan, filed in April of 2017, 8 identified a time-limited opportunity to procure wind 9 resources and needed transmission and to -- which 10 11 allowed interconnection and decongestion, if you will, of the transmission in the north and southeastern 12 13 Wyoming. To support the subsequent 2017 RFP that 14 15 followed the IRP, the company engaged the competitive market, including project developers with preferred 16 interconnection queue positions that I have described in 17 my direct testimony. As discussed in that testimony, we 18 negotiated contingent development transfer agreements. 19 20 Having identified through the public process, 21 and through our engagement with the developers in the 22 integrated resource planning process, these projects, we 23 entered into the development transfer agreement with the 24 focus on, one, ensuring that the company could submit 25 benchmark resources, not only in this application, but

```
Page 446
     ultimately in the 2017R RFP that ensured the company at
 1
 2
     a minimum would have an offering there for which the
 3
     various regulatory parties could assess the economics of
     the combined winds and transmission.
 4
               A key component to the development transfer
 5
     agreements that we negotiated is the fact that the
 6
 7
     developer that held those key interconnection queue
     positions and the development asset rights was also
 8
 9
     in -- retains the ability to bid into that same 2017R
10
     RFP.
11
               The company ultimately submitted three
12
     projects into the 2017R RFP, those three projects being
13
     the TB Flats 1 and 2 project that I have just described,
     which is a 500 megawatt project located immediately
14
     adjacent to our Dunlap wind farm that has been in
15
     operation since 2010; the Ekola Flats wind project.
16
17
     It's a 250 megawatt project that is located immediately
     in between Seven Mile Hill and the Dunlap wind farm that
18
     were both constructed in the 2008 through 2010 time
19
20
     frame; and ultimately our McFadden Ridge 2 project,
21
     which is 109 megawatt project located near and adjacent
22
     to our High Plains in McFadden Ridge 1 project.
               Each of our initial submittals and each of our
23
     benchmarks was selected to the initial short list in the
24
25
     2017R RFP, and requested to submit best and final offers
```

Page 447 in November of 2017. 1 2 In the company's January 2018 filing in this 3 proceeding, the final short list and the preliminary 4 final short list of the 2017 RFP results were reported. Those results included the TB Flats 1 and 2 project and 5 the McFadden Ridge 2 benchmark projects. 6 In addition, as we had described in direct 7 testimony in the application, the RFP also resulted in 8 9 two market offerings; the Cedar Springs project that you have heard about today, which is a 400 megawatt project 10 11 bifurcated into two parts effectively, a 200 watt -- 200 12 megawatt field transfer agreement, and a 200 megawatt power purchase agreement. The fourth project that was 13 selected and reported in January was the Uinta project 14 15 that we talked about today. Following the interconnection restudies that 16 you have heard about in testimony from Mr. Vail and 17 Mr. Link earlier in this proceeding, the McFadden Ridge 18 project that I just described, was removed from the 19 20 final shot list selection in February and replaced with 21 the company's Ekola Flats benchmark project, the 250 22 megawatt project, which was larger and more economic 23 than the McFadden Ridge 2 project, but was facilitated 24 and enabled by the interconnection restudy. 25 And as you heard in testimony from Mr. Vail,

Page 448 the change in the queue positions with the change from 1 2 the cut-off for the Gateway South, if you will, going 3 from the interconnection queue position 708 down to, I 4 believe he requested -- or he quoted 713. So that facilitated the Ekola Flats addition, as well as the 5 additional transfer capability that Mr. Vail has 6 7 described earlier today. We found that the 2017R RFP was a -- provided 8 9 a good response. We have heard about the robustness of the response from the market. But from a commercial --10 11 commercial structures perspective, I think it's worth 12 talking a little bit about the different types of 13 commercial structures that were included and are included today, following the 2017R RFP. 14 15 We have our benchmark projects, the TB Flats 1 16 and 2 projects and the Ekola Flats projects that effectively are structured to be contracted under an 17 engineer procure construct contract, one for each 18 19 project, and turbine supply agreements, separate for 20 each project. Those agreements would be directly 21 between Pacific Corp and those -- and those contractors 22 and turbine supply providers. 23 The build transfer agreements, the pro forma 24 which is included in the exhibits in my testimony, would now apply to the next era 200 megawatt project. 25

Page 449 there's a build transfer agreement. 1 2 And I think it's important to point out from a 3 commercial perspective, the build transfer agreement is 4 basically an arm's length commercial structure, wherein there is a contract between PacifiCorp and the developer 5 of that project. The developer of that project then 6 goes to the market for construction and turbine supply. 7 So an arm's length between PacifiCorp and say the 8 9 contractors and turbine supply agreements. Also recognizing that under a build transfer 10 11 agreement, care, custody and control of the asset 12 typically transfers on a closing date following 13 commercial operation of the asset. So different commercial structure than an EPC, such as the benchmark. 14 15 And then ultimately the power purchase agreement, therein, again, a contract between PacifiCorp 16 17 and the developer of the individual project with the developer there again having the responsibility to get 18 the project built, deliver it and meet certain 19 20 obligations for delivery. 21 During the regulatory review process, we have 22 addressed this earlier in the proceeding, the company 23 has stipulated with parties in Wyoming and Idaho as to the removal of the Uinta project, so leaving three 24 25 projects, TB Flats 1 and 2, Ekola Flats, all of which

Page 450 were originally included in the application, and now 1 2 plus the Cedar Springs 400 megawatt BTA PPA. 3 The project remains well positioned to provide 4 the customer benefits incorporated into the case. timelines and off-ramps for the projects are being 5 effectively developed and maintained in parallel to the 6 7 ongoing regulatory proceedings like this one, the ongoing procurement activities, permitting at both the 8 state and federal level, and actually -- and also 9 right-of-way acquisition, not only for the wind farms 10 11 but also for the transmission line. 12 Procurement timelines have been adjusted along the way, primarily to adjust and accommodate the 13 changing regulatory schedules, not only here in Utah, 14 15 but in our other states. We've worked closely with the project developers, the contractors and turbine 16 17 suppliers, as we discussed a little bit earlier today, with respect to the criticality of those dates, bid 18 validity periods, et cetera. We have been effective in 19 20 maintaining that schedule alignment to date. 21 Our focus in that review was to maintain the 22 firm fixed pricing, to begin our negotiations, such that 23 we would have near final major agreements such as the EPC, the turbine supply agreements, the build transfer 24 25 agreements, et cetera. But to have the results of our

Page 451 1 regulatory reviews prior to entering into binding 2 agreements. We have done that intentionally. The company 3 4 is positioned to execute binding agreements in June of 2018, following regulatory approvals, assuming we get 5 them, for the wind projects, and in particular the 6 7 benchmarks, and in July, early July of 2018, with the current schedule with our build transfer supplier, BTA 8 9 supplier for Cedar Springs. Project costs and delivery risks continue to 10 11 be reduced, through the successful competitive market 12 engagement that I described earlier. We have -- we have 13 demonstrated and provided in our testimony significant capital cost reductions, particularly for the wind 14 15 projects since the time of our application. 16 For the benchmark projects in particular, that was an item that was discussed earlier today from the 17 It's important to note that for the benchmark 18 19 project, the key driver to the capital cost differences 20 there is that as we engage the competitive market, 21 we selected bids from a wide variety of Tier 1 wind 22 turbine suppliers. 23 The benchmark projects were ultimately based 24 on a large wind turbine generator design, large meaning 25 4.2 megawatt machines. As compared to other bids, if

	7. 450
1	Page 452 you were to look through the details, anywhere from I'd
2	say one and a half to, say, 3.2 megawatt machines, so in
3	effect, getting the same megawatt output with less
4	infrastructure; i.e., less capital cost to construct.
5	So a very key driver to the reason the benchmark project
6	costs were much lower comparatively to the market for
7	installation costs.
8	The other reason that we hang our hat on with
9	respect to the benchmark project competitiveness is the
10	fact that we did go to the competitive market prior to
11	submitting our benchmark proposals in October of 2017,
12	not only for the turbine supply agreements, but also for
13	construction of contracts, EPC contracts. So we had
14	begun negotiations sorry. We had received proposals,
15	begun negotiations and based our proposals on that
16	status at the time.
17	So I can't speak for the other bidders as to
18	what level of effort they went into to support their
19	proposals in the 2017 RFP, but I did think that was
20	worth flagging for the commission.
21	We have been effective at maintaining our
22	off-ramps from a commercial perspective throughout the
23	process, I think in particular, with respect to the
24	major contracts for engineer procure and construct.
25	On the wind farms, we have incorporated what

Page 453 we consider -- what is traditionally termed a limited 1 2 notice to proceed contract -- concept. The limited 3 notice to proceed concept allows your counterparty to 4 begin key critical path activities, such as engineering, preliminary procurement, permitting, mobilizations of 5 personnel, et cetera, early, before you have made that 6 7 final commitment to actually begin spending major capital on equipment procurement, material supply, site 8 9 work. 10 The way we have incorporated that into the 11 benchmarks in particular is an LNTP concept that would 12 begin, assuming we sign contracts and binding agreements 13 in June time frame of this year, and ultimately carrying through to a full notice to proceed concept at the 14 15 beginning of next year for the wind farms. So in other words, I would say the April 2019 time frame. 16 17 The key driver for that limited notice to proceed concept with respect to the wind farms is, we 18 want to make sure that the transmission project, in the 19 20 event we receive approvals, has time to acquire the 21 rights-of-way. The rights-of-way acquisition leading 22 into the construction cycle for transmission is the 23 critical path for the overall combined projects. 24 The rights-of-way acquisition cycle and process effectively has already begun, but waiting on 25

Page 454 regulatory approvals and the proceedings and outcomes in 1 2 our various dockets, we have not yet signed final 3 binding agreements. So we have worked with and had 4 negotiations with all of the parties along the transmission corridor, but we have a lot of work to do 5 6 there. We -- if you -- if you take a look at the 7 transmission corridor in particular, and if you were 8 9 following the Wyoming proceedings, we had upwards of six intervenors, landowners, particularly in that 10 11 proceeding, all of which we engaged, five of which we 12 engaged successfully, one of which we did not. 13 But we have reached agreements with those parties that effectively allowed them to withdraw from 14 the Wyoming CPCN proceedings. The Wyoming CPCNs that we 15 received for each project are conditioned on final 16 receipt of all right-of-way, particularly for the 17 transmission. That becomes the tie back to my wind 18 projects, if you will. 19 20 So we're managing through the right-of-way 21 process, with those landowners that I just mentioned 22 that we have, I'll say agreements in principal with, and then if I include the federal -- the federal 23 24 checkerboard lands, that are included in transmission right-of-way, as well as the state lands that we're 25

Page 455 working to finalize agreements on, that equates to over 1 2 50 percent of our corridor for the 500 KV transmission 3 line. So making good progress there, but work 4 remaining. We built into our schedule in the event we had 5 6 had to revert to the approach of last resort, which 7 would be eminent domain -- we have incorporated those schedules in the time frame for eminent domain into the 8 9 project critical path schedule. That ultimately leads you to the April 1 time frame of 2019. 10 11 As you heard from Mr. Vail, two construction 12 cycles or two seasons of construction, the summer of 13 2019 and the summer of 2020, are critical to the transmission line, without having to invoke work-arounds 14 15 and accelerated plans. 16 Equally as important as to the commercial agreements that we have incorporated and are working to 17 finalize with our contractors is that we remain 18 committed to return to the commission should material 19 20 issues arise, not only during this predevelopment phase, 21 the remainder of 2018, but ultimately during the 22 implementation phases that would proceed through 2019 23 and ultimately 2020. 24 We also are planning to maintain our 25 contracting off-ramps and manage those appropriately.

Page 456 Each of our projects will qualify for the production tax 1 2 credit safe harbor that you just heard described by 3 Ms. Kobliha. 4 We have entered into the opportunity as we started to look at projects in the 2017 -- heading into 5 the 2017 RFP, particularly from a benchmark perspective, 6 7 looking for projects that could demonstrate and validate their ability to qualify, not only for the hundred 8 9 percent PTC but ultimately ideally under the safe harbor 10 provision, because the safe harbor provision is viewed 11 as a more, I will call it a bright line test, with --12 from the IRS's perspective. 13 We'll get -- we have validated the three 14 projects that you have before you today, TB Flat 1 and 15 2, Ekola Flats and NextEra -- no, I mean, I'm sorry, and Cedar Springs as being eligible under the safe harbor 16 provisions. 17 The company's direct engagement on the EPC 18 19 front with respect to its benchmarks helps to mitigate 20 risk with respect to the PTC eligibility and ultimate 21 delivery of the projects by 2020. I would say with each 22 commercial structure that I have described earlier, I've 23 become a little bit more arm's length with respect to my ability to ensure that that -- those dates are achieved. 24 25 Nonetheless, we have worked with respect to

Page 457 the terms and pro forma contracts that I have included 1 2 in my exhibits for the power -- for the build transfer 3 agreement, as well as the EPC, to ensure that we have 4 the appropriate checkpoints in place; schedule monitoring, quarantees from contractors and 5 counterparties, oversight with respect to quality 6 control, those types of issues that you would expect 7 from a significant contract like the ones we're talking 8 9 about today. 10 The projects will be operated consistently 11 with PacifiCorp over a decade of experience operating 12 similar projects. As we stated in our testimony, we 13 have guaranteed and will incorporate a 90 -- 97 percent mechanical availability quarantee into our contracts. 14 15 In summary, the construction of the new wind 16 project and the transmission projects are in the public interest. Projects provide an economically attractive 17 and environmentally responsible opportunity to serve our 18 customer load needs. 19 20 The projects have been validated as desirable 21 due to their location-specific attributes, particularly 22 with respect to wind performance. And that wind 23 performance has been assessed by an independent third party to validate its -- the information we have used. 24 25 The project timelines and development plans,

- 1 as well as the commercial off-ramps have been maintained
- 2 to ensure that these wind projects become an essential
- 3 part of Rocky Mountain Power's diversified portfolio.
- 4 The commission's review of the company's prudence in
- 5 maintaining the costs and managing material changes,
- 6 should they occur, will be pursued. And the combined
- 7 projects will benefit the company's customers as a
- 8 whole.
- 9 The company appreciates the parties'
- 10 engagements in these proceedings and believes that the
- 11 combined projects will benefit from this rigorous
- 12 review. For all of those reasons, we urge you to
- 13 approve the significant energy resource decision that is
- 14 before you. Thank you.
- MR. LOWNEY: Mr. Teply is available for
- 16 cross-examination and commissioner questions.
- 17 CHAIRMAN LEVAR: Thank you. Why don't we take
- 18 a short break and return in about 10 minutes and start
- 19 cross-examination. We'll be in brief recess.
- 20 (Recess from 2:39 p.m. to 2:51 p.m.)
- 21 CHAIRMAN LEVAR: Okay. We are back on the
- 22 record. Before we move to cross-examination of
- 23 Mr. Teply, I want to discuss one issue that I think we
- 24 should plan to maybe finalize tomorrow morning, and that
- 25 is the usefulness of closing arguments at the conclusion

Page 459 of this hearing. 1 2 We do seem to be in a time frame where 3 posthearing briefs probably is a luxury we do not have 4 available to us, but maybe we could discuss. And of course, this also -- I realize, you know, no one can 5 predict how much time the rest of the hearing is going 6 to take between now and Friday, and if we finish at 6:00 7 p.m. Friday, there may not be a lot of interest in 8 9 staying for a couple more hours. 10 But I am throwing the issue out there that 11 maybe first thing tomorrow morning we can have a 12 conversation about whether parties see a benefit to 13 closing arguments at the conclusion of the hearing. think we would want to cap them at no more than two 14 15 hours total. 16 We have about eight parties, and how that would be divided up, we could discuss in the morning, if 17 there's interest. But I just want to throw the concept 18 19 out there so you can think about it and be prepared to 20 talk about it tomorrow morning before we start 21 testimony. 22 So unless there's any questions, I think 23 that's a conversation we'll have in the morning and just give you some time to think about that. Obviously, 24 we're bringing it up because we might see some 25

Page 460 usefulness to it, or otherwise we wouldn't be raising it 1 2 at this point. 3 So with that, we'll go to cross-examination of 4 Mr. Teply -- sorry. And we'll start with, did you have 5 something? 6 COMMISSIONER CLARK: Chair LeVar, did you mention time frames, kind of what we are thinking? 7 CHAIRMAN LEVAR: Well, I said two hours at a 8 9 maximum for the entirety of it. I don't think we have the luxury of more than that, you know. Unless we 10 11 finish everything Friday morning and we a little more 12 time on our hands, but I don't think we can plan on that. So that's probably the time frame we ought to be 13 14 thinking about. 15 MR. MICHEL: Mr. Chairman. 16 CHAIRMAN LEVAR: Yes, Mr. Michel. 17 MR. MICHEL: You had mentioned yesterday the possibility of going evenings if this doesn't go as 18 quickly as we had -- folks had anticipated. I was just 19 20 wondering if you had any more thoughts about either this 21 evening or tomorrow evening, or if it's still, if you --22 just -- if you have any ideas on what -- where you think 23 that might be going. 24 CHAIRMAN LEVAR: Well, I'll say, anybody else's quess in this room is as good as mine on what we 25

Page 461 are looking at in terms of cross-examination for the 1 2 remaining witnesses. Everyone knows how many witnesses 3 we have. I can say we made better progress today than 4 we did yesterday. In terms of today, you know, I think we'll see 5 where we get, and if there's a good stopping point that 6 seems like a convenient place to stop or -- I don't 7 envision us going much past 6:00 or 6:30 this evening, 8 but if we're at a point where it seems like pushing 9 until six or a little after six seems like we're --10 11 might be -- if it seems like that might be a stopping 12 point, I'm not opposed to going a little bit late like 13 that this evening. 14 I am not sure there's much need to go past 15 that, and then reassess where we are this same time 16 So I mean that's how I am thinking about it, tomorrow. but like I said, anybody else's quess is as good as mine 17 of what we are looking at on the remaining list of 18 witnesses and knowing what each other are thinking in 19 20 terms of your plans for cross-examination. 21 So with that, I'll just ask if there's any --22 if there's any party who cannot stay at all past five 23 o'clock today, please let me know. But I am thinking we might have some flexibility in just seeing what a 24 25 natural stopping point is going to be today, as we look

1	Page 462 at approaching the next two days. Also considering that
2	we might want to reserve some time for closing
3	arguments.
4	That was a long answer that didn't really tell
5	you anything. Thankfully most of you are giving shorter
6	answers than that. Mr. Longson.
7	MR. LONGSON: Chair, I will just note that
8	Interwest will be happy to put Mr. Jenner on this
9	evening after Mr. Teply, depending on how long he goes.
10	So either this evening or tomorrow morning works great
11	for us.
12	CHAIRMAN LEVAR: I think I was going to let
13	PacifiCorp decide if they wanted to do their final
14	witness first. But I think we are in plenty of time to
15	get your witness within your time constraints ether
16	today or tomorrow morning.
17	MR. LONGSON: Okay. Thank you.
18	CHAIRMAN LEVAR: Anything else before we go to
19	cross-examination? Okay. Thank you. Mr. Longson, do
20	you have any questions for Mr. Teply?
21	MR. LONGSON: No questions. Thank you.
22	CHAIRMAN LEVAR: Okay. Mr. Holman.
23	MR. HOLMAN: No questions. Thank you.
24	CHAIRMAN LEVAR: Mr. Michel.
25	MR. MICHEL: Just a couple questions.

Page 463 1 CROSS-EXAMINATION 2. BY MR. MICHEL: Good afternoon, Mr. Teply. 3 0. 4 Good afternoon. You have described the project that makes up 5 6 the combined project that the company is seeking approval for in your testimony, right? 7 Yes, that's correct. 8 Α. And as part of your background, you did -- you 9 0. did work evaluating EPA's clean power plan? 10 11 Α. I did. 12 0. And if EPA's clean power plan were to be 13 revived in the future, would the projects or the facilities that make up the combined project, exclusive 14 of the transmission facilities, would those be eligible 15 to receive emission reduction credits under that clean 16 power plan? Or would those have been eligible? 17 I think the answer to -- if we are 18 19 basing the question on the originally prescribed clean 20 power plan, there were credits available for any 21 nonemitting resource. So I would say in that context 22 the -- obviously, the new wind farms, enough wind 23 projects as part of this combined project would qualify under the originally contemplated clean power plan. 24 And those credits under certain circumstances 25 Q.

- 1 could be traded or sold much like renewable energy
- 2 credits?
- 3 A. The concept of trading was one of the
- 4 considerations in the clean power plan as originally
- 5 proposed, yes.
- 6 MR. MICHEL: Okay. That's all I have. Thank
- 7 you.
- 8 CHAIRMAN LEVAR: Okay. Thank you.
- 9 Mr. Jetter.
- 10 CROSS-EXAMINATION
- 11 BY MR. JETTER:
- 12 Q. Hi. Good afternoon.
- 13 A. Good afternoon.
- 14 Q. I'll try to keep this as brief as I can. You
- 15 mentioned that the company had purchased development
- 16 transfer agreements, which were a type of an option
- 17 agreements; is that correct?
- 18 A. Yes. I did mention that we had entered into
- 19 development transfer agreements for the -- just to be
- 20 clear, the TB Flats 1 and 2, and the Ekola Flats
- 21 projects that I discussed earlier in testimony.
- 22 Q. And as part of that, you received the
- 23 opportunity to bid a relatively favorable queue
- 24 position?
- 25 A. So as we, as I described in my -- in my direct

- 1 testimony, we had reviewed the interconnection queue.
- 2 We had engagements with several developers, obviously
- 3 through the integrated resource plan, and integrated
- 4 resource planning process that ran through 2016, into
- 5 2017.
- 6 We get a lot of interest that -- in the
- 7 strategy and development group from the sophisticated
- 8 parties that you have heard a lot about today that
- 9 monitor the queue, develop wind projects, solar
- 10 projects, all types of projects.
- 11 So our interest, as we headed into the RFP
- 12 process here, was to ensure that we could, one, identify
- 13 whether or not there was an interested counterparty that
- 14 did have what I would call as a preferred
- interconnection queue position, that would be willing to
- 16 let the company bid on that set of projects while
- 17 allowing them to bid on that set of projects as well.
- 18 Q. Thank you. And so I understand that
- 19 correctly, you purchased those in sometime 2016?
- 20 A. Actually, no. We engaged that party in the
- 21 spring of 2017, following the integrated resource plan
- 22 filing. We ultimately signed the development transfer
- 23 agreement.
- And when you say purchased, I just want to be
- 25 clear. There is a limited payment stream associated

- 1 with the development activities that are ongoing for
- 2 those projects. Those agreements are contingent, as I
- 3 mentioned, upon receiving regulatory approvals across
- 4 our regulated states. They are also contingent upon
- 5 that developer completing permitting through the end of
- 6 this year.
- 7 And then ultimately they have a concept around
- 8 a closing, which is when we would actually inquire and
- 9 any interconnection queue positions as the agreements
- 10 would be assigned at that closing, which is anticipated,
- 11 assuming we continue to progress through the development
- of the combined projects, late this year or early next
- 13 year.
- 14 Q. And so is it -- is it correct to say that for
- 15 the optionality you acquired with those options in --
- in, it sounded like early 2017, that wasn't free, was
- 17 it?
- 18 A. No. Those -- those were not free agreements.
- 19 But they were very limited, from a cost exposure
- 20 perspective, as compared to say, acquisition of an
- 21 entire project.
- 22 Q. Okay. And your intention would be then for
- 23 those costs to be wrapped into the capital costs,
- 24 county-wise for these project; is that correct?
- 25 A. Yes. Those costs are contemplated as part of

- 1 our project estimates that were submitted in the 2017
- 2 RFP process.
- 3 Q. And did you offer to transfer any rights to
- 4 any of the other bidders who might have been in a lower
- 5 queue position to also bid in at that project level
- 6 if --
- 7 A. I didn't have -- as I just explained, I
- 8 didn't -- I don't have the right to transfer an
- 9 interconnection gueue position that I have contingently
- 10 acquired as a development transfer agreement that has
- 11 not yet closed. So I don't have anything to transfer to
- 12 another bidder. The developer of the project retains
- 13 all of their original development assets today.
- 14 And as I mentioned, those are contingent
- 15 development transfer agreements, wherein, in the event
- 16 several conditions precedent throughout the course of
- 17 this year come to fruition, we would ultimately close on
- 18 a set of development assets, which would include the
- 19 interconnection queue agreements.
- 20 Q. In the event that the commission does not
- 21 approve this and the company decides not to go forward
- 22 with these projects, does the company still intend to
- 23 seek recovery for those dollars that were expended on
- 24 the development transfer agreement options?
- 25 A. I would presume that if the company did not --

- Page 468
- 1 well, if approvals were not received and the company did
- 2 not choose to go forward in any context with respect to
- 3 Utah, in that hypothetical, I would not assume that we
- 4 could recover those costs because they were -- would not
- 5 be used and useful.
- 6 MR. JETTER: Thank you. I have no further
- 7 questions.
- 8 CHAIRMAN LEVAR: Okay. Thank you. Mr. Moore.
- 9 CROSS-EXAMINATION
- 10 BY MR. MOORE:
- 11 Q. Hello, Mr. Teply.
- 12 A. Hello.
- 13 Q. May I direct your attention to lines 318 and
- 14 323 of your May 15th, 2018, surrebuttal testimony?
- 15 A. I'm there.
- 16 Q. You stated that you do not agree with the
- 17 office's witness, Commissioner Hayet's suggestions that
- 18 the commission place various conditions on preapproval
- 19 of the project, and categorize suggestions conditions as
- 20 unnecessary, unprecedented, unsupported and setting
- 21 positions that go well beyond the existing regulatory
- 22 compact.
- 23 Did I state your testimony correctly?
- A. That's what I stated, yes.
- Q. Do you want me to repeat that? Are you aware

- 1 that Utah code section 54-17-302(5)(b) provides the
- 2 commission has the option to approve the significant
- 3 energy resource decisions subject to conditions proposed
- 4 by the commission?
- 5 A. That sounds correct, subject to check.
- 6 Q. Now, may I direct you to your May 15th,
- 7 surrebuttal testimony, lines 88 and 99 -- 88 and 90.
- 8 I'm sorry.
- 9 A. One more time. Sorry, I lost you.
- 10 Q. Your May 15th, 2018, surrebuttal testimony,
- 11 lines 88 through 90.
- 12 A. I'm there.
- 13 Q. You stated that the company's condition --
- 14 "The company conditionally guarantees to provide PC
- 15 eligible wind projects to achieve -- to activities for
- 16 which the company can control, clearly noting exceptions
- 17 for force majeure and changes in law." Is that correct?
- 18 A. That's correct.
- 19 Q. Did you hear Ms. Crane's testimony yesterday
- 20 stating that that guarantee is also provided to your
- 21 contracting partners, for their failures to -- to -- a
- 22 failure that results in the loss of PATs that does not
- 23 constitute a force majeure -- force majeure or a change
- 24 in law?
- 25 A. I did hear Ms. Crane's testimony regarding

- 1 force majeure and contractor requirements.
- Q. Would you agree with me that I correctly
- 3 summarized her testimony?
- 4 A. Subject to check, in general, I believe that
- 5 was the concept that Ms. Crane committed to.
- 6 Q. Now, may I direct your testimony to your
- 7 January 16th, 2018, supplemental direct and rebuttal
- 8 testimony, lines 363 to 365?
- 9 A. I'm there.
- 10 Q. This may be easier if I have you read those
- 11 two lines. Starting with the company anticipates that
- 12 substantial completion.
- 13 A. "The company anticipates that substantial
- 14 completion for the wind projects under normal
- 15 construction circumstances, weather conditions, labor
- 16 availability, materials delivery, will be achieved by
- 17 November 15th, 2020, or as otherwise updated during
- 18 detail negotiation of project contracts, schedules and
- 19 implementation plans, with each of the short-listed wind
- 20 project counterparties."
- 21 Q. Now, could look at your February 16th, 2018,
- 22 second supplemental redirect testimony?
- 23 A. Okay.
- Q. Lines 193, 195. Again, you stated, "The
- 25 company anticipates a substantial completion for the

- 1 Ekola Flats project under again normal construction
- 2 circumstances, weather conditions and labor
- 3 availability, and materials will be achieved by November
- 4 15th, 2020." Is that correct?
- 5 A. That's correct.
- 6 Q. It's true, isn't it, that a number of
- 7 circumstances could arise that vary from normal
- 8 construction, weather and labor and material
- 9 availability conditions?
- 10 A. Yes, absolutely. And that's why when I
- 11 referred to those two excerpts as you noted, the dates
- 12 that I have provided are November 15th, versus the end
- of the year, the intent of which really as we are
- 14 negotiating with our contracts is to provide some float
- in the construction contracts, recognizing that on major
- 16 projects things like weather, delivery slips, those
- 17 types of things must be considered and accommodated
- 18 going into the contracting phase.
- 19 So that's why we established the dates that I
- 20 have and -- in testimony and we'll continue to finalize
- 21 those dates with our contractors.
- 22 Q. Is it your contention that a weather condition
- 23 or a material availability condition that deviates from
- 24 normal would be subject to the company's guarantee for
- 25 providing PTCs?

Page 472 I think as we have testified, any -- any 1 Α. No. 2 activities that are within our control, other than force 3 majeure and change in law, would be the exclusions 4 I would say, when we define the term force majeure as we have included in the pro forma contract, 5 for example, the EPC in my exhibits has a definition of 6 force majeure. Normal events are, you know, anything 7 that cannot otherwise be defined as force majeure, would 8 9 fall under the category company controlled and/or contractor controlled events in that regard. 10 11 Q. Thank you. Now, taking a different track now. 12 May I direct you to your January 16th, 2018, 13 supplemental and direct and rebuttal testimony? 14 Α. Okay. 15 Line 159 through 161. 0. 16 Α. I am there. 17 You stated "That the company's targeted the 0. date of April 16th, 2018, for the execution of 18 19 definitive agreements regarding the TB Flats 1 and 2 and the Cedar Springs projects." Is that your testimony as 20 21 of January 16th, 2018? 22 That was the testimony at that time. 23 Obviously, we have updated those dates to align with the 24 regulatory schedules that we now have before us as I

discussed in my summary.

25

- 1 Q. I am going to walk us through these changes
- 2 for a second here. So you can bear with me please?
- 3 A. Sure.
- 4 Q. Thank you. Now, may I direct your attention
- 5 to your February 16th, 2018, second supplemental direct
- 6 testimony, lines 89, 93.
- 7 A. I am there.
- 8 Q. And again, you testified that your
- 9 negotiations to finalize the terms and conditions of the
- 10 target for executing definitive agreements for the --
- 11 I'm paraphrasing here, for the EPC and TSA -- and TSA
- 12 contracts by April 16th, again, to align with -- and
- 13 this time you mentioned to align with the ongoing
- 14 regulatory review process. Is that your testimony, as
- 15 of February 16th?
- 16 A. As of February 16th, yes.
- 17 Q. Directing your attention to your May 15th,
- 18 2018, surrebuttal testimony, lines 204, 220.
- 19 A. I am there.
- 20 Q. Your testimony is, well, April 16 has passed
- 21 without the execution of definitive agreements for DPTC
- 22 contracts for TB Flats 1 and 2, and Ekola Flats are now
- 23 scheduled for execution on May 31st, 2018. And the TSA
- 24 contracts are scheduled for execution June 15th, 2018.
- 25 That's your testimony as of May 15th, 2018, correct?

Page 474 1 Α. As I stated in my summary, we have Yes. 2 adjusted the schedules for targeted dates for contract 3 executions based on the changes that occurred from early 4 in the year to today, or to the May 15th filing, amongst the various regulatory proceedings that ran across our 5 various states. 6 My question to you is, what regulatory 7 0. proceeding was the commission unaware of at the time of 8 your February 16th testimony, when you stated -- when 9 you stated the April 16th, deadline for executing 10 11 definitive agreements aligned with ongoing regulatory 12 review proceedings that you became aware of after the 13 16th testimony after -- excuse me. I'm going to start 14 that over. 15 That you became aware of after your February 16 16th testimony before your May 15th testimony? 17 So the procedural schedules in Wyoming, Α. Yeah. I am trying to think back. I don't have the dates off 18 19 the top of my head with respect to when we adjusted 20 procedural schedules in Utah, with respect to hearing 21 dates and so forth and ultimately assumed order dates. 22 But early in the year, as we made our filings 23 in January and February, parties had requested in 24 certain instances more time to review certain 25 information. So we amended procedural schedules across,

Page 475 I think all three of our states post-February, subject

_

to check on those dates.

- 3 And then we engaged our counterparties and
- 4 requested extensions of bid validity periods from that
- 5 April 16th time frame that we had originally prescribed,
- 6 not only in the 2017R RFP but also in our parallel path
- 7 commercial engagements, and requested extensions from
- 8 those counterparties to allow us to receive the results
- 9 of the R -- of the regulatory reviews.
- And as I mentioned in my summary, so that we
- 11 could incorporate any outcomes into any definitive
- 12 binding agreements prior to their execution, and not to
- 13 preempt an assumed outcome from our regulators.
- Q. In your May 15th, 2018, surrebuttal, lines 193
- 15 to 196 -- oh, I just. I'm sorry. That's a bad quote.
- 16 Bad cite.

1

2

- 17 The -- I understand -- did I understand your
- 18 testimony that the definitive agreements are set for
- 19 June now?
- 20 A. Yes. With the testimony you were just
- 21 referring to, lines 204 through 220 in my May testimony,
- 22 I list the various dates for the various agreements by
- 23 project, as to what we are currently targeting. Here
- 24 again, as we discussed in response to some commission
- 25 questions earlier today, I believe it was today, we do

- 1 have some remaining flexibility there.
- In the event we don't receive all orders, we
- 3 are currently engaged with our counterparties to be
- 4 flexible, if we are talking about a few days one way or
- 5 the other. So I would say, you know, that testimony
- 6 could be changed and altered, depending on when orders
- 7 would ultimately be received as we communicated, I
- 8 believe, to the commission earlier today. I think that
- 9 was today.
- MR. MOORE: Thank you. That's all I have.
- 11 CHAIRMAN LEVAR: Okay. Thank you, Mr. Moore.
- 12 Mr. Russell.
- 13 MR. RUSSELL: Thank you, Chair LeVar.
- 14 CROSS-EXAMINATION
- 15 BY MR. RUSSELL:
- 16 Q. I've got some questions that kind of piggyback
- 17 on what we were just talking about. I think it will
- 18 help if we focus on pages 9 and 10 of your surrebuttal
- 19 testimony.
- 20 A. Okay. I'm there.
- 21 O. On pages 9 and 10 you discuss in this sort of
- 22 bullet pointed form the progress and anticipated dates
- 23 for certain contracts related to the TB Flats 1 and 2,
- 24 Ekola Flats and Cedar Springs projects, right?
- 25 A. That's correct.

Page 477 And I -- I want to understand where things 1 0. 2 stand now so that we can understand what needs to happen between now and some of these dates that you have got 3 4 that are set out in the future. Because the TB Flats 1 and 2 and Ekola Flats have kind of identical dates and 5 formats, maybe we can talk about those together. 6 of those indicate firm price EPC and TSA offers received 7 complete, but they also indicate that executable EPC and 8 TSA contracts will be done sometime in the future. 9 10 you see that? 11 Α. I do. 12 0. And tell me what needs to be done between now 13 and, say, June 15th to get to a point where you can have 14 an executable TSA for each of those projects. 15 So for the TB Flats and Ekola Flats projects Α. 16 that we have listed, the TSA agreement by June 15, the reason I have a lag between the May 31st date for the 17 executable EPC contract and the follow-on June 15th TSA 18 contract is that in the event we have some sort of a 19 20 schedule outcome from the regulatory proceedings, we 21 have effectively negotiated the contract terms for both 22 the EPC and the turbine supply agreements. 23 But we are leaving open the potential need to 24 align delivery dates amongst the schedules. Obviously, 25 the EPC contract is contingent upon timely receipt of

HEARING, VOLUME II, DOCKET NO. 17-035-40 - 05/30/2018 Page 478 1 turbines so that they can meet their obligations under 2 the EPC contract. And then we need to be able to hold 3 the turbine supply agreement -- or the turbine supplier 4 accountable for delivery schedules. So I'd say primarily the remaining terms to be 5 negotiated are delivery schedules for equipment. 6 7 have effectively exchanged the rounds and rounds of red lines, where applicable, to the form contracts for EPC 8 9 and the TSA. So from an agreement perspective, we've 10 largely come to terms. 11 I would say, however, that the counterparties 12 in certain instances, depending on the amount of lag, in 13 the event we don't receive approvals, as I mentioned earlier, bid validity periods do expire. And in the 14 15 event they expire, that can change schedules, which are 16 exhibits to contracts, terms, pricing, those types of 17 things. So I would say that the items that remain to 18 19 be completed are largely those that are contingent upon

- be completed are largely those that are contingent upon receiving approvals and then being able to finalize the details of the interactions between an EPC contractor and a turbine supplier with respect to TB Flats 1 and 2 and Ekola. Sorry.
- Q. So those additional terms that need to be finalized, between now and whenever the contracts become

- 1 executable, those additional terms could be terms upon
- 2 which the -- your counterparty could decide they no
- 3 longer want to be a part of this contract, right?
- 4 A. In the event we don't receive approvals, I
- 5 would say, you know, I think there are potentials for
- 6 changes there. Counterparties are obviously watching
- 7 our regulatory proceedings very closely, as you can
- 8 imagine.
- 9 We -- we have engaged the market, but
- 10 ultimately, you know, if you do not receive approvals,
- 11 it is -- there is a potential that the terms do change,
- 12 and that's largely why we have attempted to enter into
- 13 good faith negotiations, take them as far as we can, but
- 14 recognize the fact that we still are subject to
- 15 regulatory reviews and approvals.
- 16 And in trying to maintain that -- that status,
- 17 if you will, with the counterparties. And as I
- 18 mentioned earlier, not preempt or presume commission
- 19 outcomes, regulator review outcomes by signing --
- 20 signing binding agreements and potentially commercial
- 21 commitments prior to receiving those approvals.
- 22 Q. And if -- if the company hasn't entered into
- 23 those commitments, neither have your counterparties,
- 24 right?
- 25 A. So the counterparties, as I mentioned, with

- 1 bid validity periods and so forth, they have engaged the
- 2 competitive market for things like steel, aluminum,
- 3 copper. So we do know where they stand with respect to
- 4 the current bid validity periods, but without binding
- 5 agreements, they have not procured equipment, those
- 6 types of things.
- 7 Q. And I guess the direct point I am asking about
- 8 is, if, you know, for some reason the -- your
- 9 counterparty on the TSA contract for Ekola Flats
- 10 decides, setting aside the -- whatever ruling we get
- 11 from this commission on this issue, that they decide
- 12 they want to walk; maybe turbine costs are higher, steel
- 13 costs are higher, whatever it is, they could walk
- 14 tomorrow if they decided it was in their commercial best
- 15 interest?
- 16 A. I would say any party, until there is a
- 17 binding agreement, could walk if that's the term of art
- 18 today. I would also mention that we also, obviously, as
- 19 I mentioned earlier, we did go to the competitive
- 20 market. We short-listed EPC contractors. We
- 21 short-listed turbine equipment suppliers. So I think
- 22 the risk then becomes, do you go to your next best bid
- 23 and finalize negotiations there.
- Q. Okay. And I appreciate you walking through
- 25 this with me. I -- in your testimony in this -- we can

- 1 get to the direct quote if we need to, but you indicate
- 2 that the projects will have robust risk mitigation
- 3 provisions in them.
- And I guess my question about that is, that's
- 5 your anticipation that the projects will have -- that
- 6 the contracts you intend to sign with EPC TSA, ETA
- 7 agreements, that they will have those risk mitigation
- 8 measures that you testified about. But until there's --
- 9 those contracts are signed, those risk mitigation
- 10 measures can't be enforced, right?
- 11 A. I can't enforce an agreement that I haven't
- 12 signed. But as I mentioned earlier, the parties that
- 13 were engaged with -- are engaged in the process, they
- 14 are looking forward to moving forward with these
- 15 projects. So I don't see that as a -- as a major risk.
- 16 But in the event we -- as I also mentioned, we
- 17 have intentionally not signed these agreements. But
- 18 there is always that risk that a counterparty does
- 19 remove itself from a competitive offering, and as I
- 20 mentioned earlier, our next step or our work-around in
- 21 that regard would be to go to the next bidder.
- 22 Q. Okay. Thank you. I want to switch gears here
- 23 for a second. My next question may require us to give
- 24 you a copy of the Utah independent evaluator's report.
- 25 But we'll see where we get. Have you reviewed that

Page 482 1 report? 2 Α. Yes, I have. Okay. There was a provision in there, and 3 Q. 4 it's on page 85 of the redacted -- excuse me, the unredacted confidential version, that there's a bullet 5 point in the recommendations that discussed the 6 potential for one of the projects to have a lower wind 7 generation outcome than is anticipated. Do you recall 8 9 that? 10 Yes, I do. The -- and if I am not mistaken, Α. 11 it's the TB Flats 1 and 2 project. Does that sound 12 right? 13 Okay. I think that's right, although I think 0. 14 that part was redacted, but I'm not sure if that's --15 When we're going by memory, I don't know what Α. 16 was redacted. 17 MS. MCDOWELL: Let me just hand you a copy. MR. RUSSELL: I don't know whether it was or 18 19 not. 20 (By Mr. Russell) So yeah, let's turn -- it's Q. 21 page 85 of that one. 22 Α. I'm there. 23 0. Okay. And I think the bullet starts "a common occurrence in the wind industry." Do you see that? 24

Yes, I do.

Α.

25

Page 483 And I don't intend to read the whole 1 0. Okay. 2 thing, but if you -- and if you need to read it before you answer this question, go ahead, but my question 3 4 relates to the IE's concern about a project having -the representation that the wind generation from that 5 6 project will be greater than what is, you know, realized in real life. 7 And my question to you is, what -- what 8 9 provisions of the agreements seek to mitigate those risks, if any? 10 11 Okay. So with respect to those risks, the Α. 12 risks that we are talking about are wake losses, and 13 with respect to that given project, there is an upstream project that we own and operate. I won't name it, even 14 15 though I already did. But there's an upstream project that is known. We have assessed that wake effect from 16 that upstream project, not only in the report that's 17 mentioned here -- let me see if it's redacted. 18 19 0. No. 2.0 The superior report. But also in our Α. No. 21 original work that we did to assess the wind regime on 22 TB -- on that project with Blackened Beach. So we have 23 looked at the wake effects. We feel that that risk can 24 be mitigated.

I think it's also important to note that the

25

- 1 typical way of mitigating any additional effects is as
- 2 we get into micrositing of individual turbines, we'll
- 3 continue to rely on wind assessments. It's not a
- 4 one-time deal. We have obviously, based on our
- 5 proposals and so forth on those initial assessments, but
- 6 as we get into micrositing, we will be looking at that
- 7 very closely, because obviously we're very familiar with
- 8 that upwind farm.
- 9 Q. Sure. In the agreements that you are
- 10 contemplating, we talked a little bit earlier about the
- 11 TSA, the EPC contracts. Are there any provisions in
- 12 those agreements that can help mitigate the risks that
- 13 the IE is talking about in this bullet pointed
- 14 paragraph?
- 15 A. Yeah. I think the provisions in the contracts
- 16 that help mitigate their risks from a cost and
- 17 performance perspective, when you go into micrositing,
- 18 obviously there are -- there's bandwidth around what the
- original proposal contemplated. There's mechanism
- 20 within which to submit updated layouts.
- 21 If there is a perceived change in work, for
- 22 example, to relocate a turbine, we'll look at the
- 23 offsetting costs. Did we save collector system costs
- 24 versus a relocation? Did we save on foundation costs
- 25 for an individual turbine? So the protections and the

Page 485 mitigations largely would be managed via the change in 1 2 work provisions in the contract. 3 I don't know that that completely mitigates 4 the risk. I think the main focus is the fact that we have two -- two reports out of two independent wind 5 assessments firms that have assessed the wind 6 7 performance. And then as I mentioned, as we get into micrositing, we'll take one more look at it, and that 8 9 really becomes your risk mitigation for the long-term operation of the facility. That micrositing effort is 10 11 important to us. 12 MR. RUSSELL: Okay. Thank you. That's all I 13 have. 14 CHAIRMAN LEVAR: Okay. Thank you, Mr. Russell. Mr. Baker. 15 16 MR. BAKER: Thank you. 17 CROSS-EXAMINATION BY MR. BAKER: 18 19 0. Good afternoon Mr. Teply. 2.0 Good afternoon. Α. 21 I want to quickly follow up on a question 22 about clean power plan. Are you aware that the Supreme

- 23 Court has stayed the rule that's known as the clean
- power plan? 24
- 25 Absolutely. Α.

- 1 O. And are you aware that the current
- 2 administration, through the EPA, has proposed the repeal
- 3 of that stayed clean power plan?
- 4 A. Yes. I helped submit comments on that from
- 5 Berkshire Hathaway Energy.
- 6 Q. All right. Moving to another issue here
- 7 quickly, the robust mitigation measures that you speak
- 8 of in the contract, those are in the various -- those
- 9 are ultimately, will be determined by the executable
- 10 contracts; is that correct?
- 11 A. Yes. The terms and conditions as included
- 12 originally in the pro forma agreements that I have
- 13 attached as exhibits ultimately are negotiated kind of
- 14 line by line, if you will. Particularly the -- those
- 15 around, you know, significant provisions like force
- 16 majeure, indemnity, performance guarantees, the types of
- terms we have in those agreements, and then we
- 18 actually -- we ultimately capture the agreement in the
- 19 executed documents.
- 20 Q. And so the -- the version that's currently --
- 21 that have been submitted as part of the record are just
- 22 the pro forma contracts; is that correct?
- 23 A. Yes. As I mentioned, we've intentionally not
- 24 submitted nor finalized our definitive agreements at
- 25 this point. We have negotiated them to the point that

- 1 we can deliver on the dates that I have in my testimony,
- 2 but we have not included the executed contracts as of
- 3 yet, because they are not executed as of yet.
- 4 Q. But so the revised versions that have gone
- 5 through numerous red lines, those are not -- where you
- 6 sit today, those revised terms and conditions are not
- 7 available for -- for review by any party or the
- 8 commission today, are they?
- 9 A. If they would have been requested, we would
- 10 have provided them under highly confidential
- 11 protections, but largely because they were still being
- 12 negotiated, we have not made them available. Not that
- 13 we wouldn't have made them available if requested.
- 14 Q. They are not in the record though for the
- 15 commission to review today, are they?
- 16 A. Not at this time. You know, we have followed
- 17 a very similar path with respect to this significant
- 18 energy resource decision docket as we did, for example,
- 19 with the Jim Bridger 3 and 4 SERS, where we ran a
- 20 parallel path, request for proposals process.
- 21 We entered into this process recognizing the
- 22 timing required, and ultimately I think in that docket,
- 23 and subject to check, effectively were approved
- 24 conditionally upon ultimately submitting those contracts
- 25 for final reviews at the appropriate time, after they

- 1 had been executed.
- Q. So -- so the answer is no, they are presently
- 3 not available, and that leaves us taking your word that
- 4 they are robust mitigation measures, correct?
- 5 A. To the extent that you have reviewed the pro
- 6 forma documents that are in the exhibits in my -- in my
- 7 testimony, I would say the final agreements remain
- 8 material -- materially consistent. But as you -- as
- 9 anyone that's negotiated a contract can imagine, there
- 10 have been rounds of red lines on specific terms and
- 11 conditions, but I'd say materially consistent. So from
- 12 a take my word for it, I would refer you to the pro
- 13 forma contracts that we have provided.
- Q. And so we can't verify either the robustness
- or that they are materially consistent at this point;
- 16 can we?
- 17 A. Only via the discovery opportunities that I
- 18 mentioned earlier.
- 19 Q. I want to go in -- while we're talking about
- 20 contracts, ask you about force majeure. And, you know,
- 21 I think you said that, and Mr. Vail testified about two
- 22 construction windows, or two construction seasons puts
- 23 it tight, but perhaps adequate to meet the 2020
- 24 deadline; is that correct?
- 25 A. Yes. We believe the remaining construction

- 1 schedules, the two construction seasons for the
- 2 transmission in particular, remain appropriate to
- 3 deliver the projects by 2020.
- 4 Q. And so hypothetically speaking, if there is a
- 5 forest fire that significantly disrupts one of those
- 6 construction schedules -- one of those construction
- 7 seasons or actually removes it all completely, would you
- 8 view that as a force majeure event?
- 9 A. I wouldn't -- with the right-of-way that we
- 10 have prescribed, as well as the wind farm sites that we
- 11 have identified, a forest fire is not a concern. But
- 12 for that hypothetical, I would mention that I would say
- depending upon the impact, the original cause, each
- 14 force majeure potential event is reviewed on a
- 15 circumstance-by-circumstance basis.
- 16 While I don't think that's a good hypothetical
- in this instance, in the event an event similar to a
- 18 forest fire was deemed to be a force majeure, pursuant
- 19 to the force majeure contract terms, we would bring that
- 20 back to the commission as we have committed to do.
- 21 O. I quess a forest fire isn't a good example
- 22 because of the -- of a force majeure event because of
- 23 the rights-of-way and some of the other things that you
- 24 mentioned. Are you then testifying that forest fires
- 25 are within -- or insulation from forest fires are within

1 your control?

- A. No. That's not what I testified to. I think
- 3 the main point being force majeure is defined in each
- 4 contract. We have an example of force majeure
- 5 definition in the contract in my exhibits, if we would
- 6 like to read through that.
- But my point being, a force majeure event will
- 8 first be defined by the individual contract and force
- 9 majeure definitions are not that -- are very somewhat
- 10 boilerplate, contract to contract. I think you do get
- 11 some negotiation around particularly, you know, site
- 12 specific type of events.
- So I would -- I would just go back to force
- 14 majeure perspective. It will be defined in the
- 15 contract. We will administer force majeure pursuant to
- 16 those terms, and we would bring such an event to the
- 17 commission if it was not commercially resolvable and
- 18 became a material issue for the commission to weigh in
- 19 on.
- 20 Q. So switching gears here briefly. So
- 21 yesterday, I was asking Cindy Crane about the company's
- 22 risk tolerances in kind of arm's length negotiations.
- 23 And one of the examples I want to use was your build
- 24 transfer agreements that you reference in your
- 25 testimony. So we deferred that question until today.

Page 491 1 And I think during -- you said that BTAs 2 reflect an arm's length transaction; is that correct? Α. BTAs arm's length with respect to PacifiCorp's 3 4 direct access to the constructors and the equipment suppliers. Obviously our contract under a build 5 transfer is with the developer or the project proponent. 6 Can I turn your attention to Exhibit CAT4SS-8. 7 0. CAT4SS? 8 Α. Yes, 4SS. More specifically, page 28 of that. 9 Q. 10 CHAIRMAN LEVAR: Let me just clarify. Page 28 11 from what's at the top right of the page? 12 MR. BAKER: Yeah. Page 28 to 117. 13 CHAIRMAN LEVAR: Okay. Thank you. 14 0. (By Mr. Baker) And I'm not sure if the -- I'm looking at what was filed with the redacted version. 15 So just to -- I want to be talking about -- or ask some 16 questions about section 4.5 of the build transfer 17 agreement, and I believe that's page 17 of your BTA. 18 I'm there. 19 Α. 20 You are there. So this section pertains to 0. 21 developer permits and developer regulatory approvals; is 22 that correct? Yes, it is. 23 Α. And the definition starting in paragraph 8 24 0. sets forth that all permits required by law, and I'm 25

- 1 paraphrasing here, with the design, engineering,
- 2 development, construction, start-up, testing, commission
- 3 and completion, ownership and operation of the project,
- 4 in accordance with this agreement and other project
- 5 documents are developer permits; is that correct?
- 6 A. That is the language that we just looked at.
- 7 Q. And I -- you know, will ask if you will agree
- 8 that the definition of permit under these PTAs means any
- 9 authorization, approval or consent. It goes on and
- 10 related to any governmental authority. That
- 11 unfortunately is in Appendix Z. I am happy to read the
- 12 whole thing or give you a copy of Appendix Z if you
- 13 would prefer.
- 14 I don't -- and I believe that at least the
- 15 version that was put online, Appendix Z was one of those
- 16 that was just referenced in the hyperlink to the RFT
- 17 documents, it was not actually included into the record.
- Do you know, did Rocky EMD -- or did
- 19 PacifiCorp in its formal filing submit all of the
- 20 exhibits, or just the ones that were included in the
- 21 online filing? And I ask just to know if I need to
- 22 incorporate this into the record?
- 23 A. Yeah. I am not sure I know the answer to
- 24 that, but I believe we incorporated the form of the
- 25 agreement, maybe not Exhibit Z. I am not sure.

- 1 Q. Actually, at this point if Mr. Teply will just
- 2 read into the definition of permit. I probably don't
- 3 need to mark it.
- A. So do you want to refer to section 4?
- 5 Q. I'm sorry. The BTA Appendix Z, please read
- 6 the definition of permit.
- 7 A. The permit definition reads, "It means any
- 8 authorization, approval, consent, waiver, exception,
- 9 variation -- or sorry, variance, order, publication,
- 10 license, filing, registration, ruling, permit, tariff,
- 11 certification, exemption and other action required by,
- or with and noticed to and declarations of or with any
- 13 governmental authority."
- 14 O. Thank you. Now, would you -- would you
- 15 stipulate, I suppose subject to check, that that
- 16 definition of permits is what's used to modify the
- 17 definition of developer permit in section 4.5 A?
- 18 A. Yeah. So I think section 4.5 A reads,
- 19 "Schedule 4.5 A sets forth all permits required by," and
- 20 skipping the hypothetical or the parenthetical there,
- 21 "required by applicable law in connection with the
- 22 design, engineering, development, construction,
- 23 start-up, testing, commissioning, completion, ownership
- 24 and operation of the project in accordance with this
- 25 agreement and other project documents."

- So there's a schedule, 4.5 A that we haven't
- 2 looked at.
- 3 Q. Correct. But permits is a capital term, and
- 4 in the first line on subparagraph A, permits is
- 5 capitalized, correct?
- 6 A. Yes. Permit is capitalized, but the driver
- 7 here would be schedule 4.5 A.
- 8 O. The schedule would set forth the specific
- 9 permits. But permits does -- is defined in the Appendix
- 10 Z that you just read, correct?
- 11 A. Yeah. Permits is broadly defined, and then
- 12 schedule 4.5 A is intended to limit that list.
- 13 Q. Thank you. If we move to subparagraph B, that
- 14 defines -- that says, "All developer permits" -- I'll
- 15 skip some of the standard, "are in full force and effect
- 16 and are final, and all appeal periods with respect
- 17 thereto have expired and terminated." Is that correct?
- 18 A. Yes. I would just continue to say, that is
- 19 with respect to the permits identified in schedule 4.5
- 20 A, which we don't have here.
- 21 O. "And there is no action, suit, investigation
- 22 or proceeding pending, or to developer's knowledge
- 23 threatened that could result in the modification,
- 24 rescission, termination or suspension of any developer
- 25 permit obtained prior to the date this representation is

- 1 made or deemed made pursuant to this agreement."
- 2 Did I read that correctly?
- 3 A. Yes. You have read it correctly as it
- 4 pertains to the developer permits on schedule 4.5 A.
- 5 Q. Sure. And so if -- if the RFP was a developer
- 6 permit, this -- and Rocky Mountain Power was the
- 7 developer, Rocky Mountain Power would not be able to
- 8 make this representation, would it?
- 9 A. It depends on what would be listed on schedule
- 10 4.5 A as a developer permit.
- 11 Q. So if an agreement between Rocky Mountain
- 12 Power and the rate payers, the rate payers put on
- 13 schedule 4.5 the request for approval -- the RFP
- 14 solicitation approval order out of docket 170 --
- 15 17-035 -- I believe it was 23, and because that order is
- 16 on appeal, Rocky Mountain Power could not make this
- 17 representation, correct?
- 18 A. Under that set of hypothetical circumstances,
- 19 that would be correct.
- 20 Q. Would you agree with that me that the RFP is
- 21 integral to the -- that the RFP approval was a necessary
- 22 step in moving forward in this development process?
- 23 A. I would say the RFP approval is a very
- 24 important step in moving ahead with this approval
- 25 process, yes.

Page 496 You couldn't have proceeded with this RFP 1 0. 2 solicitation without the approval of the RFP, correct? Α. I -- I don't believe so. But I would -- I am 3 4 subject to check on that. Well, it -- you said it was a very necessary, 5 6 or it was a material component of the steps that you have gone through to present the specific request for 7 approval of your research decision, correct? 8 9 Correct, that is what I said. If we're trying to correlate this to the permits, though, under this 10 11 contract, that's not the same. 12 0. I am not trying to correlate the RFP appeal to 13 the permits that the developers that are your -- your 14 counterparties in a BTA are. I am trying to say that in such -- what this says to me is, you would not accept an 15 16 appeal risk from your developers, your counterparties, if that developer permit was -- was necessary for the 17 project to proceed. Is that what section 4.5 says to 18 19 you? 20 Required to construct is what it says to me. Α. 21 0. In connection with the start-up, testing 22 design, engineering. That solely relates to just the ability to construct, not all of the approvals to get up 23

A. The way I interpret section 4.5, developer

to the ability to start constructing?

24

25

- 1 permits is -- is clearly targeted at construction
- 2 related operational permits, permits that are required
- 3 to begin construction and/or operate the facility. I'm
- 4 not sure I am tracking your question here.
- 5 Q. Would this include things -- a governmental
- 6 authorization such as a cultural resources review?
- 7 A. If that cultural resources review was required
- 8 to issue a permit to construct, I would say that would
- 9 be a -- that would be included in schedule 4.5 A as
- 10 defined in this contract.
- 11 Q. So if there was a step that was necessary to
- 12 get to the -- government authorization that was
- 13 necessary in order for you to proceed to a construction,
- 14 that would be in schedule 4.5?
- 15 A. If it was required for me to be allowed to
- 16 construct.
- 17 Q. So you would not accept the appeal risk of
- 18 something that material to the project, would you?
- 19 A. If I clearly have a requirement to construct,
- 20 I will make sure that the developer is not subject to
- 21 appeal prior to beginning to move dirt, for example,
- 22 because that is a requirement to have that permit in
- 23 hand prior to starting construction.
- 24 Q. But you are asking the rate payers here to
- 25 take a risk on something that was necessary before you

- 1 could even begin the process to get to putting a shovel
- 2 in the dirt; is that correct?
- 3 A. Which risk are we talking about?
- 4 Q. The RFP appeal that is currently pending.
- 5 A. I don't see the RFP appeal as a permit to
- 6 construct. I guess that's the correlation I am not
- 7 tying.
- 8 Q. You don't see the RFP as a necessary step in
- 9 this process that will eventually allow for you to begin
- 10 construction, if it is approved?
- 11 A. As I mentioned before, I do see it as a
- 12 necessary step. What I am delineating here is, I don't
- 13 see it as a requirement to begin construction, per se.
- 14 I see that as being more in the -- in the ilk of the
- 15 regulatory review, the approval of our regulator, and
- 16 the indication as to how this project would ultimately
- 17 be included in rates in this example in the state of
- 18 Utah.
- 19 Q. Are you saying you do not need the regulatory
- 20 approval of the solicitation process to proceed with the
- 21 construction of this project?
- 22 A. That's not necessarily what I am saying. But
- 23 what I am saying is, I don't see the approval of the RFP
- 24 as a permit to construct.
- Q. I am not asking if it's a permit to construct.

Page 499 MR. LOWNEY: Objection. I think the question 1 2 has been asked many times in many different ways, and 3 the answer is the same from Mr. Teply every time. I'm 4 not sure we're getting anything new. 5 CHAIRMAN LEVAR: Do you want to respond to the 6 objection? MR. BAKER: Well, I believe he is trying to 7 evade the question. I was -- when I was trying to cross 8 9 Ms. Crane, I was asking generally about the contracting 10 positions of the company and was told to speak with 11 Mr. Teply. Now Mr. Teply is evading the question by 12 trying to drive to a very specific, this contract only 13 applies to a very narrow area of construction. 14 I still have not gotten an answer about the 15 company's broader acceptance of appeal risks when it has third party negotiations. And so I feel he is trying to 16 avoid the question. 17 CHAIRMAN LEVAR: I think I am going to rule 18 19 that Mr. Teply has answered the question to his -- to 20 his best knowledge and opinion. I do think we get the 21 point also on the record. But I am not inclined to 22 force Mr. Teply to answer in a different way than he has 23 so far. 24 MR. BAKER: I have no further questions. 25 Thank you.

Page 500 1 CHAIRMAN LEVAR: Thank you. Any recross? 2 mean, sorry, redirect. 3 MR. LOWNEY: We have no redirect. 4 CHAIRMAN LEVAR: Okay. Thank you. 5 Commissioner White, do you have any questions? No questions. Thank you. 6 COMMISSIONER WHITE: CHAIRMAN LEVAR: Commissioner Clark. 7 8 EXAMINATION 9 BY COMMISSIONER CLARK: Good afternoon, Mr. Teply. 10 0. 11 Α. Good afternoon. 12 Q. Forgive my lack of immediate recall of this 13 material. 14 Α. Me too. But the development transfer agreements, the 15 Q. financial arrangements associated with them, relative to 16 TB Flats and the Ekola, or I mean -- yeah, TB Flats and 17 Ekola Flats projects, are those costs, I'll call them, 18 or financial commitments, are they in the record in any 19 of the confidential material that we have from the 20 21 company? 22 They would be the -- the costs associated with 23 the development transfer agreements are incorporated into our cost, the benchmark projects cost summaries. 24 I'd have to double-check which exhibits. 25

- 1 Q. What I am asking is if they are called out.
- 2 A. Whether they are line item?
- 3 Q. Right.
- 4 A. I would have to double-check. I know they are
- 5 included in -- I have the rollup costs of the individual
- 6 projects included in the exhibit. I would need to
- 7 double-check the broader sort of exhibits to find, did I
- 8 get a line item on individual DTA costs.
- 9 Q. Okay.
- 10 A. I'm not certain that I did.
- 11 Q. Uh-huh. If that's a quick thing to do, but as
- 12 you go there, let me tell you what my next set of
- 13 questions are. I -- because I'd like you to point me to
- 14 the place in the record where, if the commission wanted
- 15 to identify by specific project some -- the contract
- 16 amount, by -- which would be a condition of our approval
- 17 or something like that.
- In other words, you -- you have identified,
- 19 here is -- here is the amount of the -- of the TSA
- 20 agreement. Here is the amount of -- or the value of the
- 21 EPC agreement relative to this particular facility or
- 22 unit. Where will I find the numbers that are the
- 23 current state of your expectations?
- 24 A. Okay.
- Q. Does that make sense to you?

1	Page 502 A. I understand your question.
2	Q. Probably in the same place as the other.
3	A. I'll need to look, yes.
4	COMMISSIONER CLARK: Okay. So maybe we can go
5	off the record for a moment while he does that, if
6	that's all right.
7	CHAIRMAN LEVAR: Sure. About how long do you
8	think?
9	THE WITNESS: Just a few minutes. I think I
10	just need to flip through this book.
11	CHAIRMAN LEVAR: Okay. Should we just sit
12	here while you do it?
13	THE WITNESS: That's fine.
14	CHAIRMAN LEVAR: Is there any reason to
15	recess?
16	THE WITNESS: I think I can do it I've got
17	rollups in my exhibits. I was going to check with
18	Mr. Link to see. He's got them probably in his rollups
19	so
20	CHAIRMAN LEVAR: Maybe we should just take a
21	brief recess then. Why don't we take 10 minutes, then
22	we'll reconvene in 10 minutes.
23	THE WITNESS: Yep.
24	(Recess from 3:57 p.m. to 4:08 p.m.)
25	CHAIRMAN LEVAR: Okay. I think we're back on

- 1 the record, and I think Commissioner Clark wanted to
- 2 make a brief clarification to his question.
- 3 Q. (By Commissioner Clark) I was a little vague.
- 4 But, and please don't read more into my question than --
- 5 you would make a mistake if you did read more into any
- of my questions than I'm intending.
- 7 But what I am attempting to do is, I am
- 8 envisioning a scenario in which the commission wants to
- 9 condition approval on at least the execution of
- 10 contracts that have the values and the terms that you
- 11 had represented in the -- in your testimony, or the
- 12 record generally, and that you based -- that is the
- 13 company has based its economic analysis on.
- 14 A. Uh-huh.
- 15 Q. So that's -- so I just want to know, in --
- 16 where we can exactly find the current state of play of
- 17 those items?
- 18 A. Okay. Okay. So I think when we have looked
- 19 at the various exhibits between my testimony and
- 20 Mr. Link's testimony, and the best rollup of those
- 21 costs -- now, I don't think it's to the level of detail
- 22 you are looking for.
- Q. Right.
- A. The best rollup of those costs is my Exhibit
- 25 CAT-5SS. And would I just explain that exhibit provides

- 1 project-by-project costs.
- 2 Q. Oh, good.
- 3 A. What it doesn't do is then break my individual
- 4 project costs down into individual line items, for
- 5 example --
- 6 Q. Sure.
- 7 A. -- EPC, term and supply agreement, development
- 8 transfer agreement. We did submit that information as
- 9 part of the RFP process. So we have that information,
- 10 but we haven't submitted it as an exhibit, primarily
- 11 because it's highly confidential, and it literally lists
- 12 my bid price --
- 13 O. Uh-huh.
- 14 A. -- for turbine supply agreement, EPC
- 15 agreement, et cetera. So we could produce that. It
- 16 would need to be retained under a level of highly
- 17 confidential protection, only for those line items,
- 18 because they effectively set the price that we have paid
- 19 for those individual contracts for the individual
- 20 projects.
- 21 So I have the rollup by project, but the
- 22 detail underneath that is available. We just haven't
- 23 submitted it because of the sensitivity of that
- 24 information.
- 25 Q. And the state of the art pro forma agreements

Page 505 1 that I think you have told us you expect will be 2 materially the same? 3 Α. Right. 4 0. When executed? 5 Α. Those are exhibits in my testimony. 6 Q. And are those -- where would those be exactly? So the one --7 Α. In their most current form? 8 0. 9 Yeah. So the pro forma agreements, CAT, I think it was 4SS-8, I believe. The -- should be the 10 11 build transfer agreement. 12 Q. Uh-huh. 13 Formal contract. Is that correct, Adam? want to double-check that reference. 14 15 MR. LOWNEY: Yep. 16 And then the EPC contract. Α. 17 (By Commissioner Clark) Right. Q. CAT1SS-17. And those would be the two, you 18 Α. know, major agreements for our -- for the kind of the 19 20 contract body form-up agreements there. And the turbine 21 supply agreements I have some early pro formas we could 22 submit something more recent there. 23 0. And the PPA? 24 Α. I don't have a PPA in my exhibits, and I'm not

sure if Mr. Link submitted that. That's the form of the

25

- 1 PPA is available publicly on the RFP website, which we
- 2 could make available.
- Q. Okay.
- 4 A. But Mr. Link could confirm that. I think
- 5 that's the latest form. Although I think he stepped out
- 6 maybe. But that's available per the RFP website.
- 7 Q. So with regard at least to the -- thank you.
- 8 I think that's the information I am looking for. With
- 9 regard to the BTA, there's a liquidated damages
- 10 performance provision in that agreement; am I correct?
- 11 A. Yeah. There are several contractor
- 12 performance guarantees of that ilk with liquidated
- 13 damages, et cetera. Primarily around schedule delivery,
- 14 megawatts, all the capacity of the facility.
- 15 COMMISSIONER CLARK: Thank you. Those are my
- 16 questions.
- 17 EXAMINATION
- 18 BY CHAIRMAN LEVAR:
- 19 Q. I just have one question, to close the loop on
- 20 a question that Mr. Michel asked you, since I know you
- 21 enjoy talking about the clean power plan.
- 22 A. Absolutely.
- 23 O. You know, he asked about what I will call the
- 24 REC-like credits that were potentially available under
- 25 that plan, and if I am referring to it in an artful way,

- 1 I apologize. And recognizing the current status of the
- 2 plan with the court stay and the current
- 3 administration's position, as I recall, some -- some
- 4 aspects of some kind of renewable credits under that
- 5 plan were state specific, and some would be owned by the
- 6 owner of the generation facility.
- 7 Would something like this project that we're
- 8 looking at be a state specific that the EPA would have
- 9 to decide whether it was -- whether it benefitted Utah
- 10 or Wyoming, or would that be a utility owned credit that
- 11 was marketable?
- 12 A. And obviously the -- oh, sorry. Sorry.
- 13 Q. To the best of your recollection of the clean
- 14 power plan. But since the issue was raised, I'd like to
- 15 see if we could close that loop a little bit more.
- 16 A. Sure. I think the concepts were relatively
- open to discussion at the time of the clean power plan
- 18 being proposed and challenged and so forth. But a
- 19 variety of concepts existed, one of which I would say --
- 20 and the way we tended to assess the plan was, in the
- 21 event there was a tradeable commodity, per se, from a --
- 22 from a zero emitting resource like these projects.
- The way we tended to assess that was, we
- 24 assumed, for the lack of more clarity around the rule,
- 25 that the -- any value associated with that tradeable

Page 508 commodity, per se, would be allocated on a 1 2 state-by-state basis at the time pursuant to our 3 multistate allocation of cost responsibilities and so 4 forth across the state. So we tried to -- we assumed for the sake of 5 assessment of that particular potential value stream 6 that we would allocate based on the same ratios of our 7 cost allocation across our states from a value 8 9 proposition, even though the facility was technically --10 these facilities were located in Wyoming. 11 There are arguments out there that, well, if 12 it's located in Wyoming, maybe Wyoming should, you know, get the credits. I would say those were all open-ended, 13 yet to be determined. And now with the plan and in the 14 15 state that it is, you know, I think we have tried to 16 address the potential greenhouse gas CO2 side of things, 17 obviously with the various sensitivity that Mr. Link described, High CO2, low CO2 and zero C2. 18 19 So we kind of come at it maybe a different way 20 for this set of assessments, recognizing the clean power 21 plan is highly questionable. 22 CHAIRMAN LEVAR: Okay. I appreciate that for 23 that additional clarification. Commissioner White, did you have a follow-up question? 24 25 COMMISSIONER WHITE: Yeah, I actually did.

Page 509 1 EXAMINATION 2. BY COMMISSIONER WHITE: So since we're speaking of environmental 3 Q. 4 attributes, is it confidential as to the ownership of those environment attributes in terms of the BTA? 5 other words, who would those -- who would those --6 We would -- I don't know that it would be 7 Α. No. confidential. I don't think it would be confidential. 8 We would ultimately own the environment attributes as we 9 would own the asset. 10 11 Okay. And what other -- we've talked about Q. 12 WECCs and NERCs. And what other -- I mean, typically 13 what is that -- what -- what does that mean to you, environment attributes in terms of that as being right 14 15 under the contract, I guess? 16 Well, I think to some extent to maybe to the Α. earlier discussion to some extent, it is, is there a 17 value established at some point with whether it be 18 federal rule making, state rule making, to establish 19 20 maybe more a broader tradable fungible commodity there? 21 Or is it more of a, you know, what we see today, 22 renewable portfolio standards, those types of things, 23 where you have a tangible value in certain states for 24 certain compliance obligations? 25 So I'd say over time from a value proposition,

```
Page 510
     that could change, depending on, you know, federal law,
 1
 2
     state law, you know, if there are new programs that
 3
     are -- that are promulgated that provide a fungible
 4
     tradeable value to that attribute.
               So I think what you are saying, tell me if I
 5
     am wrong, is that, you know, assuming that the clean
 6
     power plan does not go beyond or is, you know, repealed,
 7
     you know, not revived, I guess, is there other options
 8
 9
     potentially that the company examines in their IRP
     process that those could be utilized for purposes of
10
11
     regulatory compliance?
12
          Α.
               I don't know that we have assessed any other
13
     options per se at this time. You know, as I mentioned,
     we look at CO2. We have looked at it more from a cost
14
     of compliance perspective in our assessments in the IRP
15
16
     and so forth. I think there are potential values there.
17
               I think if you take a look at our, as a system
     our CO2 emissions over time, as well as all our other
18
     emissions, as well from our thermal resources, as
19
20
     renewables expand their penetration level, you do see
21
     those CO2 levels comings down as a fleet year on year,
22
     which is an inherent environmental benefit, if you will.
23
               Whether there's a cost associated with that,
     I'd say the best way we are capturing that right now is
24
     through the IRP, the sensitivities around potential CO2
25
```

HEARING, VOLUME II, DOCKET NO. 17-035-40 - 05/30/2018 Page 511 costs and how that might play into our portfolios. 1 2 I think until there's a, you know, a new rule enacted at 3 the federal level, other state laws enacted, that you 4 know, provide some tradeable commodity that we can start to assess a little bit more from a tangible perspective, 5 6 for now, we make assumptions around CO2 cost per ton as 7 the surrogate. 8 COMMISSIONER WHITE: That's all the questions 9 I have. Thanks. 10 CHAIRMAN LEVAR: Thank you, Mr. Teply. appreciate your testimony today.

- 11
- 12 THE WITNESS: Thank you.
- 13 MR. LOWNEY: I just have one follow-up to
- Commissioner Clark's inquiry about the pro forma PPA. 14
- believe that it is provided in the record as part of 15
- Mr. Link's exhibits. So it RTL11SS, which was the RPF 16
- materials. 17
- 18 It was an extremely -- I think it's a 6,000
- 19 page document so it was provided electronically. So I
- think it was on a CD is my understanding. So in 20
- 21 addition to -- I believe Mr. Teply's correct is, it's
- 22 publicly available on the company's RFP website.
- 23 would also be found, I believe, in that exhibit.
- 24 CHAIRMAN LEVAR: Thank you. That gives us
- some light reading to do. 25

Page 512 1 MR. LOWNEY: I don't think the PPA was 6,000 2 pages. 3 CHAIRMAN LEVAR: Ms. McDowell or Mr. Lowney, 4 your next witness. 5 MR. LOWNEY: The company calls Ms. Joelle 6 Steward. 7 CHAIRMAN LEVAR: Ms. Steward, do you swear to tell the truth? 8 9 THE WITNESS: I do. 10 CHAIRMAN LEVAR: Thank you. 11 JOELLE STEWARD, 12 was called as a witness, and having been first duly 13 sworn, testified as follows: 14 DIRECT EXAMINATION BY MR. LOWNEY: 15 16 Ms. Steward, could you please state and spell Q. your name for the record. 17 18 Α. My name is Joelle Steward. J-O-E-L-L-E, 19 S-T-E-W-A-R-D. 20 And how are you employed? Q. 21 Α. I am the vice president of regulation. 22 Q. And in that capacity, have you either filed or 23 adopted the prefiled testimony that has been labeled direct testimony, supplemental direct and rebuttal 24 testimony, second supplemental direct testimony and 25

Page 513 surrebuttal testimony? 1 2 Α. Yes. And do you have any changes or corrections to 3 Q. 4 that testimony today? I do not. 5 Α. 6 0. And if I ask you the same questions as included in that testimony, will your answers be the 7 same? 8 Yes. 9 Α. 10 MR. LOWNEY: I move to admit the testimony of 11 Ms. Steward into the record. 12 CHAIRMAN LEVAR: Any party object to that 13 motion, please indicate to me. I am not seeing any objection, so the motion is granted. Thank you. 14 15 (By Mr. Lowney) Ms. Steward, have you Q. 16 prepared a summary for the commission today? 17 Α. I have. 18 Please proceed. Q. 19 Α. Thank you. Good afternoon. My testimony 20 explains the company's proposed rate making treatment 21 for costs and benefits of the combined projects in this 22 application. As in the repowering case, the company proposes an interim mechanism, the resource trafficking 23 mechanism or RTM, to recover the costs and pass back the 24 full benefits of the projects until those are reflected 25

Page 514 1 in base rates in a general rate case. 2 The RTM would work in conjunction with the 3 energy balancing account or EBA, to match recovery of 4 costs with the benefits. The RTM would include the capital cost of the projects and the benefits from the 5 production tax credits from the new wind resources. 6 7 EBA, absent any adjustment, would include a hundred percent of the incremental zero fuel cost energy from 8 9 the new wind projects, the wheeling revenue from the new transmission line, and the costs of the PPA. 10 11 I acknowledge the commission declined to adopt 12 the RTM in the repowering case and stated that the 13 company can seek recovery of the costs and benefits through available rate making mechanisms, such as a 14 general rate case, deferral accounting treatment and/or 15 the EBA. 16 17 As in the repowering case, the company believes the RTM is the best proposal to match costs and 18 benefits of the new projects. However, the company is 19 20 open to these rate making alternatives to the extent 21 they treat costs and benefits consistently. 22 Being able to pursue rate making such as a 23 deferral in conjunction with the EBA, outside of a 24 general rate case, is beneficial for a couple of 25 reasons. First and foremost, it matches benefits with

Page 515 Without the RTM or a deferral or a general 1 the cost. 2 rate case, customers will begin receiving benefits from 3 the incremental zero fuel cost energy of the new wind 4 projects without paying any of the costs incurred to obtain those benefits. 5 For example, in 2021, the first full year of 6 7 operation for the combined projects, without a way to match the cost and benefits, customers would receive an 8 9 estimated \$35 million of net power cost benefits and new wheeling revenue, which would equate to reduction in 10 11 rates of about 1.7 percent, while the company would absorb \$63 million in costs. 12 13 As other parties have pointed out, the company has added new resources in the past without requesting a 14 15 cost recovery mechanism. However, that was prior to the 16 current power cost mechanism and at a smaller magnitude in terms of both costs and benefits. 17 Second, the combined projects are a key driver 18 19 for the company's next general rate case. A deferral or 20 the RTM will allow the company to align that rate case 21 timing for these projects with other cost pressures the 22 company is facing over the next couple of years into one general rate case, which will help avoid the cost and 23 24 complexity of back-to-back rate cases. 25 Importantly, any rate making treatment outside

Page 516 of a general rate case would only include costs up to 1 2 the projected levels of the combined projects. This is 3 consistent with the approval statutes for both the 4 significant energy resource decisions and the voluntary request for resource decisions. 5 6 The company would need to seek recovery of any costs in excess of the projected costs in a general rate 7 As such, approval of rate making treatment now 8 case. 9 will not diminish the company's incentive to prudently manage the cost of the combined projects because all 10 11 costs will be subject to a prudence review before 12 inclusion in rates. Several parties propose conditions that they 13 argue should apply if the combined projects are 14 15 approved. However, we believe these conditions are 16 entirely unnecessary because the preapproval statute already provides sufficient customer protections. 17 already mentioned, the law allows preapproval only up to 18 the projected cost. Any cost overruns would need to be 19 20 evaluated in a general rate case. 21 Additionally, in the event of a material 22 change in circumstance, the company will use the process provided in the law for additional commission and 23 24 stakeholder review. As in the repowering case, the 25 company bears the risk for meeting the PTC

- 1 qualifications for the new wind resources, except due to
- 2 changes in law or an event that is beyond the reasonable
- 3 control of the company, or those with whom the company
- 4 has contracted for project development.
- 5 The company also agrees to pass back to
- 6 customers any liquidated damages received by the company
- 7 from vendors under contractual agreements. However, the
- 8 company does not agree it should be held responsible for
- 9 risks outside of its control.
- 10 Lastly, parties claim that there is an uneven
- 11 sharing of benefits between the company and customers.
- 12 The company believes that this claim is incorrect. The
- 13 combined projects are traditional resources that will
- 14 meet customer needs at the lowest reasonable cost. The
- only customer benefit is the recovery of its cost,
- 16 including its cost of capital.
- 17 In closing, the company requests that the
- 18 commission approve the combined projects up to the total
- 19 projected costs identified in Table 1 of my surrebuttal
- 20 testimony and rate making treatment that will provide a
- 21 matching of costs with benefits. And that concludes my
- 22 summary.
- 23 MR. LOWNEY: Thank you. Ms. Steward is
- 24 available for cross-examination and commissioner
- 25 questions.

Page 518 1 CHAIRMAN LEVAR: Okay. Thank you. 2 Mr. Longson, do you have any questions for Ms. Steward? 3 MR. LONGSON: No questions. Thank you. 4 CHAIRMAN LEVAR: Okay. Thank you. Mr. Holman. 5 6 MR. HOLMAN: No questions. Thank you. 7 CHAIRMAN LEVAR: Ms. Hayes. MS. HAYES: No questions. Thank you. 8 CHAIRMAN LEVAR: Thank you. Mr. Jetter or 9 Ms. Schmid. 10 11 MR. JETTER: I'd just like to ask just a 12 couple brief questions. 13 CROSS-EXAMINATION BY MR. JETTER: 14 15 Good afternoon. You would agree with us that 0. 16 is -- if this project were approved, it would be a significant increase in the company's rate base? 17 It's a significant, yes. It's -- well, I 18 don't want to say any number, because it was 19 20 confidential in my testimony, but it's a large 21 investment. 22 A large investment. And it's even quite large 23 relative to the company's entire portfolio; is that correct? 24 25 I believe you could say that. I haven't seen Α.

- 1 those proportions recently. But --
- Q. Okay. In fact, it was so large that the
- 3 company witnesses in a tax refund docket testified that
- 4 it might endanger the credit rating to give full tax
- 5 refunds because of the size of the debt that would
- 6 accompany this; is that correct?
- 7 A. I don't believe that is correct. I don't
- 8 believe our -- the combined projects in this application
- 9 had no bearing on our filing for tax reform.
- 10 O. So the debt that would come along with this
- 11 was not part of the debt-to-revenue ratios that were
- 12 relevant in that case?
- 13 A. Well, it's included as Ms. Kobliha testified.
- 14 Our overall financing includes everything we do, not
- 15 project specific.
- 16 Q. Would you agree that the debt that would be
- 17 required for this project would make up a significant
- 18 portion of the company's overall debt?
- 19 A. I think Ms. Kobliha would actually be the
- 20 better witness for that. She handles the financing.
- 21 Q. Okay. Are you aware of any company pressures
- 22 in the near future that would be more significant than
- 23 the value of this project?
- A. More significant? Not necessarily. But we
- 25 do -- we haven't finalized our depreciation study, which

Page 520 we're going to be filing in September, which we do 1 2 expect to have significant cost pressures. We also have 3 our repowering and the drop-off of the current PTCs for 4 the current wind assets. So all together, we have several cost drivers coming in over a two-year period. 5 And even with this large project and the 6 investment, the overall rate impact, because of the size 7 of the benefits and the PTCs, is still relatively 8 9 modest, at only 1.4 percent in the first full year of 10 operation. 11 Q. Okay. But you -- is it your position that 12 it's a small enough impact on the company that it 13 wouldn't drive a rate case in its own right? No. I mean, because of all of the cost 14 pressures we have coming, and depending on what sort of 15 rate making treatment we have, if we're passing back the 16 benefits but not getting recovery of the costs, that 17 would likely -- very likely drive us in for a rate case. 18 19 MR. JETTER: Okay. That's my only question. 20 Thank you. 21 CHAIRMAN LEVAR: Okay. Thank you, Mr. Jetter. 2.2 Mr. Moore or Mr. Snarr? 23 CROSS-EXAMINATION 24 BY MR. MOORE: 25 Hello. Q.

- 1 A. Hi.
- Q. Are you aware that in response to OCS data
- 3 request 13.9, the company acknowledged that it plans to
- 4 file a statutory rate case during the year 2020, using a
- 5 proposed test year of 2021?
- 6 A. I don't recall the specific data request, but
- 7 I -- that -- I am aware that that is our plan, yes.
- 8 Q. Now, the -- Mr. Teply, I believe, stated that
- 9 the inservice date for TB Flats 2 -- 1 and 2, and Ekola
- 10 Flats is scheduled for November 15th, 2020, and Cedar
- 11 Springs is established for November 26, 2020. Does that
- 12 sound correct to you?
- 13 A. Yes.
- Q. Accordingly, isn't it true that the new wind
- 15 and transmission projects will only be in service for
- 16 approximately one and a half months prior to the
- 17 proposed year -- the next plan test year for the general
- 18 rate case?
- 19 A. Yes. And that is still assuming we got the
- 20 test period we were seeking.
- 21 O. Generally, you have criticized the office's
- 22 position regarding the need to have a general rate case,
- 23 because it allows customers to receive benefits of zero
- 24 fuel costs through the EBA prior to the costs of the
- 25 projects being incorporated into rates with a general

- 1 rate case; isn't that true?
- 2 A. Yes. We're looking for a balance, a match of
- 3 costs and benefits.
- 4 Q. However, given your plans to oppose the RTM
- 5 and file a rate case in 2020, with the future test year
- 6 proposed as 2021, the company's position is that it
- 7 should recover all expenses prior to a general rate
- 8 case, even if those expenditures do not cause the
- 9 company to earn less than its authorized rate of return.
- 10 And isn't it also true that the company's
- 11 position that the rate could be in effect for several
- 12 years, based on the capital costs in 2021, which is the
- 13 highest capital cost in the combined projects? Do you
- 14 want me to break that up?
- 15 A. Yes, please.
- 16 Q. All right. Given your plans concerning the
- 17 general rate case that we have discussed, the company's
- 18 position is that it should recover all expenditures
- 19 to -- prior to the general rate case, even if those
- 20 expenditures do not cause the company to earn less than
- 21 its authorized rate of return; is that true?
- 22 A. All expenditures, all are investments as well
- 23 as the benefits we proposed will be -- will start being
- 24 recovered consistently. You know, I cannot speak to
- 25 whether or not we would be earning our authorized rate

- 1 of return at that time, at that point in time, two years
- 2 from now, given all the other drivers we have before
- 3 then.
- 4 Q. And isn't it true that the company's position
- 5 that rates could be in effect for several years, based
- 6 on capital costs in 2021, the proposed test year, which
- 7 is the highest year of capital costs in the combined
- 8 projects; isn't that true?
- 9 A. It's possible, if we do a rate case, and it
- 10 goes into service in 2021. That is the first full year,
- 11 and at that point revenue requirement starts declining
- 12 for individual investments due to depreciation.
- 13 However, that helps us offset other costs that come in
- 14 during that time to help us stay out of a rate case, and
- 15 that's been traditional rate making.
- 16 Q. Isn't it true that the company has not
- 17 provided any evidence that pursuing these projects will
- 18 jeopardize its ability to earn its authorized rate of
- 19 return?
- 20 A. I would disagree with that. We have made
- 21 available our -- our business plan is highly
- 22 confidential. Parties have -- were able to come on site
- 23 and actually look at those returns forecasted over the
- 24 next 10 years. And since they are highly confidential,
- 25 I will not speak to what they are specifically, but I

- 1 disagree that nothing was provided.
- Q. In lines 87 and 96 of the company's June 30,
- 3 2017, direct testimony, which you adopted, the question
- 4 was asked, "Under what authority is the company
- 5 proposing approval for the rate making treatment for
- 6 the -- for the wind and transmission projects?"
- 7 And was your answer by referring to three
- 8 statutes, Utah code section 54-4-23, 54-17-202, and
- 9 54-17-403? Isn't that correct?
- 10 A. Yes, that's correct.
- 11 Q. Isn't it true that none of these provisions
- have a section like 54-7-13.5(4)(c) of the EBA statute,
- 13 which provides an energy balancing account that is
- 14 formed and maintained in accordance with this section
- 15 does not constitute impermissible retroactive rate
- 16 manager or single issue rate making?
- 17 A. I don't have that statute you cited in front
- 18 of me.
- 19 Q. May I approach?
- 20 A. You will need to restate the cite again.
- 21 Q. 54-7-13.5(4)(c).
- 22 A. That is correct. Neither -- none of these,
- 23 the three of them, do not to my recollection have that
- 24 same energy balancing account. But that would not make
- 25 it, in my view, prohibitive to adopt an RTM-like

- 1 mechanism, or a deferral of the costs and benefits. We
- 2 have the EBA or the RBA, which is not pursuant to this
- 3 statute as well related to the EBA.
- 4 Q. Isn't it true that the company contends that
- 5 the rate making treatment is needed to match the costs
- 6 and benefits, not because of the occurrence of an
- 7 unforeseeable event that is beyond control of the
- 8 company and that has an extraordinary impact on the
- 9 company's finances?
- 10 A. Could you restate that again?
- 11 Q. Isn't it true that the company contends that
- 12 the RTM is needed primarily to match costs and benefits?
- 13 A. Yes.
- 14 O. And you do not contend that it's needed
- 15 because of the occurrence of an unforeseen event that is
- 16 beyond the company's control and has extraordinary
- impact on the company's finances?
- 18 A. That -- that's correct. I mean, essentially
- 19 we're proposing it because of the benefits will be
- 20 passing through the EBA without recovery of those costs.
- 21 O. All right. This is a very similar question,
- 22 so bear with me. Isn't it true that the company does
- 23 not contend the RTM is making -- is, taken as a whole,
- 24 is needed because of increase in recurring costs that
- are both unexpected and beyond the company's control?

Page 526

1 A. That's correct.

2 Q. May I direct your attention to the May 15th,

- 3 2018, surrebuttal testimony.
- 4 A. Okay.
- 5 Q. And I'll direct your attention to lines 22 and
- 6 37. And this coincides with your summary where you said
- 7 that you believe the preconditions proposed by some of
- 8 the parties are unnecessary?
- 9 A. Yes.
- 10 Q. That's consistent with this testimony?
- 11 A. Yes.
- 12 Q. You also cited provisions -- you also cited to
- 13 provisions of the Energy Resource Procurement Act
- 14 related to recovery of costs above the preapproved costs
- 15 and seeking commission's guidance upon change in
- 16 circumstances and stated, "Additional conditions on caps
- 17 and operation and maintenance are inconsistent with Utah
- 18 resource approval laws." Isn't that your testimony?
- 19 A. Could you point me to that? Is that in the
- 20 surrebuttal?
- 21 O. That's in the surrebuttal. I think lines 23
- 22 -- lines 22 -- I'm sorry. Lines 22 to 24.
- 23 A. I don't recall talking about O and M in -- was
- 24 that in your question?
- Q. No, it was not meant to be. I apologize if it

Page 527 1 This paragraph starting on lines 22 and finishing was. 2 on lines 37. 3 Α. Yes. 4 0. That's what I was referring to, and it ends with, "petition for caps on" --5 6 Α. Oh. "For cost caps on capital operations and 7 maintenance are inconsistent with Utah's resource 8 approval laws." 9 10 Α. Yes. 11 All right. However, isn't it true that Q. 12 section 54-17-302 (5)(B) provides the commission can 13 approve significant resource decision subject to conditions imposed by the commission? 14 15 Yes, it does say that. Α. And similarly, section 54-17-402 (6)(B) 16 0. provides that the commission can approve all or part of 17 the voluntary resource decision subject to conditions 18 19 imposed by the commission? 2.0 Yes, it does say that. Α. 21 May I direct your attention to your May 15, 0. 22 2018, surrebuttal testimony lines 281 to 289? 23 Α. Okay. These lines include a question that states in 24 Ο.

part, "Mr. Vastag expressed concern relating to the

25

- 1 current multistate process, MSP, and recommends that
- 2 Mr. Hayet's cost caps should be adopted to address these
- 3 concerns." And then it references Mr. Vastag's rebuttal
- 4 testimony.
- 5 A. Yes.
- 6 Q. The question is, are these reasonable
- 7 recommendations? Is that correct?
- 8 A. Yes. That's what the question is.
- 9 Q. You answered this question no. This is
- 10 contrary to 217 protocol currently approved for
- 11 interjurisdictional cost allocations in the Utah -- in
- 12 the state of Utah; isn't that correct?
- 13 A. Yes.
- 14 Q. Isn't it true that the combined projects are
- 15 not coming online for service until the end of 2020?
- 16 A. Yes.
- 17 Q. And there is presently no multistate
- 18 allocation method agreed upon for 2020; isn't that true?
- 19 A. Yes. That's correct.
- 20 Q. Isn't it true that placing a cap on
- 21 preapproval, as Mr. Vastag and Mr. Hayet suggests, does
- 22 not limit the amount the company can ultimately seek for
- 23 recovery? Do you want me to read that again?
- A. Yeah.
- 25 Q. Isn't it true that placing a cap on

- 1 preapproval, as Mr. Vastag suggests, does not limit the
- 2 amount the company can ultimately seek for recovery?
- 3 A. That is not how I understood Mr. Vastag's
- 4 testimony. If it's preapproval as consistent with the
- 5 law, with the ability to come in and seek recovery in a
- 6 general rate case for any cost overruns, but I believe I
- 7 read Mr. Vastag's testimony as an overall hard cap that
- 8 we could never seek additional costs.
- 9 Q. I am going to hand you a copy Mr. Vastag's
- 10 testimony that you cited. It's in the record, but I
- 11 assume you don't have it. The sentence starting
- 12 therefore on 87, and ending with responsible under
- 13 preapproval, will you read that sentence into the record
- 14 please?
- 15 A. I'm sorry. On line?
- 16 Q. Here, I'll do it.
- 17 A. On 87.
- 18 Q. "Therefore, if the commission decides to
- 19 approve these economic opportunity projects, the office
- 20 recommends that the commission specify the maximum
- 21 dollar amount of the project cost for which Utah payers
- 22 would be responsible for under preapproval.
- A. I see now, yes.
- Q. With that clarification, does that change your
- 25 testimony regarding the -- whether the proposed cap on

- 1 preapproval violates the 2017 protocol?
- 2 A. Well, the 2017 protocol may not be in effect
- 3 at that time. As we all know, those discussions are
- 4 currently being determined. Setting a Utah
- 5 jurisdictional amount, and a cap on that, prejudges and,
- 6 you know, imposes on those ongoing discussions a cap
- 7 that I don't believe -- I don't agree with because right
- 8 now allocation factors are dynamic based on loads and
- 9 resources.
- 10 Q. That's under -- well, I am going to hand you a
- 11 portion of your testimony in the repowering docket.
- 12 Since this is not on the record, I'll make an exhibit of
- 13 it.
- Now, on page 2, this is a -- actually, it's
- 15 page 160 of the transcript, page 2 of the handout. On
- 16 line 7. This was, like, the last time I questioned you.
- 17 I asked, "Is it true that capping the amount of
- 18 preapproved costs does not violate the 2017 protocol"?
- 19 And you respond, "I believe that is correct, yes?"
- 20 A. Yes, I see that.
- 21 O. And you are aware, as you have mentioned, that
- 22 your Oregon Public Service Commission issued an order
- 23 refusing to acknowledge PacifiCorp's final short list?
- A. I'm aware of that, yes.
- Q. Doesn't this create additional uncertainty

- 1 regarding how the new MSP cost allocation method will
- 2 affect the cost sharing of the combined projects?
- 3 A. I don't think that creates any additional
- 4 uncertainty.
- 5 Q. If the Oregon ultimately decides not to allow
- 6 recovery costs for the combined projects and rates, how
- 7 does the company plan to seek recovery of the costs for
- 8 the combined projects under the multistate protocol?
- 9 A. I can't speak to that. I don't have -- I am
- 10 not involved in those MSP discussions at this point.
- 11 You are talking about seeking recovery in Oregon for
- 12 those? Because in Oregon, they do not -- they have not
- disallowed our ability to come in and seek recovery of
- 14 those costs.
- 15 Q. Yes. My question was, assuming the
- 16 hypothetical, if they did, how would this affect how
- 17 these costs are allocated among the states, in the
- 18 multistate process?
- 19 A. With what we know right now, in the 2017, it
- 20 wouldn't. Utah would still get its allocation based on
- 21 its -- the factors in the protocol. And I imagine that
- 22 will be part of any discussions going forward in MSP.
- 23 We have a resource in Oregon that is not in rates in
- 24 Oregon. We have a resource, actually Rolling Hill, that
- 25 is not in rates in Oregon that did not shift costs to

- 1 other states.
- Q. And that result's consistent with Mr. Hayet's
- 3 cap on preapproval, isn't it?
- 4 A. Mr. Hayet's cap?
- 5 Q. Mr. -- Mr. Vastag mentioned Mr. Hayet's cap on
- 6 preapproval?
- 7 A. No. I think the nuance is setting a Utah
- 8 jurisdictional cap for a resource that's going into
- 9 service in two years, when under the current methodology
- 10 for MSP or 2017 protocol, is based on dynamic factors
- 11 and what those loads are at that time. That's my
- 12 concern about presetting a Utah jurisdictional cap now.
- 13 Loads could go up, load could go down in Utah, relative
- 14 to other states.
- 15 Q. And you could come in and make that argument
- 16 under a prudence review to allocate more -- more of the
- 17 cost to Utah. But that would be your obligation if the
- 18 preapproval was just capped?
- 19 A. I don't think that's a prudence review
- 20 determination. I think that's just an allocation
- 21 determination. And I don't think we should preset or
- 22 predetermine what those allocations would be in two
- 23 years from now.
- Q. Well, the cap is set on pre -- well, fine.
- 25 Thank you very much.

Page 533 1 Α. Okay. 2. MR. MOORE: I have no further questions. CHAIRMAN LEVAR: Okay. Thanks, Mr. Moore. 3 4 Mr. Russell. MR. RUSSELL: Thank you, Chair LeVar. I don't 5 6 have any questions for this witness. CHAIRMAN LEVAR: Mr. Baker? 7 8 MR. BAKER: Thank you. I just have a couple 9 of questions. 10 CROSS-EXAMINATION 11 BY MR. BAKER: 12 Q. In other states such as Wyoming, you have 13 agreed to abandon your request for an RTM; is that correct? Or I'm sorry, in Wyoming. In Wyoming you have 14 15 abandoned your request for an RTM? In Wyoming we have a comprehensive settlement 16 Α. with several parties. One in particular, Wyoming 17 18 Industrial Energy Users. As a part of that settlement, it had repowering, it had EB 2020, these resources 19 20 before us today, as well as tax reform. 21 Within the overall context of those 2.2 settlements, we did agree not to pursue the RTM. 23 However, we do have cost recovery for these resources through other aspects of that, those stipulations, and 24 25 specifically through the tax reform docket. It allows

- 1 us to retain costs from the deferred tax benefits
- 2 related to these resources once they go into service.
- 3 Q. In Oregon you have to go back in for a full
- 4 rate review should you proceed with this project; is
- 5 that correct?
- 6 A. That's -- that was always the plan. The
- 7 docket in Oregon was for acknowledgement of the final
- 8 short list. It was not a rate making proceeding.
- 9 Q. And I just want to clarify what I think I
- 10 heard, was that the company will not shift any
- 11 unrecovered costs from a partial or full disallowance in
- 12 another state to Utah customers?
- 13 A. I don't believe that's exactly what I said. I
- 14 used an example of under the current protocol, how that
- 15 did not occur, as we have discussed. Those discussions
- 16 are ongoing. I am not involved in those discussions. I
- 17 cannot speak to what that potential outcome will be.
- 18 O. So you can't state for certain what will
- 19 happen by the time these projects come online, if they
- 20 are approved?
- 21 A. No, I can't. And I think our parties in that
- 22 process are aware of these projects, and that will be
- 23 part of those discussions.
- 24 MR. BAKER: Thanks. I have no further
- 25 questions.

Page 535 1 CHAIRMAN LEVAR: Thank you. Okay. 2 Mr. Lowney, and redirect? 3 MR. LOWNEY: Just a few questions. 4 REDIRECT EXAMINATION BY MR. LOWNEY: 5 6 0. First, do you recall when counsel for the division was asking you questions about the magnitude of 7 this investment? 8 9 Α. Yes. 10 Do you recall those questions -- and I believe Q. you noted in response to one of those questions that the 11 12 rate increase in the first year these projects will be 13 in operation is 1.4 percent. Do you recall that? 14 The overall net impacts, yes. And isn't it true that that is the highest 15 0. 16 rate increase, in the near term anyway, relative to these projects? 17 18 Α. Yes. 19 0. And just one other clarifying question. 20 would refer you to the OCS Exhibit D that you were asked 21 questions about. This is your testimony in the 22 repowering case, and you were asked specifically about a 23 question on page 160 involving whether or not a cap on the amount of preapproval costs violates the 2017 24 protocol. 25

- 1 A. Yes.
- 2 Q. And I just wanted to be clear for the record.
- 3 The discussion in that case involving the cap was not a
- 4 hard cap in the sense that anything over and above those
- 5 amounts would be, per se, unrecoverable. This
- 6 discussion involved the soft cap, correct?
- 7 A. I believe so, yes.
- 8 MR. LOWNEY: Thank you. I have no further
- 9 questions.
- 10 CHAIRMAN LEVAR: Okay. If Mr. Lowney's
- 11 questions prompt any recross, please indicate to me.
- MR. MOORE: I have one quick question.
- 13 CHAIRMAN LEVAR: Let me just ask, does anyone
- 14 else have any recross based Mr. Lowney's, or are we just
- 15 Mr. Moore? Okay.
- 16 RECROSS-EXAMINATION
- 17 BY MR. MOORE:
- 18 Q. Do you understand the office's position in
- 19 this docket that having a preapproved cap is a soft cap
- 20 or a hard cap? Is it the same cap we suggested in the
- 21 repowering docket or is it a different cap?
- 22 A. You have me a little uncertain now actually.
- 23 I had read the testimony as a hard cap.
- Q. I'm sorry. I guess we'll get this cleared up
- 25 on direct. But you do agree that if the office is

- 1 referring to a soft cap, that that's not -- that would
- 2 not in the hypothetical we discussed violate the 2017
- 3 protocol?
- 4 A. If it's a soft cap, it's consistent with the
- 5 statute, and I think where we may disagree is whether or
- 6 not that cap, soft cap should be set based on a Utah
- 7 jurisdictional amount or a total project cost amount.
- 8 Q. All right. Let's assume the case as a Utah
- 9 jurisdictional amount.
- 10 A. Okay.
- 11 Q. Would a soft cap on that amount violate the
- 12 2017 protocol?
- 13 A. I am not sure I see the point then of a soft
- 14 cap, if we can still come in under jurisdictional
- 15 allocations, with whatever jurisdictional allocation
- 16 there is at that time.
- 17 Q. So it doesn't prejudice Rocky Mountain Power
- 18 greatly?
- 19 A. I don't know that I would agree to that. I
- 20 mean, it could, depending on how that played out. It
- 21 shifts some additional risk to us that I don't think is
- 22 justified, based on the dynamics going on, and that are
- 23 known under the current revised protocol or 2017
- 24 protocol, as well as the ongoing discussions.
- MR. MOORE: Thank you. I have no further

	Page 538
1	questions.
2	CHAIRMAN LEVAR: Okay. Thank you.
3	Commissioner Clark, do you have any questions for
4	Ms. Steward?
5	COMMISSIONER CLARK: No questions. Thank you.
6	CHAIRMAN LEVAR: Commissioner White?
7	COMMISSIONER WHITE: No questions. Thank you.
8	CHAIRMAN LEVAR: Okay. And I don't have any
9	other questions. Thank you for your testimony today.
10	Ms. McDowell or Mr. Lowney.
11	MR. LOWNEY: That concludes the company's
12	case.
13	CHAIRMAN LEVAR: Okay. Thank you. I think we
14	will go ahead at this time with Interwest Energy
15	Alliance. If you would like to call your witness.
16	MR. LONGSON: Interwest calls Gregory Jenner.
17	CHAIRMAN LEVAR: Mr. Jenner, do you swear to
18	tell the truth?
19	THE WITNESS: I do.
20	CHAIRMAN LEVAR: Thank you.
21	GREGORY JENNER,
22	was called as a witness, and having been first duly
23	sworn, testified as follows:
24	DIRECT EXAMINATION
25	BY MR. LONGSON:
I	

- 1 Q. Mr. Jenner, could you please state and spell
- 2 your name, please.
- 3 A. My full name is Gregory Jenner. That's
- 4 G-R-E-G-O-R-Y, J-E-N-N-E-R.
- 5 Q. And could you tell us your current employer
- 6 and business address?
- 7 A. I am a partner at Stoel Rives, LLP. The
- 8 address is 601 13th Street, Northwest, Washington, D.C.
- 9 20005.
- 10 Q. And in this docket, Mr. Jenner, you submitted
- 11 for Interwest direct testimony and supplemental answer
- 12 testimony; is that correct?
- 13 A. That is correct.
- 14 Q. Interwest -- excuse me. If the same questions
- 15 were asked in those documents today, would your answers
- 16 be the same?
- 17 A. Yes, they would.
- 18 MR. LONGSON: Interwest moves for the
- 19 admission of the direct and supplemental answer
- 20 testimony of Mr. Jenner.
- 21 CHAIRMAN LEVAR: Okay. If any party objects
- 22 to that, please indicate to me. I am not seeing any
- 23 objection. So motion is granted. Thank you.
- 24 Q. (By Mr. Longson) Have you prepared a summary
- 25 of your testimony, Mr. Jenner?

Page 540 Yes, I have. 1 Α. 2 Q. Go ahead. 3 Α. Thank you very much. Mr. Chairman, 4 Commissioners White and Clark. It's a pleasure to be The original purpose of my testimony early in --5 excuse me, in late 2017 was to talk about the new tax 6 7 It was pending at the time, and there was some bill. uncertainty about which way congress was going to go. 8 9 As we know, the concerns that had been raised about the effects on renewable energy, certain negative 10 11 effects on renewable energy were resolved and resolved 12 favorably to the renewable energy industry so the 13 original purpose of my testimony is now somewhat moot. The secondary purpose of my testimony was 14 15 focused on my expertise in the renewable energy tax area and to talk about the analysis of the possible risks 16 17 regarding completion of transmission, issues including continuous construction and placed-in-service dates for 18 the combined facilities, principally to confirm Rocky 19 20 Mountain Power's analysis that the risks of losing the 21 PTCs were minimal and had been mitigated substantially. 22 In my experience, it's understandable why Rocky Mountain Power is pursuing wind first before 23 24 solar. And frankly, that mirrors what's happening in 25 the industry generally. My practice, which is about 85

Page 541 1 percent renewable energy tax, we are seeing a 2 substantial decline in solar projects because everybody is trying to get the wind projects in service before the 3 various deadlines that have been talked about. And I 4 will go into those details in a minute. 5 I represent both developers and independent 6 7 power producers. They are all -- many of them are pursuing wind before solar. Solar will be next, because 8 9 as has been discussed, it phases down, but not out, as wind does, after 2019. 10 11 There's a lot of confusion about how the --12 the various dates and deadlines and phase-outs of the 13 production tax credit works. Rocky Mountain Power has presented testimony correct in my view. Absolutely 14 correct in my view. But there has been again, I want to 15 get into some of the nuances. 16 17 The first date that's important for everybody to consider is when construction begins on a project. 18 As has been discussed, if construction begins in 2016, 19 20 that project, assuming all other things being equal, 21 will qualify for 100 percent of the PTCs. 22 Redeeming item after beginning construction is the continuity requirement, and there's been a little 23 24 bit of confusion about the continuity requirement. I wanted to explain in more detail what the continuity 25

Page 542 requirement is so that it's clear for everybody. 1 2 Once construction has begun, the developer has an obligation to maintain continuous construction or 3 4 continuous efforts. And what the IRS has said is, they will presume that that standard has been met if the 5 project has been placed in service within the fourth 6 7 calendar year after the project begins construction. And that is why we are so focused on the 2020 date, 8 9 because if you place the project in service within 2020, 10 assuming that you had begun construction in 2016, you 11 will qualify. You will meet the continuity requirement, 12 and you will qualify for 100 percent of the PTCs. 13 That is not the only way, however, that you can qualify for 100 percent of the PTCs. Even if the 14 project were not in service in 2020, there is still a 15 possibility, based on the facts and circumstances, that 16 17 the project will qualify for 100 percent of the PTCs. As I said, it's a fact and circumstances determination. 18 But the IRS has laid out a series of what they call 19 20 excusable disruptions which they will look at and 21 consider in determining whether continuity has been met. 22 One of those excusable disruptions is a delay in interconnection and transmission. So for example, if 23 24 a transmission facility were delayed for any reason, and 25 therefore the turbines could not be placed in service on

1	Page 543 or before the end of 2020, the IRS may still consider
2	that project as qualified for 100 percent of the PTCs.
3	So what Rocky Mountain Power has done is, has
4	built in redundancy into the risk mitigation. The first
5	way that they are going to mitigate risk is to have the
6	turbines in service before the end of 2020.
7	If for some reason or another the IRS deems
8	that not those turbines not to be in service, they
9	can because of the transmission facilities, they can
10	still look to the excusable disruption standard and
11	still qualify for 100 percent of the PTCs. That's not a
12	given, but it certainly is a backstop to the 2020 placed
13	in service date.
14	So I would say that Rocky Mountain Power has
15	in all regards, as best they possibly can, mitigated the
16	risk of missing out on 100 percent of the PTCs in their
17	plan. With that, I'll conclude.
18	CHAIRMAN LEVAR: Thank you.
19	MR. LONGSON: Mr. Jenner is available for
20	cross examination.
21	CHAIRMAN LEVAR: Thank you. Mr. Holman, do
22	you have any questions for Mr. Jenner?
23	MR. HOLMAN: I don't, thank you.
24	CHAIRMAN LEVAR: Ms. Hayes, do you have any
25	questions?

Page 544 1 MS. HAYES: I do not. Thank you. 2 CHAIRMAN LEVAR: Thank you. Ms. McDowell or Mr. Lowney? 3 4 MR. LOWNEY: The company has no questions. CHAIRMAN LEVAR: Okay. Mr. Jetter. 5 I have no questions. Thank you. 6 MR. JETTER: 7 CHAIRMAN LEVAR: Okay. Mr. Moore. 8 MR. MOORE: I'm going to ask just one guick 9 question, and I apologize to all in this room. This is a question I asked before, but I didn't understand the 10 11 answer. 12 THE WITNESS: Okay. 13 CROSS-EXAMINATION BY MR. MOORE: 14 15 If a project seeks to qualify for PTCs by Q. beginning construction in 2016, and misses the 2020 date 16 by one day --17 18 Α. Uh-huh. 19 Q. -- they lose off on 100 percent PTCs, but do 20 they receive any lower amount of PTCs, or is it a 21 complete zero PTC? 22 Well, may I disagree with your premise? 23 0. Well, you can restate a premise that makes more sense if I didn't. 24 25 Thank you. It is not correct that if they Α.

Page 545 miss the placed-in-service deadline by one day, they 1 2 miss out on 100 percent of the PTCs. If there is a 3 reason, they would -- if they miss the placed-in-service 4 deadline, they would then fall back on the facts and 5 circumstances test. As I mentioned, one of the facts that the IRS 6 will look at, and this was promulgated in notice 2016-31 7 for your review, one of the excusable disruptions that 8 the IRS will consider is the failure of the ability to 9 put transmission in place to carry the load. 10 11 other words, the IRS will not necessarily consider the 12 failure to place the turbines in service as in 2020 as 13 causing 100 percent of the PTCs to be lost. So that's 14 why I was disagreeing with your question. 15 Now, I think if I might, where you are going, so I will try and address that question. If for one 16 reason or another, either because the 2020 17 placed-in-service deadline was missed or because the IRS 18 after -- and I'm sure this would be litigated until the 19 20 cows come home. If the taxpayer then was unable to 21 determine or establish that they had continuity under 22 the facts and circumstances, in other words, the 23 turbines were not placed in service in 2020, you missed 24 the continuity requirement, then you would not qualify 25 for any PTCs whatsoever.

Page 546 1 MR. MOORE: Thank you very much. I have no 2 more questions. 3 CHAIRMAN LEVAR: Okay. Thank you. 4 Mr. Russell. 5 MR. RUSSELL: Thank you. I don't have any 6 questions for Mr. Jenner. 7 CHAIRMAN LEVAR: Okay. Mr. Baker. 8 MR. BAKER: Thank you. I have no questions 9 either. 10 CHAIRMAN LEVAR: Okay. Commissioner White, do you have any questions? 11 12 COMMISSIONER WHITE: Yeah. Thank you, 13 Mr. Jenner. 14 EXAMINATION 15 BY COMMISSIONER WHITE: I am just wondering, the guidance you are 16 providing, is that -- how did the IRS -- is that through 17 like a code violation? Is that a 5S letter ruling, or 18 19 how are they basing that? 20 None of the above. It was done through what's Α. 21 called a notice. And that's all of the beginning 22 construction guidance has been done through the -- a 23 notice. A series of them beginning in 2013, two in 2013, one in '14, one in '15, a couple in '16. They've 24 25 been churning them out regularly.

Page 547 So notice 2016-31 repromulgated a list of 1 2 excusable disruptions. And what is significant in 2016-31 is, they added transmission, disruption of 3 4 transmission as an excusable disruption. That was new. So we can -- you can draw your own conclusions. 5 I would conclude, based on what I know about 6 how treasury and IRS operate, that industry 7 representatives came to them and said, hey, we have a 8 problem here with transmission. There is at least the 9 10 possibility that transmission may not be in place. And 11 therefore, we think it's appropriate that you add 12 transmission as an excusable disruption, and the IRS 13 agreed. That would be my speculation. 14 COMMISSIONER WHITE: Thank you. That's all I 15 have got. 16 CHAIRMAN LEVAR: Okay. Thank you. Commissioner Clark. 17 COMMISSIONER CLARK: I just have a couple 18 19 questions too, Mr. Jenner. 2.0 THE WITNESS: Yes, sir. 21 EXAMINATION 2.2 BY COMMISSIONER CLARK: 23 Q. So the four year in-service horizon that you described, is that -- in your world, is that the safe 24 harbor -- is that referred to as the safe harbor? 25

- Page 548
- 1 A. It is. It's not the only safe harbor. There
- 2 was the 5 percent safe harbor that was referred to
- 3 earlier, but yes, it is a safe harbor.
- 4 Q. And the excusable disruptions that have been
- 5 denominated, I -- it's been months since I looked at the
- 6 list, but do any of them relate to governmental permits,
- 7 regulatory approvals, any delays of that sort?
- 8 A. Yes, they do. I could give you the list. I
- 9 can't remember them off the top of my head. There are
- 10 things as nuanced and esoteric as Indian tribes in the
- 11 list. It is failure to get custom-made parts. It looks
- 12 a lot like force majeure, but it's not denominated as
- 13 force majeure.
- Q. What about the approval of a Public Service
- 15 Commission to go forward with the project?
- 16 A. With all due respect, Commissioner, I don't
- 17 think so. That's probably not excused.
- 18 Q. It's disappointing.
- 19 A. Yeah, I was afraid you were going to say that.
- 20 No, I doubt seriously whether the failure of a Public
- 21 Service Commissioner -- Commission, exercising its
- 22 duties as such, would qualify as excusable disruption.
- 23 Q. And in relation to the facts and circumstances
- 24 alternative path for qualifying --
- 25 A. Uh-huh.

Page 549

- 1 Q. -- would that be a situation where the
- 2 taxpayer claims the credit in its filing to the service,
- 3 and then the service challenges it and then there's --
- 4 it's -- there's audit, and then there's the hearings
- 5 that would ensue if -- if it wasn't resolved in some
- 6 way?
- 7 A. Yes, sir. That's -- it's a full employment
- 8 act for tax lawyers.
- 9 COMMISSIONER CLARK: Thanks very much. Those
- 10 are my questions.
- 11 CHAIRMAN LEVAR: I think I just have one
- 12 follow-up question.
- 13 EXAMINATION
- 14 BY CHAIRMAN LEVAR:
- 15 Q. Following up to Commissioner White's questions
- 16 as you described the notice -- the notices that the IRS
- 17 has used. Just based on your experience and expertise
- 18 with the IRS, how would you describe the existence or
- 19 nonexistence, or what would be your description of any
- 20 potential risk that in the next few short years the IRS
- 21 might change its position in a way that's detrimental to
- 22 a developer of a PTC eligible resource?
- 23 A. With respect to wind, I think it highly
- 24 unlikely. There have been -- there is so much water
- 25 under the bridge, too many decisions been -- that have

Page 550 been made. The guidance has been basically consistent, 1 2 evolving, but consistent throughout the process. 3 I would find it remarkable if the IRS would 4 reverse themselves on these things. And there would be such an outcry, myself included. You know, there would 5 be people with pitchforks and torches standing outside 6 the gates of the IRS to join all the others that are 7 there already. So I would doubt seriously that they 8 9 would reverse themselves. 10 CHAIRMAN LEVAR: Okay. I don't think I have 11 follow-up questions. So thank you. We appreciate your 12 testimony today. 13 THE WITNESS: Thank you very much, sir. CHAIRMAN LEVAR: Anything else from Interwest 14 15 Energy Alliance? 16 MR. LONGSON: No. Thank you, Chairman. 17 CHAIRMAN LEVAR: Mr. Jetter, we could continue for a little while, or we could see this as a natural 18 time to break for the day and come back tomorrow. Would 19 20 there be any use to getting your first witness's summary 21 on the record, or would you rather just start fresh in 2.2 the morning? 23 MR. JETTER: I have spoken with my witness. think we would prefer to proceed tonight, if we can. 24 25 CHAIRMAN LEVAR: Okay. We can plan to go a

Page 551 1 little bit farther tonight. Why don't you call your 2 first witness. MR. JETTER: Thank you. The division would 3 4 like to call division witness Joni Zenger. CHAIRMAN LEVAR: Good afternoon, Dr. Zenger. 5 6 Do you swear to tell the truth? 7 THE WITNESS: Yes. 8 CHAIRMAN LEVAR: Thank you. 9 JONI S. ZENGER, was called as a witness, and having been first duly 10 11 sworn, testified as follows: 12 DIRECT EXAMINATION BY MR. JETTER: 13 14 0. Good afternoon, Ms. Zenger. Would you please state your name and occupation for the record? Excuse 15 16 me, I'd like to correct that. Dr. Zenger. Dr. Joni S. Zenger, Z-E-N-G-E-R, technical 17 Α. 18 consultant for the energy section. 19 Q. Thank you. And in the course of your employment with the Utah Division of Public Utilities, 20 21 did you create and cause to be filed with the commission 22 direct, rebuttal and supplemental rebuttal and surrebuttal testimonies? 23

If you were asked the same questions included

24

25

Α.

Q.

Yes.

Page 552 1 in those testimonies today, would your answers remain 2 the same? 3 Α. Yes. 4 Do you have any corrections or edits you would like to make? 5 I have one small correction. It's on my 6 Α. direct testimony on page 10. It's the very last line. 7 8 It says, "the covered projects," and it should say "the combined projects." 9 10 Okay. Thank you. And is the correct 0. identification of that is, that would be DPU 1.0 direct 11 12 testimony, and line 215? 13 Exactly. Thank you. 14 0. Thank you. And have you prepared a statement 15 summarizing your testimony in this docket? 16 Α. Yes. 17 Please go ahead. 0. If you can stay awake a few more minutes here. 18 The division -- the commission should not approve the 19 20 combined projects according to the division's opinion. 21 They are not in the public interest. The combined 22 projects, if they were approved, would require the expenditure of billions of dollars of rate payer funds 23 over decades for the small hope of a low probability 24 25 benefit for customers and a large high probability

Page 553 benefit for the utility. The purported need for such a 1 2 project is very modest capacity addition. 3 Further, the division has little confidence in the RFP results because of the limited nature of the RFP 4 and utility-imposed constraints upon it. The final 5 removal of the Uinta PPA is largely unreviewed and 6 7 unreviewable, given the exceedingly late date that the company informed Utah parties that it intended to remove 8 9 it. 10 Moreover, significant new risks have arisen. 11 Given the Oregon commission's recent decision to not 12 acknowledge the RFP results, new risks concerning 13 multistate allocation exist. The company's proposal offers a narrow benefit 14 15 It will be years before we know whether it if any. proves to be a beneficial resource or not. It should 16 not be approved on the projections and assumptions 17 relied on by the utility, because forecast 18 uncertainties, the utility's predictive track record, 19 20 present unreasonable risk for a project that is not 21 needed. 22 In particular, the gas forecasting by the 23 company has historically been higher than actual gas 24 prices. Indeed in the Jim Bridger SER case, the 25 company's lowest-cost forecast was higher than actual

Page 554 gas prices have been. Similarly, in the last decade, 1 2 customers have been subject to significant trading 3 losses that resulted in part from over forecast gas 4 prices. Now, the company claims it has demonstrated 5 the combined projects are the most -- are most likely 6 the least-cost, least-risk resources through its IRP 7 modeling analysis, and repeated SO and PaR sensitivity 8 studies. However, the results of the company's model 9 simulations are only as credible as the company inputs 10 11 and assumptions, which the division has shown are 12 questionable and uncertain. 13 Caution is warranted based on the nature of 14 predictions, and the company's history of being wrong in 15 recent years in ways that led to unacceptable risk for 16 the unnecessary combined projects. 17 Indeed, although the utility now claims a need for these projects, the capacity contribution of the 18 combined projects is miniscule and costly. The utility 19 20 argues that it is pursuing lower cost energy in the 21 customer's interest, yet customer groups oppose that 22 acquisition. The customer groups are not naive or

25 Although net benefits might materialize, there

confused. They know the risks and ask the commission

23

24

not to take them.

Page 555 is also a very good chance that they will not. 1 2 benefits are far from certain as the division has 3 testified. The only certainty if the combined projects 4 are approved is that customers will pay billions of dollars in capital costs in returns to the utility for 5 decades. And further, unlike in the repowering case, 6 7 these projects have no operational history, adding additional risk to this resource decision. 8 9 While the company claims its results show the combined projects are favorable in 16 out of 18 price 10 11 policies scenarios, in actuality, the division's 12 analysis shows the combined projects are not cost 13 effective in most price policy scenarios and can end up harming Utah rate payers when considering the cost and 14 the risk tradeoffs in the proposal. 15 Rocky Mountain Power continues to claim in its 16 17 analysis, and its analysis reveals benefits in most scenarios, but the division neither agrees with those 18 19 scenarios nor the assumptions underlying them. 20 Mr. Peaco will address these points further. 21 At times utilities and regulators must rely on 22 the best available information and projections and 23 proceed on those assumptions. Those situations 24 typically involve the choice between two or more 25 similar -- similarly uncertain choices. A no-action

Page 556 alternative usually has a cost that is rarely 1 2 quantified. The cost of failure to serve customers for 3 instance, is so high that the nonaction alternative is 4 typically not considered. We do not agree that this case presents a 5 similar set of facts, where some action is necessary. 6 7 The no-action alternative available here plainly represents the least-risk scenario. It further provides 8 flexibility in a quickly changing energy industry to 9 10 adapt to new opportunities. 11 Locking in billions of dollars of long-term 12 assets that provide very little meaningful capacity 13 value for decades is not an appropriate choice for customers, when there is no demonstrated need for new 14 15 resources. When speculating about future benefits, one 16 should be humble about the limits of current knowledge. 17 Multiple parties across multiple states conducting their 18 own independent analysis agree. Though using different 19 20 methods of analysis and criticizing different parts of 21 the utility's analysis, the conclusions are largely the The utility is overstating benefits and 22 23 understating risks. 24 Independent experts, consultants, economists,

engineers and accountants agree that the combined

25

Page 557 projects should not be approved. Rocky Mountain Power 1 2 has cited the case of environmental controls at the Jim 3 Bridger coal facility in Wyoming as an instant where the 4 division tolerates similar uncertainties. However, two points must be understood about the Bridger example. 5 First, as I have explained, the decision about 6 7 adding controls repowering or closing, it had to be made based on the best available information. The status quo 8 9 was not an option in that case. Second, in retrospect, 10 the decision was likely not the least-cost choice, given 11 the gas and the carbon prices since then have proven 12 such. 13 The Bridger decision illustrates the risk that facts will not match projections, making the decision 14 15 the wrong one in retrospect. The division is not suggesting making decisions about prudence with the 16 benefits of hindsight. Rather, the division is 17 illustrating that predictions are inherently risky. 18 Here, we have credible doubt before us that 19 20 the combined projects resulting from the RFP short list are the lowest-cost and lowest-risk resources. We know 21 22 this because of several demonstrated facts. 23 No. 1, the commission determined the 24 foundational analysis of the company's plan to build the 25 wind and transmission resources to be less credible,

Page 558 failing to meet its IRP guideline No. 3. 1 Parties were 2 deprived of a process that might have resulted in more 3 comprehensive consideration of resource options and a 4 more stable analysis to evaluate. Number 2, that deprivation has led to a clunky 5 process in the RFP and in this docket, where parties 6 7 have faced multiple changes in methods and analysis, arguing about shifting assumptions and facts. 8 9 proposal in this docket has shifted in every round of testimony filed by the utility. 10 11 Not only did the division determine this 12 proposal had problems, but the Oregon commission also 13 found similar problems with the company's proposal as it stated, quote, we simply are not persuaded at this time 14 15 that the RFP process was adequate to demonstrate that the specific projects selected are the lowest cost and 16 17 lowest risk for utility customers. Due to the rushed nature of this RFP and 18 adjustments late in the process, related to accelerating 19 20 the completion of the transmission line, there remain 21 just four viable project options for consideration. 22 narrow short list left little ability to evaluate cost 23 and risks tradeoffs that we and the RFP's independent 24 evaluator considered important. End quote. 25 And No. 3, further, the IE evaluating the bids

Page 559 confirmed that the selected bids were not the 1 2 lowest-cost offers, but rather the lowest-cost offers 3 that were viable under the current transmission 4 assumptions and constraints imposed by the company in its RFP. 5 One important risk that the division has 6 previously identified is the risk that other state 7 commissions will not approve recovery of all or part of 8 the combined projects. That risk has come to partial 9 fruition in the Oregon order, refusing to acknowledge 10 11 the RFP results. 12 In the event this commission approves the 13 combined projects and submits Utah rate payers to its share of the costs, while other states do not, it may 14 leave Utah at a significant disadvantage when 15 negotiating allocation of those resource costs, as 16 17 compared to states that have not approved. Even within the narrow scope of the utility's 18 19 consideration of renewable resources, more options for 20 consideration would likely have been available had the 21 utility better sequenced and coordinated its resource, 22 planning and procurement. The haste the utility claims 23 as an exigent circumstance preventing normal consideration is self inflicted. 24 25 Production tax credits have existed for years.

Page 560 So the IRP results that now favor of the combined 1 2 projects, that result in significant benefits to the 3 utility are not credible. The RFP results are 4 questionable at best, and the company's analysis of the research decision is not persuasive. 5 Given the shifting set of projects, 6 7 assumptions and data that we have had to work with in this case, in almost a year now, we arrive at this 8 9 hearing uncertain of whether the removal of one selected project was properly evaluated, how the removed project 10 11 would look without the other projects, and whether other 12 sources of generation may be more economical among other 13 Rocky Mountain Power has had every opportunity to present a consistent cohesive proposal that the 14 commission and parties could reasonably evaluate on the 15 It has failed to do so. 16 merits. 17 The combined projects pose unacceptable risk to customers and should be denied. In its initial 18 filings, PacifiCorp admitted that the acquisition of the 19 20 combined projects was early, but that it still made 21 sense to acquire the resources because they presented 22 such a compelling opportunity. 23 The company stated the following in IRP docket 24 No. 67 before the Oregon commission, quote, if taking an

early action is the least-cost, least-risk option, then

25

Page 561 doing so is consistent with the commission's principles 1 2 for least cost planning, even if there is no immediate 3 need for additional resources. Closed quote. And that 4 was on page 19 on October 5 of the staff's final 5 comments. 6 Finally, with respect to the segment D-2 7 transmission line, the September 14th, 2017, IRP technical conference, the company concedes that its 8 9 proposed transmission line is not needed to address 10 short-term reliability concerns on a stand-alone basis. 11 In the absence of the new end acquisition, PacifiCorp 12 would not construct or acquire the new transmission 13 line, at least not until the year 2024. As the company stated, we are currently 14 complying with NERC reliability standards and expect to 15 be going forward. Thus, PacifiCorp admitted in the 16 Oregon docket what it now denies in this one. 17 commission should evaluate this decision based on the 18 representation that the transmission line would not 19 2.0 otherwise be built. Thank you. 21 MR. JETTER: Thank you, Dr. Zenger. The 22 division would like to move, at this time, to enter into 23 the record direct, rebuttal and supplemental rebuttal 24 and surrebuttal testimonies filed by Dr. Zenger. And 25 these are DPU Exhibits 1.1 DIR, 1.0 R, 1.0 RSUP, and 1.0

Page 562

- 1 SR., and I believe that is all of Ms. Zenger's
- 2 testimony.
- 3 CHAIRMAN LEVAR: Okay. Thank you. If any
- 4 party objects to that motion, please indicate to me.
- 5 Not seeing any objection, so the motion is granted.
- 6 Thank you, Mr. Jetter.
- 7 MR. JETTER: Thank you. And I have been made
- 8 aware that I have not entered the Public Utility
- 9 Commission of Oregon order that I used as DPU Cross, I
- 10 believe it was Exhibit 3. But I don't recall that I
- 11 marked it. And I'd like to just move at this time to
- 12 enter that into the record.
- 13 CHAIRMAN LEVAR: Okay. If any party objects
- 14 to that motion, please indicate to me. I am not seeing
- 15 any objection. The motion is granted.
- 16 MR. JETTER: Thank you. Ms. Zenger is
- 17 available for questions, cross from the parties or the
- 18 commission. I'm not sure if the commission would like
- 19 to proceed with some of that now or --
- 20 CHAIRMAN LEVAR: Why don't we go through some
- 21 of that, and see if we find a good stopping point after
- 22 a while. Mr. Moore, do you have any questions for
- 23 Dr. Zenger?
- 24 MR. MOORE: No questions. Thank you.
- 25 CHAIRMAN LEVAR: Okay. Mr. Russell.

Page 563 MR. RUSSELL: No questions. Thank you, Chair. 1 2 CHAIRMAN LEVAR: Okay. Mr. Baker. MR. BAKER: No questions. Thank you. 3 CHAIRMAN LEVAR: Mr. Holman. 4 MR. HOLMAN: No questions. Thank you. 5 6 CHAIRMAN LEVAR: Ms. Hayes. 7 MS. HAYES: Just a very few. Thank you. 8 CROSS-EXAMINATION 9 BY MS. HAYES: Good afternoon, Dr. Zenger. 10 0. 11 Good afternoon. Α. 12 Q. So your summary was very helpful. I just want 13 to try and clarify a couple issues with the division's 14 position, and I'm looking at page 26 of your April 17th testimony, which is the rebuttal -- supplemental 15 rebuttal and surrebuttal. 16 17 Α. The confidential. Well, I think I am looking at a redacted 18 Q. 19 version. 20 Α. Okay. 21 But I am not getting into anything that would Q. 22 be impacted. 23 Α. Okay. What page was that? Oh, 26. And I am looking specifically at 24 0. footnote 43, where you -- well, maybe I'll just read 25

1 this to you. "Table 514 of the 2017 IRP shows without
2 the energy vision 2020 investment available FOTs of

- 3 1,670 megawatts exceed the system requirements by a wide
- 4 margin through the first 10 years of the study."
- 5 Period.
- 6 "In 2026 PacifiCorp expects that currently
- 7 available resources and FOTs will exceed total system
- 8 requirements, including a 13 percent planning reserve,
- 9 by approximately 447 megawatts. This means that without
- 10 acquiring any new generating resources or transmission
- 11 lines, PacifiCorp will continue to be capable of
- 12 providing adequate services to customers in Utah,
- 13 inclusive of a material reserve margin. As such, the
- 14 proposal cannot reasonably be characterized as
- 15 addressing a resource need."
- 16 Did I read that correctly?
- 17 A. Yes.
- 18 Q. So is it the division's position that
- 19 available front office transactions should be pursued
- 20 irrespective of the availability of resources that are
- 21 lower cost?
- 22 A. No, not necessarily. Low-cost resources
- 23 should be pursued. If the FOTs are lower-cost resource,
- 24 then definitely pursue them.
- 25 Q. Okay.

Page 565

- 1 A. This -- this is just the first time it's been
- 2 introduced to us in an IRP context that it would be like
- 3 treated as other supply side resource.
- 4 Q. Okay. So if there are resources that are
- 5 lower cost than the front office transactions, what --
- 6 let me back up and say, so in your -- in your testimony
- 7 you -- you present pursuing the available front office
- 8 transactions as sort of the no-action alternative; is
- 9 that correct?
- 10 A. Well, it's correct that this IRP the -- with
- 11 the load and the resource deficit and balance that we
- 12 had, that the FOT -- we were just presented with the
- 13 numbers that the company gave us. And so those are the
- 14 numbers that we accepted based on the availability in
- 15 many different hubs.
- 16 Q. Okay. So just assuming that there are
- 17 resources that are lower cost than the front office
- 18 transactions, would -- and if front office transactions
- 19 are sort of the no-action alternative, wouldn't that
- 20 demonstrate that pursuing the no-action alternative is
- 21 more costly?
- 22 A. With the premise that front office
- 23 transactions cost more, it would be.
- 24 O. Yes. Yes.
- 25 A. Okay.

Page 566

- 1 Q. Okay. And so the -- the economics of the
- 2 project costs, for example, the relative economics of
- 3 front office transactions versus an alternative, is
- 4 relevant to the issue of whether there is a resource
- 5 need; is that correct?
- 6 A. It's my understanding that it is going forward
- 7 now.
- 8 MS. HAYES: Okay. I have no other questions.
- 9 Thank you.
- 10 CHAIRMAN LEVAR: Okay. Thank you, Ms. Hayes.
- 11 Mr. Longson, do you have any questions for Dr. Zenger?
- MR. LONGSON: No questions. Thank you.
- 13 CHAIRMAN LEVAR: Okay. Thank you.
- 14 Ms. McDowell or Mr. Lowney, I don't know if it makes
- 15 sense to start your cross-examination and have to finish
- 16 it tomorrow. Unless you expect it to be 20 minutes or
- 17 less, it probably makes sense to wait until tomorrow.
- 18 Why don't you indicate to me what your preference is.
- MS. MCDOWELL: I think my preference would be
- 20 to wait until tomorrow. It will be longer than 20
- 21 minutes, and I -- you know, I know people start to fade
- 22 out as the day goes on. So I appreciate being able to
- 23 start in the morning.
- 24 CHAIRMAN LEVAR: Okay. Well, with that, I
- 25 think it's an appropriate time to recess for the day

```
Page 567
     unless anyone else has anything we should address
 1
     procedurally before we recess. I am not seeing anything
 2
     from anyone, so we are in recess until 9:00 a.m.
 3
     tomorrow morning. Thank you.
 5
               (The hearing concluded at 5:40 p.m.)
 6
 7
 9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
```

1	Page 568 CERTIFICATE
2	STATE OF UTAH)
3	COUNTY OF SALT LAKE)
4	THIS IS TO CERTIFY that the foregoing proceedings
5	were taken before me, Teri Hansen Cronenwett, Certified
6	Realtime Reporter, Registered Merit Reporter and Notary
7	Public in and for the State of Utah.
8	That the proceedings were reported by me in
9	Stenotype, and thereafter transcribed by computer under
10	my supervision, and that a full, true, and correct
11	transcription is set forth in the foregoing pages,
12	numbered 264 through 567 inclusive.
13	I further certify that I am not of kin or otherwise
14	associated with any of the parties to said cause of
15	action, and that I am not interested in the event
16	thereof.
17	WITNESS MY HAND and official seal at Salt Lake
18	City, Utah, this 7th day of June, 2018.
19	
20	Teri Hangen Grananwatt GRR DMR
21	Teri Hansen Cronenwett, CRR, RMR License No. 91-109812-7801
22	My commission expires:
23	January 19, 2019
24	
25	

HEARING, VOLUME II, DOCKET NO. 17-035-40 - 05/30/2018

Index: \$300..16th

	I ———	I	1	I
Exhibits	-	1,670 564:3	10:45 333:11	140 358:22 410:18
EXHIBIT-	-you 341:25	1.0 552:11 561:25	10:47 333:12	411:10
0DPU5 263:20	1	1.1 561:25	11 384:24	148 411:1
	<u> </u>	111 001.20	115 408:20	14th 369:25
EXHIBIT- 0UAE2	1 288:16	1.2 266:9	409:7,9	561:7
263:21	335:14 445:5 446:13,22	1.4 520:9 535:13	116 409:7	15 408:10 477:16
\$	447:5 448:15 449:25	000.10	117 491:12	527:21
	451:21	1.5 433:16	117 491.12	546:24
\$300 417:3	455:10 456:14 464:20	1.7 515:11	118 409:13 412:10	151 411:1
\$35 515:9	472:19			159 472:15
\$36 424:3	473:22 476:23 477:4 478:22	10 276:16 433:17 436:24	119 409:13 412:10	15th 468:14 469:6,10
\$40 424:3	482:11 517:19 521:9 557:23	440:16 458:18 476:18,21	12 265:9 391:25 392:17 420:4	470:17 471:4, 12 473:17,24,
\$63 515:12	1,000 404:18	502:21,22 523:24 552:7 564:4	429:20	25 474:4,16 475:14 477:13,18
\$700 306:12			12:13 397:7	521:10 526:2
311:21	1,100 369:6	100 369:5 433:21 434:7,	13 388:11	16 473:20
	1,150 387:2, 17,18 402:16	16 435:4 541:21	564:8	546:24 555:10
(5)(B) 527:12	1,270 363:14	542:12,14,17 543:2,11,16 544:19 545:2,	13.9 521:3	160 530:15 535:23
(6)(B) 527:16	1,300 305:14	13	13th 319:5 539:8	161 295:4
	1,510 361:19	109 446:21	14 546:24	472:15
	363:14	10:33 333:12		16th 412:2

Index: 17..2024

470:7,21 472:12,18,21 473:5,12,15,	1:14 397:7 1st 433:22	20005 539:9 2003 374:9	433:11,23 434:5,6,18 435:6 440:25	455:10,13,22 541:10
16 474:9,10, 13,16 475:5	434:6 440:11	376:24	445:7,8,14 447:1,4 452:11,19	2020 360:7,8 364:7,18 381:25 382:4
17 491:18	2	2007 359:2 389:1	456:5,6 465:5,21 466:16 467:1	383:4,18,19 384:15,17 388:18
17-035 495:15	2 288:17 319:8,10	2008 389:2,3 391:1,8,15	524:3 530:1, 2,18 531:19 532:10	401:22 406:8 416:13
17-035-23 319:7	335:9 342:13 348:13 369:24 374:8	446:19	535:24 537:2, 12,23 540:6	434:14,15 436:1 440:3, 11,14,17,22
17-35-40 264:5	382:9 403:1 445:5 446:13, 20 447:5,6,23	2010 446:16, 19	561:7 564:1 2017R 265:5	455:13,23 456:21 470:17 471:4
170 495:14	448:16 449:25 456:15	2013 390:9 546:23,24	284:18 361:21 363:12 365:4	488:23 489:3 521:4,10,11 522:5 528:15,
17th 563:14	464:20 472:19 473:22	2014 389:20	445:1 446:1, 9,12,25	18 533:19 542:8,9,15
18 278:20 407:25	476:23 477:5 478:22	2015 365:5 409:25	448:8,14 475:6	543:1,6,12 544:16 545:12,17,23
555:10 185 335:14	482:11 521:9 530:14,15 558:5	2016 405:8 465:4,19	2018 264:1 284:2 381:22	564:2
19 367:1	20 299:18	541:19 542:10	391:24 441:1 447:2 451:5,7 455:21	2021 440:3 441:5 515:6 521:5 522:6,
561:4	315:2,24 316:13 322:7 327:2 369:24	544:16	468:14 469:10 470:7, 21 472:12,18,	12 523:6,10
193 470:24 475:14	566:16,20	2016-31 545:7 547:1,3	21 473:5,18, 23,24,25	2022 441:5
195 470:24	200 312:13, 24,25 313:7, 8,23,24 363:8	2017 283:15 319:5 364:22	475:14 526:3 527:22	2023 441:5 2024 360:12,
196 475:15	447:11,12 448:25	368:4 369:25 388:10 398:23 405:8	2019 406:7 440:11 441:1	22 381:25 382:4,9,13
19th 295:4			453:16	383:2,18,25

HEARING, VOLUME II, DOCKET NO. 17-035-40 - 05/30/2018

Index: 2026..4:08

1				_
384:13 385:6, 19,24 416:12	475:21	269 326:6	31 307:9	4
422:13 425:16 429:8, 9 561:13	225 403:13,16	27th 284:2	312 408:10	4 288:17
	23 426:10 495:15 526:21	28 491:9,10, 12	313 408:11	307:13 397:20 487:19 493:4
403:18 427:23 428:10 564:6	230 401:6,17	281 527:22	318 468:13	4.2 451:25
2027 440:18	403:1,4,8,9 418:24	289 527:22	31st 272:18 434:14,15 473:23	4.5 491:17
2028 398:25	421:25 426:11 428:3	298 388:11	477:17	493:17,18,19 494:1,7,12,19 495:4,10,13
420:25	238 384:22	2:39 458:20	323 468:14	496:18,25 497:9,14
2030 276:15	23rd 409:25	2:51 458:20	35 391:24 392:7,8,10 434:22	40 349:25 379:1 441:2
2036 278:8 279:3,15	24 265:9 387:3 526:22	3	350 402:2	400 312:19
204 473:18 475:21	240 384:22	3 288:17 362:20	36 391:24	447:10 450:2
	250 402:5	362.20 368:17,20 373:22	392:7,8,10	429 367:2,5
434:22	446:17 447:21	487:19 558:1, 25 562:10	363 470:8	43 563:25
215 552:12	258 319:16	3,000 374:8	365 470:8	433 367:3
	26 283:11 369:21,23	3.2 452:2	37 526:6 527:2	445 381:22
22 440:15 526:5,22 527:1	440:15 521:11 563:14,24	30 264:1 315:6,24	399 312:19	447 564:9
	261 324:15	349:25 369:24	3:57 502:24	461 357:6,13
473:18		440:12 524:2		4:08 502:24

Index: 4A..96

4A 359:13 387:8,13 398:10 426:6,	54-17-202 524:8	60 440:6 441:1	746-420 284:19	85 306:16 364:2 410:12, 15,17 482:4,
13	54-17-302 527:12	601 539:8	750 392:12,13	21 540:25
4B 426:7	54-17-302(5)(603 373:18 376:18	78 397:23	86 340:13
4SS 491:9	b) 469:1	67 560:24	798 373:18 376:18	87 524:2 529:12,17
4SS-8 505:10	54-17-402 527:16	697 361:5	7th 373:17	88 393:2 394:10,16,20,
5	54-17-403 524:9	6:00 459:7 461:8	374:1,4 376:5 ————————————————————————————————————	24 396:8 420:3 469:7,
5 288:18 381:12 433:24 434:1,	54-4-23 524:8	6:30 461:8		89 473:6
8 437:4 441:11 548:2 561:4	54-7-13.5(4)(c) 524:12,21	7	8 491:24 8,760 265:9	9
50 379:1 455:2	55 440:6	7 421:4 530:16	80 320:19 410:19	9 335:12 348:14
500 358:22 401:7 402:14	5:40 567:5 5S 546:18	700 421:2	411:10 436:15 437:5 440:5 441:1	384:21 436:24 476:18,21
403:1,5,8,9 410:9 418:25 419:5 446:14	6	708 365:2,11 448:3	800 421:4	90 457:13 469:7,11
455:2	6 379:25	71 316:12 322:6	81 267:8	93 473:6
514 564:1	380:6,7 408:17,20	713 365:11	83 290:12	950 387:20
519 387:4	409:5 411:18	448:4	84 320:19 337:22	951 361:12
54-17-101 288:11	6,000 511:18 512:1	73 328:1	338:14	387:5
	I		845 374:10	96 524:2

97 457:13	384:14 385:18 387:21,24	accelerating 558:19	accomplish 425:1	303:24 345:11 367:15,19
99 469:7	388:5,19 395:10	accept 294:25 303:5,	accordance 265:14 492:4	369:19 373:15 413:7,
9:00 264:1 567:3	413:15 425:19 427:23 438:8	7 496:15 497:17	493:24 524:14	19 440:22
Α	478:2,20			accurately 347:5
	495:7 514:22 523:22	acceptable 361:25	according 552:20	
a.m. 264:1 333:12 567:3	566:22 above 301:23	acceptance 499:15	Accordingly 521:14	achieve 276:11 469:15
abandon 533:13	393:20 396:8 526:14 536:4 546:20	accepted 565:14	account 270:11 329:16 514:3	achieved 456:24 470:16 471:3
abandoned 533:15	absence 369:1 561:11	access 274:21	524:13,24	acknowledge 514:11
ability 279:19 281:5 319:21 367:8 398:2	absent 429:9 514:7	358:14 360:17 364:25	accountable 478:4	530:23 553:12 559:10
438:13 446:9 456:8,24	absolutely 471:10	375:25 438:15 491:4	accountants 556:25	acknowledge
496:23,24 523:18 529:5 531:13 545:9 558:22	485:25 506:22 541:14	accommodate 282:7,20 333:20	accounted 276:9 287:1 292:14	d 369:4 438:18 439:2 521:3
able 288:4 291:20	absorb 288:3 515:12	450:13 accommodate d 471:17	301:18 315:24 416:18	acknowledge ment 534:7
292:23 294:23 304:8 328:6 334:19 338:10	accelerate 360:22	accompany 519:6	accounting 514:15	acquire 369:2 453:20 560:21 561:12
359:19 361:18 378:14	accelerated 455:15	accompanyin g 443:6	accurate 265:14 302:17,24	acquired

466:15 467:10	426:18 450:8 453:4 466:1 469:15 472:2	466:8 486:18 489:7 492:17 493:1 508:25	386:22 387:4, 9 400:18 401:7,10,11	516:21 additions
acquiring 564:10	activity 426:1	519:19 523:23 530:14 531:24	402:15 413:25 418:19,25 555:7 557:7	353:2
acquisition 288:13 316:20 319:18 369:1 450:10 453:21,24 466:20	actual 266:22 272:25 286:22 287:4, 19 300:17 553:23,25 actuality	536:22 actuals 331:9,16 332:15	addition 271:16 280:6 359:25 365:15 367:12 373:12 391:5	283:11 284:12 288:9 300:16 331:8, 18 332:14 359:8 368:24 370:13 385:2, 10 420:11
554:22 560:19 561:11 across	555:11 actually 266:16	Adam 505:13 adapt 556:10	434:8 447:7 448:5 511:21 553:2	421:9 422:15, 19 508:16 528:2 539:6,8 545:16 555:20 561:9
266:19 386:8 417:5 466:3 474:5,25 508:4,8 556:18	274:17 315:8 316:21 318:10 324:15 326:2 330:7,20 349:24 365:13,23	add 280:14 318:2 357:6, 14 370:9 387:10 391:19 394:25 402:14 403:1,	additional 280:14,17 318:3 335:19 377:7,8 386:11 387:24 389:7 391:19	567:1 addressed 281:3 345:2 363:17 449:22
act 434:20,25 435:5 526:13 549:8	369:17 370:15 372:22 378:21 381:7	5 419:4 423:15 430:7 547:11	393:18 400:3, 8 403:24 417:3 419:4 421:20	addresses 305:10 374:10
acting 402:19 action 493:11 494:21 556:6 560:25	385:11 386:11,17 387:15,16 388:5 390:1, 3,12 393:13 394:2 400:2,	added 271:12 340:11 387:18 417:3 425:23,24 515:14 547:3	422:22 423:8, 21 428:18 448:6 478:24 479:1 484:1 508:23 516:23	addressing 269:23 564:15
active 280:8 389:1	11 401:4 411:18 421:21 438:23 441:9, 15 450:9	adders 329:24	526:16 529:8 530:25 531:3 537:21 555:8 561:3	adequate 488:23 558:15 564:12
activities	453:7 465:20	adding 280:16	Additionally	adjacent

Index: adjust..aggregate

				iscaggregace
446:15,21	524:25	427:21	affiliates 274:5	328:12 331:20
adjust 450:13	adopted 284:25	Aeolus-to- bridger 337:9	afraid 548:19	341:13 372:2, 19 373:14 376:7 378:24
adjusted 433:16 450:12 474:2, 19	512:23 524:3 528:2 advance	389:24 390:15 421:22	after 297:8 307:1 311:3 333:4,8	379:16 384:13 385:24 388:17 390:3
adjustment	292:19	Aeolus-to- bridger/	349:23 355:1 357:7 360:8	391:18 392:6 393:16
514:7	advanced 304:6	anticline 308:2,21 337:14	405:17 431:2 440:17,18 461:10 462:9	395:25 399:5 402:12,25 404:16
adjustments 558:19	advantage 285:10 304:8 321:19	339:24 345:7 346:14 350:6 358:22 359:9, 10,18 360:3,	474:12,13,15 487:25 541:10,22 542:7 545:19	405:19 407:4 412:9 413:9, 19 415:14,24
administer 490:15	335:20 349:16,19 351:22	7,21 361:10, 11 362:12 363:25 365:8	562:21	419:4 423:8, 15,19 426:1 428:24 429:9 449:16,18
administratio n 274:15 358:13 486:2	388:20 advantages 336:8 382:7	366:1 385:23 397:25 403:20 410:16 411:5	afternoon 354:9,12 397:8 408:9 425:9 433:1 441:25	470:24 471:1 473:8,12 475:24 524:20
administratio n's 507:3	adversarial 282:19	416:10 421:19 428:10	444:21 463:3, 4 464:12,13 485:19,20 500:10,11	525:10 528:23 541:15
admission 342:12 443:5, 9 539:19	adversely 377:9	affect 284:16 292:25 323:8 377:9 438:20 531:2,16	513:19 518:15 551:5, 14 563:10,11	against 317:6,10
admit 357:20 432:16 513:10	advisory 298:13	affected 288:18	again 266:22 269:18 299:5 302:20	agencies 302:11
admitted 560:19 561:16	Advocates 334:11 355:14	304:12 328:6 affects 438:2, 3	308:17 309:14,16 313:20 315:11	aggregate 265:19 266:9, 24 279:20,23 281:16,21 421:1
adopt 514:11	Aeolus 363:2		325:19	

				1
ago 444:9	agreements 379:5,11	albeit 288:22	373:8 375:9 377:14 379:7	all-source 302:24
agree 297:1 299:1 303:7 418:19 468:16 470:2	445:19 446:6 448:19,20,23 449:9 450:23, 24,25 451:2,4	align 472:23 473:12,13 477:24 515:20	386:12 387:19,22 390:6 391:22 393:11	303:17 334:17 335:23 336:3, 16
492:7 495:20 517:8 518:15 519:16 530:7 533:22	452:12 453:12 454:3, 13,22 455:1, 17 464:16,17,	aligned 474:11	395:23 396:4, 12 397:1 401:1 402:9 406:8,11	alleviate 399:24 400:1, 12
536:25 537:19 556:5, 19,25	19 466:2,9,18 467:15,19 472:19 473:10,21	alignment 450:20	413:1 417:5,8 427:7 430:4, 23 436:6,16 438:12,14	Alliance 289:19
agreed 407:7 418:11 430:24 431:7	474:11 475:12,18,22 477:22 479:20 480:5	all 268:25 270:20 272:9 276:24 278:1,	439:8 443:24 449:25 454:4, 11,17 458:12 461:22 464:6	430:12 538:15 550:15
528:18 533:13 547:13	481:7,17 483:9 484:9, 12 486:12,17,	2,11,16 279:19 281:15,22	465:10 467:13 475:1 476:2,10	allocate 508:7 532:16
agreement 268:19,20 371:12	24 488:7 490:24 500:15,23 504:25 505:9,	283:24 284:19,21 285:5 288:5 289:17 290:4 291:16	485:12 486:6 489:7 491:25 492:19 493:19 494:14,16	allocated 345:14 346:4 508:1 531:17
445:23 447:12,13 449:1,3,11,16 457:3 465:23 467:10,24	19,20,21 517:7 agrees 517:5 555:18	292:14 296:5, 8,20 299:11, 15,16 301:16, 18 302:3	496:23 502:6 506:14 508:13 510:18 511:8	allocation 392:22 427:20 429:24 437:4
477:16 478:3, 9 480:17 481:11 486:18	ahead 304:8 344:9 376:20, 22 483:3	303:10 304:13 306:18,22 309:18 314:7 316:3 324:3,	516:10 520:4, 14 522:7,16, 18,22 523:2 525:21 527:11,17	508:3,8 528:18 530:8 531:1,20 532:20
491:18 492:4, 25 493:25 495:1,11 501:20,21	495:24 538:14 540:2 552:17	10 329:20 337:12 339:3 342:5 346:5 358:9 361:25	530:3 537:8 541:7,20 543:15 544:9 546:21	537:15 553:13 559:16
504:7,8,14,15 505:11 506:10	aid 391:5 aimed 420:5	362:25 364:15,23 370:7 371:22	547:14 548:16 550:7 559:8 562:1	allocations 528:11 532:22
	420.5			

Index: allow..analyze

r				_
	1		ĺ	ĺ
537:15	274:22	377:10 378:4	alternatives	300:5,12
	302:16	386:14 387:7,	274:13	313:13
	321:18	24 393:9,22	276:21 423:5	386:25 401:3
allow 268:9		,		
278:23	332:17	396:18 399:6	424:20	420:7 478:12
282:21,22	368:17 370:7	400:14,25	514:20	501:16,19,20
298:14	391:11,21	401:10		528:22 529:2,
304:10 311:1,	399:12	402:15	although	21 530:5,17
1	407:15	404:10	•	535:24 537:7,
4 367:12	417:23	406:21 410:6	359:19	9,11 544:20
376:9 396:14	450:12 454:4	413:21 414:6	367:10 444:4	
475:8 498:9	519:10	417:6 418:5	482:13 506:5	
515:20 531:5	313.10		554:17,25	amounts
		419:2,24		300:11,12
	already	423:7 424:5		536:5
allowance	332:20 344:7	425:25 428:5	aluminum	
350:4	387:11	433:9 440:24	480:2	
	453:25	441:12 446:8		analysis
allowed		447:8 449:10	olwovo 244:4	269:16,22
	483:15	450:9,11	always 344:1,	272:8,10
270:20,23	516:17,18	452:12	11,14 481:18	275:11
284:22	550:8	455:24 459:5	534:6	276:18 278:7
445:11		462:1 466:4		280:5,24
454:14	also 268:6		ambiguity	285:15
497:15		467:5 469:20		
	275:12,16	475:6 477:8	378:17	287:15 289:4
	277:8 278:19,	480:18		296:6 299:21,
allowing	22 280:21	481:16	amended	23 302:16
278:16	285:19	483:20,25	474:25	306:19 308:3
465:17	286:13 292:7,	499:21	474.20	311:9 316:4
	14 294:19	511:23 517:5		340:1 346:16
	299:9 305:25	520:2 522:10	American	382:14 383:2,
allows 359:6	317:2 321:17	526:12 555:1	362:6	4 435:8
362:21 453:3	322:18 324:5	558:12		438:12
516:18	328:7 331:15	JJU. 12		503:13
521:23			among	
533:25	334:16	altered 476:6	277:25	540:16,20
	336:22		278:10	554:8 555:12,
.	358:23		531:17	17 556:19,20,
alluded 329:6	360:20	alternative	560:12	21 557:24
	361:13,18	271:10 303:9	000.12	558:4,7 560:4
almost 272:0	362:25	359:21		
almost 373:8	363:12,17	421:21	amongst] .
560:8	364:7 367:7	548:24 556:1,	474:4 477:24	analyze
	370:9 372:4	3,7 565:8,19,]	382:17
along 271:7				417:20
along Z11.1	374:10	20 566:3	amount	

287:1 292:17 301:9 363:9 391:21	467:11 472:7 499:4 536:4 550:14	appears 324:24 375:13	448:25 516:14
460:19 466:10 476:22 482:8	563:21 567:1, 2	Appendix 492:11,12,15	appreciate 281:2 282:3 344:21
anticipates 470:11,13,25	anyway 316:13 535:16	applicable	353:20 412:8 414:11 480:24 508:22
anticipation 481:5	anywhere 371:2 380:9 452:1	291:9 336:13, 16 367:9,11, 17 417:8 478:8 493:21	511:11 550:11 566:22
Anticline 345:20 410:11	apart 390:10 404:11	application 264:5 344:4 409:18	appreciates 458:9
anybody 405:9 460:24 461:17 anyone	apologize 333:14 352:9 354:14 376:14 408:23 409:1 421:5 507:1	422:12 444:25 445:25 447:8 450:1 451:15 513:22 519:8	approach 274:12 334:15 367:22 373:13 422:13 455:6
353:23 354:1 355:16 419:12 488:9 536:13 567:1,	526:25 544:9 apparently 305:9	applied 299:12 311:10,11,15 332:12 345:18	524:19 approaches 303:13
3 anything 264:11 276:2	appeal 494:16 495:16	applies 499:13	approaching 462:1
291:25 292:24 301:23 329:24	496:12,16 497:17,21 498:4,5 499:15	apply 290:4, 16 292:6,16 293:3,4,7	appropriate 276:10 303:17 311:3, 5 383:19 384:4 396:13
394:17 395:1, 7 430:7 462:5,18	Appeals 373:18 374:12	303:13 344:2 353:3 439:25 440:20	397:4 430:10 457:4 487:25 489:2 547:11
	301:9 363:9 391:21 460:19 466:10 476:22 482:8 anticipates 470:11,13,25 anticipation 481:5 Anticline 345:20 410:11 anybody 405:9 460:24 461:17 anyone 264:11 269:3 353:23 354:1 355:16 419:12 488:9 536:13 567:1, 3 anything 264:11 276:2 291:25 292:24 301:23 329:24 368:12 394:17 395:1, 7 430:7	301:9 363:9 391:21 460:19 466:10 476:22 482:8 anticipates 470:11,13,25 anticipation 481:5 Anticline 345:20 410:11 anybody 405:9 460:24 461:17 anyone 264:11 269:3 353:23 354:1 355:16 419:12 488:9 536:13 567:1, 3 anything 264:11 276:2 291:25 291:25 292:24 301:23 329:24 368:12 394:17 395:1, 7 430:7 462:5 18 499:4 536:4 550:14 563:21 567:1, 2 anyway 316:13 535:16 anywhere 371:2 380:9 452:1 apart 390:10 404:11 apologize 333:14 352:9 354:14 376:14 408:23 409:1 421:5 507:1 526:25 544:9 apparently 305:9 appeal 494:16 495:16 495:16 495:16 495:16 495:16 495:15 368:12 394:17 395:1, 7 430:7 462:5 18 Appeals 373:18	301:9 363:9 391:21 460:19 476:22 482:8 anyway anticipates 470:11,13,25 anywhere 481:5 371:2 380:9 405:9 460:24 461:17 anybody 405:9 460:24 461:17 anyone 264:11 269:3 353:23 354:1 355:16 419:12 488:9 536:13 567:1, 3 anything 264:11 276:2 291:25 291:25 291:25 291:25 291:25 292:24 301:23 394:17 395:1, 7 430:7 480:5 18 499:4 536:4 375:13 Appendix 492:11,12,15 493:5 494:9 Applicable 291:9 336:13, 16 367:9,11, 17 417:8 478:8 493:21 Application 264:5 344:4 409:18 422:12 444:25 445:25 447:8 450:1 451:15 513:22 519:8 applied 299:12 311:10,11,15 332:12 345:18 applies 499:13 applies 499:13 301:23 303:13 344:2 394:17 395:1, 7 430:7 480:5 18 Appeals 373:18 Appeals 373:18

556:13	372:13	389:13	arm's 449:4,8	390:16
566:25	407:23	391:22 400:3,	456:23	421:13 507:4
	487:23	7,10,23	490:22 491:2,	533:24
	498:10	402:20	3	
appropriately	516:15	403:17,22		
297:7 455:25	518:16	417:22 419:2,		assess 281:8
	528:10	7 421:25	around	295:10 377:5
approval	534:20	422:23 423:7,	267:10 272:9	438:9 446:3
264:6.7	552:22	14,22 425:22	274:8 276:15	483:21
270:19	553:17 555:4	426:15 427:4,	386:15 466:7	507:20,23
294:13	557:1 559:17	21 428:16	484:18	511:5
362:20 415:1	007.1 000.17	499:13	486:15	
445:2 463:7		540:15	490:11	assessed
492:9 493:8	approves	340.13	506:13	457:23
495:13,14,21,	559:12		507:24	483:16 485:6
23,24 496:2,8		areas 345:5	510:25 511:6	510:12
498:15,20,23	approving	381:19 424:8		310.12
501:16 503:9	300:10		arrangamanta	
	300.10	Orgue 516:14	arrangements 500:16	assessment
516:3,8 524:5		argue 516:14	500.16	265:7 273:5
526:18 527:9	approximatel			283:23
548:14	y 305:14	argues	arrive 271:1	286:11 318:5
	306:12	554:20	560:8	353:1 362:13
approvals	312:24,25			401:14 508:6
451:5 453:20	361:12 363:8		ant 400:47	
454:1 466:3	364:2 369:24	arguing 558:8	art 480:17	
468:1 478:13,	521:16 564:9		504:25	assessments
20 479:4,10,		argument		285:2 288:9
15,21 491:21		532:15	artful 506:25	363:3,5,6
496:23 548:7	April 445:8			484:3,5 485:6
	453:16			508:20
	455:10	arguments	aside 289:22	510:15
approve	472:18	458:25	428:14	
406:24	473:12,20	459:13 462:3	429:23	asset 429:18
458:13	474:10 475:5	508:11	480:10	430:3 446:8
467:21 469:2	563:14			449:11,13
517:18		arise 455:20	asks 326:2	509:10
527:13,17	area 280:25	471:7	374:20	
529:19	361:1 362:23	l	437:19	
552:19 559:8	367:16		1 .55	assets 293:7
	370:16	arisen 553:10		467:13,18
approved	371:15		aspects	520:4 556:12
362:24	386:13,17	arises 283:3	283:24 293:7	
302.24	300.13,1 <i>1</i>	200.0		

Index: assign..aware

assign	association	assumptions	283:1 302:9	565:14
378:13	289:19 305:3	264:22 265:2,	305:2	
		16,24 274:8		
		275:18,21,25		available
assigned	assume	279:3 285:7	attorneys	275:2 281:11
310:17,23	296:9 300:9,	299:15	282:19,23	297:15
337:10	10 342:2	382:14,16	354:19	302:15
466:10	355:13 422:8	405:14 423:9		308:19
	428:13 429:5	511:6 553:17	attractive	338:18 348:8
assigning	468:3 529:11	554:11	457:17	352:16 358:1
288:5 336:23	537:8	555:19,23	407.17	364:15
200.0 000.20		558:8 559:4		365:14 366:2,
	assumed	560:7	attribute	7 435:10
assignment	311:20	500.7	510:4	458:15 459:4
283:21 330:2				463:20 487:7,
349:6,12	365:16	attached	044#:b.u400	12,13 488:3
	401:25 406:2	401:14	attributes	504:22 506:1,
	418:6,21	424:13	457:21 509:4,	2,6,24 511:22
assist 399:14	420:24 429:1	486:13	5,9,14	514:14
402:22,24	474:21			517:24
	475:13		audit 549:4	523:21
assistance	507:24 508:5	attempt		543:19
351:12		292:14	41 00-00	555:22 556:7
	assuming	364:20	author 267:22	557:8 559:20
_	290:14			562:17 564:2,
associated	423:15	attempted	authority	7,19 565:7
268:14	429:16 431:8	288:2 479:12	492:10	7,10 000.7
285:23	451:5 453:12	200.2 47 5.12	493:13 524:4	
287:22	466:11 510:6		100.10 02 1.1	average
288:23 294:8	521:19	attempting		273:11
295:11	531:15	503:7	authorization	
314:19 331:3			492:9 493:8	avoid 499:17
335:18	541:20	attention	497:6,12	
351:24	542:10			515:23
382:11	565:16	267:15	authorized	
410:10		320:18		avoided
413:23	assumption	335:13 348:2	522:9,21,25	272:2
415:12	276:14 365:7	468:13 473:4,	523:18	
465:25	383:24	17 491:7		
500:16,22	391:25	526:2,5	availability	awake 552:18
507:25	392:17 404:7	527:21	457:14	
510:23	428:15		470:16 471:3,	aware 295:17
-	429:21	attorney	9,23 564:20	300:4,7

Index: away..became

				awaybecame
			I	1
302:23	458:21	534:24 546:7,	20 321:6	421:24
305:17	474:18	8 563:2,3	323:1 330:7	423:17 428:5
341:21	489:20	·	334:15	449:4 550:1
349:10,11	490:13	Dal ada	338:24 339:1	
372:10	502:25	Baker's	395:2 396:9	l
378:20	513:24 517:5	264:14	405:21 407:6	basing
379:12 380:9,	520:16 534:3		428:8,18	463:19
14 399:3	545:4 550:19	balance	429:22,24,25	546:19
405:25	565:6	522:2 565:11	437:20	
468:25	000.0	022.2 000.11	439:12	basis 266:19
474:12,15			451:23	309:8 310:18
485:22 486:1	back-to-back	balancing	451:25 452:15 474:3	311:19
	515:24	514:3 524:13,		313:18
519:21 521:2,		24	484:4 503:12,	
7 530:21,24	booked OCE.E		13 508:7	326:14
534:22 562:8	backed 265:5	h a m alvert altila	522:12 523:5	338:16
	266:19	bandwidth	530:8 531:20	351:10
away 440:4		484:18	532:10	359:16
	background		536:14 537:6,	368:25
	463:9	banks 423:21	22 542:16	373:25 383:3
В	100.0	120121	547:6 549:17	384:18
			554:13 557:8	438:24
	backstop	base 274:12	561:18	489:15 508:2
back 264:4	543:12	279:3 314:3	565:14	561:10
269:13,18		382:13		
291:23	bad 417:18	407:13	basis 000:0	Beech 400:00
		416:23 417:2	basic 388:8	Beach 483:22
294:12 313:2	475:15,16	514:1 518:17	406:14	
319:24				bear 361:5
320:12 322:6	Baker 264:19		basically	473:2 525:22
324:11 325:1	266:25	based 265:3	296:16,22	
333:14	267:19 297:5	269:2 270:25	311:9 312:18	
336:25 350:8	298:4 328:20,	273:9 275:12	313:7 314:12,	bearing 519:9
352:18 354:4	21,23 329:1	280:23 285:1,	14,16 316:2	
1 070.0 070.0	21,20 020.1		14.10 J10.Z	
372:9 378:8,	333.3 3/12.17	11,21 286:10	· ·	hears 516:25
25 384:3	333:3 342:17, 18 21 343:7 8	11,21 286:10 287:2,15,21	323:25	bears 516:25
1	18,21 343:7,8	· ·	323:25 329:18 332:9	bears 516:25
25 384:3	18,21 343:7,8 376:14 408:5,	287:2,15,21	323:25 329:18 332:9 336:12 337:4,	bears 516:25 became
25 384:3 385:5 388:8	18,21 343:7,8 376:14 408:5, 6,8 416:1	287:2,15,21 288:22,25	323:25 329:18 332:9 336:12 337:4, 13 345:8	
25 384:3 385:5 388:8 391:15,18	18,21 343:7,8 376:14 408:5, 6,8 416:1 437:12,13	287:2,15,21 288:22,25 292:11 295:6	323:25 329:18 332:9 336:12 337:4, 13 345:8 349:21 372:2	became
25 384:3 385:5 388:8 391:15,18 395:6 397:9	18,21 343:7,8 376:14 408:5, 6,8 416:1 437:12,13 485:15,16,18	287:2,15,21 288:22,25 292:11 295:6 296:23 298:8,	323:25 329:18 332:9 336:12 337:4, 13 345:8 349:21 372:2 390:24	became 323:1 337:19,
25 384:3 385:5 388:8 391:15,18 395:6 397:9 399:23 415:3,	18,21 343:7,8 376:14 408:5, 6,8 416:1 437:12,13 485:15,16,18 491:12,14	287:2,15,21 288:22,25 292:11 295:6 296:23 298:8, 9 299:22,23	323:25 329:18 332:9 336:12 337:4, 13 345:8 349:21 372:2 390:24 392:16,21,24	became 323:1 337:19, 20 345:3
25 384:3 385:5 388:8 391:15,18 395:6 397:9 399:23 415:3, 16 421:20 425:11,14	18,21 343:7,8 376:14 408:5, 6,8 416:1 437:12,13 485:15,16,18 491:12,14 499:7,24	287:2,15,21 288:22,25 292:11 295:6 296:23 298:8, 9 299:22,23 310:22 312:14	323:25 329:18 332:9 336:12 337:4, 13 345:8 349:21 372:2 390:24 392:16,21,24 399:16 403:3,	became 323:1 337:19, 20 345:3 349:10,11 350:22
25 384:3 385:5 388:8 391:15,18 395:6 397:9 399:23 415:3, 16 421:20 425:11,14 429:3,13,21	18,21 343:7,8 376:14 408:5, 6,8 416:1 437:12,13 485:15,16,18 491:12,14	287:2,15,21 288:22,25 292:11 295:6 296:23 298:8, 9 299:22,23 310:22 312:14 314:12 315:9,	323:25 329:18 332:9 336:12 337:4, 13 345:8 349:21 372:2 390:24 392:16,21,24	became 323:1 337:19, 20 345:3 349:10,11 350:22 474:12,15
25 384:3 385:5 388:8 391:15,18 395:6 397:9 399:23 415:3, 16 421:20 425:11,14	18,21 343:7,8 376:14 408:5, 6,8 416:1 437:12,13 485:15,16,18 491:12,14 499:7,24	287:2,15,21 288:22,25 292:11 295:6 296:23 298:8, 9 299:22,23 310:22 312:14	323:25 329:18 332:9 336:12 337:4, 13 345:8 349:21 372:2 390:24 392:16,21,24 399:16 403:3,	became 323:1 337:19, 20 345:3 349:10,11 350:22

become	557:19	306:5 344:8	566:22	believes
274:19	560:24 567:2	359:13 387:8,		286:4 297:12
330:17		13,25 398:10,	belief 317:5	324:18
337:14	began 283:17	16 399:2,10		458:10
363:20	389:1 433:22,	428:6	_	514:18
364:17	24 434:5		believe	517:12
456:23 458:2	441:4,15	being 265:22	264:13	
478:25	771.7,10	268:24 270:4	268:12,16,20,	below 331:16
		274:23	23 294:3	396:8
becomes	begin 319:16	292:12 301:8	297:5 298:4	390.0
	345:1 440:17,		306:14 307:9	
454:18	25 450:22	305:25 309:6	310:15 329:5	ben 349:19
480:22 485:9	453:4,7,12	311:22	331:12,15	
	497:3 498:1,	315:22 329:7	335:16 [°]	l
before 264:10	9,13 515:2	331:16	343:15	benchmark
267:22		333:16	344:12	285:4 286:8,
282:15 305:8		339:11,12,17,	346:18 370:3,	13,16 287:3,5
310:5 317:8,	beginning	20 340:8	5 371:2	288:23 292:4,
22 331:23	335:8,14	349:3 351:25	376:19	7,8,11 299:25
337:18,25	367:2 433:18	361:1 365:10	377:17	301:11,18
338:5 354:4	441:10	372:3 378:5	384:21 387:2	323:23 325:8
355:14 357:9	453:15	387:18	389:1,2,11	326:14,18,25
	497:21	389:18	· ·	327:5,9,22
359:5 360:21	541:22	390:17	390:9 393:22	328:15 445:4,
368:5,19	544:16	410:15	398:23 407:5	25 447:6,21
373:23 375:5	546:21,23	414:19 415:5	410:11 412:3	448:15
413:13		416:8 418:15	415:2 420:10	449:14
430:18	1	420:4 424:10,	424:13	451:16,18,23
439:10 443:7	begins	15,20,22	428:22 448:4	452:5,9,11
453:6 456:14	440:10	426:22 427:3,	470:4 475:25	456:6 500:24
458:14,22	541:18,19	17,18 433:20	476:8 488:25	
459:20	542:7	439:2 446:12	491:18	
462:18		450:5 456:16	492:14,24	benchmarks
472:24	begun	478:20	495:15 496:3	286:12,14
474:16 483:2	452:14,15	487:11 490:3,	499:7 505:10	299:16
497:25	453:25 542:2,	7 498:14	511:15,21,23	446:24 451:7
498:11	10	507:18	516:15	453:11
516:11 523:2		507.16 509:14	518:25 519:7,	456:19
533:20			8 521:8 526:7	
540:23 541:3,	behalf 293:24	514:22	529:6 530:7,	beneficial
8 543:1,6		521:25	19 534:13	
544:10 [°]	behind	522:23 530:4	535:10 536:7	347:7 514:24
553:15		541:20	562:1,10	553:16
	271:13 276:7	554:14	, -	
	I			

				.cbirarcacca
benefit 266:23 279:5, 23 295:20 307:25 314:13 315:23 349:20 360:15	384:14,16 400:8 417:4 418:16,21 421:24 429:10 433:7 450:4 513:21, 25 514:4,5, 13,19,21,25	543:15 555:22 557:8 560:4 bet 358:10 better 291:25	286:21 287:6 300:11 301:10 302:25 304:12 307:13 314:21 315:1, 16,17 316:2,5	344:13,18 346:24 347:12,17 352:14,20,24 353:9 364:24 452:17 467:4
361:22 363:10 371:22 419:6 458:7,11 459:12 510:22 517:15 552:25 553:1,	515:2,5,8,9, 17 517:11,21 520:8,17 521:23 522:3, 23 525:1,6, 12,19 534:1 554:25 555:2, 17 556:16,22	313:23 332:18 340:7 350:1,8 359:4 398:4 420:22 461:3 519:20 559:21	323:11 330:12,14 337:3,10 347:4,8 348:5 363:24 411:12 412:15,17,19 413:12,15	bidders' 341:7 bidding 341:25 413:24 bids 265:4
benefits 266:5,8,10 279:11 285:15 287:10,11,14,	557:17 560:2 benefitted 507:9 Berkshire 274:5 486:5	327:17 338:2 372:13 446:18 448:21 449:5, 8,16 459:7 477:3,12,17 478:21,25	414:14,15 446:9 450:18 464:23 465:16,17 467:5 475:4 478:14 480:1, 4,22 504:12	270:6,12,13, 21,24 271:4, 9,10,12,14 278:16,21,24 299:12,25 300:18 301:9 303:22 310:1,
18 288:5 294:11 295:10 311:10 312:16,17 315:21 316:1, 4 318:1,3,4 319:20	best 270:7,14 271:15 286:13 333:18 382:10 385:22	495:11 503:19 517:11 555:24 beyond 273:8 297:8 364:7	bidder 323:15 343:17,22 467:12 481:21 bidders	7 311:22 314:7,11 317:24 318:6, 7 322:14,16 323:12,22,25 324:2,3 325:7,8 326:17 327:6,
329:20 335:20 340:2, 5,11 346:21 349:17 350:15,17,25 358:19 361:9 362:18	392:25 395:2 407:24 411:14 420:14 421:2 446:25 480:14,22 499:20	468:21 510:7 517:2 525:7, 16,25 bias 315:22 364:21	266:20 270:8 284:19,21 299:15,16 315:2 323:2, 7,8,15 325:16 326:12,13,22 328:3,6 330:16	8,9,17,18,21 328:13,14 345:21 346:4, 5,12,13 349:18 411:8 415:7 451:21, 25 558:25
363:16 365:19 369:10 382:18	503:20,24 507:13 510:24 514:18	bid 267:11 268:13 277:10	340:23 341:1, 18,22,25 343:25	559:1 bifurcated

Index: big..BTA

			ĺ	
447:11	361:9 377:25	490:10	522:14	426:20
	386:6,18		550:19	430:21
1.1040.0	388:2 390:4	L L 400 40		489:19
big 348:2	393:14,16	bond 438:10	l	490:16
400:10	400:21 401:5,		breaks	
424:19	20 402:12,25	bonus 434:23	333:15,19	
438:24 439:6	403:21 406:5			bringing
	421:22		bridge 365:7	459:25
bigger 400:9	423:20	book 502:10	549:25	
bigger 400.0	425:16 441:8		040.20	broad 301:2
	448:12	borne 360:23		362:9
biggest 386:9		DOTTIC 300.23	Bridger	302.9
	450:17		345:12,19	
	456:23	borrow	389:17 390:2,	broader
bill 540:7	461:12	438:23	11,25 399:14,	298:9 499:15
	484:10		17,20 427:21	501:7 509:20
billion 266:9	507:15 511:5		487:19	
	541:24 551:1	borrowing	553:24 557:3,	
		438:21	5,13	broadly
billions	Blackened		5,15	494:11
552:23 555:4	483:22	both 272:21		
556:11	403.22	277:12	brief 302:13	broke 390:10
		278:18	339:8 381:19	bloke 390.10
hinding	blend 273:10		430:21	
binding		279:17,19	458:19	broken 390:4
451:1,4		281:3 286:11	464:14	
453:12 454:3	blended	318:2 336:18	502:21 503:2	
475:12	273:14	338:6 353:21	518:12	broker 273:5,
479:20 480:4,		362:15 383:7	0.0	7
17	blow 266:15	446:19 450:8		
	387:19	477:6,21	briefly 334:6	brought
bit 276:20	400:23	515:17 516:3	340:13	270:15 348:1
280:25 282:7,	400.23	525:25 541:6	372:12	270.13 340.1
16 302:14			490:20	
303:21	blowing	bottom		BTA 268:18
	388:3 401:2		hwiefe 450:0	312:5,13,16,
319:25		338:15	briefs 459:3	20,24 313:8,
321:17		369:19		15,24,25
326:21	blue 389:13		bright 456:11	314:5,18
333:19		break 333:4,		315:4,5,8
334:11,16	body 505:20	8,11 354:12	l	327:9 329:10
335:24		355:21 397:4	bring 280:17	450:2 451:8
337:23,24		430:22	383:3,16	491:18 493:5
1 040 00 054 0	_			
343:20 351:6	boilerplate		425:14	
343:20 351:6	boilerplate	458:18 504:3	425:14	496:14 506:9

Index: BTAS..capital

509:5 BTAS 288:2 314:8 323:13	bulk 362:8 bullet 291:11 292:4 293:2	call 265:8 360:12 378:13 381:2, 5 388:24 402:1 410:13	488:14 531:9 534:18,21 548:9	401:14 448:6 capable 564:11
491:1,3 BTCS 382:8	316:15 320:22 322:9 337:24	420:23 425:20 456:11	canceled 347:24	capacitor 423:21
budget 364:6	340:21 476:22 482:5, 23 484:13	465:14 500:18 506:23 538:15	cannot 288:6 295:21 296:10 379:11	capacity 279:9 287:20
build 268:19 301:11 331:2 350:17 364:5	bunch 421:25	542:19 551:1, 4	461:22 472:8 522:24 534:17	289:2 303:8, 11,14,18 305:15 317:14 331:8,
365:22 369:6 377:13 383:19,23,24 385:23 386:5	310:3 378:23 business	called 264:16 282:12 305:3 356:12 421:9	564:14 cap 276:4	15,17,25 334:19 336:19
388:19 391:12 413:1, 8 421:18 423:8 448:23	272:7 283:11 379:10 438:4 523:21 539:6	427:3 431:20 442:8 501:1 512:12 538:22	300:21 332:16,18 394:10,16,20, 23 420:7	347:21 348:23 349:2 351:24,25 352:8,9
449:1,3,10 450:24 451:8 457:2 490:23	С	546:21 551:10	459:14 528:20,25 529:7,25 530:5,6	356:22 359:13,14 360:1 361:12 386:23 387:1,
491:5,17 505:11 557:24	C-h-a-d 442:15	calling 354:19	532:3,4,5,8, 12,24 535:23 536:3,4,6,19,	8,10,13 420:25 426:13 432:5
build-out 365:1	C2 508:18	calls 341:14, 20 431:14 512:5 538:16	20,21,23 537:1,4,6,11, 14	442:19 506:14 512:22 553:2
built 306:8 309:1 360:15	calculation 363:10	came 343:14 382:21 547:8	capabilities 363:4,13	554:18 556:12
366:4 385:3 404:11 422:12 449:19 455:5	calendar 272:16 434:12	can't 320:15, 17 321:14	426:8 capability	capacity-type 336:15
543:4 561:20	440:14 441:7, 13 542:7	330:17 384:7 440:3 452:17 481:10,11	363:3,8 365:9 387:5,21 398:11	capital 286:7, 21 287:5 373:11

	•	•		•
451:14,19	careful 372:3	513:22 514:1,	CAT4SS	centerpiece
452:4 453:8	Garorai or 2.0	12,15,17,24	491:8	358:21
466:23 494:3		515:2,19,20,	401.0	000.21
514:5 517:16	carefully	23 516:1,8,		
522:12,13	329:21	20,24 519:12	CAT4SS-8	cents 433:16
· ·		· ·	491:7	
523:6,7 527:7	carried 316:4	520:13,18		certain
555:5	Carried 310.4	521:4,18,22		276:11 293:5
		522:1,5,8,17,	categorize	
capitalized	carry 545:10	19 523:9,14	468:19	331:21
494:5,6		529:6 535:22		360:13
,	· · · · · ·	536:3 537:8	category	363:20 431:4
_	carrying	538:12	472:9	443:9 449:19
capped	453:13	553:24 555:6		463:25
532:18		556:5 557:2,9		474:24
	case 274:15	560:8	cause 268:22	476:23
capping	275:22		489:13 522:8,	478:12
530:17	276:15,19	cases 271:7	20 551:21	501:10
000.17	278:17 279:3,	278:20		509:23,24
	25 286:20	301:11	caused	534:18
caps 526:16	291:5 294:14	317:10,11	426:23	540:10 555:2
527:5,7 528:2	297:18	407:13 417:5	720.23	
	301:25			certainly
capture 295:2	307:12 324:7	515:24	causing	269:17
316:3 384:14	337:9 340:5		426:22	
	356:25 360:6	cash 438:11	428:16	277:18
486:18		439:3	545:13	291:15
	363:19,23			300:19 308:8
captured	364:8 365:17	047 505 0	Courtion	387:19 400:1
308:3	371:20 374:1	CAT 505:9	Caution	402:24
	375:8,15		554:13	414:18 422:3,
	376:10,16	CAT-5SS		22 423:20
captures	377:4 378:10	503:25	CD 511:20	424:13,15,24
384:16	383:22			427:10 428:1
	387:15	 	0 . In 242.2	430:2 543:12
capturing	393:17 402:1	CAT1-1	Cedar 312:2	
510:24	410:22	443:17	313:16 447:9	certainty
	416:23 417:2		450:2 451:9	363:21 364:3,
	418:12	CAT1-7	456:16	15 555:3
carbon 275:4	428:11	443:17	472:20	10 000.0
276:22	429:23 432:7	7-70.17	476:24	
557:11	434:12		521:10	certification
	442:22	CAT1SS-17		493:11
care 449:11	443:16 450:4	505:18	center 428:5	
50.11			331101 720.0	
I '	_	- '	_	-

Index: cetera..choose

				_
cetera 352:16 429:23	351:14 353:19 354:4,	513:12 518:1, 4,7,9 520:21	529:24 549:21	283:11
450:19,25 453:6 504:15 506:13	8,13,21,25 355:3,11,24 356:7,10	533:3,7 535:1 536:10,13 538:2,6,8,13,	changed	chastised 305:7
Chad 329:1 441:24 442:7,	357:10,22 358:3 366:9, 12,15,17 367:24	17,20 539:21 540:3 543:18, 21,24 544:2, 5,7 546:3,7,	272:14 321:17 336:9 338:3 391:17 476:6	cheaper 303:4
14 Chair 267:19 289:13	374:16 375:19 376:7, 21 380:2,18, 22 381:1,4,9,	10 547:16 549:11,14 550:10,14,16, 17,25 551:5,8	changes 274:23 357:3 417:21 432:9	check 294:25 305:16 306:15,17
293:13 304:23 354:14	14 383:13 384:4 397:3, 8,13 408:5,6	562:3,13,20, 25 563:2,4,6 566:10,13,24	433:12 434:21 442:24 458:5	308:17 336:1 358:10 384:19 406:14 407:4
355:18 358:11 397:15 433:2 437:11	416:2 419:10 420:16 425:3, 5 430:6,10,14 431:8,12,15,	challenged 507:18	469:17 473:1 474:3 479:6 513:3 517:2 558:7	413:10 421:5 469:5 470:4 475:2 487:23 493:15 496:4
444:21 460:6 462:7 476:13 533:5 563:1	18 432:19 435:12,15,17, 19,21 437:9,	challenges 386:9,16	changing 340:12	502:17
Chairman 264:3 267:1,	12,14 439:10, 14 441:19,25 442:3,6	549:3 chance 323:3	349:10,11 362:5 450:14 556:9	checkerboard 454:24
25 268:7 269:1 277:1 282:1,5,14	443:18,23 444:14 458:17,21	555:1	characterizati	checkpoints 457:4
283:8 289:10 293:11,15,16, 17 297:9,19	460:8,15,16, 24 462:12,18, 22,24 464:8	change 303:21 357:9, 11,15 360:13,	on 345:11 characterized	chief 432:3
298:11 302:4 304:17,21 309:13	468:8 476:11 485:14 491:10,13	14 365:6 370:10 383:17 396:3,	564:14	choice 555:24 556:13
310:25 328:19 333:3, 13 334:2,5	499:5,18 500:1,4,7 502:7,11,14,	6 448:1 469:23 472:3 478:15	characterizin g 347:5	557:10
335:4 339:4 342:7,9,14 343:8,10	20,25 506:18 508:22 511:10,24	479:11 484:21 485:1 510:1 516:22 526:15	charge 378:13	choices 555:25
344:20	512:3,7,10	320.10	Charlestown	choose

	_	_	_	_
270:20,23,24 271:7,11	circumstance s 335:18	529:24	Clark's 511:14	506:19 507:15
278:18 279:19 468:2	362:5 463:25 470:15 471:2, 7 495:18	clarifications 420:15	clean 333:17	closed
choosing 278:10	526:16 542:16,18 545:5,22 548:23	clarify 339:9, 15 342:24 370:19	355:13 463:10,12,16, 19,24 464:4 485:22,23	467:11 561:3 closely 286:9 300:13,17
chose 279:18,19 378:18	citation 373:18	371:18 372:19 382:20 391:7	486:3 506:21 507:13,17 508:20 510:6	330:9 450:15 479:7 484:7
chosen 278:16 337:2 347:15	cite 316:18 322:13	393:24 395:25 406:4 491:10 534:9 563:13	cleaned 291:24 333:16	closer 279:13 305:5 383:16 402:5
churning 546:25	376:16 475:16 524:20	clarifying 535:19	clear 370:6 371:18 378:1 379:16	closing 272:21 449:12
Cindy 490:21	cited 524:17 526:12 529:10 557:2	clarity 311:3 507:24	385:21,24 391:18 410:6 412:18 414:3, 9,15,20 418:9	458:25 459:13 462:2 466:8,10 517:17 557:7
circle 399:23 429:2	claim 517:10, 12 555:16	Clark 277:2,3, 5 281:24 283:9 344:21,	425:10 464:20 465:25 536:2	clunky 558:5
circuit 373:17 374:1,4 376:5 378:3,18	claimed 266:4	23,25 351:21 358:12 420:17,19,21 425:3 433:2	542:1 cleared	CO2 275:17 276:14 279:14
circumstance 370:10 516:22 559:23	claims 549:2 554:5,17 555:9 559:22	439:11,15,16, 20 441:17 444:22 460:6 500:7,9 502:4	536:24 clearly 414:7 469:16 497:1,	508:16,18 510:14,18,21, 25 511:6
circumstance	clarification 331:6 344:21	503:1,3 505:17 506:15 538:3,	19	coal 406:1,13 421:12 557:3
-by- circumstance 489:15	373:1 390:4 419:18 444:5, 14 503:2 508:23	5 540:4 547:17,18,22 549:9	close 278:22 331:22 338:23 467:17	coal-fired 400:4
	303.20			coalition

329:2	312:5,17 313:7 388:14	550:19 559:9	264:4 282:17, 18 283:5,14	554:23 557:23
code 270:22 433:6,14 435:1 469:1 524:8 546:18	427:18 428:25 438:12 446:4 453:23 458:6, 11 463:6,14,	comes 386:12 388:2 404:3 441:7	288:19 297:1, 16,24,25 298:5,9,13, 14,20,21 300:5,10,14,	558:12 559:12 560:15,24 561:18 562:9, 18
codependenc e 388:13	23 466:12 513:21 515:7, 18 516:2,10, 14 517:13,18	comfortable 413:18	300.5,10,14, 17 301:3,23 316:19 318:11 322:13	commission's 269:10,20
codependent 383:20 388:12	519:8 522:13 523:7 528:14 531:2,6,8 540:19 552:9,	coming 278:1 344:3 398:17 399:4 520:5, 15 528:15	324:22 325:9 351:12 358:11 359:5 368:6 394:8,	348:1 458:4 526:15 553:11 561:1
cohesive 560:14	20,21 554:6, 16,19 555:3, 10,12 556:25 557:20 559:9,	comings 510:21	15,21 396:19, 24 407:10 415:1 420:6 431:5 432:23	commissione r 269:3,6 276:24 277:1, 3,5 278:15
coincides 526:6	13 560:1,17, 20	comment 395:14	438:17 444:21 452:20 455:19	281:24 344:21,23,25 351:15,17,21 353:17 358:2,
colleagues 353:22	come 265:2 282:8 314:11 354:20	comments 282:15 289:9 292:24 368:9	467:20 468:18 469:2, 4 474:8	12 366:8 376:14 420:17,19,21
collected 372:8	370:13 372:1, 4 378:25 394:18 401:2 407:21	381:1 486:4 561:5	475:24 476:8 479:18 480:11 487:8,	425:6,8 430:4 433:1 435:10 437:14,15,17
collector 484:23	421:15 422:13 429:17 439:5 467:17	commercial 448:10,11,13 449:3,4,13,14 452:22	15 489:20 490:17,18 492:2 501:14 503:8 513:16	439:8,11,15, 16,20 441:17 444:22 458:16 460:6
combination 270:25 289:3 426:2 428:2	478:10 508:19 519:10 523:13,22	455:16 456:22 458:1 475:7 479:20 480:14	514:11 516:23 517:18 527:12,14,17,	468:17 500:5, 6,7,9 502:4 503:1,3 505:17
combined 266:5 279:20, 24 280:12,19 289:1 290:21	529:5 531:13 532:15 534:19 537:14	commercially 490:17	19 529:18,20 530:22 548:15,21 551:21 552:19	506:15 508:23,25 509:2 511:8, 14 517:24 538:3,5,6,7
	545:20	commission		

546:10,12,15 547:14,17,18, 22 548:16,21	commodity 507:21 508:1 509:20 511:4	365:25 367:10,13 373:12	523:16 524:4 525:4,8,11,22 528:22 529:2	538:11 553:14,25 554:9,14
549:9,15	common	386:21 387:4 388:23 394:7, 19,24 395:7,	531:7 534:10 544:4 553:8, 23 554:5,10	557:24 558:13 560:4
commissione rs 264:20 283:9 353:21 433:2 540:4	379:1 482:23 commonly	11 396:14 409:10,14 411:3,20	555:9 559:4 560:23 561:8, 14 565:13	comparable 364:10
commissionin g 493:23	434:19 communicate d 476:7	412:23 413:3 416:16,18,22 417:11,12 418:11,13	company's 271:19 300:6 308:19 314:9	comparatively 452:6
commissions 559:8	compact 468:22	422:23 430:15 431:14 433:7 434:1,10,14,	350:20 356:5 358:14,24 359:3 360:17	compare 302:16
commitment 395:9,11 453:7	companies' 428:20	21 435:3 438:25 439:7 445:15,24 446:1,11 449:22 451:3	362:14 363:5, 24 364:1,22 367:8 371:8 375:25 376:6 382:10	compared 278:25 451:25 466:20 559:17
commitments 479:21,23 500:19	company 266:11,13 269:9,19 271:23 273:21 274:7	458:9 463:6 464:15 465:16 467:21,22,25	385:22 391:25 398:2 416:11 417:7 418:6 431:1 435:8 441:23	comparing 279:1
committed 332:9 455:19 470:5 489:20	273.21 274.7 275:5,8 306:18 314:1 324:6,8	468:1 469:14, 16 470:11,13, 25 472:9 479:22	444:24 445:7 447:2,21 456:18 458:4,	comparison 302:14
committee 406:20,21,22,	331:2,7 332:4,5 336:6 347:22	499:10 500:21 503:13 510:9	7 469:13 471:24 472:17 490:21	comparisons 274:1
23 407:24	349:17,25 350:2,7 352:19,24	512:5 513:22 514:13,17,19 515:11,13,20,	490.21 499:15 511:22 513:20	compelling 560:22
committees 406:20	359:6,17,19 361:3,13,18, 24 362:3,16, 19,21,25	22 516:6,22, 25 517:3,5,6, 8,11,12,17	515:19 516:9 518:17,23 519:18 522:6,	compete 323:3,7
committing 414:22	363:15 364:4, 9,13,19	519:3,21 520:12 521:3 522:9,20	10,17 523:4 524:2 525:9, 16,17,25	325:17

286:19 287:4 339:23	completing 441:8 466:5	314:20 401:21 436:20	288:7 301:15 310:14 328:12 331:12,18	407:19 438:13 543:17 547:6
competition 323:22 325:11,22 326:13,18,24 327:5,18,22 328:5,7,15	completion 365:16 381:24 470:12,14,25 492:3 493:23 540:17 558:20	comprehensi ve 533:16 558:3 comprehensi vely 362:17	332:15 396:18 424:19 483:4 489:11 527:25 532:12	concluded 268:12 280:23 286:7 338:14 403:17 567:5
competitive 268:13,22 325:16 363:22 411:4 445:15	complex 336:3	comprise 411:10	concerned 286:15 287:2, 7 310:21 336:24	concludes 289:8 367:3 435:8 517:21 538:11
451:11,20 452:10 480:2, 19 481:19	complexity 515:24	compromise 418:20	396:13	conclusion 280:1,2 295:25
competitivene ss 452:9	compliance 370:8 385:14 417:7 509:24 510:11,15	concedes 368:23 561:8	382:15 522:16 553:12	296:10 299:5 310:20 321:14 458:25
compiled 337:18	compliant 369:14 385:25	concept 274:2 276:8 388:25 453:2, 3,11,14,18	concerns 270:18 286:18 287:25	459:13 conclusions
complete 412:4 436:21 477:8 544:21	417:11,13,16, 17 418:2	459:18 464:3 466:7 470:5 concepts	299:24 300:16 331:9 338:16 368:25	283:25 284:11 299:1, 4,8 320:20,23 547:5 556:21
completed 287:10 288:4	complied 299:6	507:16,19 conceptualize	403:23 422:16,17 423:2 528:3	concrete's 332:20
317:23 362:25 363:2 389:20 412:1 415:19	complying 561:15	d 391:10	540:9 561:10 conclude	concurrent 295:16
478:19	component 446:5 496:6	conceptually 274:11	280:21 297:14 325:9 351:11	concurrently
completely 485:3 489:7	components	concern	359:16 366:5	270:4

				_
condenser 423:6,24 424:1,2 425:25 condensers	conducting 556:18 conference 341:8 561:8	310:16 336:25 345:3 425:13 554:23 confusion	377:9 connects 401:8	considered 286:5 291:3 305:25 347:17 427:18 430:2 471:17 556:4
422:22 423:7, 21	confidence 553:3	541:11,24	consent 492:9 493:8	558:24
condition 469:13 471:22,23 501:16 503:9	confident 323:16 363:15 364:5	congestion 371:5 398:1,5 399:15,25 400:2 426:3, 22	conservative 363:6 402:1 conservativel	considering 268:7 310:25 311:1 354:16 375:20 445:5 462:1 555:14
conditionally	confidential 277:19	congress 434:18 540:8	y 275:22 417:3	consist 443:11
487:24 conditioned 454:16	443:12 444:6, 10,12 482:5 487:10 500:20 504:11,17	conjunction 514:2,23	consider 298:6 323:21 329:12 404:23	consisted 305:13
conditions 362:10 364:25 415:6,	509:4,8 518:20 523:22,24 563:17	connect 330:18 345:16 346:12,13,19,	405:13 420:6 453:1 541:18 542:21 543:1 545:9,11	consistent 273:4 284:23 286:3 288:11 291:3 295:14 299:10
12 467:16 468:18,19 469:3 470:15	confirm 265:12 338:1	21 380:12 389:17	considerable 313:13	364:24 374:24 393:7 488:8,11,15
471:2,9 473:9 486:11 487:6 488:11 516:13,15	363:6,16 433:11 506:4 540:19	connected 331:1 377:13	consideration 277:11 278:21	516:3 526:10 529:4 532:2 537:4 550:1,2
526:16 527:14,18	confirmed 363:25 559:1	connecting 345:19	288:12 301:6 305:18 345:10 407:8,	560:14 561:1 consistently
conduct 295:16,17	conformed 284:18	connection 419:20 493:21	9 422:11 558:3,21 559:19,20,24	457:10 514:21 522:24
conducted 306:18	confused	496:21	consideration s 464:4	constant

351:10 constitute 469:23	constructed 360:3 389:19 416:12,13 446:19	402:7 551:18 consultants 556:24	362:11 contingent 445:19 466:2,	541:23,24,25 542:11,21 545:21,24
524:15 constrained 359:12 361:1	constructing 496:24	consumer 305:2 431:2	4 467:14 477:25 478:19	continuous 540:18 542:3, 4
387:13 398:3 399:13	construction 358:20 359:20	Consumers 329:3	contingently 467:9	contract 413:12 414:1, 17,24,25
constraint 310:2 338:17 387:16 388:1 398:6 399:21 400:13 426:14 428:7	360:12,22 364:12 365:25 385:5 388:15,18,22 404:15 414:5, 22 433:22,23 434:3,4,6,10 440:10,18,25	contemplated 388:23 390:17 427:17 463:24 466:25 484:19	continue 264:10 297:8 324:24 333:18 351:4 393:7,8 397:6 417:19 451:10	415:5,12,15, 19,22,24 448:18 449:5, 16 453:2 457:8 472:5 474:2 477:18, 19,21,25 478:2 479:3
constraints 285:23 338:21 340:20 359:24 462:15 553:5	441:4,10,15 449:7 452:13 453:22 455:11,12 457:15 470:15 471:1,	contemplatin g 390:21 394:14 484:10	466:11 471:20 484:3 494:18 550:17 564:11	480:9 485:2 486:8 488:9 489:19 490:4, 5,8,10,15 491:5 496:11 497:10
559:4 construct 359:6,17	8,15 488:22, 25 489:1,6 492:2 493:22 497:1,3,13,23 498:10,13,21	contend 525:14,23	continued 271:7,11 283:19 363:19 364:9 438:8	499:12 501:15 505:13,16,20 509:15
360:7,21 361:3 362:2 369:2 380:11 385:19 389:25	499:13 540:18 541:18,19,22 542:2,3,7,10	contends 525:4,11 contention	continues 394:1 555:16	contracted 448:17 517:4
429:24 448:18 452:4, 24 496:20,23 497:8,16,19	544:16 546:22 constructors	471:22 context 463:21 468:2	continuing 280:7 286:15 397:9	contracting 364:14 455:25 469:21
498:6,24,25 561:12	491:4 consultant	533:21 565:2 contingencies	continuity 434:10	471:18 499:9 contractor

				COIDCOIICCC
411:5 413:14 414:16	528:10	conversation s 439:5	362:7	21 395:17,22 396:11
415:23 470:1 472:10 478:21 506:11	contributes 296:10	conversion 424:24	correct 264:24 265:17 266:6,	399:25 401:11,12 403:23 404:4, 5,8,9,12,13,
contractors 363:24 364:16	contributing 428:1 contribution	converted 265:9	17,18 290:18 294:7,16 296:3,4,12 297:4 298:23, 24 303:2	24 405:12 408:14,15,25 409:11,15,16, 21 411:6,7,21
411:12 414:8 415:8 448:21 449:9 450:16	281:20 554:18	conveyed 352:19	305:11,15,16, 21,22,25 306:10,14,17	412:7 414:2, 14 415:25 418:23 420:13,14
455:18 457:5 471:21 480:20	control 396:15,20 401:19,23	coordinated 559:21	308:14 311:23 312:3, 6 315:18 316:6 320:9	436:2,18 463:8 464:17 466:14,24
contracts 288:1 330:8, 10,11,12,13	402:10,11,19 422:17 426:1 449:11 457:7 469:16 472:2	coordination 270:8	321:16 322:17 326:20	469:5,17,18 471:4,5 473:25 476:25
413:22 414:5, 6 415:9 452:13,24	490:1 517:3,9 525:7,16,25	copies 367:25 389:7 405:9 443:22	327:15,20 328:16 329:8, 9 332:15 334:13,20	486:10,22 488:4,24 491:2,22
453:12 457:1, 14 470:18 471:14,15 473:12,22,24	controlled 472:9,10	copper 480:3	335:25 336:1, 18,20,21 337:11,20,21	492:5 494:3, 5,10,17 495:17,19 496:2,8,9
476:23 477:9 478:8,16,25 481:6,9	controller 402:3	copy 290:11 368:1 374:17 376:17 389:5, 6 405:2,3,7	338:5,11,13 342:24 345:24 350:18,19	498:2 505:13 506:10 511:21
484:11,15 486:10,22 487:2,24 488:13,20	controls 557:2,7	481:24 482:17 492:12 529:9	368:10 369:13 375:16	518:24 519:6, 7 521:12 524:9,10,22 525:18 526:1
503:10 504:19	convenient 461:7	Corp 448:21	376:19 381:25 382:8 385:6,7 386:23,24	528:7,12,19 530:19 533:14 534:5
contractual 517:7	conversation 342:22 459:12,23	Corp's 321:5	387:5,6 390:20 391:6 392:4 393:4,	536:6 539:12, 13 541:14,15 544:25 551:16
contrary		Corporation	8,23 394:12,	301.10

552:10 565:9, 10 566:5 308:1 310:3 311:9,12,21 531:1,2 437:21 451:10 452:6, 7 458:5 470:20 475:3, 8 476:3 476:10 452:6, 7 458:5 17,23,25 466:23,25 317:6 319:19 555:12,14 556:1,2 13 484:23,24 556:1,2 556:1,2 556:1,2 556:1,2 556:1,2 556:1,2 556:1,2 556:1,2 556:1,2 556:1,2 556:1,2 556:1,2 566:2,1 566:1,2 566:2,1 566:1,2 566:2,1 566:1,2 566:1,					
10 566:5	550 40 505 0	000 4 040 0	500.0.04	100.10	470 00 475 0
correction 314:13,20,22, 23 315:21,23 316:21,25 316:21,25 316:21,25 317:6 319:19 320:16 555:12,14 42:24 513:3 321:15 33:115 558:16,22 561:2 568:12 501:58,22	· 1		· ·		· ·
correction 23 315:21,23 533:23 537:7 7 458:5 462:3,25 496:14,16 357:4,5 552:6 317:6 319:19 555:12,14 468:4 480:12,13 468:4 480:12,13 468:4 480:12,13 468:4 480:12,13 468:4 480:12,13 555:12,2 555:12,4 555:12,4 555:12,4 555:12,4 555:12,4 555:12,4 555:12,4 555:12,4 555:12,4 555:12,4 555:12,4 555:12,4 555:12,4 555:12,4 555:12,4 555:15,12,2 555:15,12,2 555:15,12,2 555:15,12,2 555:15,12,2 555:15,12,2 555:15,12,2 555:15,12,2 555:15,12,2 555:15,12,2 555:15,12,2 555:15,12,2 555:15,12,2 555:15,12,2<	10 566:5	· ·	•	_	
corrections 316:21,25 554:20 466:23,25 496:14,16 corrections 320:16 555:12,14 468:4480:12, 13 484:23,24 468:4480:12, 13 484:23,24 468:23,25 468:4480:12, 13 484:23,24 468:423,25 468:480:12, 13 484:23,24 468:23,25 479:24,240:9 481:18 479:24,240:9 481:18 479:24,240:9 481:18 479:24,240:9 481:18 479:24,240:9 481:18 466:24 466:24 466:24 466:24 466:24 466:24 466:24 466:24 466:24 466:24 4				· ·	,
357:4,5 552:6 317:6 319:19 320:16 320:16 321:15 321:15 332:13,18,19 552:4 334:19 339:2, 17 345:17 360:22 361:5 363:21 364:1, 465:19 468:23 470:2 495:2,3 564:16 396:19 406:24 496:14,10,13, 18,21 515:4, 496:10,12 496:10,12 496:10,12 41:2 417:1 496:10,12 41:2 417:1 496:10,12 421:21 300:18,18,21 300:18,18,21 300:18,313:3, 428:68 427:20 23 310:16,23 289:3 292:15 277:2,3 288:15,23 276:8,22 279:7 285:13, 14 286:8,12, 21,23 287:22, 23 288:15,23 288:3 292:15 298:2,22 300:6 303:25 585:420 468:23,25 555:12,14 466:24 500:18,22 504:14,511.1 513:21,4 510:14,10,13, 18,21 515:4, 12,17 516:1, 7,11 517:19, 21 520:17 522:36,7,13 522:14, 522:3, 530:18,31 525:1,5,12, 20,24 526:14 20,24 526:14 20,24 526:14 20,24 526:14 20,24 526:14 20,24 526:14 20,24 526:14 20,24 526:14 20,24 526:14 20,24 526:14 20,24 526:14 20,24 526:14 20,24 526:14 20,24 526:14 20,24 520:14 20,24 526:14	correction	′			· · ·
corrections 317/6 319:19 320:16 321:15 556:1,2 558:16,22 558:16,22 561:2 564:21 500:18,22 274:3 3357:2 432:9 331:12,22 561:2 564:21 500:18,22 274:3 484:23,24 500:18,22 274:3 counterparts 274:3 552:4 334:19 339:2, 17 345:17 360:22 361:5 363:21 364:1, 23 373:5 377:15 377:15 377:15 377:15 377:15 377:15 378:23 392:22 378:23 392:22 396:19 410:12,16,17 287:3,5 410:12,16,17 287:3,5 410:12,16,17 287:3,5 410:12,16,17 287:3,5 410:12,16,17 287:3,5 410:12,16,17 287:3,5 410:12,16,17 287:3,5 410:12,16,17 301:8,18,21 31:3,16,714, 301:8,18,21 31:3,16,7,14, 335:8 342:18 32:15 42:24 417:1 301:8,18,21 531:6,7,14, 335:8 342:18 32:15 42:14 42:121 306:11 307:3 423:25 308:1,9,10, 424:14 21:21 306:11 307:3 423:25 424:14 21:24 309:18, 427:20 23 310:16,23 300:18,331:3, 4286:8,12, 279:7 285:13, 14286:8,12, 21,23 287:22, 23 288:15,23 289:3 292:15 517:14,19 482:89, 322:15 515:1,3,8,9, 12,82,22 298:2,22 300:6 303:25 522:13 527:7 552:11 377:11 378:5 512:2 300:6 303:25 522:13 527:7 552:21 300:6 303:25 522:13 527:7 552:11 377:11 378:5 512 288:6 457:6 467:16 400:10,10 19 50:16 303:25 522:13 527:7 375:21		316:21,25	554:20	466:23,25	496:14,16
corrections 321:15 558:16,22 500:18,22 274:3 357:2 432:9 331:12,22 561:2 564:21 501:5,8 274:3 442:24 513:3 332:13,18,19 565:5,17,23 503:21,24 504:1,4 511:1 counterparty 552:4 334:19 339:2,17 360:22 361:5 363:21 364:1,23 373:5 565:51 513:21,24 453:3 465:13 479:2 480:9 481:18 269:21 330:1 465:19 377:15 costs 272:5 281:18 21 520:17 561:24 521:24 522:3, 21 520:17 481:18 521:24 522:3, 479:2 480:9 486:24 495:2,3 396:19 15,22,23,25 285:14 286:9,12,223,25 521:24 522:3,12 525:1,5,12,2 220:3,12 466:24 correlate 410:12,16,17 287:3,5 525:1,5,12,2 289:14 298:25 298:14 298:25 298:14 298:24 298:24 298:24 298:24 298:25 298:14 298:25 298:14 298:24 429:24 429:24 418,19 453:43 459:466:19 459:466:19 459:466:19 330:18 331:3, 331:3	007.4,0 002.0	317:6 319:19	555:12,14	468:4 480:12,	
correction 321:15 558:16,22 500:18,22 274:3 357:2 432:9 331:12,22 561:2 564:21 501:5,8 501:5,8 501:5,8 503:21,24 552:4 334:19 339:2, 17 345:17 565:5,17,23 503:21,24 503:21,24 503:21,24 503:21,24 503:21,24 503:21,24 503:21,24 503:21,24 503:21,24 503:21,24 503:21,24 503:21,24 503:21,24 503:21,24 503:21,24 503:21,24 503:21,24 503:21,24 504:1,4 511:1 503:21,24 503:2		320:16	556:1,2	13 484:23,24	counterparts
387:2 432:9 442:24 513:3 552:4 332:13,18,19 552:4 565:5,17,23 560:21 330:1 269:21 330:1 269:21 330:1 269:21 330:1 268:23 470:2 495:2,3 564:16 392:22 396:19 410:12,16,17 496:10,12 496:10,12 496:10,12 498:6 421:21 306:11 307:3 414:2 417:1 421:21 306:11 307:3 414:2 417:1 423:25 424:14 423:25 424:14 424:14 217:20 23 310:16,23 427:20 23 310:16,23 427:20 23 310:16,23 276:8,22 279:7 285:13, 12 279:7 285:13, 12 279:7 285:13, 12 279:7 285:13, 12 289:3 292:15 298:2,22 300:6 303:25 561:2 564:21 565:5,17,23 565:5,17,23 565:5,17,23 565:5,17,23 565:5,17,23 565:5,17,23 565:5,17,23 565:5,17,23 565:5,17,23 565:21 565:21 565:21 565:21 513:21,24 453:3 465:13 479:2 480:9 451:18 21,7 7:16:1, 21,7 7:16:1, 21,7 7:16:1, 21,17 5:16:1	corrections	321:15	558:16,22	500:18,22	•
552:4 334:19 339:2, 17 345:17 costly 554:19 504:1,4 511:1 513:21,24 513:3 465:13 479:2 480:9 453:3 465:13 479:2 480:9 481:18 565:21 correctly 269:21 330:1 465:19 468:23 470:2 495:2,3 564:16 337:15 377:15 27:15 378:23 392:22 396:19 410:12,16,17 496:10,12 17,19,20,23 414:2 417:1 429:25 413:7, 496:10,12 17,19,20,23 414:2 417:1 429:25 429:3, 427:20 428:2, 427:20 428:2, 427:20 23 300:1,5,17 308:1,9,10, 429:24 424:14 427:20 428:2,43:25 451:14,19 454:5,8 455:2 452:4, 466:19 429:24 43:25 451:14,19 454:5,8 455:2 452:14, 427:20 23 310:16,23 310:16,23 310:18,329:20 329:3 292:15 279:7 285:13, 14 286:8,12, 21,23 287:22, 23 288:15,23 289:3 292:15 295:23 297:2 298:2,22 300:6 303:25 334:19 339:2, 17 50stly 554:19 513:21,24 514:4,10,13, 18,21 515:4, 12,17 516:19 565:21 504:1,4 511:1 512,24 515:4, 427:24 522:3, 12,212,23 287:22, 23 288:15,23 289:3 292:15 295:23 297:2 298:2,22 300:6 303:25 334:19 339:2, 11 50stly 554:19 513:21,24 514:4,10,13, 18,21 515:4, 12,17 516:19 522:3, 18,21 14 515:4, 12,17 516:19 512:24 521:3, 18,21 515:4, 12,17 516:19, 21,23 287:24, 11 505:21 50stl, 19 513:21,24 520:3, 12,211 520:17 513:21,24 515:4, 12,17 516:19, 22,23,25 521:24 522:3, 12,224 520:4, 12,23 287:24 546:19, 17,14 5,16 516:10,19 517:14,15,16 520:24, 508:3, 18,21 14 518:18 500:14,23 51:14 58:24 521:3, 12,23 32:14,16 520:24, 12,23 32:14,16 520:24, 14 509:14,14 511:1 512,14,14,14,14,14,14,14,14,14,14,14,14,14,	357:2 432:9	331:12,22	561:2 564:21	501:5,8	214.3
correctly 360:22 361:5 363:21 364:1, 2,3 373:5 363:23 377:15 377:15 392:22 495:2,3 396:19 410:12,16,17 496:10,12 17,19,20,23 414:2 417:1 428:6.8, 12, 272:2,3 279:7 285:13, 14 286:8,12, 21,23 287:32, 279:7 285:13, 14 286:8,12, 21,23 287:22, 23 283:15,23 289:32 292:15 295:23 297:2 286:10,19 517:14,15,16 5295:23 297:2 288:12,23 306:10 17:14,15,16 5295:23 297:2 288:12,2 300:6 303:25 522:13 527:7 528:11 costly 554:19 554:19 513:21,24 514:4,10,13, 18,21 514:4,10,13, 18,21 551:4, 12,17 516:1, 7,11 517:19, 21 520:17 7,11 517:19, 21 520:17 7,11 517:19, 21 520:17 7,11 517:19, 21 520:17 7,11 517:19, 21 520:17 7,11 517:19, 21 520:17 7,11 517:19, 21 522:3, 12 523:6,7,13 525:1,5,12, 20,24 526:14 289:14 289:14 289:14 289:14 289:14 289:14 289:14 289:14 298:23 392:13 535:8 342:18 301:18,19,10, 11 535:24 298:23 392:13 535:6 546:24 298:24 311:8,9,10, 11,18 312:15, 451:14,19 16 315:25 316:3 329:20 330:18 331:3, 14 286:8,12, 21,23 287:22, 23 288:15,23 29:15 515:13,8,9, 15:16:10,19 515:14,15,16 514:5,8 5295:23 297:2 298:2,22 300:6 303:25 522:13 527:7 375:21 298:2,22 300:6 303:25 522:13 527:7 375:21 200:457:6 counterpartie vounterpartie vounterpartie special counterpartie special coun	442:24 513:3	332:13,18,19	565:5,17,23	503:21,24	
correctly 360:22 361:5 363:21 364:1, 2,3 373:5 costly 554:19 565:21 514:4,10,13, 18,21 515:4, 12,17 516:1, 7,11 517:19, 21 520:17 521:24 522:3, 392:22 285:14 286:9, 495:2,3 396:19 468:23 470:2 495:2,3 396:19 costs 272:5 285:14 286:9, 21 520:17 521:24 522:3, 12 523:6,7,13 525:1,5,12, 292:5,11,14 20,24 526:14 289:14 280:9 466:24 county-wise 466:24 correlate 410:12,16,17 412:22 413:7, 496:10,12 17,19,20,23 300:1,5,17 301:8,18,21 306:11 307:3 414:2 417:1 301:8,18,21 306:11 307:3 423:25 308:1,9,10, 424:14 22:24 308:19,10, 424:14 27:20 23 310:16,23 308:1,9,10, 424:14 27:20 23 310:16,23 310:16,23 310:3 329:20 452:4 466:19 482:4 466:19 482:4 466:19 482:4 466:19 482:4 466:19 482:4 466:19 482:4 466:19 482:4 466:19 482:4 466:19 482:4 466:19 482:4 466:19 482:4 466:19 482:4 466:19 482:2 433:25 329:3 330:18 331:3, 14 286:8,12, 279:7 285:13, 14 286:8,12, 21,23 287:22, 23 288:15,23 289:3 292:15 295:23 297:2 23 288:15,23 289:3 292:15 295:23 297:2 298:2,22 300:6 303:25 527:7 528:21 522:13 527:7 528:21 522:13 527:7 528:21 522:13 527:7 528:21 522:13 527:7 528:21 528:6 457:6 67:16 counterpartie ve 388:6 457:6 467:16	552:4	334:19 339:2,		504:1,4 511:1	counterparty
correctly 360:22 361:5 363:21 364:1, 2,3 373:5 costly 554:19 565:21 514:4,10,13, 18,21 515:4, 12,17 516:1, 7,11 517:19, 21 520:17 522:3, 564:16 479:2 480:9 481:18 468:23 470:2 495:2,3 564:16 377:15 378:23 39:22 285:14 286:9, 15,22,23,25 285:14 286:9, 410:12,16,17 287:3,5 525:1,5,12, 292:5,11,14 20,24 526:14 298:24 406:24 521:24 522:3, 12 523:6,7,13 525:1,5,12, 292:5,11,14 529:8 530:18 301:8,18,21 301:8,18,21 301:8,18,21 306:11 307:3 414:2 417:1 306:11 307:3 423:25 308:1,9,10, 424:14 21:20 21:4 309:18, 427:20 23 310:16,23 30:18,9,10, 424:14 27:20 23 310:16,23 310:3 329:20 452:4 466:19 484:16 330:18 331:3, 14 286:8,12, 279:7 285:13, 14 286:8,12, 21,23 287:22, 23 288:15,23 289:3 292:15 515:1,3,8,9, 345:7,12,16 298:23 297:2 23 288:15,23 289:25 297:2 23 288:15,23 289:25 297:2 298:2,22 300:6 303:25 360:22 361:5 565:21 525:1,512, 21 520:17 5		17 345:17	==	513:21.24	453:3 465:13
correctry 363:21 364:1, 465:19 363:21 373:5 377:15 565:21 18,21 515:4, 12,17 516:1, 7,11 517:19, 21 520:17 481:18 468:23 470:2 495:2,3 564:16 392:22 285:14 286:9, 396:19 285:14 286:9, 15,22,23,25 252:12,4 522:3, 12 523:6,7,13 525:1,5,12, 20;24 526:14 20,24 526:14 289:14 289:14 286:24 correlate 410:12,16,17 496:10,12 417,19,20,23 300:1,5,17 529:8 530:18 4298:25 329:3 300:1,5,17 529:8 530:18 525:1,5,12, 20;45:24 298:25 329:3 335:8 342:18 351:20 400:4, 20 407:5 correlation 498:6 421:21 306:11 307:3 308:1,9,10, 427:20 23 310:16,23 308:1,9,10, 427:20 23 310:16,23 308:1,9,10, 427:20 23 310:16,23 308:1,9,10, 427:20 23 310:16,23 308:18 331:3, 427:20 438:25 451:14,19 16 315:25 31:6,7,14, 15,16 514:5,8 360:16 3329:20 330:18 331:3, 14 286:8,12, 21,23 287:22, 22 328:15,23 297:2 23 288:15,23 288:15,23 289:23 292:15 515:1,3,8,9, 1516:10,19 517:14,15,16 520:2,5,14 522:13 527:7 375:21 298:2,22 300:6 303:25 517:14,15,16 520:2,5,14 522:13 527:7 375:21 300:6 303:25 527:7 375:21 300:6 303:25 527:7 375:21 377:14 378:5 528:41 528:211 565:21 182,115:4, 12,17 516:1, 7,11 517:19, 252:33, 12 520:17 521:24 522:3, 12 520:17 521:24 522:3, 12 520:17, 12 520:17, 12 520:17, 12 520:17, 12 520:17, 12 520:17, 12 520:17, 12 520:17, 12 529:14, 12			_	'	479:2 480:9
269:21 330:1 465:19 468:23 470:2 495:2,3 564:16 392:22 285:14 286:9, 15,22,23,25 396:19 410:12,16,17 496:10,12 17,19,20,23 414:2 417:1 496:10,12 17,19,20,23 421:21 206:11 307:3 423:25 308:19,10, 424:14 21,24 309:18, 427:20 23 310:16,23 23 310:16,23 272:2,3 276:8,22 279:7 285:13, 14 286:8,12, 21,23 287:22, 23 288:15,23 288:15,23 289:3 292:15 298:2,22 300:6 303:25 2,3 373:5 377:15 377:15 281:18 221 520:17 521:24 522:3, 12 523:67,713 525:15,512, 20,24 526:14 20,24 522:3, 12 523:67,713 525:15,512, 20,24 526:14 20,24 526:14 298:25 329:3 300:1,5,17 529:8 530:18 335:8 342:18 351:20 400:4, 15 35:24 20 407:5 422:0 428:2, 23 310:16,23 30:18 331:3, 14 286:8,12, 21,23 287:22, 23 288:15,23 288:15,23 289:3 292:15 515:13,8,9, 15,16,21,23 516:10,19 517:14,15,16 520:2,5,14 522:13 527:7 375:21 377:14 378:5 528:14 286:9, 15 20:17 528:14,14 529:23 287:22, 23 288:15,23 289:3 292:15 517:14,15,16 520:2,5,14 522:13 527:7 375:21 528:14 528:14 286:9, 15 20:17 521:24 522:3, 12 520:17 521:24 522:4 522:4, 12 520:14 522:20 428:2, 23 429:24 42:20 428:2, 23 429:24 42:20 428:2, 23 429:2 42:20 428:2, 23 429:3 459:40:40:4 42:20 428:2 42:20 428:2 42:2			565:21		
468:23 470:2 495:2,3 564:16 377:15 378:23 392:22 285:14 286:9, 15,22,23,25 12,524,522:3, 12,523:6,7,13 525:1,5,12, 20,24 526:14 286:10,12 17,19,20,23 414:2 417:1 300:15,17 300:15,17 300:15,17 423:25 424:14 2414 2414 2414 2414 2414 2414 24		· ·			
488:23 470:2 495:2,3 564:16 392:22 396:19 410:12,16,17 287:3,5 525:1,5,12 20,24 526:14 289:14 292:5,11,14 20,24 526:14 298:25 329:3 200:11,307:3 392:22 300:6 303:25 396:19 410:12,16,17 287:3,5 287:3,5 525:1,5,12 20,24 526:14 289:14 20,24 526:14 289:14 298:25 329:3 300:1,5,17 529:8 530:18 298:25 329:3 300:1,5,17 529:8 530:18 298:21 20,24 526:14 298:25 329:3 300:1,5,17 529:8 530:18 298:21 20,24 526:14 298:25 329:3 300:1,5,17 529:8 530:14 20,24 526:14 298:25 329:3 300:1,5,17 529:8 530:14 20,24 526:14 298:25 329:3 300:1,5,17 529:8 530:14 20,24 526:1		,	costs 272:5	· '	_
495:2,3 564:16 392:22 396:19 410:12,16,17 496:10,12 17,19,20,23 414:2 417:1 301:8,18,21 429:24 421:20 424:14 21,24 309:18, 427:20 23 310:16,23 429:24 311:8,9,10, 454:5,8 455:2 452:4 466:19 452:4 466:19 272:2,3 279:7 285:13, 14 286:8,12, 279:7 285:13, 14 286:8,12, 21,23 287:22, 23 288:15,23 289:3 292:15 298:2,22 300:6 303:25 285:14 286:9, 15,22,23,25 15,22,23,25 12 523:6,7,13 525:1,5,12, 20,24 526:14 20,24 526:14 529:25,5,14 529:25,11,14 529:28 530:18 529:25,3,1 17,25 534:1, 335:8 342:18 335:8 342:18 335:8 342:18 335:8 342:18 335:8 342:18 335:20 400:4, 11,18 312:15, 16 315:25 267:20 385:9 392:13 535:6 546:24 547:18 563:13 310:4 **Course* **Course* 278:19 363:19 364:8 393:2 436:7, 20 459:5 467:16				• '	
564:16 396:19 15,22,23,25 12 523:6,7,13 couple correlate 410:12,16,17 287:3,5 292:5,11,14 20,24 526:14 289:14 496:10,12 17,19,20,23 300:1,5,17 529:8 530:18 298:25 329:3 correlation 421:21 306:11 307:3 17,25 534:1, 351:20 400:4, 498:6 423:25 308:1,9,10, 15,35:24 20 407:5 424:14 21,24 309:18, 555:5 559:14, 422:20 428:2, 454:5,8 455:2 433:25 11,18 312:15, 16 566:2 23 429:3 cost 271:1 452:4 466:19 316:3 329:20 392:13 535:6 514:24 272:2,3 500:24 508:3, 8,17,19 392:13 535:6 546:24 279:7 285:13, 511:6 514:5,8 336:23 337:9 345:7,12,16 563:13 38:10,14,23 336:23 337:9 345:7,12,16 346:1,5,6,7,8 360:16 563:13 295:23 297:2 528:23 297:2 578:14,5,16 563:16,20 370:18 393:2 436:7, 20 459:5 467:16 298:2,22 300:6 303	· · · · · · · · · · · · · · · · · · ·				466:24
correlate 410:12,16,17 287:3,5 525:1,5,12, couple 496:10,12 17,19,20,23 300:1,5,17 30:8,18,21 529:8 530:18 298:25 329:3 correlation 498:6 421:21 306:11 307:3 17,25 534:1, 351:20 400:4, 498:6 423:25 308:1,9,10, 11 535:24 20 407:5 424:14 21,24 309:18, 555:5 559:14, 422:20 428:2, 454:5,8 455:2 433:25 11,18 312:15, 16 566:2 23 429:3 cost 271:1 452:4 466:19 316:3 329:20 392:13 535:6 514:24 279:7 285:13, 500:24 508:3, 8,17,19 302:13 535:6 546:24 279:7 285:13, 511:6 514:5,8 336:23 337:9 310:4 563:13 289:3 292:15 515:1,3,8,9, 345:7,12,16 346:1,5,6,7,8 360:16 563:19,20 298:2,22 300:6 303:25 52:13 527:7 375:21 528:6 457:6 528:6 457:6 528:6 457:6	564:16		•	· ·	
correlate 41::22 413:7, 292:5,11,14 20,24 526:14 289:14 298:25 329:3 correlation 498:6 421:21 300:1,5,17 301:8,18,21 531:6,7,14, 335:8 342:18 corridor 424:21 306:11 307:3 17,25 534:1, 351:20 400:4, 427:20 424:14 21,24 309:18, 555:5 559:14, 422:20 428:2, 23 407:5 corridor 454:5,8 455:2 433:25 11,18 312:15, 16 315:25 555:5 559:14, 459:9 462:25 484:16 300:24 508:3, 8,17,19 302:13 535:6 514:24 272:2,3 500:24 508:3, 8,17,19 322:13 535:6 546:24 279:7 285:13, 4 286:8,12, 515:1,3,8,9, 345:7,12,16 360:16,20 370:18 295:23 297:2 517:14,15,16 500:2,5,14 363:16,20 370:18 counterintuiti 278:19 298:2,22 300:6 303:25 522:13 527:7 375:21 288:6 457:6 467:16				• • •	counte
496:10,12 17,19,20,23 414:2 417:1 421:21 300:1,5,17 301:8,18,21 306:11 307:3 423:25 424:14 529:8 530:18 531:6,7,14, 17,25 534:1, 17,25 534:1, 17,25 534:1, 11,535:24 298:25 329:3 335:8 342:18 351:20 400:4, 20 407:5 420 407:5 422:20 428:2, 23 429:3 429:24 corridor 454:5,8 455:2 429:24 433:25 451:14,19 452:4 466:19 484:16 311:8,9,10, 11,18 312:15, 451:14,19 452:4 466:19 484:16 16 566:2 316:3 329:20 330:18 331:3, 500:24 508:3, 8,17,19 330:18 331:3, 14 286:8,12, 21,23 287:22, 23 288:15,23 289:3 292:15 295:23 297:2 298:2,22 300:6 303:25 counsel 310:4 511:2 533:8 546:24 515:22 518:12 533:8 500:24 508:3, 8 510:14,23 515:13,3,89, 15,16,21,23 516:10,19 517:14,15,16 520:2,5,14 520:2,5,14 520:2,5,14 520:2,5,14 520:2,5,14 522:13 527:7 528:2 11 counterintuiti ve 386:7,19 course 278:19 363:19 364:8 393:2 436:7, 20 459:5 467:16	corrolato		,		•
correlation 414:2 417:1 301:8,18,21 531:6,7,14, 335:8 342:18 498:6 421:21 306:11 307:3 17,25 534:1, 351:20 400:4, 423:25 308:1,9,10, 11 535:24 20 407:5 424:14 21,24 309:18, 555:5 559:14, 422:20 428:2, 424:20 23 310:16,23 429:24 311:8,9,10, 459:9 462:25 451:14,19 452:4 466:19 452:4 466:19 30:18 331:3, 459:9 462:25 279:7 285:13, 428:68,12, 30:24 508:3, 8,17,19 30:18 331:3, 21,23 287:22, 32 288:15,23 515:1,3,8,9, 345:7,12,16 360:16 295:23 297:2 329:15 517:14,15,16 363:16,20 370:18 393:2 436:7, 298:2,22 300:6 303:25 522:13 527:7 375:21 counterpartie 288:6 457:6 300:6 303:25 528:211 377:11 378:5 288:6 457:6 467:16		•	· · ·	•	
correlation 421:21 306:11 307:3 17,25 534:1, 351:20 400:4, 498:6 423:25 308:1,9,10, 11 535:24 20 407:5 424:14 21,24 309:18, 555:5 559:14, 422:20 428:2, 424:14 21,24 309:18, 555:5 559:14, 422:20 428:2, 424:14 21,24 309:18, 555:5 559:14, 422:20 428:2, 424:14 21,24 309:18, 555:5 559:14, 422:20 428:2, 23 429:3 311:8,9,10, 459:9 462:25 451:14,19 452:4 466:19 452:4 466:19 452:4 466:19 484:16 300:24 508:3, 8,17,19 392:13 535:6 279:7 285:13, 500:24 508:3, 8,17,19 300:18 331:3, 429:24 330:18 331:3, 300:4 546:24 515:1,3,8,9, 345:7,12,16 346:1,5,6,7,8 328:15,23 516:10,19 363:16,20 370:18 370:18 393:2 436:7, 298:2,22 300:6 303:25 522:13 527:7 375:21 528:6 457:6 370:14 377:11 378:5 288:6 457:6 </td <td>490.10,12</td> <td></td> <td></td> <td></td> <td></td>	490.10,12				
correlation 423:25 308:1,9,10, 11 535:24 20 407:5 428:6 424:14 21,24 309:18, 555:5 559:14, 422:20 428:2, corridor 429:24 311:8,9,10, 16 566:2 23 429:3 454:5,8 455:2 433:25 11,18 312:15, 6 315:25 514:24 451:14,19 452:4 466:19 316:3 329:20 316:3 329:20 392:13 535:6 272:2,3 500:24 508:3, 8,17,19 30:18 331:3, 546:24 279:7 285:13, 8 510:14,23 332:14,16 563:13 3426:8,12, 515:1,3,8,9, 345:7,12,16 346:1,5,6,7,8 289:3 292:15 516:10,19 360:16 363:16,20 298:2,22 300:6 303:25 522:13 527:7 375:21 counterpartie 300:6 303:25 528:2 11 377:11 378:5 288:6 457:6			· · ·		
498:6 424:14 21,24 309:18, 427:20 555:5 559:14, 16 566:2 422:20 428:2, 23 429:3 corridor 429:24 311:8,9,10, 11,18 312:15, 451:14,19 16 315:25 459:9 462:25 cost 271:1 452:4 466:19, 484:16 316:3 329:20, 330:18 331:3, 8,17,19 330:18 331:3, 8,17,19 332:14,16 279:7 285:13, 14 286:8,12, 21,23 287:22, 23 288:15,23 515:1,3,8,9, 15,16,21,23, 516:10,19, 517:14,15,16, 520:25,14, 522:13 527:7, 298:2,22, 300:6 303:25 516:10,19, 517:14,15,16, 520:2,5,14, 522:13 527:7, 528:2,11 375:21, 377:11,378:5, 518:16,57.6 counterpartie, 278:16, 457:6	correlation				•
corridor 427:20 23 310:16,23 16 566:2 23 429:3 454:5,8 455:2 429:24 311:8,9,10, 459:9 462:25 454:5,8 455:2 433:25 11,18 312:15, 514:24 451:14,19 452:4 466:19 316:3 329:20 392:13 535:6 272:2,3 484:16 330:18 331:3, 592:13 535:6 279:7 285:13, 511:6 514:5,8 332:14,16 546:24 279:7 285:13, 511:6 514:5,8 336:23 337:9 310:4 515:1,3,8,9, 15,16,21,23 360:16 363:16,20 298:2,22 300:6 303:25 517:14,15,16 363:16,20 370:18 375:21 522:13 527:7 528:2 11 377:11 378:5 288:6 457:6 467:16	498:6				
corridor 429:24 311:8,9,10, 459:9 462:25 454:5,8 455:2 433:25 11,18 312:15, 514:24 451:14,19 452:4 466:19 316:3 329:20 326:3 329:20 484:16 330:18 331:3, 392:13 535:6 518:12 533:8 500:24 508:3, 8,17,19 32:14,16 547:18 279:7 285:13, 511:6 514:5,8 336:23 337:9 515:1,3,8,9, 515:1,3,8,9, 345:7,12,16 346:1,5,6,7,8 289:3 292:15 516:10,19 346:1,5,6,7,8 298:2,22 300:6 303:25 520:2,5,14 370:18 522:13 527:7 370:18 377:11 378:5 528:6 457:6			· · ·	· ·	•
454:5,8 455:2 cost 271:1 272:2,3 276:8,22 279:7 285:13, 14 286:8,12, 21,23 287:22, 23 288:15,23 289:3 292:15 298:2,22 300:6 303:25 433:25 451:14,19 455:14,19 455:24 466:19 452:4 466:19 484:16 300:24 508:3, 8,17,19 300:18 331:3, 8 510:14,23 511:6 514:5,8 515:1,3,8,9, 15,16,21,23 516:10,19 517:14,15,16 520:2,5,14 520:			•	16 566:2	
cost 271:1 451:14,19 16 315:25 267:20 385:9 515:22 272:2,3 300:24 508:3, 14 286:8,12, 21,23 287:22, 23 288:15,23 295:23 297:2 298:2,22 300:6 303:25 8 510:14,23 516:10,19 517:14,15,16 514:5,16 516:20, 298:2,22 300:6 303:25 300:6 303:25 300:8 315:25 316:3 329:20 385:9 392:13 535:6 515:22 518:12 533:8 546:24 547:18 547:18 547:18 547:18 547:18 547:18 547:18 547:18 547:18 563:13 counsel's 300:14,23 515:1,3,8,9, 15,16,21,23 516:10,19 517:14,15,16 517:14,15,16 517:14,15,16 520:2,5,14 522:13 527:7 528:2 11 360:16 363:16,20 370:18 375:21 37		_			
cost 271:1 451:14,19 16 315:25 267:20 385:9 392:13 535:6 518:12 533:8 272:2,3 276:8,22 330:18 331:3, 392:13 535:6 546:24 279:7 285:13, 14 286:8,12, 21,23 287:22, 23 288:15,23 292:15 295:23 297:2 298:2,22 300:6 303:25 515:1,3,8,9, 15,16,21,23 516:10,19 517:14,15,16 520:2,5,14 522:13 527:7 360:16 363:16,20 370:18 375:21 528:2,11 counterintuiti ve 386:7,19 counterpartie space 278:16 288:2,22 300:6 303:25 300:6 303:25 528:2,11 377:11 378:5 counterpartie space 288:6,457:6	454:5,8 455:2	433:25	11,18 312:15,	counsel	
cost 271:1 452:4 466:19 316:3 329:20 392:13 535:6 518:12 533:8 272:2,3 276:8,22 300:24 508:3, 8,17,19 546:24 547:18 279:7 285:13, 14 286:8,12, 21,23 287:22, 23 288:15,23 289:3 292:15 295:23 297:2 298:2,22 300:6 303:25 515:1,3,8,9, 15,16,21,23 516:10,19 517:14,15,16 517:14,15,16 517:14,15,16 520:2,5,14 520:2,5,1		451:14,19	16 315:25		
272:2,3 484:16 330:18 331:3, 546:24 276:8,22 500:24 508:3, 8,17,19 547:18 279:7 285:13, 510:14,23 332:14,16 563:13 330:23 337:9 310:4 563:13 272:2,3 287:22, 3288:15,23 346:1,5,6,7,8 346:1,5,6,7,8 289:3 292:15 360:16 360:16 363:16,20 298:2,22 300:6 303:25 370:18 370:18 300:6 303:25 377:11 378:5 528:6 457:6	cost 271·1	452:4 466:19			518:12 533:8
276:8,22 279:7 285:13, 14 286:8,12, 21,23 287:22, 23 288:15,23 289:3 292:15 295:23 297:2 298:2,22 300:6 303:25 500:24 508:3, 8 510:14,23 511:6 514:5,8 515:1,3,8,9, 15,16,21,23 516:10,19 517:14,15,16 520:2,5,14 522:13 527:7 528:2 11 500:24 508:3, 8 517,19 332:14,16 336:23 337:9 346:1,5,6,7,8 360:16 363:16,20 370:18 370:18 520:2,5,14 522:13 527:7 528:2 11 500:24 508:3, 8,17,19 332:14,16 3310:4 547:18 563:13 547:18 563:13 547:18 563:13 547:18 563:13 547:18 563:13 547:18 563:13		484:16	330:18 331:3,	392.13 333.0	546:24
279:7 285:13, 14 286:8,12, 21,23 287:22, 23 288:15,23 289:3 292:15 295:23 297:2 298:2,22 300:6 303:25 297:2 300:6 303:25 297:2 200:6	· ·	500:24 508:3,	8,17,19		547:18
14 286:8,12, 21,23 287:22, 23 288:15,23 289:3 292:15 295:23 297:2 298:2,22 300:6 303:25 151:6 514:5,8 515:1,3,8,9, 15,16,21,23 516:10,19 517:14,15,16 520:2,5,14 522:13 527:7 528:2 11 336:23 337:9 345:7,12,16 346:1,5,6,7,8 360:16 363:16,20 370:18 370:18 370:18 377:11 378:5 310:4 course 278:19 363:19 364:8 393:2 436:7, 20 459:5 467:16	i i	8 510:14,23	332:14,16	counsel's	563:13
21,23 287:22, 23 288:15,23 289:3 292:15 295:23 297:2 298:2,22 300:6 303:25 2515:1,3,8,9, 15,16,21,23 516:10,19 517:14,15,16 520:2,5,14 522:13 527:7 528:2 11 345:7,12,16 346:1,5,6,7,8 360:16 363:16,20 370:18 370:18 375:21 377:11 378:5 345:7,12,16 346:1,5,6,7,8 360:16 363:16,20 370:18 377:11 378:5 528:6 457:6	· ·	511:6 514:5,8	336:23 337:9	310:4	
21,23 287:22, 23 288:15,23 289:3 292:15 295:23 297:2 298:2,22 300:6 303:25	' '	· ·	345:7,12,16		oource.
289:3 292:15 295:23 297:2 298:2,22 300:6 303:25	1 '		346:1,5,6,7,8		
289:3 292:15 295:23 297:2 298:2,22 300:6 303:25 517:14,15,16 520:2,5,14 522:13 527:7 528:2 11 363:16,20 370:18 375:21 375:21 377:11 378:5 528:6 457:6 528:6 457:6	· ·				
295.23 297.2 298:2,22 300:6 303:25		′		ve 386:7,19	
300:6 303:25 522:13 527:7 375:21 counterpartie 528:2 11 377:11 378:5 5 288:6 457:6 467:16			·		•
377·11 378·5 s 288·6 457·6 467.10	· · · · · · · · · · · · · · · · · · ·	' '		counterpartie	
304:4 306:21 551:19				•	
	304:4 306:21	020.2,11	3.7.11 370.0	2 = 20.0 107.0	551:19
				I	

	404.0.00		F00.4F	200,0 250,42
court 305:5	404:6,22	criticality	566:15	309:6 359:12
373:17	405:16	450:18		361:23
374:12,14	424:19		cross-	367:10,16
375:3 378:3,		criticized	examine	369:14 370:7
18 381:6	credible	521:21	264:14	385:14,25
485:23 507:2	554:10	021.21	282:23	387:12 398:9
	557:19,25		202.20	402:4 410:24
cover 368:3,	560:3	criticizing		421:8 475:23
1	300.3	556:20	cultural	476:3 486:20
4,11 373:16			497:6,7	498:4 528:10
377:14	credit 429:13,	040.7	·	530:4 561:14
419:25	20,21 440:9,	cross 319:7,	l .	564:6
	13 456:2	10 335:9	cumbersome	
covered	507:10 519:4	342:12	291:18	
297:21 552:8	541:13 549:2	348:13 381:2,		curve 271:20
207.21 002.0	011110010.2	12 425:12	curious 312:9	272:1,6,12,
		439:12 499:8	444:6	13,25 273:1,
cows 545:20	credited	543:20 562:9,	444.0	21 274:18
	372:9	17		275:15
CPCN 454:15			current	
CPCN 454.15	credits	cross-	274:17 275:1	011177/00
			302:25	curves
CPCNS	285:10	examination	360:11	274:10
454:15	350:18	264:8,18	367:16	
	360:16 433:8	268:8 282:20,	386:21	custody
470 5	439:25 440:4	25 354:22	388:15	449:11
Crane 470:5	463:16,20,25	355:7 358:2	392:21	
490:21 499:9	464:2 506:24	366:8,19	395:18	_
	507:4 508:13	367:22	398:12	custom-made
Crane's	514:6 559:25	381:16 397:6,	402:13 417:7	548:11
469:19,25		10,16 408:7	429:22,25	
+00.10,20	crisis 391:16	435:10,23	451:8 480:4	customer
	CH313 001.10	458:16,19,22	486:1 501:23	329:7 358:15,
create 400:2,		460:3 461:1,	503:16 505:8	19 359:7
11 424:6	criteria	20 462:19		360:20
530:25	334:12,14	463:1 464:10	507:1,2	
551:21	367:11,14,18	468:9 476:14	515:16 520:3,	365:20 366:2
		485:17	4 528:1 532:9	378:14,22
areates 404:4		517:24	534:14	393:13 395:5
creates 401:4	critical 266:7,	518:13	537:23 539:5	450:4 457:19
531:3	23 362:21	520:23	556:17 559:3	516:17
	389:22	533:10		517:14,15
creating	414:19 453:4,	544:13 563:8	currently	554:21,22
	23 455:9,13	1 0 1 1.10 000.0	3	
	I			

	1		1	I
customer's	cycle 406:8	24 308:19	422:14	519:11
554:21	427:15	393:7,8	423:13	
	428:12,17	395:15		doodo
	438:5 453:22,	413:18 521:2,	day 005,04	decade
customers	24	6 560:7	day 265:21	457:11 554:1
280:18			272:16,20,23	
284:16	407.0	1-1- 054 4	273:6 321:24	decades
285:11,16	cycles 427:9	date 351:1	327:14,20,23	552:24 555:6
288:15	455:12	360:13 365:7	418:4 423:10	556:13
319:20		381:24 382:9,	436:4,15	
329:13	D	11,13 383:2,	544:17 545:1	l
335:19 340:2,		4,18 384:13,	550:19	December
8 359:4		17 391:3	566:22,25	295:4 433:11
360:11,24		398:21 399:6,		434:14,15,18
361:5,7	D-1 357:7,14	7 409:24	days 424:8	
365:23	390:10	411:15,17	462:1 476:4	decide 298:9
372:16 374:6	427:14	413:10	402.1 470.4	325:23 347:9
377:2,10,12,		433:18 434:6,		376:5 377:12
14 378:4	D-2 358:23	16 436:21	DBCS 351:24	
392:2 393:20	365:15 382:3	449:12		462:13 479:2
394:9 395:16	389:11	450:20	deedline	480:11 507:9
417:4 429:12,		472:18	deadline	
14 458:7	390:10,12	477:17	474:10	decided
515:2,8	427:14 561:6	494:25 521:9	488:24 545:1,	347:8 409:10
517:6,11		541:17 542:8	4,18	427:13
521:23	D-3 390:3,10,	543:13		480:14
534:12	12 427:14	544:16 553:7	deadlines	100111
552:25 554:2		344.10 333.1	364:16	
555:4 556:2,			382:12 541:4,	decides
14 558:17	D.C. 539:8	dates 398:18	12	344:16
		409:21	12	467:21
560:18	dabble	450:18		480:10
564:12	280:25	456:24	deal 415:23	529:18 531:5
	200.20	471:11,19,21	484:4	
cut 315:10		472:23 474:2,		decision
359:13 371:4	damages	18,21 475:2,	doaling 204:4	264:6,7 286:5
387:8,14	506:9,13	22 476:22	dealing 284:4 374:17	•
398:10,16	517:6	477:3,5,24	3/4.1/	306:5 326:7,9
399:3,9,21		487:1 540:18		445:2 458:13
, ,	data 265:6,	541:12	debt 519:5,	487:18 496:8
	12,14 266:20		10,16,18	527:13,18
cut-off 448:2	•			553:11 555:8
	271:22	Dave 398:19,	1	557:6,10,13,
cutoff 304:7	272:23 273:3,	24 420:25	debt-to-	14 560:5
			revenue	

Index: decisions..described

561:18	deems 543:7	490:9	6 506:13	520:15 537:20
decisions 469:3 516:4,5 549:25	defer 359:19	definitive 472:19 473:10,21	demonstrate 363:5 369:9 433:23 434:2,	depends 423:20 437:7
557:16	514:15,23 515:1,19	474:11 475:11,18 486:24	4 456:7 558:15 565:20	495:9
declarations 493:12	525:1			depreciation 434:23
decline 393:23,25	deferred 490:25 534:1	degree 402:25	demonstrated 451:13 554:5 556:14 557:22	519:25 523:12
394:1,3,4 395:19 396:1 541:2	deficit 565:11	delay 364:7 542:22	denied	deprivation 558:5
declined	define 301:7 323:14 324:9 472:4	delayed 542:24	560:18	deprived 558:2
514:11	defined	delays 365:25	denies 561:17	derive 265:8
declining 386:15 523:11	317:11 472:8 490:3,8,14 494:9,11	548:7 delineating	denominated 548:5,12	275:5,20 derives 275:8
decongestion	497:10	498:12	deny 268:9	describe
445:11 decrease	defines 284:6 494:14	deliver 364:5 398:3 449:19 487:1 489:3	depend 374:21 423:9	326:2 372:11 373:2 409:13 549:18
363:19	definitely 405:5 439:6	delivery	dependably	described
decreased 364:8	564:24	288:14 319:18 415:16	362:15	278:15 286:12 287:25 297:7
dedicated 283:1	definition 472:6 490:5 491:24 492:8	449:20 451:10	depending 287:18 314:14,16,23	302:14 348:8 370:14 371:4
deemed	493:2,6,7,16, 17	456:21 470:16	371:3 372:25 379:19 462:9	376:9 377:18 385:10
489:18 495:1	definitions	471:16 477:24 478:4,	476:6 478:12 489:13 510:1	388:11 389:4 445:17

446:13 447:7, 19 448:7	designs			
19 448:7	uesigns	316:24 317:5	developer's	difference
	410:7,24	321:7 382:18	494:22	321:22 374:3
451:12 456:2,		394:8 395:8		
22 463:5	decimalela	396:19	davalanana	differences
464:25	desirable	437:19	developers	differences
508:18	347:2 457:20	545:21	280:8 289:20	281:8 451:19
547:24		558:11	304:6 445:16,	
549:16	desperately		21 450:16	different
	439:16		465:2 496:13,	270:3 274:7
		determined	16 541:6	275:10,17
describes		288:19 486:9		286:24
358:18	detail 292:10	508:14 530:4	developing	291:23
444:23	348:25	557:23	409:14	292:12,13
	415:17 426:4		411:20 412:3,	296:7 303:13,
description	470:18	determining	10	16 307:11
284:8 353:1	503:21	542:21	10	309:4 310:1
549:19	504:22	0 7 2.21		311:13,25
343.13	541:25		development	312:9,11
		detrimental	283:18 323:3	313:11,15,22
design 287:9	detailed	549:21	359:1 442:18	314:13
288:1 330:8	291:16,17		445:19,23	314.13 315:17 317:9,
409:10 410:1,	299:22 350:8	develop	446:5,8	·
3,6,9,10,22,	363:11	289:24 394:2	457:25	17 323:12
23 411:13	303.11		464:15,19	324:4 325:14
412:3,16,23,		465:9	465:7,22	327:8 329:13
24 413:3,11,	details 406:9,		466:1,11	338:24 347:9
13 451:24	11 452:1	developed	467:10,13,15,	348:3,19
492:1 493:22	478:21 541:5	306:20 361:1	18,24 492:2	349:4 372:24,
496:22		450:6	493:22	25 374:3
			495:22	377:18,23
	determination		500:15,23	379:22
designation	297:2,17,18,	developer	504:7 517:4	383:11
444:7	25 298:7	446:7 449:5,		391:15 398:6,
	317:21	6,17,18 466:5		19 404:21
designed	321:24	467:12 491:6,	deviates	405:21
316:20	323:20	21 492:5	471:23	406:19
322:14 337:4	532:20,21	493:17		407:14
359:3	542:18	494:14,24	device	409:21 410:7
555.5		495:4,5,7,10	401:23,25	422:20
	determine	496:17,25	401.23,23	426:10,17
designing	289:2,4	497:20 542:2	19,21 403:7	427:11 441:9
317:9 412:14	295:21	549:22	419:5	448:12
	298:20 301:3		413.0	449:13
	230.20 301.3			

472:11 499:2,	473:4,5 480:7	523:20 524:1	522:17	disruption
22 508:19	481:1 491:4	537:5 544:22	534:15 537:2	543:10 547:3,
536:21	512:14,24,25	337.3 344.22	541:9,19	4,12 548:22
556:19,20	524:3 526:2,5		341.9,19	4,12 340.22
565:15	527:21	disagreeing		
303.13	536:25	545:14	discussing	disruptions
	538:24		313:14	542:20,22
differently	539:11,19	disallowance	330:15	545:8 547:2
347:11	551:12,22	534:11	333:16	548:4
	552:7,11	00 1.11	339:10	
difficult	561:23	_	354:15	disrupts
297:14	001.20	disallowed	390:13 391:2,	489:5
331:25		531:13	4 412:9	100.0
343:21	directed		430:20	l
386:16	290:6 383:10	disappointed		distinction
421:13		330:24	discussion	327:16
	Directing		267:9 268:8	
l	473:17		271:18 318:2	distribute
diminish		disappointing	321:18	443:21
516:9		548:18	327:10	
	direction		331:11 381:8	.l!
DIR 561:25	269:20	discovery	393:17	diversified
		488:17	430:16,21	458:3
direct 007.45	directly		507:17 [°]	
direct 267:15	302:16	discuss	509:17 536:3,	divided
320:18 335:13	353:15	284:14	6	459:17
	448:20	355:21		
356:14,22,23, 24 366:23		391:24 393:6	discussions	dividend
378:13	dirt 497:21	433:3,5	280:8 340:18	438:10
388:10 408:9,	498:2	458:23 459:4,		430.10
18,19,24	490.2	17 476:21	386:15,19 394:6 530:3,6	
409:3 410:2,		17 470.21	531:10,22	division
25 411:19	disadvantage		534:15,16,23	302:11 355:4,
412:5 426:13	268:13,23	discussed	537:24	6,15 385:9
431:22 432:6,	374:17	288:24 306:6	JJ1.24	401:22
17 442:10,19,	559:15	312:1 337:17		430:25 535:7
20,21 445:18		445:7,18	displace	551:3,4,20
447:7 456:18	disadvantage	450:17	271:10,14	552:19 553:3
464:25	d 399:8	451:17		554:11 555:2,
468:13 469:6		464:21	displacing	18 557:4,15,
470:6,7	l	472:25	321:10	17 558:11
472:12,13	disagree	475:24 482:6]	559:6 561:22
, 10				

division's 552:20 555:11	documented 280:15	double-check 500:25 501:4, 7 505:14	downside 360:11	425:18 426:2 520:5 523:2
563:13 564:18	documents 443:12	doubles	DPTC 473:21	driving 425:14
DJ 387:25 421:19 423:23	486:19 488:6 492:5,17 493:25 539:15	403:3 419:1 doubling	DPU 381:2,12 552:11 561:25 562:9	drop-off 520:3
docket 264:4 270:11	dollar 529:21	401:8 doubt 548:20	draft 407:21, 22	drops 344:19
275:20	dollars 266:3	550:8 557:19		DTA 501:8
277:11 283:6 284:1 305:19 318:9,11,14,	361:6 414:22 418:4 437:5 467:23	dovetailed 294:21	draw 277:18 280:1,3 547:5	due 362:1 457:21 517:1
24 319:7,13 320:14 324:12	552:23 555:5 556:11	down 272:22 306:21 307:5,	drawing 327:16 409:20 410:1	523:12 548:16 558:18
339:13 353:20 444:25	domain 455:7,8	19 309:19 310:9 321:2 333:20	411:9	duly 282:12
487:18,22 495:14 519:3 530:11	done 270:4 271:6 273:15	338:12 365:11 368:18	drawings 411:16	356:12 431:20 442:8 512:12
533:25 534:7 536:19,21 539:10	274:16 278:7 281:22	369:23 373:24	drive 266:4 287:12 499:12	538:22 551:10
552:15 558:6, 9 560:23 561:17	300:23 309:12 318:18	377:22 388:2 390:5 402:18 406:2 426:20	520:13,18	Dunlap 446:15,18
dockets	347:10 395:7 405:17 424:14	436:15,16,17 440:7,15,16, 24 448:3	driven 428:15	during 268:8
271:24 454:2	425:25 451:3 477:9,12	504:4 510:21 532:13 541:9	driver 266:23 388:9,15	282:17 328:13 341:15
document 368:3,13,15,	543:3 546:20, 22	Downey 389:22 435:9	451:19 452:5 453:17 494:6 515:18	343:12 345:3 355:21 363:23 383:8,
16,18 373:14, 17,22 405:6 511:19	double 403:6	443:21	drivers	11 387:23 411:19

Index: duties..Ekola

414:14	322:7 331:11	22 417:23	457:17	effects
427:14 430:22	343:19,23 345:4 347:3	264.44		483:23 484:1 540:10,11
449:21	385:20 387:7	east 361:11	economics	·
455:20,21	400:21		270:25 280:12,19,20	efficiently
470:17 491:1	411:18	eastern	285:21	361:14
521:4 523:14	413:21	386:17	287:12	367:13
	447:18 448:7	387:12	388:14 446:3	007.10
duties 548:22	449:22	389:21	566:1,2	
441100 0 10.22	450:17	390:18	000.1,2	effort 315:7
_	451:12,17	399:19		353:5 423:16
dynamic	456:22	400:22	economists	452:18
402:6 425:23	464:21	417:21	556:24	485:10
530:8 532:10	475:25 476:8			
	478:14	easy 272:1	edits 552:4	efforts 542:4
dynamics	479:18	-		
537:22	480:19	EB 533:19	effect 290:21	EIA 274:19
	481:12,20 484:10	LB 333.19	346:23 452:3	LIA 274.19
E	488:18		483:16	
	509:17 548:3	EBA 514:3,7,	494:15	eight 398:21
	309.17 340.3	16,23 521:24	522:11 523:5	459:16
		524:12 525:2,	530:2	
each 274:7	early 391:1	3,20	000.2	either 287:23
287:14,16	451:7 453:6		44 41	324:21
311:16,19	466:12,16	economic	effective	330:17
315:17 316:4,	474:3,22	266:5,12	286:2 288:15	341:12
5 329:20,21	505:21 540:5	276:18 279:8	403:7 423:4	354:10
398:19	560:20,25	286:1,10	437:24	378:12
404:20 407:13 427:9,		306:19 308:3	450:19	406:24 431:6
407.13 427.9, 11 434:3,4	earn 522:9,20	336:19	452:21	443:13
446:23	523:18	342:25 352:3	555:13	460:20
448:18,20		391:16		462:10
454:16 456:1,	oarning	447:22	effectively	488:14
21 461:19	earning 522:25	503:13	334:19 362:4	512:22
470:19	J22.2J	529:19	388:6 447:11	545:17 546:9
477:14			448:17 450:6	
489:13 490:3	easier	economical	453:25	Ekola 446:16
	374:11,23	560:12	454:14	447:21 448:5,
	470:10		477:21 478:7	16 449:25
earlier 304:9,			487:23	456:15
11 315:4	easily 291:21,	economically	504:18	464:20 471:1
]			
	•			

473:22 476:24 477:5, 15 478:23 480:9 500:17, 18 521:9	433:21 434:7 440:12 456:16 463:15,17 469:15 549:22	enable 361:13 377:12 enabled 447:24	ended 296:13 309:4,25 ending 529:12	Energy's 283:16 284:7 enforce 481:11
elected 282:17 electric 362:8 437:24	else's 460:25 461:17 EMD 492:18	enacted 405:24 433:11 511:2, 3	ends 527:4 Energies 305:3	enforced 481:10 engage 282:18
electricity 273:18 288:14	eminent 455:7,8	enactment 435:5	energy 264:6 265:19 274:15 283:10,13,15	451:20 engaged 445:15
316:20 319:19 433:16 436:8 437:1	emission 276:11 463:16	encountered 345:9 end 272:15,	284:4 286:7 287:13 289:18 290:5 329:3 340:22	454:11,12 465:20 475:3 476:3 479:9 480:1 481:13
electronically 511:19	emissions 276:5 510:18, 19	16,23 280:16 290:11,14 301:8 317:22 320:4 321:12,	350:23,24 352:7,9,10 355:14 357:7 358:24 391:9 401:21 427:8	engagement 349:8 445:21 451:12
element 266:7 322:19 413:13	emitting 507:22	24 325:3,20 327:14,20,23 334:19 341:16,17	430:12 445:2 458:13 464:1 469:3 486:5	456:18 engagements
elements 412:18 426:10	employed 282:17 356:19 432:2 442:16,17 512:20	359:10 364:17 368:18 409:9 440:3,11,22 466:5 471:12	487:18 514:3, 8 515:3 516:4 524:13,24 526:13 533:18	458:10 465:2 475:7 engineer 448:18
elevator 333:20	employer 539:5	528:15 543:1, 6 555:13 558:24 561:11	538:14 540:10,11,12, 15 541:1 550:15	452:24 engineering
eligibility 335:16 456:20	employment 549:7 551:20	endanger 519:4	551:18 554:20 556:9 564:2	414:5 453:4 492:1 493:22 496:22
eligible				engineers

Index: enhance..estimate

556:25	445:23 456:4 464:18 479:22	environmenta Ily 457:18	315:23 455:16	268:12 271:1, 3 272:7,24 273:12
enhance 367:8	487:21 562:8	envision 461:8	equate 515:10	275:12 275:20 279:1 525:18
enjoy 506:21	entering 443:25 451:1	envisioning	equates	establish 274:12
enough 427:6 463:22 520:12	entertain 282:24 283:2	503:8 EPA 486:2	455:1 equipment	275:15 300:20 337:4 394:16
ensue 549:5	entire 275:22	507:8	453:8 478:6 480:5,21	509:19 545:21
ensure 273:3	284:8 291:4 317:11 362:23	EPA'S 463:10,12	491:4	established
286:9 292:14 361:24 362:3, 8 364:15	368:15 389:20 427:15 436:6	EPC 363:24 411:4,12	equitable 284:23 299:10	300:14 301:22 332:24 362:7
377:8 417:15 418:1 456:24	438:25 466:21	449:14 450:24	era 448:25	373:25 392:3 394:21 471:19
457:3 458:2 465:12	518:23 entirely	452:13 456:18 457:3 472:6 473:11	erect 413:20	509:18 521:11
ensured 446:1	516:16	477:7,8,18, 22,25 478:2, 8,21 480:20	eroded 287:11,18	establishes 284:5
ensuring 313:17	entirety 460:9	481:6 484:11 501:21 504:7, 14 505:16	esoteric	establishing
329:19 445:24	entities 404:20	equal 315:5,8	548:10 essence	272:13 419:21
enter 372:6 380:23 381:10	environment 415:10 509:5, 9,14	329:11 433:15 541:20	283:1 369:8 401:7 428:9	establishment 394:10
413:14 414:4 479:12 561:22	environmenta I 289:20 509:3	equaling 331:9 332:15	essential 458:2	estimate 281:12,14 286:21
562:12 entered	510:22 557:2	equally	essentially 265:8 266:1	300:12 301:22 413:7,

17,19 estimated 266:17	10,14,15,16, 19,23 313:18, 19,24,25 314:3 315:6,9 345:25 346:5	268:12 283:15 292:2, 21 310:12 558:24	478:13,15 479:4 481:16 489:8,14,17, 22 490:7,16 507:21	272:1 278:24 436:21 460:11 519:14
281:10 287:16 294:10 363:16 385:22 393:6	424:20 426:10 516:20 560:10	evaluator's 481:24 evasive 414:8	516:21 517:2 525:7,15 559:12	evidence 380:23 381:10 523:17
515:9	evaluating		events 472:7, 10 490:12	evolve 438:8
estimates 276:12 300:6, 13 364:1 382:10 467:1	315:25 463:10 558:25 evaluation	even 274:5 285:16 325:11 328:12 350:3 353:9 360:13	eventual 433:24	evolved 349:8
estimating 413:6	270:6 283:19 284:23,24 285:17 286:10	377:13 391:2 400:12 414:17 423:12	eventually 314:1 406:22 422:6 498:9	evolving 550:2
ETA 481:6 ether 462:15	296:18,23 299:10,19,20 302:21	426:20 427:17 483:14 498:1 508:9 518:22	every 272:12 274:22 417:20 438:5	exact 382:1 398:18 399:5 415:17,23 428:9
evade 499:8	306:25 307:13,15 308:10,22 315:12 317:1,	520:6 522:8, 19 542:14 559:18 561:2	499:3 558:9 560:13	exactly 281:13
evading 499:11	23 323:8 329:12,14,17 331:5 334:12, 14 338:24	evening 460:21 461:8, 13 462:9,10	everybody 443:22 541:2, 17 542:1	310:16 320:11 411:15 415:14,19
evaluate 271:5 291:18 309:9 313:10 558:4,22	345:13,18 346:3,4 424:14	evenings 460:18	everybody's 391:17	422:5 503:16 505:6 534:13 552:13
560:15 561:18	evaluations 302:22 313:15	event 384:21, 22 453:20 455:5 467:15,	everyone 311:4 333:7,8 357:8 431:6 443:18,19	examination 267:5 269:5 277:4 289:15
evaluated 285:6 311:14, 22 312:7,8,	evaluator	433.3 407.13, 20 476:2 477:19	461:2 everything	293:20 302:6 304:24 328:22 334:8

Index: examines..expand

				millicscxpana
	1			
335:5 339:6	examples	excluded	486:19 487:2,	exhibits
342:20 343:9	379:1 400:21	303:22	3 488:1 505:4	443:6,9,13,
344:24 345:4	424:21			14,16 444:5,7
351:16	490:23	ovoludina	ovecuting	448:24 457:2
356:14 416:6		excluding 430:24	executing 473:10	472:6 478:16
420:20 425:7		430.24		486:13 488:6
431:22	exceed		474:10	490:5 492:20
437:16	361:25	exclusions		500:25 501:7
439:19	367:13 564:3,	472:3	execution	502:17
442:10 500:8	7		472:18	503:19 505:5,
506:17 509:1			473:21,23,24	24 511:16
512:14 535:4	exceeding	exclusive	475:12 503:9	561:25
538:24	359:13	463:14	770.12 000.3	JU1.2J
543:20	JJ3.1J			
		excusable	executions	exigent
546:14	exceedingly	542:20,22	474:3	559:23
547:21	553:7	′		
549:13		543:10 545:8		
551:12	_	547:2,4,12	exemplar	exist 553:13
	exceeds	548:4,22	330:11	
examines	367:10,17			existed 435:6
510:9		excuse	exemption	507:19
310.5	except 517:1	320:13	493:11	559:25
	CACOPI OTTE	353:22 368:9	100.11	333.23
examining		371:13		
424:7	exception	387:18 392:9	exercising	existence
	444:1 493:8	395:12 405:3	348:7 548:21	549:18
avampla				
example	oveentions	474:13 482:4	ovhibit 210:7	aviatina
271:23	exceptions	539:14 540:6	exhibit 319:7,	existing
317:16 325:6	469:16	551:15	10 335:9	359:20,24
373:8 378:24			342:13	361:14
413:23,25	excerpt	excused	348:13	387:22 388:6
427:20	376:10	548:17	367:23	398:1,12,14,
438:11			380:22 381:3,	16 399:18,21,
443:14 472:6			12 409:17	25 401:6
484:22	excerpts	executable	443:8 444:2	402:22
487:18	471:11	477:8,14,18	491:7 492:25	418:24
489:21 490:4		479:1 486:9	501:6 503:24,	423:14
497:21	excess 516:7		25 504:10	424:25 426:3
498:17 504:5	GACC33 010.1	ovocuto	511:23	428:19
515:6 534:14		execute	530:12	468:21
542:23 557:5	exchanged	451:4	535:20	
566:2	478:7		562:10	_
333.2		executed		expand
	1			

Index: expansion..factor

				ansionactor
510:20	522:8,18,20, 22	494:17	extensions 475:4,7	facilities 287:9,23
expansion 358:25	expense 306:8	explain 269:18 348:25 398:8 418:24	extensive 364:9	288:4 379:6, 7,20 381:24 382:12,15 383:3,19,21
expect 369:15 439:4 457:7 505:1 520:2 561:15	expenses 522:7	503:25 541:25	extent 268:7 269:13 376:11 488:5	384:1 385:4, 20 398:19 434:5,13 463:14,15
566:16 expectation	expensive 421:22	explained 394:7 397:24 467:7 557:6	509:16,17 514:20	508:10 540:19 543:9
398:24	experience 274:2,11	explaining 269:8 283:5	extra 368:1	facility 379:13,15
expectations 501:23	304:5 336:2 364:10 457:11	269:8 283:5 explains	extraordinary 525:8,16	383:25 433:15,18,21, 25 434:9
expected 265:13	540:22 549:17	513:20	extreme 426:8	437:24 441:16 485:10 497:3
287:14,21 337:11 362:18 393:23	experiences 286:22	explanation 311:1 378:19	extremely 511:18	501:21 506:14 507:6 508:9 542:24 557:3
expecting	expert 265:11	explicitly 281:14	F	facing 515:22
393:24 expects	expertise 540:15 549:17	exploring 297:16	F.3rd 373:18	fact 279:17 295:16
564:6	experts 265:8	exposure 272:19	376:18 face 362:4	303:18 309:16 323:6 341:3 342:4
expended 467:23	266:21 556:24	466:19	386:10,17	369:4 377:12 416:9,19
expenditure 552:23	expire 478:14,15	expressed 527:25	faced 558:7	428:3 446:6 452:10 479:14 485:4
expenditures	expired	extension 315:3	facilitated 447:23 448:5	519:2 542:18 factor 298:2,
	I			140101 200.2,

22 factored	556:2 failures	farm 373:19 446:15,18 484:8 489:10	15,16 474:9, 15,23	535:3 549:20 552:18 563:7
363:9	469:21		federal	field 447:12
factors 287:19,20 288:18 298:1,	fair 268:4 303:3 310:13 324:10	farms 450:10 452:25 453:15,18 463:22	360:15 374:12,14 433:6,7,10,12 434:22 435:1 450:9 454:23	figure 313:10 427:4
2,3,22 322:3, 19 325:22 331:8,16,18, 25 402:17	339:25 415:21 427:6	farther 551:1	509:19 510:1 511:3	file 356:22 432:5 442:19 521:4 522:5
437:20 530:8	fairest 333:6	fast 402:18	feel 270:17	
531:21 532:10	fairly 291:21, 22 302:2	faster 393:14	283:3 311:2 483:23 499:16	filed 284:1 351:4 381:21 391:23
facts 365:1 375:7 396:9 542:16 545:4,	353:7 398:8 428:2	fault 395:7	fees 344:17	397:24 445:8 491:15 512:22
6,22 548:23	faith 479:13	favor 560:1	felt 323:16	551:21 558:10
556:6 557:14, 22 558:8	fall 275:21 472:9 545:4	favorable 464:23	348:19	561:24
factual 395:14,21	familiar 274:3	555:10 favorably	FERC 371:19, 21 372:4,19, 20,22 373:8,	filing 447:2 465:22 474:4 492:19,21
fade 566:21	375:7,10 376:2 406:8, 10 484:7	540:12	19 374:10 376:24 378:2, 8,9 379:22	493:10 519:9 520:1 549:2
failed 439:11 560:16	familiarity 439:24	favorite 439:18	392:3 404:18 429:19	filings 474:22 560:19
failing 558:1	fantastic	feasible 360:1	few 264:21 277:8 282:15 294:3 302:13	fill 279:9 303:8 317:13
fails 287:24	389:6	February	305:4 323:6	351:24 352:5
failure 418:3 469:22 545:9, 12 548:11,20	far 373:24 415:4 479:13 499:23 555:2	284:1 351:5 408:19 447:20 470:21 473:5,	339:8 366:18 389:10 393:5 416:4 425:12 476:4 502:9	filling 303:18 321:21
		,		final 270:7,15

Index: finalize..focus

275:3,4 277:9	471:20 473:9	562:21	343:12	449:25
283:6,22	478:20		344:10	456:15
284:7,9	480:23		356:12 359:8	464:20 471:1
285:20,25		fine 332:23	361:10 368:8	472:19
286:5,13		384:2 405:12	381:21	473:22
287:13	finalized	418:4 420:15	388:23,25	476:23,24
288:21 289:6	408:1 415:13	502:13	391:9 408:25	477:4,5,15
305:11,13	478:25	532:24	430:15,18	478:22 480:9
306:21 307:3,	486:24		431:20 442:8	482:11
5 308:4,11	519:25	finish 459:7	459:11	500:17,18
309:5,6,19		460:11	462:14 490:8	521:9,10
· · ·	finalizina	566:15		521.9,10
310:1,9	finalizing	500.15	494:4 512:12	
312:4,21	318:19		514:25 515:6	fleet 386:14
313:3,5,6	401:24 402:6	finishing	520:9 523:10	510:21
320:13 321:8	410:23	527:1	535:6,12	
330:11 338:2,			538:22	
7,18,20	Finally 288:8		540:23	flexibility
339:10,16	364:19 561:6	fire 489:5,11,	541:17 543:4	461:24 476:1
340:6,8,10	001.10 001.0	18,21	550:20 551:2,	556:9
345:13 349:9			10 557:6	
362:20 363:4	finance	fires 489:24,	564:4 565:1	flexible 356:1
365:12 368:8,	438:14	25		476:4
9 407:23		25	fi 000.00	470.4
410:6,24	finances		five 298:23	
411:9,12,22,		firm 300:20	326:4,7	flip 502:10
24 412:16	525:9,17	301:9 317:14	381:3,5	•
413:10,13,14		343:5 415:7	454:11	61 4 474 44
414:17,24,25	financial	450:22 477:7	461:22	float 471:14
415:2,15,18,	272:8 288:17			
22 445:4	432:3 437:23		fixed 414:6	floor 333:21
446:25 447:3,	438:9 500:16,	firmly 300:23	415:7 450:22	
4,20 450:23	19		110.7 700.22	
453:7 454:2,		firms 485:6		flow 420:7
1		13 100.0	flagging	427:23
16 462:13	financing		452:20	429:21 439:3
487:25 488:7	519:14,20	first 272:18,		
494:16		24 278:15	Flat AEG:44	fly-up 396:20
530:23 534:7	find 280:16	282:12	Flat 456:14	ily-up 380.20
553:5 561:4		284:12		
	426:16	289:17 314:7,	Flats 445:5	focus 278:5,6
finalize 402:7	439:17,22	8,11 326:4,	446:13,16	284:10
415:8 455:1,	501:7,22	10,11 333:21,	447:5,21	292:10
18 458:24	503:16 550:3	23 340:20,21	448:5,15,16	301:16
10 400.24]	, ,	
		ı		I

Index: focused..forward

316:21 332:13	372:18 431:1 445:15	490:3,4,7,8, 13,15 494:15	foremost 514:25	308:3
339:22 445:24 450:21	487:16 following	499:22 548:12,13	forest 489:5, 11,18,21,24,	forms 299:15, 21
476:18 485:4 focused	351:9,20 357:13 362:10 377:1	forced 361:3	25	formula 371:24
325:5 379:22 540:15 542:8	386:20 393:5 429:18	forecast 273:9,14,15, 18 274:12,16,	Forgive 500:12	429:20 formulated
focusing 291:19	439:23 447:16 448:14 449:12 451:5	19 331:9,16 386:15 393:15,17	form 273:1 476:22 478:8 492:24 505:8,	405:18
folks 353:16 460:19	454:9 465:21 549:15 560:23	394:1,4 395:18 553:18,25	25 506:5	forum 375:22 forums 274:4,
follow 291:20	follows	554:3	form-up 505:20	14 353:13
315:20 343:20 431:1 485:21	264:17 282:13 356:13 431:21 442:9	forecasted 391:10 394:5 523:23	forma 330:13 448:23 457:1 472:5 486:12, 22 488:6,13	forward 268:10 271:20,25 272:6,11,13,
follow-on 477:18	512:13 538:23 551:11	forecasters 274:24 275:13	504:25 505:9 511:14	25 273:13 274:17 282:21 286:6 289:25
follow-up 311:3 329:3 333:7,9,24 339:9 342:18	footing 315:5, 8 329:12	forecasting 553:22	formal 492:19 505:13	291:12 292:18 294:19 325:11,23
343:11 508:24 511:13	footnote 369:21,23 563:25	forecasts 274:21 275:14,19	formas 505:21	328:8 369:16 376:13 382:19 384:5
549:12 550:11	force 469:17, 23 470:1	276:7,12 332:2,15 393:10	formats 312:9 313:11 477:6	406:25 417:16 431:7 467:21 468:2 481:14
follow-ups 395:12,13	472:2,4,7,8 486:15 488:20 489:8, 14,18,19,22	Foregoing 360:10	formed 524:14	495:22 531:22 548:15
followed	14, 10, 19,22		forming	

_	_	_	_	_
561:16 566:6	455:8,10 459:2 460:13	fuel 514:8 515:3 521:24	273:9,15,20	G
FOT 565:12 FOTS 564:2,	475:5 frames 460:7	fulfilled 351:25	funding 438:16	G-r-e-g-o-r-y 539:4
7,23 found 268:22 279:1,12 284:18 285:4, 16,19 327:14 429:1 448:8	frankly 540:24 free 283:3 466:16,18	full 267:14,15 276:16 308:10 334:18 361:5 365:1 423:18 453:14	funds 552:23 fungible 509:20 510:3 further	gained 341:19 garner 288:5
511:23 558:13 foundation	frequency 422:17,25 423:4	494:15 513:25 515:6 519:4 520:9 523:10 534:3, 11 539:3	266:25 282:2 328:17 332:25 335:5 338:12 339:6 342:10,17,20	gas 272:22 273:16,17,20 275:13 279:14 424:25
484:24 foundational	fresh 550:21	549:7	343:7 353:18 376:8 380:16 408:3 416:1	508:16 553:22,23 554:1,3
557:24	Friday 459:7, 8 460:11	fully 306:4 422:24	419:8 426:21 437:8 441:20 468:6 499:24	557:11 gates 550:7
four 274:9 305:13,23 325:7 338:25	front 272:19 292:22 294:18 320:8	functioning 436:17	533:2 534:24 536:8 537:25 553:3 555:6,	gateway
398:24 434:11 441:7, 13 547:23	321:12 325:3, 20 352:1 366:23	fund 438:14	20 556:8 558:25	331:2,3 357:7,14 358:24 365:1,
558:21 fourth 293:2	391:11,21 417:23 456:19	fundamental 274:10,24	future 273:25 276:1 289:23, 25 290:16	10 390:4,15 391:9 427:8 448:2
322:9 447:13 542:6	524:17 564:19 565:5, 7,17,18,22	fundamental- driven 273:9	325:21 359:19 362:5 417:13,24	gather 312:4
frame 275:23 385:23 391:8 427:24	566:3	fundamentall y 271:12 272:14	427:3 463:13 477:4,9 519:22 522:5 556:16	gathering 407:13
446:20 453:13,16	467:17 559:10	fundamentals	350.10	gave 343:12 348:8,18

				gearsgrane
	1		1	1
375:21	generate	427:17 428:4	481:23	good 264:3,
377:20	265:17	482:8 483:5	492:12 519:4	20,21 277:6,7
400:21	417:24 424:6	507:6 560:12	548:8	289:13
428:14	433:15			293:22,23
565:13		ganaratar	given 265:10	294:1 302:8,
	ara manata d	generator	given 265:19	12 305:9
000.04	generated	364:21	272:15	323:17
gears 303:21	365:21	370:16 371:2,	279:17	328:24,25
322:2 340:12	407:23	12,14 424:5	285:22	351:18,19
403:10		451:24	297:14,20	358:11
481:22	generating		303:15 304:8	366:21,22
490:20	386:14 436:8,	generators	335:17	397:8 408:9
	25 564:10	374:3 379:6	359:24 428:9	412:21 425:9
general 274:2	20 004.10	401:2	483:13 522:4,	433:1 441:25
284:25		401.4	16 523:2	
	generation		543:12 553:7,	444:21 448:9
290:15 299:6	264:23 265:1,	generic	11 557:10	455:3 460:25
316:16	3,10,21	427:21	560:6	461:6,17
322:10	266:16,18,24			463:3,4
354:17	287:16,24			464:12,13
439:24 470:4	303:10	getting	gives 511:24	479:13
514:1,15,24	314:21 332:3,	310:15,22		485:19,20
515:1,19,23	6 352:4	333:17	giving 462:5	489:16,21
516:1,7,20	358:15	377:22 400:9	giving 402.0	500:10,11
521:17,22,25	359:12	408:22		504:2 513:19
522:7,17,19	360:14	412:21	glide 440:4	518:15 551:5,
529:6		415:18 436:8		14 555:1
	361:14	452:3 499:4		562:21
	364:20,23	520:17	goals 289:24	563:10,11
General's	365:12	550:20]
302:10	370:24	563:21	goes 297:11	
	371:13,20	*****	309:8 395:1	gotten 336:24
generally	372:12,21		406:23	499:14
284:18	373:3 376:25	GIP 377:1,2	440:14 441:2	
303:12 314:6	378:10		449:7 462:9	government
331:16	380:11 386:4,	gist 336:11	492:9 523:10	497:12
	13 387:13,24	gist 550.11	566:22	431.12
333:10 336:2,	398:10,13,14,		J00.22	
12 352:25	16 399:2	give 267:16		governmental
355:25 431:3	401:1,5,9	281:4 282:22	gone 281:22	492:10
440:23 499:9	404:24	313:16 333:6	321:17	493:13 497:5
503:12	406:12,13	334:17 357:8	414:15 487:4	548:6
521:21	421:12	412:7 424:23	496:7	
540:25	422:14 424:9	459:24		
	722.17 727.3	100.2 1		grant 406:17
			I	I

awa mta d	254.22	275.2 200.22	530:10	hammy 270,05
granted	354:23	275:3 290:23	530:10	happy 378:25
342:16	403:12,25	300:25 313:1,		462:8 492:11
357:24	405:8 406:6	22 317:4	handed 319:5	
381:11	465:7	318:19	335:9 373:15,	harbor 434:2,
432:21		341:13	16 405:7	4,8,12 437:4
444:16		343:25 344:5	16 405.7	
513:14	groups	347:12,25		441:7,11,13
539:23 562:5,	289:21	352:6 368:7	handles	456:2,9,10,16
15	554:21,22	375:1,23	519:20	547:25 548:1,
		382:20	010.20	2,3
	grow 280:14	394:23		
great 462:10	grow 200.14		handling	hand 070.00
		407:25 421:2	332:8 380:20	hard 270:22
	growth	426:24 427:4		321:23
greater	391:11,20	430:23		331:17
363:21	394:5	439:22	handout	378:16 529:7
364:14 366:3	394.3	460:25	530:15	536:4,20,23
483:6		461:17 480:7		
	guarantee	481:4 489:21		
	331:7 332:14	498:6 509:15	hands 460:12	harken 441:3
greatly	418:11	510:8 536:24		
537:18	457:14	310.6 330.24	hang 452:8	harm 280:18
			11a11y 432.0	Haili 200.10
	469:20	guidance		
greenhouse	471:24	435:2 441:9,	happen	harming
508:16		12,14 526:15	328:13	555:14
	guaranteed	546:16,22	333:15 429:7	000.11
Grogory	418:13	·	477:2 534:19	
Gregory		550:1	411.2 334.13	harness
538:16,21	436:22			387:21,24
539:3	457:13	guideline	happened	,
		558:1	309:12	
grid 377:4,6,	guaranteeing	330.1	310:21	haste 559:22
•	, ,		330:25	
9,13 436:9	266:11,13,14	н		hat 450.0
437:1	331:7		378:21	hat 452:8
gross 266:10	guarantees		happening	Hathaway
g. 555 255.16	331:17 457:5	half 452:2	420:12 439:6	274:6 486:5
	469:14	521:16	540:24	£1 →.U →UU.U
ground			J4U.Z4	
425:10	486:16	hand 040:0		having
	506:12	hand 319:3	happens	264:16
		413:16 442:2	280:11	281:15
group 283:10	guess 273:23	482:17	423:11	282:12 283:1
305:2 341:15	guess 210.20	497:23 529:9	720.11	202.12 200.1
	-	-	-	-

Index: Hayes..Hill

				1. Hayes
	1			
331:7 356:12	307:18	275:7,19	368:16	21 276:19,21
379:13 403:8	340:15	278:14	371:18 372:3	362:2 386:18
407:25	368:16,17,19	322:20 343:4	376:4 378:3	400:24,25
412:15,19		399:24 400:1,	379:17 383:8	406:3,13
419:5 423:2	heading	9,12,17	384:19 387:8,	446:22
431:20 442:8		402:19 405:4	16 390:2,11,	508:18
445:20	456:5	439:21	13 391:23	552:25 556:3
449:18		476:18	392:11,16	
455:14 483:4	hear 374:19	484:12,16	393:17 398:9	h!ah an 074.47
512:12	382:1 469:19,	515:23	399:18	higher 274:17
536:19	25	523:14	401:22 404:2,	276:20 278:2
538:22			8 405:9,13	279:11,23
551:10			407:18	285:16
	heard 269:12,	helped 486:4	414:20 426:5,	286:22 287:6
	21 343:15		21,25 427:2	301:8 480:12,
Hayes	350:20	helpful	433:3 438:6,	13 553:23,25
293:15,16	437:22	428:13	25 450:14	
334:5,6,9,10	447:10,17,25	563:12	465:12 473:2,	highest
335:3 354:14,	448:9 455:11		11 475:23	522:13 523:7
24 355:2,10	456:2 465:8		481:22	535:15
366:15,16	534:10	helps 402:15	483:18 486:6	000.10
435:17,18		441:18	490:20 492:1	
518:7,8	hearing 295:4	456:19	494:7,20	highlight
543:24 544:1	305:8 333:15	523:13	497:4,24	273:2 279:16
563:6,7,9	383:12 459:1,		498:12	
566:8,10	6,13 474:20	Hemmingway	501:19,20	highlighted
	560:9 567:5	390:8	502:12	373:21
Hayet 528:21	000.0 007.0	000.0	529:16 540:5	376:23
Tiayet 526.21			547:9 552:18	377:20
	hearings	here 269:13	556:7 557:19	389:10,13
Hayet's	549:4	275:12	556.7 557.19	309.10,13
468:17 528:2		277:13		
532:2,4,5	heavily 426:6	293:24 297:8	hey 547:8	highly 443:11
	1.041, 120.0	310:15		444:6,10,11,
head 373:7		316:10 317:7,	Hickey	12 487:10
379:3 421:6	heights 413:5	18,19 319:3	289:11,13,16,	504:11,16
474:19 548:9		320:16 322:1	18 293:9	508:21
777.13 340.3	held 291:2	325:6 326:6,	333:24 334:1	523:21,24
	341:4 446:7	10 329:6		549:23
headed	517:8	336:11 337:2	354:5,7,11 366:10.11	
465:11	317.0	348:2,15	366:10,11	Hill 446:18
		349:3 350:10,		531:24
header	help 266:4	21 354:6	high 275:16,	JJ 1.24
licauci				
		<u> </u>		

Index: hindsight..impact

hindsight 557:17	547:23	hugely 276:18	idea 317:7 318:7 325:15,	483:4
historic 395:15	hour 265:9 266:3 397:5 433:16	humble 556:17	19 388:19 406:15 412:21 425:1	IES 338:6 341:14
historical 265:5 266:20	hourly 266:18,22	hundred 415:4 428:23	ideally 292:21 456:9	ilk 498:14 506:12
393:7,8 historically	hours 265:23 266:2 369:24	436:1 440:5 441:1 456:8 514:7	ideas 460:22	illustrate 285:9
553:23	388:4 459:9, 15 460:8	hyperlink 492:16	ident 281:15	illustrates 557:13
history 554:14 555:7	however 316:23	hypothetical	identical 477:5	illustrating 557:18
hold 340:23 478:2	324:18 338:5 348:24 362:2 433:20 434:25	310:22 468:3 489:12,16 493:20 495:18	identification 552:11	imagine 308:23 479:8
Holman 293:12,13	478:11 514:19	531:16 537:2	identified 302:19 414:7	488:9 531:21
334:3,4 366:13,14 435:15,16 462:22,23 518:5,6	515:15 516:15 517:7 522:4 523:13 527:11 533:23	hypothetically 300:10 347:14 489:4	428:9,20 445:9,20 489:11 494:19 501:18	immediate 358:19 386:5 500:12 561:2
543:21,23 563:4,5	542:13 554:9 557:4	hypotheticals 309:11	517:19 559:7	immediately 344:5 446:14, 17
home 545:20	HR1 434:19	1	identifies 373:16	
honest 404:25	hub 389:22 390:25 399:20	i.e. 452:4	identify 280:9 330:9 343:4 368:2 377:7	impact 328:5 330:16 356:3 359:7 366:2 377:5 399:21 416:22
hope 415:23 552:24	hubs 272:21 565:15	Idaho 361:15 389:22 449:23	378:20 465:12 501:15	426:12,13 489:13 520:7, 12 525:8,17
horizon 278:8			IE'S 283:21	

				_
impacted	important	385:12	312:20 314:2	inclusion
267:10 426:6		425:21		516:12
	280:2 291:6,8	425.21	321:8 324:20	510.12
434:21	449:2 451:18		330:13 338:7,	
563:22	455:16	improved	8 339:22	inclusive
	483:25	343:17	345:12 346:7	564:13
impactful	485:11	0.0	352:25	00 11 10
276:18	495:24		357:17	
270.10	541:17	improving	362:13	income
	558:24 559:6	344:6	365:13	433:10,12
impaction			416:11 417:1	435:1
288:17		:	429:19 447:5	
	importantly	in-service	448:13,14,24	
	362:19	547:23	450:1 454:24	inconsistent
impacts	515:25		457:1 472:5	526:17 527:8
288:18		incentive	486:11 487:2	
365:20 435:7	imposed	516:9	492:17,20	incorporate
437:24	306:21 307:3	010.0	497:9 498:17	292:20
535:14	308:24		501:5,6 513:7	457:13
	309:23	incident	· ·	475:11
impodonos		418:4	519:13 550:5	_
impedence	311:18		551:25	492:22
419:2	330:19,20	in alima d		
	527:14,19	inclined	includes	incorporated
impermissible	559:4	268:9 355:9	264:22 298:5	283:10 435:7
524:15		499:21	317:2 334:12	450:4 452:25
	imposes		406:11	453:10 455:7,
	530:6	include	519:14	17 492:24
implementati	000.0	275:17 290:3	313.14	500:23
on 284:13		308:1 314:13		521:25
364:9 455:22	imposition	339:17	including	321.23
470:19	309:17	378:15 414:1	269:20	
			283:24 285:2	incorrect
		438:6 454:23	287:15,19	370:4,5
implemented	impossible	467:18 497:5	288:16 289:5	517:12
274:23 276:2,	343:24	514:4,7 516:1	290:5 299:16	
3		527:24	308:16	
	impression		361:20	increase
implementing	351:3 352:7	included	403:18,19	301:12
359:21	301.0 302.7	269:22	416:23	361:11 363:7,
364:10		285:15	437:21	12 518:17
JU T . 10	improve	287:13 289:6		525:24
	291:12 292:1	292:7 295:24	445:16	535:12,16
implications	343:22		517:16	
400	004.00	308:9,11,22	540:17 564:8	
420:22	361:23			increased

r			IIIdex III	
	1			1
364:4	indicate	individual	377:10 378:4	557:18
	326:4,17	372:9 449:17		
_	327:10	484:2,25	l., .	
increases	342:15	490:8 501:5,8	information	initial 270:5,
393:19	353:25	504:3,4,19	265:4,12	13 285:17
	357:23	523:12	269:24	286:11 289:8
increasing	381:22 384:6	J2J.12	270:10	292:23
365:9 393:14			273:20	306:19,20,22,
	385:2 387:4	individually	274:15 275:1	25 307:1,2,4
395:16	400:16	311:16	277:19 281:1,	308:9 309:18
	419:11		11 284:21,22 [°]	310:8,9 313:3
incremental	432:20 477:7,		285:5 296:24	315:12,14
271:16 276:8	8 481:1	industrial	297:2,3	318:22
279:10 318:4	513:13	305:2 329:2	299:17	323:14 327:6,
425:20 514:8	536:11	533:18	302:25	,
515:3	539:22 562:4,			17 328:3,4
010.3	14 566:18	!	317:20	338:2,24
		industry	320:17	342:23 346:3
incurred		273:22 342:1	341:19	363:5 364:1
515:4	indicated	377:1 413:6	343:18,23	409:18
	266:19	424:16	344:1 347:6	413:12
	268:20	482:24	352:16	446:23,24
incurring	322:15	540:12,25	353:10	484:5 560:18
306:8 433:24	326:23 327:3	547:7 556:9	392:25 395:3	
	337:17 387:7		438:19	initially.
:	396:12	: 10 4·0	457:24	initially
indemnity	406:16	inertia 424:6,	474:25 504:8,	270:12
486:16	411:19	8,11	9,24 506:8	321:18 324:1
	111.10		555:22 557:8	327:7 345:21
independent		inflation	000.22 007.0	352:6 390:5
268:11 273:4,	indicates	433:15		444:24
7 283:14	361:2 383:18	700.10	informed	
292:2,21	390:16		270:13 553:8	initiated
· '	398:23	inflicted		initiated
457:23		559:24		323:2 335:1
481:24 485:5	l		infrastructure	
541:6 556:19,	indication	l. <i>"</i>	452:4	initiation
24 558:23	269:3 281:5	influence		283:17
	327:19 344:3	268:18	inherent	200.17
independentl	354:1 498:16		268:13	
y 279:18		influential	510:22	initiatives
281:23	indicative	346:25	310.22	358:16
201.23	indicative	340.23		
	270:13 410:3		inherently	:
Indian 548:10		inform 273:18	324:19	input 299:15
	1			

			<u> </u>	
			I	I
426:25	383:4 385:3	intends	interconnecti	19 324:24
427:10		364:13	ng 350:5	360:6 437:20
428:14		380:11	379:15	457:17 459:8,
	insubstantial	434:11 435:4		18 465:6,11
	361:8			480:15
inputs 428:8			interconnecti	552:21
554:10	insulation	intent 471:13	on 285:24	554:21
	489:25		291:7 307:25	334.21
inquire 466:8	409.20	intention	323:2 327:11,	
iliquire 400.0			12 337:17,19,	interested
	integral	466:22	25 339:24	277:16
inquiry	495:21		341:9 345:2	465:13
511:14		intentionally	346:8 350:3	100110
		451:3 481:17	353:4 358:15	
	integrated	486:23	360:19 363:1,	interim
inservice	285:1 295:23	400.23	· · · · · · · · · · · · · · · · · · ·	513:23
365:7 382:10	297:3 317:1		13 364:20,21,	
391:3 521:9	318:8 368:5	interaction	23 365:6,9,13	
	407:14 445:8,	426:7	370:24,25	interjurisdicti
	22 465:3,21	120.7	371:12,13,14,	onal 528:11
install 423:25	22 400.0,21		20 372:3,13,	
		interactions	20,21,23	intermittent
installation	integration	478:21	373:6,9	
	296:21		375:11,14,21	321:20 336:7
452:7	424:17		376:25 377:2,	343:4
		interchangea	10,14 378:4,	
installed		ble 398:8	8,11,22	intermittent-
402:21	integrity		379:2,13	type 336:14
424:10	292:25 293:1	interconnect	381:23	type 550.14
424.10		306:7 308:14		
	intend 200:0		445:11,17	internal 402:4
instance	intend 333:9	309:1,21,25	446:7 447:16,	433:14 435:2
372:10	436:20	311:23	24 448:3	
378:20	467:22 481:6	338:11	465:1,15	
489:17 556:3	483:1	361:18	466:9 467:9,	interpret
.55.17 555.5		362:22	19 542:23	496:25
	intended	365:14 371:1		
instances	275:25		:	interpretation
372:12		intorconrects	interest	•
474:24	277:18	interconnecte	288:12,22	267:16 268:5
478:12	283:23 362:8	d 305:24	294:5,6,10	298:8
	494:12 553:8	345:22	295:21	
		372:15 373:4	297:13,24	interrupting
instant 557:3	intending	404:1,8 422:9	298:21	354:15
	503:6		319:21 322:3,	JJ4.1J
instead 382:4	303.0		,	
111316au 302.4				

				1
interruption	378:14	introduced	involving	337:25
376:15	380:23	271:9 565:2	535:23 536:3	349:17
070.10	381:10 383:4	27 1.0 000.2	000.20 000.0	352:15
	384:15			355:22 383:7
intertwined	388:23 390:5,	investigation	IRP 271:23	389:12
383:20	10 406:7	494:21	285:2,15	400:12
	413:14 414:4		334:13,15,23	458:23
intervening	419:1 423:22	investment	382:21,22	459:10
430:24	424:18 426:4	439:24 440:9.	389:3 390:9	480:11 486:6
430.24	427:14	13 518:21,22	391:8 398:23	490:18 497:8
		520:7 535:8	445:8,15	
intervenors	429:15,19		510:9,15,25	507:14
431:2 454:10	432:18 435:7	564:2	554:7 558:1	524:16 566:4
	439:5 441:4		560:1,23	
intervention	444:1 445:23	investments	561:7 [°] 564:1	issued 320:6
	446:9,12	522:22	565:2,10	350:14
329:2	447:11 450:4	523:12	,	407:24 408:1
	451:1 452:18		IDDC 074.4	438:17
Interwest	453:10,22	::::::::::::::::::::::::::::::::::::::	IRPS 274:4	530:22
289:18	455:5,8	invite 277:19,	391:1 428:20	
430:12,25	456:4,5	20		
462:8 538:14,	457:14		irrespective	issues 288:8
16 539:11,14,	464:18 465:4,	invoke	564:20	291:7 315:4
18 550:14	11 466:23	455:14		320:4,23
	471:18		IDO 444.44	330:9 336:23
intimate	475:11	involve 374:2	IRS 441:14	337:17,19
317:15	479:12,22	555:24	542:4,19	341:9 375:14
317.15	484:2,6,17	333.24	543:1,7	400:3 402:23
	485:7 487:21		545:6,9,11,18	425:12
into 265:5,9	492:17,22	involved	546:17 547:7,	428:16
270:15,22	493:2 500:24	292:12,22	12 549:16,18,	455:20 457:7
271:4 276:16	503:4,5 504:4	310:5,6,8	20 550:3,7	540:17
280:25	511:1 513:11	351:6 376:1		563:13
288:12	515:22	531:10	IRS'S 456:12	
289:25	521:25	534:16 536:6		issuing 295:6
300:11	523:10			
309:10	529:13 532:8	involvement	issuance	ITO0 440 0
310:22	534:2 541:5,	involvement	319:22 349:9	ITCS 440:8
323:18 324:2	16 543:4	283:16 351:3	365:4	441:8
325:21 341:9	561:22			
353:3 362:22	562:12	involves	issue 287:8	item 451:17
363:9 371:23	563:21	374:2,3,4	291:19	501:2,8
372:6 373:10			294:19 320:3	541:22
'			•	

Index: items..known

	_	_	_	_
items 313:22 314:13 400:20	Jetter 302:5, 7,9 304:17 339:5,7 342:5	Joni 551:4,9, 17	Katherine 293:24	437:7 460:7 476:16 477:5 486:13
478:18 503:17 504:4, 17	343:12 366:17,18,20 367:21,25	July 451:7	keep 315:20 352:13 421:25	490:13 490:22 505:19 507:4 508:19
J	368:2 374:5, 23 375:22 376:9,15,18, 22 380:3,6,	June 388:10 451:4 453:13 473:24 475:19	421.23 423:17 464:14	knew 337:12 341:22
J-e-n-n-e-r 539:4	16,18,24 381:2,6,13 429:3 430:20	473.19 477:13,16,18 524:2	key 270:17 298:25 326:7 402:17	350:20 knowable
J-o-e-I-I-e 512:18	431:11 435:19,20 464:9,11	jurisdiction 379:17 420:8	412:18 413:13 417:15 418:1	320:6 knowing
January 273:12	468:6 518:9, 11,14 520:19, 21 544:5,6 550:17,23	jurisdictional 371:19 372:4, 20,21,22	446:5,7 451:19 452:5 453:4,17 515:18	348:16 461:19
408:25 409:25 412:2, 13 433:22 434:6 440:11	551:3,13 561:21 562:6, 7,16	373:9 379:22 530:5 532:8, 12 537:7,9, 14,15	kicking 407:18	knowledge 292:12 304:6 348:18,22 350:9 365:3,5
447:2,14 470:7 472:12, 21 474:23	Jim 399:14, 17,20 427:21 487:19	justification 306:5 336:9	kilowatt 433:16	376:11 411:14 420:14 494:22
jargon 377:2	553:24 557:2 Joelle 512:5,	389:4 justified	kind 270:12 274:15,25	494.22 499:20 556:17
Jenner 430:11,19 462:8 538:16,	11,18 Johnson	537:22 Justin 302:9	275:25 278:20,22 281:13 325:1, 3,20 327:16	knowledgeabl e 342:3
17,21 539:1, 3,10,20,25 543:19,22 546:6,13	398:19,24 420:25 422:14	K	374:19 384:11,16 386:7 391:4,	known 319:22 320:6 329:2 337:20
547:19 jeopardize 328:8 523:18	423:13 join 550:7	K-o-b-l-i-h-a 432:1	8,15,18 393:12 396:14,19 410:5 421:10 423:9 429:17	340:19 343:18,23 346:24 347:4, 7 348:18

		_		_
358:23 413:5	lack 313:23	last 296:23	472:3 491:25	418:10
435:7 483:16	328:7 500:12	315:14	493:21 510:1,	420:24
485:23	507:24	316:23	2 516:18,23	422:13 424:7
537:23		319:15	517:2 529:5	425:12 438:7
	lag 477:17	337:16,23		492:14 503:9
knows 384:1	478:12	341:16	laws 511:3	506:7 547:9
461:2	470.12	355:20		561:2,13
401.2		389:16	526:18 527:9	
	laid 542:19	391:22 407:5		l. , ,
Kobliha		409:24	lawyers 549:8	least-cost
431:14,15,19,		418:15		289:6 321:9
24 432:1,22	landowners	425:19		337:5 554:7
435:9 456:3	454:10,21	436:14 438:5	layouts	557:10
			484:20	560:25
519:13,19	lam da 000.7	455:6 530:16		
	lands 280:7	552:7 554:1		1
Kobliha's	454:24,25		LC67 369:25	least-risk
432:17		Lastly 517:10		289:6 321:9
402.17	language	Lastly 317.10	lead 316:20	554:7 556:8
	378:2,9,17		324:21 362:1	560:25
KV 358:22		late 435:6	324.21 302.1	
401:6,7,17	492:6	461:12		
402:14 403:1,		466:12 540:6	lead-up	leave 289:22
2,4,5,8,9	large 371:14	553:7 558:19	334:23	332:24 393:2
410:9 418:24,	400:5 419:6	333.7 330.13	001.20	431:4 559:15
25 419:5	422:21 423:3,			
	20,24 451:24	later 323:1	leading	leaves 488:3
421:25	·	343:14	453:21	leaves 488:3
426:11 428:3	518:20,22	354:12 390:9		
455:2	519:2 520:6	434:13		leaving
	552:25	10 1.10	leads 455:9	449:24
L				477:23
<u> </u>	largely	latest 506:5	learn 347:2	711.20
	478:10,19		ICAIII UTI.Z	
	•	l athons		led 554:15
L-shaped	479:12 485:1	Latham	least 271:1	558:5
410:5	487:11 553:6	401:18,23	292:23 317:6	
	556:21	402:8	320:16	
1			321:15	left 322:12
labeled	larger 424:17	latter 286:14	325:15 326:3	425:12
512:23	447:22	iallei 200.14	338:24 339:2,	558:22
	441.22		17 345:21	
labor 470:15		law 429:23		laft hand
	largest 423:2	433:12	351:2 353:7,	left-hand
471:2,8		469:17,24	11 390:16	316:18
	1			

Index: leftover..like

			l	l
leftover	465:16	384:4 397:3,	550:10,14,17,	like 267:14
419:25	482:17	8,13,15	25 551:5,8	274:14
	483:18	408:5,6 416:2	562:3,13,20,	276:21
lend 438:13	491:10	419:10	25 563:2,4,6	277:23 278:4
10110 450.15	501:12	420:16 425:5	566:10,13,24	295:1,12
	536:13 565:6	430:6,10		301:25
lending		431:8,12,15,	level 276:10	303:20 309:3
438:21	letter 546:18	18 432:19	284:20	311:2 312:13
	letter 540.16	433:2 435:12,	299:17	314:3 317:8
length 314:24		15,17,19,21		318:6,16
315:9 449:4,8	Levar 264:3	437:9,12,14	313:18 332:6	325:6 342:11
· ·	267:1,19,25	439:10,14	426:11,21	343:20 345:1
456:23	268:7 269:1	441:19,25	450:9 452:18	351:1,3
490:22 491:2,	277:1 282:1,	442:3,6	467:5 503:21	364:13
3	5,14 283:8	443:18,23	504:16	367:22
	289:10,14	444:14,21	510:20 511:3	368:13,21
less 272:12	293:11,15,17	458:17,21		373:13
329:7 347:21	297:9,19	460:6,8,16,24	levelized	381:18
421:11 452:3,	298:11 302:4	462:12,18,22,	307:22,24	386:16
4 522:9,20	304:17,21,23	24 464:8	,	394:25 395:4,
557:25	309:13	468:8 476:11,		6 402:21
566:17	310:25	13 485:14	levels 265:13	409:22 410:4
	328:19 333:3,	491:10,13	266:24	412:21 413:8
0704	13 334:2,5	499:5,18	275:17	415:10
lesser 278:1	335:4 339:4	500:1,4,7	276:11	420:22 421:4
	342:7,9,14	502:7,11,14,	287:16 332:7,	423:10
let 269:13	343:8,10	20,25 506:18	11 400:24	430:21 440:5,
282:14	344:20	508:22	510:21 516:2	6 441:10
294:22 300:9	351:14	511:10,24		444:5 450:7
352:12	353:19 354:4,	512:3,7,10	liability	457:8 461:7,
353:21	8,13,21,25	513:12 518:1,	437:21	9,10,11,12,17
355:16	355:3,11,18,	4,7,9 520:21		464:1 466:16
370:15	24 356:7,10	533:3,5,7	l'acua.	471:16 480:2
371:18	357:10,22	535:1 536:10,	license	486:15 490:6
375:19	358:3,11	13 538:2,6,8,	493:10	501:13,17
376:10	366:9,12,15,	13,17,20		507:7,14,22
384:19 389:8	17 367:24	539:21	life 398:20	518:11
395:25 415:3	374:16	543:18,21,24	399:7 483:7	524:12
416:16	375:19 376:7,	544:2,5,7		530:16
426:25	14,21 380:2,	546:3,7,10	limbs 004:0	538:15
461:23	18,22 381:1,	547:16	light 394:6	546:18
462:12	4,9,14 383:13	549:11,14	511:25	548:12 551:4,
	.,.,			1

Index: likely..little

				TRCTYTECTE
16 552:5 561:22 562:11,18 565:2 likely 288:13 319:17 328:9 385:5 396:6 520:18 554:6 557:10 559:20 limit 426:8 494:12	337:9,14 338:15 339:24 345:16,20,23 346:5,14,19, 21 350:6 357:6 358:23 359:1,6,9,10, 18,20,23 360:3,7,12, 15,21 361:4, 10,11 362:12, 22 363:25 364:1 365:8, 15,23 366:1,3	423:13 425:23 426:2 429:1,14 450:11 455:3, 14 456:11 472:15 486:14 494:4 501:2,8 504:4,17 514:10 529:15 530:16 552:7, 12 558:20 561:7,9,13,19	383:10 384:3 428:21 445:7 447:18 502:18 505:25 506:4 508:17 Link's 383:2, 6 416:25 503:20 511:16 liquidated 506:9,12	447:3,4,20 461:18 475:22 494:12 530:23 534:8 547:1 548:6, 8,11 557:20 558:22 listed 287:14 298:1 322:1 389:3 477:16 495:9
528:22 529:1 limited 296:9 367:25 382:8	367:2,3 368:24 369:2, 7,9 370:18,19 374:7 380:13 381:22 382:4	lines 332:17 357:13 362:2 384:22 389:10 392:7,	517:6 Lisa 289:18	listener 305:9 lists 504:11
389:8 414:18 453:1,2,17 465:25 466:19 553:4	384:14,18 385:23 386:5 387:4 388:11, 18,19,22 389:4,12,24	8 393:5 397:23 403:1, 5 408:10,20 409:7,13 411:1 413:2 416:13	list 285:17 299:21 305:11,13 306:19,21,23, 25 307:1,2,3,	literally 504:11 litigated 545:19
limiting 348:20 426:14 limits 332:10 420:12 556:17	392:5,9,11 397:25 398:2 399:16 400:8 401:3,7 402:15 403:2, 5,8,9,13,16, 20 404:3 409:9 410:16	421:25 468:13 469:7, 11 470:8,11, 24 473:6,18 475:14,21 478:8 487:5 488:10 524:2	4,6,14 308:4, 10 309:5,6, 19,20 310:1, 8,9,10 312:5, 21 313:3,4,6 315:12 320:19,22 328:3,4	little 274:19 276:1,20 279:13 280:25 282:7, 16 302:14 303:21
line 268:16 305:25 306:9, 12 308:2,13, 25 309:3 310:3 313:22 319:16 324:15 326:6 328:1 335:14	411:5,10 412:7,9,19 414:19,23 416:10,23 417:2,24 418:17,22,24, 25 419:2,3,5 421:8,19,23 422:10	526:5,21,22 527:1,2,22,24 564:11 Link 264:9, 12,15,21 267:4 268:4 269:4 277:6 282:2 344:12	329:19 337:18 338:2, 8,9,19,20 339:10,16 340:6,8,11 346:3,9 438:18 443:8, 18,20 444:2 445:4 446:24	319:25 323:3 326:13,21 333:19 336:24 337:23,24 343:20 345:3 351:6 361:9 365:20 369:19

374:17	17,19,21,23,	436:25 462:4,	424:15 439:1	507:15
377:25 386:6,	25 394:1,3,4,	9 502:7	483:23 492:6	
18 388:2	5 395:5,19		494:2 503:18	lees 544:40
390:4 393:14	396:1,2 398:3	lana tama	510:14 548:5	lose 544:19
400:21	400:22	long-term		
401:20	417:22,23	288:16 359:2,	l	losing 540:20
402:12,25	420:1 421:8	23 360:1	looking	
403:21 406:4	428:5 457:19	362:14	308:20	
418:10	532:13	370:11 371:8,	317:12	loss 469:22
421:22	545:10	13,14 382:2	320:14 322:7	
423:20	565:11	404:19	323:25 324:6,	losses 483:12
425:16 441:8	303.11	407:15	8 325:20	554:3
		416:11	327:2 334:13	334.3
448:12	loads 361:15	417:14,25	336:6,15,19	
450:17	401:9 530:8	425:17 485:9	340:14,15	lost 287:11
456:23	532:11,13	556:11	347:22	395:5 469:9
460:11			348:13	545:13
461:10,12			379:24	
484:10 503:3	located	longer 274:9	382:24	1.4 07444
507:15 511:5	288:15	333:19	383:23	lot 274:11
536:22	389:17,22	335:24 366:2	384:21	291:22 301:8
541:23	412:20 422:5	443:15 479:3	388:10	308:18
550:18 551:1	446:14,17,21	566:20	391:24	326:22,24
553:3 556:12	508:10,12		394:23	327:5,11,21
558:22		Longson	437:18 456:7	328:13
	location	430:14,17		386:13 403:2
line 204.40		′	461:1,18	413:5 423:9
live 301:10	347:9	435:13,14	481:14 484:6	424:9 427:25
383:8		462:6,7,17,	491:15	428:4 437:22
	location-	19,21 518:2,3	503:22 506:8	454:5 459:8
LLC 373:19	specific	538:16,25	507:8 522:2	465:6,8
	457:21	539:18,24	563:14,18,24	541:11
		543:19		548:12
LLP 539:7		550:16	looks 297:25	
	lock 272:22	566:11,12	298:21	
LNTP 453:11	394:24		368:13	low 275:15,21
		looked	371:21	276:14,18
	Locking	296:17 298:7	409:22	279:13
load 352:5	556:11	302:20	409.22 415:10	286:21 298:2,
360:14 386:3,	330.11			22 301:14
11,15,18		329:21,23	548:11	386:11,17
387:18	long 272:18	339:19		400:22 401:4
391:11,20	362:1 428:4	344:11 349:3	loop 278:22	508:18
393:10,13,14,	433:22	416:25	506:19	552:24
,_,,,,,,,				
	1			1

Index: Low-cost..many

Low-cost	256:5 15	made 271:2	470:1 472:3,	532:15 552:5
	356:5,15			332.13 332.3
564:22	357:15,20	330:20	5,7,8 486:16	
	358:1,5,6	359:23	488:20 489:8,	makes 297:24
lower 279:7	366:7,9	395:14 407:5	14,18,19,22	463:5 544:23
285:14	373:23 375:1,	427:20 453:6	490:3,4,7,9,	566:14,17
287:20	7,10,13,17,	461:3 474:22	14,15 548:12,	300.14,17
	20,24 383:5	487:12,13	13	
303:25 304:4	416:2,4,7	495:1 523:20		making 298:6
403:2 419:2	419:8 431:14,	550:1 557:7		301:17 431:3
452:6 467:4	23 432:16,22	560:20 562:7	major 287:7,	455:3 509:19
482:7 544:20	439:11,13	000.20 002	21 353:5	513:20
554:20	441:23		410:10	514:14,20,22
564:21 565:5,	442:11 443:5	magnitude	450:23	515:25 516:8
17	444:11,17	420:12	452:24 453:7	517:20
	′	515:16 535:7	471:15	
	458:15 499:1		481:15	520:16
lower-cost	500:3 505:15		505:19	523:15 524:5,
564:23	511:13 512:1,	main 410:13		16 525:5,23
	3,5,15	426:2 438:15		534:8 557:14,
lowering	513:10,15	485:4 490:3	majority	16
286:15	517:23 535:2,		347:12 388:4	
200.10	3,5 536:8	maintain		manage
	538:10,11	385:18	make 273:6	288:6 455:25
lowest 288:14	544:3,4	450:21	274:25	516:10
289:3 295:22	566:14			316.10
316:21,25		455:24	282:15 297:2,	
319:19	1	479:16 542:3	17 317:19,20	managed
517:14	Lowney's		321:23	485:1
558:16,17	419:11	maintained	331:20	
	536:10,14	450:6 458:1	333:19 355:6	
		524:14	370:12 395:9	management
lowest-cost	lunch 355:21	024.14	396:17	273:3
296:11	397:7 430:22		404:20	
297:15 303:9	J31.1 43U.ZZ	maintaining	425:10	manager
337:3 338:17,		450:20	430:18	manager 524:16
21 339:11	luxury 459:3	452:21 458:5	434:25	J24.10
343:5 553:25	460:10		453:19	
557:21 559:2		maintanana	463:14 495:8,	managing
		maintenance	16 497:20	454:20 458:5
	М	426:18	501:25 503:2,	
lowest-risk		526:17 527:8	5 506:2 511:6	
557:21			519:17	manner 286:3
	machines	majeure	524:24	
Lowney	451:25 452:2	469:17,23	530:12	many 272:14
=====		.55,25	000.12	
	I			

Index: map..mean

303:16,18	449:7 451:11,	488:8 490:18	313:16 325:9	20 506:6
314:16 324:2,	20 452:6,10	496:6 497:18	330:3 336:16	508:12,19
5 333:14	479:9 480:2,	500:13,20	340:7 345:4	509:16,20
426:2 461:2	20	516:21	353:10	563:25
499:2 541:7	_~	564:13	354:20	000.20
549:25		304.13	355:20,23	
565:15	marketable		367:21 376:2	Mcdowell
303.13	507:11	materialize		267:2,3,6,25
		362:18	381:22 389:4	268:2,25
map 371:3		554:25	391:23	293:18,19,21,
379:24	markets		395:19	24 297:11,23
380:10	274:24		405:23	298:16 302:3,
000.10	438:15	materially	406:10 425:9	5 309:7
		488:8,11,15	431:4 443:19	310:14 316:8
March 272:18	mass 400:11	505:2	459:8 468:13,	335:4,6
	422:21		14 469:6,10	· '
			470:6,10	339:3,5 375:4
margin 564:4,	424:19	materials	472:12 473:4,	482:17 512:3
13		470:16 471:3	17,23,25	538:10 544:2
	Massachusett	511:17	474:4,16	566:14,19
marginal	s 283:12		475:14,21	
281:20	0 200.12	matter 265:21	477:17	Mcfadden
201.20		318:10,11	481:23	443:15
	masses 400:5	388:2 395:21	524:19 526:2	446:20,22
mark 319:7	423:3	433:4	524.19 526.2 527:21 530:2	447:6,18,23
493:3		433.4		447.0,10,23
	meteb 514.0		537:5 543:1	
, as a miss of	match 514:3,	matters	544:22	mean 273:23
marked	18 515:8	264:10	547:10	275:5 292:9
319:10	522:2 525:5,		559:14	297:11 317:9
381:12 444:6,	12 557:14		560:12	318:7 320:2
9,11 562:11		maximize		325:12
	matches	350:25	maybe 321:2	334:25
market	374:13		325:8 347:3	337:12
272:20,21,25	514:25	maximum	348:3 354:8	339:21
273:1,7,13,	011.20	394:16 460:9	372:11	341:13,24
14,19 274:8		529:20	374:23 376:1	343:25
292:11	matching	JZ3.ZU		
_	517:21		401:19	347:23
295:10		may 264:1	425:16	348:24 352:2,
303:15 317:7,		301:12	426:20 437:5	5 385:22
11 363:22	material	303:25	439:3 458:24	405:12
438:10,19	277:20 453:8	304:11	459:4,11	412:25
439:1 445:16	455:19 458:5	307:10,12	477:6 480:12	417:12
447:9 448:10	471:8,23	337.10,12	492:25 502:4,	429:23 430:1

Index: meaning..micrositing

				J MICTOSICING
	1			
436:14	515:15,16	megabars	330:22	340:22
441:10,15	525:1	402:5	388:11 460:7	
456:15			464:18	Magginaaalda
461:16 500:2,		44	480:18	Merrimack's
17 509:12,13	mechanisms	megawatt	489:12	284:7
520:14	361:4 514:14	265:23 266:3		
525:18		312:13,19,24,		met 324:25
537:20	medium	25 313:7,8,	mentioned	434:2 542:5,
337.20	275:20	23,24 421:2	277:12 299:9,	21
	276:15	446:14,17,21	24 317:8,21	21
meaning	270.15	447:10,12,22	329:18 338:5,	
299:11		448:25 450:2	23 344:12	method
351:24	meet 266:17	451:25 452:2,	352:13,21	528:18 531:1
451:24	319:21 332:5,	3	386:2 387:11	
	7 334:19		417:21	
	336:7,19		435:25	methodology
meaningful	349:21 356:1	megawatts	436:12	284:24,25
556:12	361:24 362:4,	266:2 279:21,	454:21	285:6 299:13,
	15 364:16	22 305:14	460:17	14 307:14,15
maans	367:8,13	324:5 361:13,	464:15 466:3	339:1 532:9
means	<i>'</i>	19 363:8,14		
267:17 360:5	390:17 414:8	369:6 386:22	467:14	
361:4 364:15	434:11	387:2,5,17,	473:13	methods
434:12 492:8	449:19 478:1	18,20 402:16	475:10	435:3 556:20
493:7 564:9	488:23	428:23	478:13	558:7
	517:14	506:14 564:3,	479:18,25	
meant 398:5	542:11 558:1	9	480:19	mic 305:5
436:19		3	481:12,16,20	375:3
526:25	meeting		483:18 485:7	070.0
320.23	332:10 370:1,	member	486:23	
	4 386:10	407:14	488:18	Michel
measures	516:25	427:11	489:24	460:15,16,17
413:22 414:1	310.23	428:20	498:11	462:24,25
481:8,10			510:13	463:2 464:6
486:7 488:4	meetings		516:18	506:20
	407:22	members	530:21 532:5	
		403:24 410:5	545:6	
mechanical		413:4		microphone
457:14	meets 289:3			383:14
	321:25	memory	merits 560:16	
mechanism	367:10,17	482:15		micrositing
332:14		102.10	Merrimack	484:2,6,17
484:19	megabar		283:10,13,16	485:8,10
513:23,24	402:2	mention	286:7 287:13	100.0, 10
010.20,24	702.2		200.1 201.13	
				ľ

Index: mid..moment

mid 351:5	mind 315:20	375:10	485:3	modeled
	351:22 352:2	377:15		383:25
	378:12,25	077.10		000.20
middle 264:8	384:15		mitigating	
322:22	425:12	misrepresent	484:1	modeling
	423.12	ation 310:23		267:10
				277:21
might 268:18	mine 460:25	447.40	mitigation	299:12,14,18,
276:2,10	461:17	miss 417:18	413:22 414:1	19,20 334:15
289:25		436:3,14	481:2,7,9	382:14,16,17
290:16		545:1,2,3	485:9 486:7	383:5 384:16,
309:25	minimal		488:4 543:4	18 416:19,24
333:18	359:7 540:21	missed		554:8
336:24 348:5		315:14 392:9	mitigations	334.0
355:6 374:11,	minimum	545:18,23	485:1	
18,21 376:12		343.16,23	400.1	models 271:6
394:16	446:2			278:10 285:2
396:15,20,21		misses	mix 309:5	291:14,17
420:6,12	miniscule	436:15		299:23
422:16	554:19	544:16		334:13
430:18 437:2			mobilizations	
459:25			453:5	
460:23	minute 349:1	missing		modest 424:1
461:11,24	541:5	543:16	model 264:22	520:9 553:2
462:2 467:4			266:12	
511:1 519:4	minutes	mistake	270:20	modification
	369:24,25	503:5	273:19	417:1 434:23
545:15	458:18 502:9,	505.5	277:19	
549:21	•			494:23
554:25 558:2	21,22 552:18	mistaken	279:18 281:2,	
	566:16,21	482:10	14,22 285:3,	modifications
mile 358:22			4,12 291:10,	407:6,7 435:1
411:10	mirrors		11,16,23	
446:18	540:24	mitigate	296:18,19	
110.10	• • • • •	456:19 483:9	299:22	modify
		484:12,16	311:13,20	493:16
miles 410:18	mismanage	543:5	314:7,8,10,	
	364:19		12,15,23	modifying
million		mitigated	337:1,4	438:10
306:12	MISO 375:13	483:24	346:10 554:9	750.10
	377:4	540:21		
311:21 361:6	311.4	540.21 543:15	madal'a	moment
417:4 418:3		0 4 3.13	model's	332:13 357:8
424:3,4	MISO'S		270:23	502:5
515:9,12		mitigates		
	I]	I	

Index: money..multistate

				-ymarciscacc
money	299:22	544:24 546:2	10 405:9	moved
365:23	302:21 304:1	552:18		381:25 382:3
	314:6 321:10	555:24 558:2,	١	384:14 385:5
	324:8 333:7	4 559:19	motion	
monitor	336:3,6,10,	560:12	342:15,16	
418:1 465:9			357:23,24	moves
	13,16 339:23	565:21,23	381:10,11	539:18
	340:1 347:6		432:20,21	
monitoring	348:23	Moreover	443:7 444:15,	
457:5	350:22 355:5	553:10	16 513:13,14	moving 275:7
	361:13 363:8,	555.10	•	443:9 481:14
	11,20 365:13		539:23 562:4,	486:6 495:22,
months	367:13	morning	5,14,15	24
407:25 444:9		264:3,20,21,		
521:16 548:5	377:22,25		Massatain	
	385:5 387:9	22 277:6,7	Mountain	MSP 528:1
	388:6 396:6	289:13	264:5 293:25	531:1,10,22
Moore 304:18	397:2 398:10	293:22,23	339:13 354:5	532:10
342:7,8	400:11	294:1 302:8,	371:16 374:2	JJZ. 10
380:19,20	401:11 403:7	12,14 328:24,	380:11	
435:21,22,24	416:17	25 333:19	442:18 458:3	much 274:8
437:8,9	418:14	351:18,19	495:6,7,11,16	279:8 317:25
439:23 468:8,		354:9 358:11	537:17	324:6,7
· '	421:22,25			•
10 476:10,11	424:23	366:21,22	540:20,23	351:12 354:3
520:22,24	425:16	370:14	541:13 543:3,	356:2 365:22
533:2,3	430:18	397:11	14 555:16	388:3 403:7
536:12,15,17	433:24	458:24	557:1 560:13	425:3 426:4
537:25 544:7,	434:19 437:6	459:11,17,20,		441:17 452:6
8,14 546:1	438:24 439:6	23 460:11		459:6 461:8,
562:22,24	443:22	462:10,16	move 282:6,	14 464:1
002.22,21	447:22	550:22	21 342:12	532:25 540:3
			344:14,18	
Moore's	456:11,23	566:23 567:4	357:20	546:1 549:9,
439:12	459:9,14		389:20	24 550:13
	460:10,11,20	most 275:1	390:18,24	
	469:9 474:24	280:2 288:13	391:5,6 396:7	muddled
moot 540:13	485:8 491:9		•	418:10
	498:14 503:4,	289:22	406:25	410.10
	5 505:22	319:17	432:16 443:5	
more 265:18,	507:15,24	362:19	458:22	multiple
22 266:24	·	372:11,18	494:13	298:1 556:18
279:4 280:22	509:20,21	434:21 462:5	497:21	
286:25	510:14 511:5	505:8 554:6	513:10	558:7
287:24	519:22,24	555:13,17	561:22	
291:25 293:9	532:16	·· - ,	562:11	multistate
296:17	541:25		002.11	508:3 528:1,
200.17		mostly 352:7,		000.0 020.1,
		•		

Index: Mumbling..net

17 531:8,18	309:19 310:9	495:21 496:5,	524:20 553:1	559:16
553:13		17 497:11,13,	554:17	
	_	25 498:8,12	556:14 561:3	
	natural	556:6	564:15 566:5	negotiation
Mumbling	272:22	000.0	001.10 000.0	413:14
375:2	273:16			414:14 415:8
	275:13	need 283:2	needed	470:18
must 316:19	424:25	286:4 298:16	359:11	490:11
	461:25	303:8,14,18	365:22	
362:3 434:9,	550:18	306:15 317:6,	368:24 377:8	41.41
13 471:17		14 321:21	385:4,11	negotiations
555:21 557:5		334:19 336:7,	427:22	351:7 450:22
	nature 349:6,	10,17,19	428:10	452:14,15
N	10,11 350:1	337:13 343:5	445:10 525:5,	454:4 473:9
	553:4 554:13	348:23 349:2	12,14,24	479:13
	558:18		· · ·	480:23
		350:22,24	553:21 561:9	490:22
N-i-k-k-i		351:24		499:16
432:1	near 359:18	353:23,24	needs 279:9	
	389:17,22	355:12 357:6,	291:24	
	417:24	14 359:8,17	298:20 356:1	neighborhood
naive 554:22	446:21	360:20	370:13 389:9	424:3
	450:23	369:11	390:17 438:9,	
name 283:9	519:22	377:24,25	25 457:19	neither
289:17 302:8	535:16	382:11		408:14
305:1 329:1		384:17 386:5	477:2,12	
334:10		396:21	517:14	479:23
	nearly 276:20	398:22		524:22
356:17		401:15 402:2	negative	555:18
431:25	necessarily	413:10	540:10	
442:13,14	326:24 327:4	414:20	0 10.10	NERC 362:7.
483:14	343:6 354:21,	417:24 419:6		15 369:15
512:17,18	25 417:12	424:10	negotiate	370:8 385:25
539:2,3	436:5 437:25	425:15	379:10	386:10 418:4
551:15	498:22			423:1 429:7
	519:24	426:22 427:2	nogotiated	561:15
narrow		461:14	negotiated 445:19 446:6	301.13
306:20 307:2	545:11	477:23 478:2,		
499:13	564:22	24 481:1	477:21 478:6	NERCS
		483:2 492:21	486:13,25	509:12
553:14	necessary	493:3 498:19	487:12 488:9	
558:22	330:18	501:6 502:3,		
559:18	397:25 429:1	10 504:16	negotiating	net 266:8
	443:19,24	516:6,19	471:14	272:4 307:25
narrowing	1 10.10,21	521:22	l ''' ''' '	515:9 535:14
J				

554:25 network 307:25 308:9 370:17,20,24	531:1 540:6 547:4 553:10, 12 556:10,14 561:11,12 564:10	nominal 307:21,24 nomogram 426:5,12	371:2 445:12 northeast 371:3	notice 414:18 453:2,3,14,17 545:7 546:21, 23 547:1 549:16
371:1,7,15,21 372:1,15 373:5,10 378:11,15,22	next 282:6 289:11 293:18	nonaction 556:3	Northern 403:11,25 405:7 406:6	noticed 493:12
379:7,13,20 430:3 never 331:4,5	319:15 324:15 326:1 354:5 355:1,4 356:5 368:12, 19 369:18	nonconfidenti al 290:10 438:19	Northwest 361:16 539:8	notices 549:16 noting 278:6
337:11 439:1, 5 529:8 new 269:14	377:21 393:5 397:13 407:10	none 346:4 428:25 436:10	notably 434:21 notation	469:16 November
289:1 305:24 306:7 308:13 309:21,24	431:12 440:14,16 441:23 448:25	524:11,22 546:20	369:21 note 306:11	447:1 470:17 471:3,12 521:10,11
359:25 360:25 369:1, 2 374:10 382:5,11 386:22,25 387:22	453:15 462:1 466:12 480:22 481:20,21,23 501:12 512:4 515:19,22	nonemitting 463:21 Nonetheless 456:25	310:4 319:4 374:16 377:21 382:2 388:9 393:9, 18,22 410:21 427:12 443:7	NTTG 403:11, 16,17,22 406:8,19 407:5 425:16 426:25 427:7,
389:17 391:5 398:2 408:14 409:10 410:1 412:23,24	521:17 523:24 541:8 549:20	nonexistence 549:19	451:18 462:7 483:25	10,14,16,19 428:8
413:3 418:17, 19,20 422:25 423:15,17 427:17	Nextera 456:15	nonviable 330:17,20	noted 278:9 288:5 370:6 392:11 471:11	NTTG'S 429:6 nuance 532:7
428:18,25 457:15 463:22 499:4 510:2 511:2	Nikki 431:14, 19 432:1 no-action	normal 470:14 471:1, 7,24 472:7 559:23	535:11 notes 384:19	nuanced 548:10
514:6,9,19 515:3,9,14 517:1 521:14	555:25 556:7 565:8,19,20	north 362:6	nothing 436:6 524:1	nuances 541:16

Index: number..office

			Index: r	numberoffice
number	429:23,25	objects	472:23	326:11,19
291:11 292:12 300:19 311:13 323:7, 11,12 327:7,8 349:24 365:2	object 267:20 309:7 373:23 513:12	342:14 357:22 432:19 539:21 562:4, 13	477:24 479:6 480:18 484:4, 7,18 491:5 507:12 508:17	328:1,2 off-ramps 324:19 325:13,19
380:25 393:12 395:13 403:25	objected 267:21 431:6	obligation 532:17 542:3	occupation 551:15	326:3,7 348:10,11 450:5 452:22 455:25 458:1
403.23 406:19 409:4 413:4 415:6 423:6 425:18 427:9 444:9	objection 268:1,9 297:5,10,22 298:4,12	obligations 362:4 449:20 478:1 509:24	occur 328:2 458:6 534:15	offer 316:25 323:17 375:17 467:3
471:6 518:19 558:5	309:14 310:4 342:16 355:15,16,19 357:24	observations 283:25 284:12	occurred 363:23 474:3 occurrence	offered 295:6 312:12
numbers 276:13,22 412:7 415:3 501:22	374:18,19 375:18 381:9 383:5,14 431:9 432:21	observed 272:25	482:24 525:6, 15	313:20 324:6 325:8 340:1,4 offering
565:13,14 numerous	443:25 444:4, 15,16 499:1,6 513:14 539:23 562:5,	obtain 365:18 433:7 515:5	OCS 521:2 535:20 October	315:3 446:2 481:19
365:18 487:5 O	15 objections	obtained 362:19 494:25	341:16,17 452:11 561:4	offerings 447:9
Oasis 352:16 365:5	282:24 283:2 376:8 430:13 objective 349:7,15	obvious 323:1	off 275:12 315:10 330:19 373:7 378:24 379:3 381:8 401:2	offers 270:13 286:14 446:25 477:7 553:14 559:2
oath 264:13 397:10 OATT 358:14	objectives 348:17 349:12	obviously 272:4 275:6 276:1 355:11 391:3 412:20 421:11 423:5	407:18 413:16 421:6 430:16 474:18 502:5 544:19 548:9	office 272:19 302:10 304:19 352:1 355:4,6,15 431:2 529:19
377:17 392:3, 22 419:20	350:21	459:24 463:22 465:2	off-ramp	536:25 564:19 565:5,

7,17,18,22 566:3 office's 468:17 521:21 536:18 officer 432:3 official 271:20,25 272:6,11,13 273:1 274:17 275:15 offset 360:16 361:7 429:10 523:13 offsetting 484:23 often 274:20 old 361:4 425:9 Oliver 268:3 282:6,9,11 283:4,9 289:10,12 293:12,22 297:6 302:8	335:7 351:12 353:19,23 354:2 Oliver's 310:12 319:5 once 320:5 332:20 344:3 351:4 415:9 534:2 542:2 one 267:3 270:4 272:5, 15 273:10 278:25 281:19 282:18 286:18 287:24,25 288:8 289:24 290:1 292:9 298:22 299:3, 8 300:20,24 301:15 302:10 304:3 305:17,23 312:1,12,20, 24 315:3,20 320:4,23 321:10 324:3 326:14 329:5 331:8,18,22 332:7,14 333:7,15 338:3,6 340:14 24	12 348:5,7, 10,11 355:11 357:4,9 361:4 368:1 370:10 374:1 375:2 378:1 379:3 380:5 383:6 386:9,16 389:9,23 391:22 395:13 397:5 399:11 400:6, 7,21 401:21 402:17 403:5 404:12 405:9 407:20 412:18 416:16 417:15 418:14 421:3, 13,16 423:2, 5,6,24 424:23 425:18 426:1 427:12 434:4 435:22 436:4, 9,14,15 437:2,6,15,22 440:5 445:24 448:18 450:7 452:2 454:12 458:23 459:5 464:3 465:12 469:9 476:4 482:7,21 485:8 489:5,6 490:23 492:15 505:7 506:19	533:17 535:11,19 536:12 542:22 544:8, 17 545:1,6,8, 16 546:24 549:11 552:6 556:16 557:15 559:6 560:9 561:17 one-time 484:4 ones 281:6 282:2 298:2 443:24 444:1, 11 457:8 492:20 ongoing 450:7,8 466:1 473:13 474:11 530:6 534:16 537:24 online 492:15,21 528:15 534:19 only 275:15 278:23 280:13 295:7 300:5 11	346:6,7 360:1 361:6 367:25 387:21 403:18 428:22 445:25 450:10,14 452:12 455:20 456:8 475:6 483:17 488:17 499:12 504:17 516:1, 18 517:15 520:9,19 521:15 542:13 548:1 554:10 555:3 558:11 open 356:3 358:14 360:17 364:25 375:25 477:23 507:17 514:20 open-ended 508:13 operate 362:9,24 483:14 497:3 547:7
289:10,12 293:12,22	332:7,14 333:7,15	490:23 492:15 505:7	278:23	362:9,24 483:14 497:3

	_	_		-
oporatos	opportunities	option 286:20	375:5 384:13	original
operates	opportunities	•		
361:24	280:17	300:25	394:15	285:15
	360:10 382:8	312:18,20	404:18 413:6	301:13
operating	488:17	313:25 315:3	421:23 424:8	409:22
286:22	556:10	326:14	427:22	467:13
457:11		333:18	428:11,24	483:21
437.11		339:11,17	430:11 434:2,	484:19
	opportunity	340:6 424:23	16 438:17	489:13 540:5,
operation	271:16 279:9	464:16 469:2	474:21 493:9	13
276:16	280:4 292:18	557:9 560:25	495:14,15	
438:11	295:9 321:20	007.0 000.20	497:13	
446:16	325:17 333:5		530:22	originally
449:13	336:19	optionality	559:10 562:9	308:7 363:9,
	342:12,25	466:15	559.10 562.9	13 365:15
485:10 492:3	349:16			445:3 450:1
493:24 515:7	350:12,16		orders 374:9	463:19,24
520:10	351:23 352:4	options	376:1 476:2,6	464:4 475:5
526:17	353:11 359:5	273:24	070.1 170.2,0	486:12
535:13	365:18,22	275:10		400.12
	· ·	278:11 303:1,	Oregon 368:6	
ti	385:19	16 312:11	438:17	others 309:3
operational	422:24	315:5,6	530:22 531:5,	344:7 550:7
364:17 497:2	423:17	329:21	11,12,23,24,	
555:7	426:17	333:16	25 534:3,7	
	429:10 445:9	338:18 348:7	553:11	otherwise
operations	456:4 457:18	422:19,20	558:12	460:1 470:17
527:7	464:23	466:15	559:10	472:8 561:20
JZ1.1	529:19			
	560:13,22	467:24 510:8,	560:24	
operator	,	13 558:3,21	561:17 562:9	outcome
377:4		559:19		281:4 347:1
• • • • • • • • • • • • • • • • • • • •	oppose 522:4		organization	348:5 364:21
	554:21	order 269:10	427:10	475:13
opine 320:4		270:18 281:6,	427.10	477:20 482:8
	annaaad	,		534:17
onining 200.F	opposed	12 282:7	organizations	
opining 298:5	290:6 293:8	292:19	404:21	
	317:15	308:13 309:1		outcomes
opinion 294:6	336:14	316:3 317:5		454:1 475:11
324:22	350:23 352:8	333:11,23	organized	479:19
370:14,16	396:8 461:12	354:17,18	291:25	
374:14 438:1		355:7 356:2		outcry 550:5
499:20	ontimi-er	370:12	oriontod	outery 550.5
	optimizer	373:18	oriented	
552:20	285:3 314:9	374:10,21	320:3 321:13	outline 433:9

Index: output..pardon

output 265:23	338:25	10	22 394:24	379:14
452:3	345:17	10	395:18 396:2	504:18
452.5				504.16
	352:25 353:1	owner 507:6	403:22,23	
outset 349:7	410:17		419:25 420:8	Par 285:3,11
00000	453:23		427:13,15	296:18,19
	519:14,18	ownership	428:21	299:23
outside	520:7 529:7	286:19,20	429:12,16	311:15
281:14 297:6	533:21	492:3 493:23	432:4 449:5,	
309:8 310:2	535:14	509:4	8,16 457:11	346:16 554:8
402:7 514:23			462:13	
515:25 517:9			492:19	paradigm
550:6	overrule	Р	560:19	276:7
330.0	298:12			210.1
			561:11,16	
over 273:10		p.m. 397:7	564:6,11	paragraph
276:11,12	overruns	•		267:14,15,17,
279:21,22	286:23	458:20 459:8	Pacificorp's	18,24 268:5,
300:12	287:24	502:24 567:5	283:15	6,11,24
314:16 315:1,	331:13		285:19 286:8	307:21
l ' l	332:19	Pacific 321:5		
6 316:1	413:23	361:16	287:5,15	368:19
338:16 345:5	516:19 529:6		288:1,20,25	369:18
349:8 351:2		448:21	321:3 341:14	377:21
354:7 362:9			377:17	484:14
363:19 364:8	oversee	Pacificorp	393:14 396:1,	491:24 527:1
390:6,7	358:12	284:24 286:6	7 404:1 420:2	
393:20		287:16	424:12	parallel 270:2
399:19 413:1		290:20,24	429:22,25	•
425:19 440:7	oversight	,	431:12 491:3	296:17,23
455:1 457:11	457:6	291:2 295:5,	530:23	302:21
474:14		15,17 296:17	000.20	317:23
509:25	overstating	299:6,9		320:15 450:6
510:18	556:22	302:19	package	475:6 487:20
515:22 520:5	JJU.ZZ	324:22 328:9	330:12,14	
		340:22 341:3	412:17	norometers
523:23 536:4	own 265:7,8,	352:23		parameters
552:24 554:3	11 266:21	353:16		268:14
	292:11 314:2	356:21	pages 307:10	
overall	483:14 509:9,	358:17	374:8 391:24	paraphrasing
279:23	10 520:13	368:23 369:1,	476:18,21	473:11 492:1
281:21 286:2	547:5 556:19	3,6,8 370:7	512:2	770.11 702.1
	J 4 1.J JJU.18	371:25		
294:8 298:6		371.23 372:14 374:2		pardon
311:15	owned		paid 360:23	323:19
329:14	287:16 507:5,	376:2 393:21,	369:9 372:16	
	,			

parenthetical 493:20	404:18	459:12,16 465:8 474:23 481:12	11 419:21 420:4,13 429:14	487:17,20 548:24
part 265:6 269:16 283:21 284:1	participation 347:17 353:20	515:13 516:13 517:10	432:19 433:17 457:24	PATS 469:22
290:2,11 294:9 300:2 310:14,19	particular 271:22	523:22 526:8 533:17 534:21 553:8	461:22 465:20 480:16 487:7	pausing 404:25
315:14 329:17 337:15 339:21	297:21 320:1 362:6 401:18, 25 402:10 407:1 410:19 412:25	556:18 558:1, 6 560:15 562:17	499:16 513:12 539:21 562:4, 13	pay 344:17 370:18 371:17 372:7 374:14 379:7 555:4
345:17 359:2 362:14 371:7 373:11 389:19,24 390:15 391:7	417:22 427:25 428:17 437:7 439:2 451:6,	parties' 458:9 partly 444:8	pass 411:24 513:24 517:5	payer 332:19 552:23
396:24 414:19 416:12	16 452:23 453:11 454:8 489:2 501:21	partner 539:7	passage 434:20	payers 370:18
417:18 427:8 443:15 458:3 463:9,23	508:6 533:17 553:22	partners 469:21	passed 434:18 473:20	371:16 373:4 378:23 393:3 394:15,23
464:22 466:25 479:3 482:14 486:21 504:9	particularly 328:8 374:1 451:14 454:10,17	parts 447:11 548:11 556:20	passing 520:16 525:20	396:21 403:22 495:12 497:24
511:15 519:11 527:17,25 531:22	456:6 457:21 486:14 490:11	party 266:21 275:12,13 282:25 304:6 342:14	past 364:10, 13 461:8,14,	529:21 555:14 559:13
533:18 534:23 554:3 559:8	parties 286:19 304:15	357:22 361:6 370:16 371:2, 11 372:12	22 515:14 path 302:21	paying 374:7 379:20 515:4
partial 534:11 559:9	324:23 346:23 355:5, 25 430:22,24 431:9 441:14	373:3 375:13 378:21 379:5 392:2,17,25 393:6,13,19	362:20 363:2 373:24 414:20 426:5, 6,7 440:4	payment 465:25
participate 347:15	446:3 449:23 454:4,14	395:4,15 396:2 418:6,	453:4,23 455:9 475:6	payments 438:10

pays 429:4,9,	19 411:10 415:4 420:3,4 429:20	269:11 270:19 280:24	491:21,25 492:5 493:16, 19 494:3,4,9,	pertinent 280:3
PBA 312:13	433:21,24 434:1,7,8,16, 22,23 435:4	281:12 283:6 377:24 406:1	11,14,19 495:4 496:10, 13 497:1,2	petition 527:5
PC 415:23 469:14	436:1,4,16,17 437:4,6 440:5,6,12,	perhaps 344:15	548:6	phase 362:20 440:24 455:20
Peaco 555:20	15,16,17,19 441:1,2,11	354:11 376:3 377:13 488:23	permitting 450:8 453:5 466:5	471:18
peak 394:3,5	455:2 456:9 457:13 514:8 515:11 520:9	period 273:8,	personnel	phase-down 440:10
penalization 396:14	535:13 541:1, 21 542:12,14, 17 543:2,11,	11,20 278:9 316:1 317:22 386:11,18	453:6	phase-outs 541:12
pending 494:22 498:4 540:7	16 544:19 545:2,13 548:2 564:8	433:17 440:7 520:5 521:20 564:5	perspective 279:15 281:7 284:17 286:1 329:7,24 359:15	phased 433:20
penetration 510:20	percentage 396:7 419:24	periods 274:9 387:23 450:19 475:4	418:10 427:7 448:11 449:3 452:22 456:6,	phases 455:22 541:9
people 333:20 424:7	perfectly 374:5	478:14 480:1, 4 494:16	12 466:20 478:9 484:17 490:14 510:15 511:5	phasing 436:13
550:6 566:21	perform 270:16	permission 373:13	persuaded	Phillip 305:1
PERC 374:9	272:10	permit 492:8 493:2,6,7,10,	558:14	phone 341:20
perceived 484:21	performance 265:13 361:25 414:7,	17 494:6,25 495:6,10 496:17 497:8,	persuasive 560:5	picked 346:16
percent 364:2 391:25 392:17 393:3	12 457:22,23 484:17 485:7 486:16	22 498:5,24, 25	pertain 299:7	picture 438:24 439:6
394:10,16,20, 24 396:8,9 410:12,15,17,	506:10,12 performed	permits 405:16	pertains 284:14 491:20 495:4	pieces 296:7
I	- '	- '	_	-

				<u> </u>
piggyback 476:16	528:20,25	planned 353:2 420:23	406:1	386:8 418:3 424:17
Pioneer 373:18 377:3	plainly 556:7	427:3 planning	play 503:16 511:1	426:25 427:1 430:25 440:2 441:13 445:6
	Plains 446:22	285:3 354:18 358:13,16	played	449:2 460:2 461:6,9,12,25
pipe 400:9 401:8 403:3 423:17	plan 285:1 359:3 368:5 371:8 382:3	359:15,16 359:15 362:7 370:12 382:6 404:17,19,21	537:20 pleased	477:13 480:7 482:6 486:25 488:15 490:3,
pitchforks 550:6	404:4,7,14, 15,20,23 405:3,8,16,17	406:8,21,22 417:25 421:14	433:3	7 493:1 499:21 501:13
place 283:11	406:12 407:10 416:11,12	425:17 427:9, 15 428:11 438:5 445:22	pleasure 540:4	509:18 523:1, 11 526:19 531:10
320:5 369:12 382:14,17 425:15 437:6	417:15 427:19,22 429:6 431:9	455:24 465:4 559:22 561:2 564:8	plenty 413:18 462:14	537:13 562:21
457:4 461:7 468:18 501:14 502:2	438:4 440:10 445:8 458:24 460:12	plans 360:11	plug 378:14	pointed 476:22 484:13
542:9 545:10, 12 547:10	463:10,12,17, 20,24 464:4 465:3,21	362:14 388:23 391:12,17	plus 277:13 315:2 340:1 450:2	515:13
placed 433:18 434:13,15	485:22,24 486:3 506:21, 25 507:2,5,	407:15,16 434:14 455:15	point 265:19	points 325:14 326:7 555:20 557:5
436:7 542:6, 25 543:12 545:23	14,17,20 508:14,21 510:7 521:7, 17 523:21	457:25 461:20 470:19 521:3 522:4,16	267:19 276:3, 17,20 281:17 292:4 293:2 296:22 307:8 311:6 316:10,	policies 405:23 555:11
placed-in- service 540:18 545:1, 3,18	531:7 534:6 543:17 550:25 557:24	plant 398:20 399:6,11,17 422:11,18 423:13	15 317:18 320:22 322:9 323:15 324:1, 14 329:18 330:22,25	policy 271:19 275:5 276:9 279:14 331:20,21
places 391:13	plane 359:13 371:4 387:8,	424:25	340:21 347:5, 25 350:12	406:7 407:8, 9,16 417:5
placing	14 398:10,16 399:3,9,21	plants 377:14 387:25 400:4	369:12 376:13,19	555:13

	_		_	_
policy-driven- type 405:22	399:12 410:11	positions 354:23 355:5	353:23,24 391:2 398:13	463:10,12,17, 20,24 464:4
political 275:6	519:18 530:11	445:17 446:8 448:1 466:9 468:21	429:10 438:21 477:23	485:22,24 486:3 495:6, 7,12,16
Populous	portions 269:14	499:10 positive	479:11 482:7 489:14 508:6, 16 510:16,25	506:21 507:14,17 508:20 510:7
390:11	pose 560:17	340:5,11 350:15	534:17 549:20	515:9,16 537:17 540:23 541:7,
Populus 389:18,19,22 390:2,6,7	posed 316:8 432:13	possibility 460:18 542:16	potentially 284:16 299:25 304:3 317:2 321:9	13 543:3,14 555:16 557:1 560:13
portfolio 270:23 271:1 279:21 281:16,21	position 271:14 272:8 285:23 295:2, 12 303:23	547:10 possible	335:24 376:1 413:23 423:21	Power's 354:5 458:3 540:20
285:20 288:21 289:7 308:20	304:7,9,11 330:16 343:15,18,23	289:2 309:4, 22,25 316:24 321:7 360:19 388:21 424:5	438:20 479:20 506:24 510:9	PP 313:20
311:12 313:21 321:9 337:5,15	344:6 346:22, 24,25 348:7 362:4 365:2,	523:9 540:16	potentials 479:5	PPA 301:9 304:3 312:5, 15,19,20,25
339:21 346:17 382:22,23 458:3 509:22	11 375:23 395:10 436:23 448:3 464:24	possibly 431:3 543:15	poured 332:20	313:7,15,23, 24 314:5,20 315:1,5 327:8
518:23	465:15 467:5, 9 507:3 520:11	post-february 475:1	power 264:5 268:19 272:3,	329:11 330:3 332:6,9 338:6,8,10,23
portfolios 311:13,14 338:4 346:10, 11,15 511:1	521:22 522:6, 11,18 523:4 536:18	posthearing 459:3	4,21 273:17 293:25 339:13	450:2 505:23, 24 506:1 511:14 512:1 514:10 553:6
portion 364:4 369:20	549:21 563:14 564:18	potential 287:23 295:10	371:16 374:2 379:4,10 380:11 424:6 427:23	PPAS 288:2 303:25 310:1
373:21 376:23 377:21	positioned 450:3 451:4	319:20 335:18 343:17,22 350:17	442:18 447:13 449:15 457:2	314:8 315:8 323:13 329:7 372:13
		000.17		

	_	_	<u>-</u>	
practicable 295:8	predicate 310:18	prefiled 319:6 357:17 383:8 512:23	489:10 present	442:17 512:21
practice 273:23 540:25	predict 459:6 predictions 554:14	prejudges 530:5	284:15 365:17 367:22 375:23 496:7	pressures 515:21 519:21 520:2, 15
pre 532:24	557:18	prejudice 537:17	553:20 560:14 565:7	presumably 309:3
preapproval 468:18 516:16,18 528:21 529:1, 4,13,22 530:1	predictive 553:19 preempt 475:13	preliminary 264:10 410:21 447:3 453:5	presentation 302:19 341:8 383:9 395:14	presume 467:25 479:18 542:5
532:3,6,18 535:24 preapproved	479:18 preface	premature 374:18	presented 291:5 296:16 299:12 309:6, 10 340:8	pretty 330:9 342:2 350:7 385:21 386:3
301:21 526:14 530:18 536:19	416:16 prefer 430:14, 17 492:13 550:24	premise 544:22,23 565:22	360:5 396:9 541:14 560:21 565:12	387:16 400:22 417:18 423:18 426:14
preapproves 300:5	preferable 292:22	premised 342:25	presently 488:2 528:17	prevent 401:16
precedent 430:2 467:16	preference 566:18,19	prepare 283:22 432:22	presents 360:10 556:5	preventing 559:23
preconditions 526:7	preferential 304:1	prepared 358:6 444:17 459:19	preset 532:21 presetting 532:12	previous 341:2 352:22 427:14
predetermine 532:22	preferred 283:20 284:9 382:22	513:16 539:24 552:14	president 283:10	428:11
predevelopm ent 455:20	445:16 465:14	prescribed 463:19 475:5	356:20 432:3 434:19	previously 264:16 288:24 325:3

				oriccprocess
	I		1	
333:23	504:10	479:21	353:24 376:3	proceedings
397:23 559:7	506:13	494:25	387:11 547:9	355:25
	525:12	497:21,23		390:23
		515:15 [°]		421:17 450:7
price 271:19,		521:16,24	problems	454:1,9,15
20 272:1,6,	primary	522:7,19	558:12,13	458:10 474:5,
11,13 273:12,	278:5,6	022.11,10		12 477:20
17,18,20	284:10		procedural	479:7
274:18	286:18 288:8	privy 341:19	474:17,20,25	410.1
275:13,16,17,	314:20		17 1.17,20,20	
21,25 276:7,	320:23	pro 330:13		process
14,17,20	370:11	448:23 457:1	procedurally	268:15 270:9
279:14	388:15	472:5 486:12,	567:2	272:12,15
301:12,13,14		22 488:5,12		274:6 277:10
314:21	prime 361:19,	504:25 505:9,	proceed	282:16,19
364:14 414:6	20	21 511:14	358:9 414:18	283:18,23,24
415:7 477:7	20	21 311.14	431:10	284:6,8,11,
504:12,18			432:25	13,15,17
555:10,13	principal	proactive	444:20 453:2,	285:8 286:2
	454:22	362:3	3,14,18	288:10 290:2
prices 272:22			455:22	292:23 293:1
prices 272:22	principally	probability	496:18	294:13,18
302:25	principally 540:19	552:24,25	497:13	295:5,13,24
553:24 554:1,	540.19	552.24,25	498:20	296:23,25
4 557:11				297:13 299:7,
	principles	probable	513:18 534:4	10 300:4,11
pricing 270:5,	561:1	362:10	550:24	301:4 310:5,6
7,15 272:3			555:23	316:19 317:1
273:25	mrimt 004.00	probably	562:19	318:12,13,15,
275:11	print 294:23 374:8	•		23 319:21
286:16	374.8	347:20,21	proceeded	320:5,8
301:17		349:25	496:1	321:12,17,25
450:22	prior 273:12	350:14 355:8,		323:1 324:20,
478:16	324:12 328:2	12 377:24		23 325:4,10,
	365:3,9,16	381:3 382:20	proceeding	16,20,21
	394:22	396:24 397:4	278:19 280:3,	326:8,9,15
primarily	413:11	407:25 459:3	13 296:6	327:13 328:8,
274:18 278:8	414:21 418:2	460:13 493:2	348:4,9 351:8	14 329:19
365:20	427:16	502:2,18	382:25	330:5 335:1
379:19	433:22 434:6	548:17	444:23 447:3,	336:3 341:15
405:22	440:10,25	566:17	18 449:22	342:1,4
421:23	451:1 452:10		454:11 474:8	343:14 347:3,
450:13 478:5	475:12	problem	494:22 534:8	15 348:4,17
				10 0 10.4,17

240:40.44	magaine 4	200.42	22 242.2 5 0	474.4 475.00
349:12,14	procured	288:13	23 312:2,5,8,	471:1 475:23
350:2,9,11	480:5	319:18	10,12 313:7,	482:11 483:4,
353:14		350:18	11 314:2,3,16	6,13,14,15,
363:24	procurement	360:16 433:8	315:9,13	17,22 491:6
376:25	284:4 289:1	456:1 514:6	316:4 323:3	492:3,4
377:18,20	295:23 317:1	541:13	331:9 339:12,	493:24,25
379:2 391:8	350:24 352:7,	559:25	18,20 340:4	496:18
392:23	8 414:5		344:17	497:18
401:24	450:8,12	profile 265:1,	346:20	498:16,21
404:23	453:5,8	10	362:24 364:4,	501:15 504:4,
405:16,20	526:13	10	6,8 382:18	21 507:7
406:17 407:3,			388:16 389:1	517:4 518:16
12,17 409:14	559:22	profiles	390:15,17,22	519:15,17,23
410:23 411:4		264:23 265:3,	391:2,4	520:6 529:21
412:15	procuring	13 266:16,18,	394:18 410:8,	534:4 537:7
414:14,21	335:19	22 332:3	12,14,17	541:18,20
419:20			413:24 424:4	542:6,7,9,15,
425:17 427:1	_		425:15	17 543:2
438:5 445:20,	produce	programs	427:21,22	544:15
22 449:21	275:13,16	510:2	428:10 429:4	548:15 553:2,
452:23	504:15		436:6,7,15,20	20 558:21
453:25		progress	438:2 439:2	560:10 566:2
454:21 465:4,	produced	455:3 461:3	436.2 439.2 440:12	300.10 300.2
12 467:2	265:22 279:4	466:11	443:15 445:5,	
473:14	433:17	476:22	16 446:13,14,	project-by-
	700.1 <i>1</i>	710.22	· ·	project
481:13			16,17,20,21,	311:19
487:20,21	producers	prohibit	22 447:5,9,	438:24 504:1
495:22,25	541:7	374:20	10,13,14,19,	
498:1,9,20			21,22,23	
504:9 510:10	www.al		448:19,20,25	projected
516:22 528:1	produces	prohibitive	449:6,17,19,	285:16 516:2,
531:18	377:4	524:25	24 450:3,16	7,19 517:19
534:22 550:2			451:10,19	
558:2,6,15,19	producing	project	452:5,9	projecting
	401:3	265:17 266:2	453:19	266:8
processing	.55	281:13,19	454:16 455:9	200.0
270:2	_	287:15 292:8	457:16,25	
210.2	product	305:21 306:3,	463:5,6,14,23	projections
	317:12	6 308:21,24	466:21,24	273:18 427:3
procure		309:17,23	467:1,5,12	553:17
445:9 448:18	production	310:17,18	468:19	555:22
452:24	285:10	· ·	470:18,20	557:14
	200.10	311:16,19,21,	, -	

	040040	54004044	540.4	
projects	24 391:9	516:2,10,14	519:1	proposes
264:23 266:5,	392:1 394:11	517:13,18		513:23
8,10 270:22	400:17	519:8 521:15,	proposal	
271:7,8,15,17	401:10,22	25 522:13	286:23	proposing
272:8 276:17	403:19 404:7,	523:8,17	288:22	388:15
277:10,11,13,	11 418:20	524:6 528:14	386:21	389:24 438:6
15,17,22,25	427:18	529:19 531:2,	484:19	524:5 525:19
278:1,3,10,20	428:25 433:9	6,8 534:19,22	514:18	024.0 020.10
279:4,5,6,10,	434:15 435:4	535:12,17	553:14	
24 280:10,13,	436:12 438:6,	541:2,3	555:15 558:9,	proposition
19,22 286:1	14,22 439:25	552:8,9,20,22	12,13 560:14	508:9 509:25
287:4,24	440:17,18	554:6,16,18,	564:14	
292:7 300:6	441:8 444:23	19 555:3,7,	30 4 .14	protect
305:14,18	445:4,22	10,12 557:1,		394:15,23
306:22,23	446:12 447:6	20 558:16	proposals	39 4 .13,23
307:2,4,5	448:15,16	559:9,13	279:2 283:16	
308:12,25	449:25 450:5	560:2,6,11,	284:22 285:5	protected
309:2,18,20	451:6,15,16,	17,20	286:6,17	394:9
312:1,8,23	23 453:23	·	364:22	
313:15,16,19	454:19 456:1,		452:11,14,15,	protection
314:5,6,25	5,7,14,21	prompt	19 484:5	•
315:15	457:10,12,16,	419:11,17	487:20	332:19
320:16	17,20 458:2,	536:11		504:17
323:17,18	7,11 463:13,			
331:1 338:17,	23 464:21	promulgated	propose	protections
21,25 339:2,	465:9,10,16,	510:3 545:7	375:22	396:22
23 340:1,2	17 466:2,12		516:13	484:25
344:8 345:10,	467:22			487:11
14,15,18,22	469:15	properly	proposed	516:17
346:17,18	470:14	287:1 560:10	276:16	
358:20,21,25	471:16		318:21	mate!
360:25	472:20	property	339:13	protocol
361:17,21,23	476:24	434:24	358:21	528:10 530:1,
362:17 363:1,	477:14,15		368:23 385:9	2,18 531:8,21
7,11,17,18,22	481:2,5,15		403:18 464:5	532:10
364:3,10,11,	482:7 489:3	proponent	469:3 486:2	534:14
13,17,23	500:18,24	491:6	507:18	535:25 537:3,
365:13,19,21	501:6 504:20		513:20 521:5,	12,23,24
367:7,12	507:22	proportionate	17 522:6,23	
377:5 380:12	513:21,25	ly 279:11	523:6 526:7	protracted
385:3,11	514:5,9,19	, = : : : :	529:25 561:9	336:3
388:9,12,14,	515:4,7,18,21		5_55 556	
000.0,12,13,	0.0.1,7,10,21	proportions		
	<u> </u>		<u> </u>	proven

proves 553:16 provide 279:10 283:23 285:5 290:1 292:24 294:10 295:20 299:17 303:10	511:15,19 516:23 523:17 524:1 rovider 373:3 roviders 448:22	proxies 444:24 proxy 275:25 prudence 301:22,24 332:19 395:1 458:4 516:11	14 267:10 268:18 287:10 336:8 343:1 360:8 365:21 366:1 382:13 388:20 429:11 433:8,	551:20 552:21 562:8 publication 493:9 publicly
proves 553:16 provide 279:10 283:23 285:5 290:1 292:24 294:10 295:20 299:17 303:10	516:23 523:17 524:1 rovider 373:3 roviders 448:22	444:24 proxy 275:25 prudence 301:22,24 332:19 395:1	268:18 287:10 336:8 343:1 360:8 365:21 366:1 382:13 388:20 429:11 433:8,	552:21 562:8 publication 493:9
proves 553:16 provide 279:10 283:23 285:5 290:1 292:24 294:10 295:20 299:17 303:10	523:17 524:1 rovider 373:3 roviders 448:22	proxy 275:25 prudence 301:22,24 332:19 395:1	287:10 336:8 343:1 360:8 365:21 366:1 382:13 388:20 429:11 433:8,	publication 493:9
proves 553:16 provide 279:10 283:23 285:5 290:1 292:24 294:10 295:20 299:17 303:10	rovider 373:3 roviders 448:22	prudence 301:22,24 332:19 395:1	343:1 360:8 365:21 366:1 382:13 388:20 429:11 433:8,	493:9
provide 279:10 283:23 285:5 290:1 292:24 294:10 295:20 299:17 303:10	373:3 roviders 448:22	prudence 301:22,24 332:19 395:1	365:21 366:1 382:13 388:20 429:11 433:8,	493:9
provide 279:10 283:23 285:5 290:1 292:24 294:10 295:20 299:17 303:10	373:3 roviders 448:22	prudence 301:22,24 332:19 395:1	382:13 388:20 429:11 433:8,	493:9
provide 279:10 283:23 285:5 290:1 292:24 294:10 295:20 299:17 303:10	373:3 roviders 448:22	301:22,24 332:19 395:1	388:20 429:11 433:8,	
279:10 283:23 285:5 290:1 292:24 294:10 295:20 299:17	roviders 448:22	301:22,24 332:19 395:1	429:11 433:8,	publicly
283:23 285:5 290:1 292:24 294:10 295:20 299:17	448:22	332:19 395:1	•	publicly
290:1 292:24 294:10 295:20 299:17	448:22		12 20 21	
294:10 295:20 299:17		458:4 516:11	13,20,21	352:16 506:1
295:20 299:17 303:10			434:17 435:3,	511:22
295:20 299:17 303:10		532:16,19	5 436:1,4,25	
299:17		557:16	437:3 440:20,	
303:10	rovides		24 441:6,11	pull 290:20
	295:9 419:3		471:25 520:3,	305:5 413:6
323.22	433:14 469:1	prudent	8 540:21	
327:21 328:5	503:25	300:15 301:1,	541:21	purchase
330:3 332:18	516:17	7 302:1 303:9	542:12,14,17	268:19 379:5,
364:14	524:13			10 447:13
, , , , , , , , , , , , , , , , , , ,	527:12,17	prudoptly	543:2,11,16	
365:19	556:8	prudently	544:15,19,20	449:15
373:14 389:5		516:9	545:2,13,25	
413:22 423:4,				purchased
I •	roviding	PT 287:11	public 264:4	464:15
10010 10010	328:14		283:13	465:19,24
	471:25		288:12,21	,
	546:17	PTAS 492:8	294:5,6,10	
471:14 510:3	564:12		295:21	purported
511:4 517:20		PTC 265:17,	297:13,24	553:1
556:12	rovision	18,20,24	· ·	
•	332:11 436:6	266:2,4,10,	298:6,21	purpose
		11,23 287:8,	302:11	351:22 540:5,
•	456:10 482:3	,	319:21 322:3,	•
,	506:10	11,14,18	19 324:24	13,14
20,21 302:19		288:5 335:20	344:1 360:6	
327:18 pi	rovisions	349:17	365:3,4 368:5	purposes
346:20 350:7,	321:25	350:25	369:25 370:4	319:4 510:10
8 353:8	364:14 433:6,	384:14,16	405:20	
360:17	10 456:17	433:15 434:7	407:16	
/ /1//·17 ///2·2 I	481:3 483:9	456:9,20	434:24	pursuant
<i>11</i> 0.0 151.12 ▮	484:11,15	516:25	437:20	489:18
160·20	485:2 486:15	544:21	445:20	490:15 495:1
4/1·1 2 ▮	465.2 466.15 524:11	549:22	457:16	508:2 525:2
//87·1∩ I			530:22	
	526:12,13	PTCS 266:7,	548:14,20	pursue 280:4,
488:13				I DILLGITO JALLA

			-	
9 352:4 514:22 533:22 564:24	putting 428:14 429:23 436:25 498:1	qualitative 329:25 quality 457:6	371:7,10,11 375:2,20 379:11 383:9, 23 384:1,6,9	questioned 267:18 530:16
pursued 458:6 564:19, 23	PVRRD 279:5,20,23 ————Q	quantified 331:5 416:22 556:2	387:9 394:13, 22 395:23 405:1 414:12 415:17 416:17 418:14	questioning 268:17 343:13 391:22 420:11
pursuing 352:3 523:17 540:23 541:8 554:20 565:7, 20	QF 379:17	quantitative 329:17,23 330:2 334:14	419:17 420:5 422:2 426:19 435:22 437:15 444:8 463:19 474:7	questions 264:21 266:25 267:7, 11,13,21 268:3 269:4
pursuit 285:9	266:13 436:22	quarter 272:12,17,18 274:22	481:4,23 483:3,8 485:21 490:25 497:4	276:25 277:8, 18 281:25 282:25
purview 310:12 383:6	qualifications 517:1	question 267:3,20 268:2,9 269:2	499:1,8,11, 17,19 502:1 503:2,4	289:12 293:10,12 294:3 302:13
push 341:12 pushing 461:9 put 286:6 299:16 315:4, 7 329:11,24 353:6 355:19 358:3 369:12 388:23 394:8, 20 421:24 422:21,22 462:8 492:15 495:12 545:10	qualified 379:19 437:5 543:2 qualify 434:16 435:4 437:3 456:1,8 463:23 541:21 542:11,12,14, 17 543:11 544:15 545:24 548:22 qualifying 379:6,12,15	275:3,4 277:13 278:3, 14,16 294:4 297:6,22 298:15,17,19 303:21 308:7 309:8,14,15, 22 310:11,19 311:2,5 312:22 313:1, 2 317:4 326:2 328:11 332:22 334:21 336:22 337:16 351:21 352:3, 12 355:8	506:19,20 508:24 520:19 524:3 525:21 526:24 527:24 528:6, 8,9 531:15 535:19,23 536:12 544:9, 10 545:14,16 549:12 question's 389:8 questionable 508:21	304:14,19 305:4 311:3,4 312:1 316:7,8 319:2 328:18 329:4 332:25 333:7,9,23,24 334:4 335:3,8 337:1 339:9 342:6,8,11,17 343:7,16 344:22 349:24,25 351:11,20 353:12,15,18 357:16 358:2 366:8,10,14, 16,18 374:19, 21,22 376:4
puts 488:22	379:6,12,15 548:24	360:2,4,5 367:2,4	554:12 560:4	380:16,21 385:8,16

Index: queue..read

397:2,18	queue 285:24	560:24 561:3	332:18 359:7	rather 374:8
403:12 408:4	303:23 304:1,		365:20 366:2	439:21 441:4
416:1,5,9,14,	7,9,11 323:2	guotod 110:1	370:18	550:21
20 417:7,9	327:11	quoted 448:4	371:16 373:4	557:17 559:2
418:6,7,16	330:16		378:23 393:3	
419:9,11,16	338:12	quotes	394:15,23	
420:17 425:4	343:15,18,22	272:25 273:5	396:20,21	rating 362:20,
429:3 430:4	344:1,6,9,14,		403:22	24 519:4
432:12	15 346:22,24	_	429:20	
435:11,13,14,	353:3 364:20,	R	434:22	ratings
16,20 437:8,	21,23 365:2,		495:12	425:23
11,13 439:9	11,13 445:17		497:24	120.20
441:20 443:2	446:7 448:1,3	R-i-c-k 356:18	513:20 514:1,	
458:16	464:23 465:1,		14,15,20,22,	ratio 396:2
459:22	9,15 466:9		24 515:2,19,	419:24
462:20,21,23,	9,15,466.9 467:5,9,19	raise 301:5	20,23,24,25	
1 ' ' '	407.5,9,19	442:2,3		rationale
25 468:7			516:1,7,8,20	271:13
475:25	quick 376:15	raised 270:18	517:20	211.13
476:16	435:22	287:8 294:19	518:17 520:7,	
491:17	501:11	507:14 540:9	13,16,18	ratios 508:7
499:24 500:5,	536:12 544:8	507.14 540.9	521:4,18,22	519:11
6 501:13			522:1,5,7,9,	
503:6 506:16		raising 460:1	11,17,19,21,	
511:8 513:6	quickly 353:7		25 523:9,14,	RAV-1SR
517:25 518:2,	460:19	070.40	15,18 524:5,	379:25 380:6
3,6,8,12	485:21 486:7	ran 278:13,	15,16 525:5	
533:2,6,9	556:9	15,22 279:16	529:6 534:4,8	RAV-2
534:25 535:3,		465:4 474:5	535:12,16	409:17,18
7,10,11,21	quiet 393:16	487:19	552:23	100.17,10
536:9,11	quiet 333.10		555:14	
538:1,3,5,7,9		range 276:10	559:13	RBA 525:2
539:14	quite 335:24	334:18		
543:22,25	401:5 518:22	362:10 421:2	motos 074:04	reached
544:4,6		002.10 TZ 1.Z	rates 371:24	454:13
546:2,6,8,11	6110 FF7:0		373:11 392:3	404.10
547:19	quo 557:8	rank 281:5,12	394:17	
549:10,15			419:21 420:8,	reactive
550:11	quote 294:22,	ranked 286:1	13 498:17	419:5
551:25	24 295:3	1 a11NGU 200.1	514:1 515:11	
562:17,22,24	369:5 404:2		516:12	mand 000:7
563:1,3,5	475:15 481:1	rarely 556:1	521:25 523:5	read 296:7
566:8,11,12	558:14,24		531:6,23,25	320:12
000.0,11,12]	rote 214:0.0		322:20 325:2
		rate 314:2,3		

326:3,10	realistic	542:24 543:7	REC-LIKE	received
340:20 367:3	286:10	545:3,17	506:24	270:5,7,10
368:17,21	200.10	J7J.J, 17	JUU.Z4	273:5 323:11
				452:14
369:20,24	realistically	reasonable	recall 267:11	_
374:24	286:25 394:7	285:18,21	268:16,24	454:16
376:10,23		288:14 289:3	294:17	464:22 468:1
377:19 389:4,		295:1,14,23	295:25 300:1	476:7 477:7
15 404:3	realize 459:5	301:17	318:9 330:17	517:6
409:20		316:21,25	331:3 335:22	
470:10 483:1,	realized	319:19	336:6 340:4	receiving
2 490:6	483:6	331:24	344:13	466:3 478:20
492:11 493:2,		335:17	346:12,18	479:21 515:2
5 494:10		359:16 517:2,	349:15	., 0.21010.2
495:2,3	really 271:15	14 528:6	350:19 351:1	
503:4,5	272:1,9	17 020.0	353:24,25	recent 372:11
528:23 529:7,	275:24		388:21 416:8,	505:22
13 536:23	278:13	reasonably	13,19 417:9	553:11
563:25	291:24	560:15	418:7,15	554:15
564:16	292:10,15	564:14	418:7,15 420:5 482:8	
	296:13,22		420:5 482:8 500:12 507:3	recently
rooding	301:3 310:20	roscono		393:12 519:1
reading	312:24	reasons	521:6 526:23	J93.12 519.T
335:22	315:21 320:3	267:23	535:6,10,13	
511:25	324:1 325:10	427:13	562:10	recess
	333:5 334:6	458:12		333:12 397:5,
readjustment	339:22 341:9	514:25	recalled	7 458:19,20
s 431:3	350:2 351:4		268:21	502:15,21,24
	365:17 378:2	reassess		566:25 567:2,
#00do 070 00	391:4 394:14,	461:15	roce!mt	3
reads 373:20	19 395:13		receipt	
493:7,18	400:23	moh	454:17	rocite 070 to
	417:25 462:4	rebuttal 319:6	477:25	recite 376:16
ready 333:13	471:13 485:9	324:11		
364:5 370:13		356:23	receive 324:2	recognize
374:20	l	375:23	436:25	269:14 319:9,
405:11	reason	408:18 409:3	453:20	11 479:14
414:25 415:5	267:20 273:6	432:6,17	463:16 475:8	
	347:16	470:7 472:13	476:2 478:13	l l
	353:22 370:3	512:24 528:3	479:4,10	recognizing
real 275:7	386:6 395:4	551:22	515:8 521:23	449:10
360:5 361:3	422:12 452:5,	561:23	544:20	471:15
386:16 483:7	8 477:17	563:15,16	J77.2U	487:21 507:1
	480:8 502:14			508:20
I				

recollection				
recollection		0044	00-0-00-	000 00
	310:15 319:4	394:17	267:2,5 333:5	268:23
307:7 308:7	332:23	429:17	416:3,6	274:15
330:21	333:14	467:23 514:3,	419:11	278:12 290:8
405:10	336:24 339:9	13 515:15	439:12	392:6,9,11
507:13	356:17	516:6 517:15	470:22 500:2,	404:2 490:24
524:23	357:21 381:8	520:17	3 535:2,4	505:14
	385:25 396:5	525:20	, ,	
	397:9 415:22	526:14		
recommend	418:9 430:16	528:23 529:2,	redispatch	referenced
352:17	431:25	5 531:6,7,11,	404:23	390:11 410:2
			405:14	492:16
	432:18	13 533:23		
recommendat	442:13 444:1	559:8		_
ion 290:12	458:22		redispatched	references
291:10 292:6	486:21	recross 269:2	406:2	528:3
293:4 301:20	487:14	419:12 500:1		
335:15 338:7	492:17,22		reduced	notonno d
406:7,23	499:21	536:11,14	reduced	referred
,	500:19		330:2 406:12	399:22
	501:14 502:5	RECROSS-	451:11	434:19
recommendat	503:1,12	EXAMINATIO		471:11
ions 283:25	511:15	N 419:14	reduction	547:25 548:2
289:23,24			330:3 421:7	
290:2,3,4,15,	512:17	536:16		referring
16 292:20	513:11		434:22 440:5	referring
297:21	529:10,13	recurring	463:16	299:19 313:3
340:16 482:6	530:12 536:2	525:24	515:10	338:18
528:7	550:21	020.21		352:13
320.7	551:15		reductions	370:21
	553:19	red 478:7	276:11	379:18
recommende	561:23	487:5 488:10	_	384:19
d 339:11,16	562:12		451:14	388:17
340:7,22	002.12			400:18
341:4		redacted	redundancy	475:21
	recover 468:4	290:10	543:4	506:25 524:7
	513:24 522:7,	340:14 482:4,	UTU.T	527:4 537:1
recommends	18	14,16 483:18		0∠1.4 031.1
528:1 529:20		491:15	refer 290:11	
	_	563:18	377:1 384:2	refers 390:1
	recovered		408:16	401:16,17
reconvene	392:2 393:3		488:12 493:4	
502:22	522:24	Redeeming	535:20	
		541:22	300.20	reflect 357:8
record 264:4	W0.001/0W			392:21 491:2
	recovery	wooding of	reference	
269:24	372:1 392:22	redirect		

		-		
			l	l
reflected	472:19	466:4	434:24 435:2	464:23
350:10	521:22		476:23	507:16 520:8
513:25	529:25 531:1	regulation	492:10 497:2	
	540:17	512:21	525:3 526:14	relevant
		312.21	534:2 558:19	
reflection				288:19 433:6,
265:18,22	regardless	regulations		10 519:12
	276:6 280:6,	276:1	relates	566:4
reflects	11 309:20	2. 0	267:17 292:4	
307:25	311:21 345:9		316:9 403:11	reliability
307.23		regulator	433:13 483:4	288:17
		479:19	496:22	
reform	regards	498:15		361:23,25
433:10 519:9	543:15			362:6,13,15
533:20,25			relating	367:8,11,17
000.20,20	regime	regulators	443:14	368:25
	483:21	475:13	527:25	369:11,15
refresh 308:6	403.21	555:21		370:8 385:14,
405:10			1 4	18 386:1,5,10
	region		relation	400:3,7,12,17
	361:19,20	regulatory	277:10 349:7	417:8,20
refund 519:3	001.10,20	276:7 302:11	548:23	418:2 422:15
		414:21 415:9		423:1 425:21
refunds 519:5	region's	429:17 446:3	rolotionobin	
reiunas 519.5	359:4	449:21 450:7,	relationship	561:10,15
		14 451:1,5	283:5 298:13	
refusing	_	454:1 466:3		reliably
530:23	regional	468:21	relative	362:9,23
559:10	358:16 404:3,	472:24	274:20	403:17
000.10	6,14,18,21,22	473:14 474:5,	_	403.17
	405:2,8	,	277:16,21,24	
regard 268:17	407:10	7,11 475:9	286:16,23	relied 553:18
284:10		477:20 479:7,	287:3 292:11	
286:14	<u>.</u> <u>-</u>	15 491:21	324:6 376:5	
346:22	registration	498:15,19	500:16	relief 399:15
472:10	493:10	510:11 548:7	501:21	
481:21 506:7,			518:23	relies 433:7
· ·	rogulorly	malata 004:40	532:13	1 elles 433.7
9	regularly	relate 391:16	535:16 566:2	
	546:25	403:12 548:6		relieve
regarding				397:25
284:11,12	regulate	related	relatively	
318:12	276:5	291:12 293:2	276:13,17	
418:16	270.0	318:15,23	359:18	relieving
		· ·	422:25	387:16
469:25	regulated	382:12 418:6		

Index: relocate..reproduced

		204-40	000-00 000-7	540.04.500.0
relocate	remarkable	391:19	282:22 283:7,	516:24 520:3
484:22	550:3	424:18	22 284:1,7	530:11
		510:20	286:12 287:8,	533:19
relocation	remember		14 288:1	535:22
			290:3,8	536:21 555:6
484:24	318:24	reoptimizatio	296:14 297:8	557:7
	380:24 440:3	n 404:24	299:1,4	
reluctantly	548:9	405:14	304:15	
377:1			305:10	represent
077.1	removal	repeal 486:2	306:11,16	289:18
	449:24 553:6	Tepeal 400.2	′	302:10 329:1
rely 274:14			307:9,10	398:23 541:6
275:19,24	560:9	repealed	309:9 310:20	
484:3 555:21		510:7	313:14	.
	remove		317:23	representatio
	481:19 553:8		320:13,19	n 334:18
relying 434:1,	401.10 000.0	repeat 306:24	322:15	483:5 494:25
3		309:13 327:1	326:23 327:3,	495:8,17
	removed	339:14	19 329:5	561:19
	305:18 306:3	357:11	330:8,22	
remain 398:3	447:19	384:11	337:23 338:1	
444:6,10,12	560:10	394:13	347:5 349:9	representativ
445:4 455:18	000.10	468:25	351:5 407:23	e 415:22
478:18 488:7		400.20	438:4 439:22	
489:2 552:1	removes			representativ
558:20	489:7	repeated	481:24 482:1	es 369:3
		554:8	483:17,20	
				547:8
remainder	removing	, 11	reported	
455:21	281:19	repeatedly	447:4,14	represented
		369:3	777.7,17	503:11
remained	renewable			000.11
347:18	279:21	replaced	reporter	
347.10	_	447:20	305:5 375:3	representing
	283:15	447.20	381:6	305:2 334:10
remaining	289:20 290:5			
279:9 363:15	295:8,11	replacement		
455:4 461:2,	424:9 464:1	421:15,20	reports	represents
18 476:1	507:4 509:22	422:4,9	407:21 485:5	364:2 382:10
478:5 488:25	540:10,11,12,	122.1,0		556:8
770.0 700.23	15 541:1		ronowaring	
	559:19	report 267:8,	repowering	roproduced
remains		14,16,22	423:16	reproduced
362:3 444:7		268:22	513:22	368:15
450:3	renewables	269:15,16	514:12,17	
				ı

	FF0.00	240.22	04 007.47 04	40 007.5 40
repromulgate	552:22	349:22	24 287:17,21	19 287:5,12,
d 547:1		355:20 362:8,	292:9,10,16	20 288:21,24
	required	16 381:23	296:11 303:1,	289:1,5
request 264:7	276:10	470:1 564:3,8	9 314:14	290:6,7
364:22	283:22 288:9		317:1,5,14,16	291:13 292:7,
371:20 372:5,	308:25	requires	321:20,21	13 293:3
7,21,23	309:20,24	371:15 379:7	332:12	295:7,8,11,
405:17,20,25	311:22 328:4	401:19 429:7	334:11	20,22 296:11,
406:9,12,15,	332:5 362:1,	401.19 429.1	335:16	15 297:15
	•		336:10,14,15,	298:20
17,24 407:6	13 363:1	rescission	17 337:3,5	303:25 309:5,
421:16	364:16 366:3	494:24	338:3 343:5	10 316:1,25
487:20	371:1 372:15		348:23 349:2	317:3 318:22
495:13 496:7	373:5 378:22		350:22 352:4	321:7,8,10
516:5 521:3,6	379:13	research	355:14 368:5	323:23
533:13,15	402:11	496:8 560:5	393:10	326:18,25
	404:17		405:14	327:5,22
requested	428:23	reservations	407:15	328:15
290:25	487:22	286:11	421:15 422:3	329:10
407:17	491:25	200.11	445:2,8,22	334:18,24
446:25 448:4	493:11,19,21		, ,	,
	496:20 497:2,	reserve 462:2	458:13	335:19 343:4
474:23 475:4,	7,15 519:17	564:8,13	463:21 465:3,	348:20,21
7 487:9,13			4,21 469:3	349:18
		raaiatanaa	487:18	350:17
requesting	requirement	resistance	507:22	360:14
515:14	265:6 300:24	403:2	513:23 516:4,	361:14,19
	350:25 352:5		5 526:13,18	386:4 388:6
	373:10 392:1	resolvable	527:8,13,18	389:21
requests	434:9,10,11	490:17	531:23,24	390:18 391:5,
283:16	497:19,22		532:8 549:22	12 398:3
358:15 373:9	498:13		553:16 555:8	399:2 401:9
377:3 406:18,	523:11	resolved	558:3 559:16,	404:24
21 517:17	541:23,24	435:6 540:11	21 564:15,23	406:13
	542:1,11	549:5	565:3,11	421:20 422:4,
require	545:24		566:4	6,9 423:14,
281:15		resort 455:6		15,18 424:10
308:13 309:2	roquiromanto	100011 700.0	rocources	428:6,19
349:21	requirements		resources	445:10,25
	284:5,19	resource	281:16	497:6,7
352:23	314:19	264:6,7	283:20 284:9	510:19 514:6
360:14	316:16	280:14 284:4	285:4,9,14,	515:14 517:1,
370:17	319:22	285:1 286:6,	20,22,24,25	13 530:9
481:23	322:10 345:2		286:8,13,16,	

Index: respect..return

				.specerecurii
	1			
533:19,23	responded	rest 368:18	resulted	504:16
534:2 554:7	269:19	459:6	286:24	
556:15	270:18		346:11 365:8	
557:21,25			434:20 447:8	retains 446:9
559:19		restate	554:3 558:2	467:12
560:21 561:3	response	298:16	001.0000.2	
564:7,10,20,	268:20 269:9	524:20		retire 421:19
1 ' ' '	278:15 299:2	525:10	resulting	10tile 421.13
22 565:4,17	310:4 322:4,	544:23	326:13	
	19,23,25		358:19	retired
respect	323:9,10,14,		557:20	398:17,25
269:10,15	15,20,21,24,	restricted		,
277:22	25 326:11,12,	281:1		
299:11	22,23 327:4,		results 277:9	retirement
308:12 320:1	17 347:18	restrictions	278:12 285:8	398:18,20
		343:13	291:21 294:5,	399:4,6,20
343:14 346:1	348:2 385:8	343.13	8 296:19	400:10
351:23	422:25 423:5		297:3,12	420:23,24
352:14	448:9,10	restrooms	302:16,17,20	422:14,18
390:14 440:8,	475:24 521:2	333:16	320:3 321:12,	423:12
20 450:18	535:11	000.10	13 328:14	120.12
452:9,23			363:4 447:4,5	
453:18	· · · · · · · · · · · · · · · · · · ·	restudies	•	retirements
456:19,20,23,	responses	365:6 447:16	450:25	399:14,24
25 457:6,22	350:8		469:22 475:8	
468:2 474:19,			553:4,12	
20 478:22	responsibiliti	restudy	554:9 555:9	retires 421:12
480:3 483:11,	es 508:3	365:12	559:11 560:1,	422:4 423:23
13 487:17	000.0	447:24	3	
491:3 494:16,				retiring
1	responsibility	result 271:11	retail 288:15	424:18
19 548:16	394:11	285:10,13		424.10
549:23 561:6	396:25	287:23	319:19	
	449:18		360:23 361:5	retreading
respects		288:13	373:11 393:3	425:9
383:11		319:18 325:5	394:9,15,17	
333	responsible	326:8,18,24	420:8 429:12	
	373:4 457:18	327:12		retroactive
respond	517:8 529:12,	330:24 373:6	retain 534:1	524:15
268:1 269:23	22	396:20	I GLAIII JJ4.1	
297:9 309:14		422:18		retrospect
348:20	roonereisse	494:23 560:2	retained	557:9,15
383:14 499:5	responsive		280:13,20	JJ1.8, 15
530:19	371:6 384:12		283:13	
		result's 532:2	349:24	return 269:8
	1		1	

Index: returns..risks

410:25	332:19 389:3	409:23	25 447:4,8	rights 446:8
455:19	395:1 407:22		448:8,14	467:3
458:18 522:9,	449:21	05440	452:19 456:6	
21 523:1,19	450:21 458:4,	revisit 354:12	465:11 467:2	l
	12 473:14		475:6 495:5,	rights-of-way
	474:12,24	revived	13,20,21,23	453:21,24
returns	479:19 487:7,	463:13 510:8	496:1,2,12	489:23
523:23 555:5	15 497:6,7	400.10.010.0	498:4,5,8,23	
	498:15		504:9 506:1,6	rigorous
reveele		RFP 265:5,6	· ·	rigorous
reveals	516:11,24	269:10,11,22	511:22 553:4,	458:11
555:17	532:16,19	270:5,7,8,9,	12 557:20	
	534:4 545:8	12,15,16,19	558:6,15,18	risk 273:3
revenue		271:5,6,21	559:5,11	285:3 287:7,
314:19 361:6	reviewed	283:18 284:3,	560:3	8,22 288:3,6
391:25	277:24 465:1	18 285:13		330:3 360:11
394:10 418:7,	481:25 488:5	288:1 289:23	RFP'S 558:23	361:3,8
12 429:13,20		291:6,8,9	KFF 3 000.20	363:18 364:7
1	489:14	, ,		
433:14 435:2		292:17,19,24,	RFPS 270:2	394:8,20
514:9 515:10	reviewing	25 293:6	289:25 290:5,	437:21
523:11	296:15	294:13,19,20,	16 291:12	456:20
	329:17	21 295:6,7,	297:4	480:22 481:2,
revenues	020.17	13,16,18	207.1	7,9,15,18
393:1,6		296:2 297:13		483:23 485:4,
419:22 420:7	reviews 405:6	298:8 299:2,7	RFT 492:16	9 490:22
419.22 420.7	451:1 475:9	302:16,24		496:16
	479:15	303:17 310:6,	Dials 264:0.15	497:17,25
reverse	487:25	12,24 318:18,	Rick 264:9,15	498:3 516:25
421:11 550:4,		19 319:17,23	356:6,11,18	537:21 543:4,
9		320:6 334:17,	380:4	5,16 549:20
	revised	23 335:23,24		553:20
	409:15	336:3,4 337:2	Ridge 443:15	554:15 555:8,
revert 455:6	412:11 487:4,	342:23 343:3	446:20,22	15 557:13
	6 537:23	344:3,16	447:6,18,23	558:17 559:6,
review 265:12		347:19,23	7-77.0, 10,20	7,9 560:17
274:22	revising	348:9 349:12,		1,3 300.17
274.22	412:14	•	right-hand	
291:18,23	414.14	17 351:22	316:22 368:8	risks 284:15
1		361:21		286:4 287:4
292:18,23	revision	363:12 365:4	riabt of war	288:2,6,17,
294:13	409:24	382:23 383:5	right-of-way	23,24 329:12
298:25		416:19 434:5	450:10	451:10
303:10		445:1,14	454:17,20,25	483:10,11,12
306:19	revisions	446:1,10,12,	489:9	,,,,,,,

Index: risky..same

499:15 517:9 role 282:16, 19 284:6 253:10,12 2556:23 role 282:16, 19 284:6 299:2 300:22 RPF 287:9 511:16 run 281:2 314:7,8,11 546:18 547:24,25 548:1,2,3 risky 329:7 557:18 rolled 371:23 RSUP 561:25 runs 281:22 285:12 312:13 317:3 320:14 runs 281:22 295:2 311:22 312:13 317:3 320:14 runs 281:22 295:2 311:22 312:13 317:3 320:14 said 289:22 295:2 311:22 32:13 317:3 320:14 runs 281:22 285:12 312:13 317:3 320:14 runs 281:22 295:2 311:22 312:13 317:3 320:14 runs 281:22 295:2 311:22 32:13 317:3 320:14 runs 281:22 295:2 311:22 32:13:13 317:3 320:14 runs 281:22 295:2 311:22 31:13 317:3 320:14 runs 281:22 295:2 315:22 35:12:13 runs 281:22 295:2 31:22 35:12:13 runs 281:22 25:25:12:2 35:12:13 runs 281:22 25:25:12:2 35:12:13 run					t i i i i i i i i i i i i i i i i i i i
Tolle 282:16 19 284:6 292:2 300:22 511:16 711:16 284:6 292:2 300:22 511:16 711:16	499:15 517:9				437:4 441:7, 11,13 456:2, 9,10,16
risky 329:7 roll 373:10 RSUP 561:25 runs 281:22 285:12 295:2 311:20 312:13 317:25 Rives 539:7 Rolling 531:24 RTL11SS 511:16 rushed 558:18 320:14 350:13 351:3 410:11 412:3 320:14 robust 299:2 322:4,14,16, 22,25 323:9, 10,14,21,24 324:1,9 325:10 326:12 327:3, 4 347:18 481:2 486:7 488:4 rollup 501:5 503:20,24 504:21 23 533:13,15, 22 RTM 513:24 515:1,20 522:4 525:12, 23 533:13,15, 31:17 319:12 309:13,15 341:17 496:5,9 526: 542:9 325:10 309:13,15 342:9,10 326:10 326:12 327:3, 354:1 357:24 460:25 544:9 RTM-LIKE 524:25 309:13,15 309:13,15 342:9,10 309:13,15 342:9,10 326:10 375:14 sake 508:5 sake 508:5 robustness 323:19,20 448:9 488:14 roughly 374:8 40:22 407:19, 20 420:3 421:1,4 423:24 RTO 374:4 375:14 423:24 375:14 36:19 32:13 334,5 562:25 563:1 423:24 same 267:20 272:6 273:6, 2	553:10,12 554:23 556:23	19 284:6			547:24,25
Rives 539:7 Rolling Follup 551:16 rushed 312:13 317:3 320:14 320:14 350:13 351:3 320:14 350:13 351:3 320:14 350:13 351:3 320:14 350:13 351:3 320:14 350:13 351:3 3410:11 412:3 34:13:25 410:11 412:3 34:13:25 420:10 460:8 461:17 488:21 491:17 488:24 488:21 491:17 488:21 491:17 <th< td=""><td></td><td>roll 373:10</td><td>RSUP 561:25</td><td></td><td>295:2 311:20</td></th<>		roll 373:10	RSUP 561:25		295:2 311:20
Rives 539:7 Rolling 531:24 RTM 513:24 514:2,4,12,18 515:1,20 522:4 525:12, 23 533:13,15, 22 3533:13	1	rolled 371:23		rushed	320:14 350:13 351:3
robust 299:2 322:4,14,16, 22,25 323:9, 10,14,21,24 324:1,9 325:10 rollup 501:5 503:20,24 504:21 515:1,20 52:24 525:12, 23 5305:1,7,10 309:13,15 534:13 542:4 18:547:8 304:19,22,23, 49:530:1,7,10 309:13,15 534:13 542:4 18:547:8 461:17 488:21 491: 496:5,9 526: 536:1,7,10 309:13,15 534:13 542:4 18:547:8 304:19,22,23, 25:305:1,7,10 309:13,15 534:13 542:4 18:547:8 461:17 488:21 491: 496:5,9 526: 534:13 542:4 18:547:8 325:10 326:12 327:3, 434:13 57:24 460:25 544:9 700m 282:23 354:1 357:24 460:25 544:9 87M-LIKE 524:25 342:9,10 342:9,10 342:9,10 355:18 397:14,15,17 408:3 437:10, 375:14 344:3,4,13 476:12,13,15 482:18,20 485:12,15 533:4,5 17:14 32:14 375:14 375:14 375:14 344:3,4,13 476:12,13,15 482:18,20 485:12,15 533:4,5 17:14 32:14 36:19 32:13 33:4,5 17:14 32:14 376:12,13,15 482:18,20 485:12,15 533:4,5 17:14 32:14 376:12,13,15 482:18,20 485:12,15 533:4,5 17:14 32:14 376:12,13,15 482:18,20 485:12,15 533:4,5 17:14 32:14 376:14 376:12,13,15 482:18,20 485:12,15 533:4,5 17:14 32:14 376:12,13,15 482:18,20 485:12,15 533:4,5 17:14 376:12,13,15 482:14,14 376:12,13,15 482:18,20 485:12,15 533:4,5 17:14 376:12,13,15 482:18,20 485:12,15 533:4,5 17:14 376:12,13,15 482:18,20 485:12,15 533:4,5 17:14 376:12,13,15 482:18,20 485:12,15 533:4,5 17:14 376:12,13,15 482:18,20 485:12,15 533:4,5 17:14 376:12,13,15 482:18,20 485:12,15 533:4,5 17:14 376:12,13,15 482:18,20 485:12,15 533:4,5 17:14 376:12,13,15 482:18,20 485:12,15 533:4,5 17:14 <	Rives 539:7	_			3 413:25
325:10 326:12 327:3, 4 347:18 rollups 502:17,18 RTM-LIKE 328:17,20 342:9,10 342:9,10 355:18 397:14,15,17 sake 508:5 488:4 room 282:23 354:1 357:24 460:25 544:9 RTO 374:4 375:14 375:14 375:14 397:14,15,17 408:3 437:10, 11 444:3,4,13 476:12,13,15 482:18,20 272:6 273:6, 19,21 275:12 284:20,21,22 25 285:1,5,6 293:13 374:18 402:2 407:19, 20 420:3 421:1,4 423:24 402:2 407:19, 20 420:3 423:13 374:18 485:23 499:18 507:24 509:19 511:2 562:25 563:1 333:10,22 339:12 346:6 334:18 357:16,18 371:25 389:23 401:5 509:19 511:2 Selection of the company	322:4,14,16, 22,25 323:9, 10,14,21,24	503:20,24	515:1,20 522:4 525:12, 23 533:13,15,	304:19,22,23, 25 305:1,7,10 309:13,15 311:17	461:17 488:21 491:1 496:5,9 526:6 534:13 542:4,
488:4 room 282:23 354:1 357:24 460:25 544:9 RTO 374:4 375:14 397:14,15,17 408:3 437:10, 11 444:3,4,13 476:12,13,15 482:18,20 448:9 488:14 same 267:20 272:6 273:6, 19,21 275:12 284:20,21,22 25 285:1,5,6 293:25 402:3 421:1,4 423:24 rule 284:19 316:19 322:13 374:18 485:23 499:18 507:24 509:19 511:2 same 267:20 272:6 273:6, 19,21 275:12 284:20,21,22 25 285:1,5,6 299:12,14,18 17 324:14 333:10,22 339:12 346:6 333:10,22 339:12 346:6 338:18 354:18 357:16,18 371:25 37:17 540:19,23 541:13 543:3, rule 284:19 316:19 322:13 374:18 485:23 499:18 507:24 509:19 511:2 same 267:20 272:6 273:6, 19,21 275:12 284:20,21,22 25 285:1,5,6 299:12,14,18 17 324:14 33:10,22 339:12 346:6 333:10,22 339:12 346:6 337:15 562:25 563:1 same 267:20 272:6 273:6, 19,21 275:12 284:20,21,22 25 285:1,5,6 299:12,14,18 17 324:14 33:10,22 339:12 346:6 337:16,18 371:25 339:12 346:6 375:11 434:24 RCKY 264:5 293:25 407:19 204:203 407:19 204:203 407:19 204:204 409:18 2	326:12 327:3, 4 347:18	•		328:17,20 342:9,10	sake 508:5
Robustness 323:19,20 448:9 488:14 roughly 374:8 402:2 407:19, 20 420:3 421:1,4 423:24 Fulle 284:19 316:19 33:45, 53:4,5 546:4,5 546:4,5 542:11,4 499:18 562:25 563:1 284:20,21,22 25 285:1,5,6 299:12,14,15 533:4,5 546:4,5 562:25 563:1 33:10,22 339:12 346:6 339:12 346:6 348:18 357:16,18 357:16,18 371:25 389:23 401:3 57:16,18 371:25 389:23 401:3 442:124 421:24 421:24 421:24 S-t-e-w-a-r-d 512:19 421:24 421:24 421:24 422:24 36:11 434:13 541:13 542:13 542:19 542:24 542:19 542:24 542:19 542:24 542:19	488:4	354:1 357:24		408:3 437:10, 11 444:3,4,13	same 267:20 272:6 273:6, 19.21 275:12
Rocky 264:5 20 420:3 374:18 421:1,4 485:23 339:13 354:4 333:10,22 339:12 346:6 339:12 346:6 339:12 346:6 348:18 357:16,18 357:16,18 357:16,18 357:16,18 371:25 389:23 401:3 371:25 389:23 401:3 389:23 401:3 402:25 410:5 421:24 429:18 421:24 429:18 421:24 </td <td>323:19,20</td> <td>roughly 374:8 402:2 407:19,</td> <td>316:19</td> <td>482:18,20 485:12,15 533:4,5</td> <td>284:20,21,22, 25 285:1,5,6 299:12,14,15,</td>	323:19,20	roughly 374:8 402:2 407:19,	316:19	482:18,20 485:12,15 533:4,5	284:20,21,22, 25 285:1,5,6 299:12,14,15,
380:10 442:18 458:3 492:18 495:6, 7,11,16 537:17 540:19,23 541:13 543:3, round 343:12 344:13 558:9 rules 299:6 375:11 434:24 rounds 478:7 488:10 safe 428:13 357:16,18 371:25 389:23 401:3 402:25 410:5 421:24 429:18 432:12,14	293:25 339:13 354:4	421:1,4	374:18 485:23 499:18	562:25 563:1	333:10,22 339:12 346:6 348:18
492:18 495:6, 7,11,16 537:17 540:19,23 541:13 543:3, rules 299:6 375:11 434:24 S-t-e-w-a-r-d 512:19 389:23 401:3 402:25 410:5 421:24 429:18 432:12,14	380:10			S	357:16,18
541:13 543:3, safe 428:13 432:12,14	492:18 495:6, 7,11,16 537:17	rounds 478:7	375:11		389:23 401:3 402:25 410:5 421:24
14 555.16 Touring 450.10 454.1,4,0,12 443:2,3 446:	1	routine 345:5	ruling 480:10	safe 428:13 434:1,4,8,12	

				1
452:3 461:15	23 423:12	412:10	scheme	312:18
496:11 499:3	424:24 436:9,	494:14	298:10	316:15 319:3
502:2 505:2	23 437:3,5	496:15,18,20	301:21	326:16 328:1,
508:7 513:6,8	440:11 449:8	552:8		2 338:15
524:24	452:2 453:16		Schmid	356:24
536:20	454:22	scenario	392:12	361:17
539:14,16	456:21	308:23 437:2	518:10	368:14
551:25 552:2	460:24 461:3	503:8 556:8	0.00	408:24
556:22	463:21	000.0 000.0		426:16
	465:24	_	scope 296:9,	442:20
satisfy 434:9	466:14,20	scenarios	13 297:6,7,	470:22 473:2,
Callery 10 1.0	472:4 476:5	271:19,22	14,20 298:5	5 481:23
	477:13 478:5,	275:16	309:9 318:23	512:25
save 365:23	11,18 479:5	405:22,23	364:11 374:6	515:18 557:9
484:23,24	480:16 488:7,	555:11,13,18,	559:18	
	11 489:12	19		secondary
savings	494:18		scrutinize	540:14
285:11	495:23	schedule	330:8,11	040.14
200.11	496:14 497:8	282:7 324:20	000.0,11	
	507:19	414:2 450:20		section
say 268:19	508:13	451:8 455:5,9	scrutinized	294:24
269:12	509:25	457:4 477:20	286:9 300:13	307:13
272:16	510:24	493:19 494:1,	330:10	368:21
273:12 274:5,	518:19,25	7,8,12,19		389:16 469:1
14 276:21	527:15,20	495:4,9,13	scrutinizing	491:17,20
279:6 291:9	543:14	497:9,14	292:10	493:4,17,18
296:10 303:3,	548:19 552:8	506:13	300:17	496:18,25
15,17 304:5	565:6	300.13	300.17	524:8,12,14
314:7 320:15				527:12,16
324:1,18	cavina	scheduled	scrutiny	551:18
326:7 330:10	saying 317:18 320:7	398:17 399:3	331:22	
331:10	325:22	473:23,24		secure 304:9,
339:23,25	343:21	521:10	seasons	11 328:6
343:3,16			455:12	11 320.0
372:22 373:8	395:25 396:1	schedules	488:22 489:1,	
378:10	427:2 498:19,	270:3 364:12	400.22 409.1, 7	seek 445:1
391:14	22,23 510:5	450:14 455:8	l '	467:23 483:9
395:10		470:18		514:13 516:6
396:23	says 322:20,	470.16 472:24 474:2,	second	528:22 529:2,
408:19 415:3,	22 340:15	,	267:14 268:5	5,8 531:7,13
21 419:25	368:9 378:4,	17,20,25 477:24 478:4,	269:14 287:7	
421:10 422:3,	11 389:16	•	291:11	sooking
		6,15 489:1,6		seeking

Index: seeks..set

303:8 336:18 463:6 521:20	390:5,10,14 426:17	346:23	separate 295:7,18	403:17
526:15 531:11	select 318:21	senior 442:17	302:22 312:8, 12,23 318:9, 11 339:20	serves 372:14
seeks 371:12 544:15	346:10 selected	sense 277:23 278:24 281:20	404:11 448:19	service 264:4 283:14 353:4
seem 459:2	277:17 281:3, 6 285:22,25 309:18	313:17 354:19 355:6 430:18	separately 312:14	372:5,6,7,8 382:4,6 388:18 403:8
seemed 295:4	311:13 317:6 320:16 328:4 334:23 337:6 338:20	501:25 536:4 544:24 560:21 566:15,17	September 319:5 369:25 520:1 561:7	426:12,18 429:15,19 433:19 434:13,15
seems 351:1 395:16 461:7, 9,10,11	344:16 345:15 346:9, 11,15 361:21 363:12	sensitivities 270:11,14,16,	sequenced 559:21	435:2,25 436:7,21,24 437:7 441:4 521:15
seen 274:13 301:11 321:13 375:5	414:16 434:5 445:1 446:24 447:14	20 271:3 278:7,13,23 338:25 510:25	SER 553:24	523:10 528:15 530:22 532:9 534:2 541:3
393:12 518:25	451:21 558:16 559:1 560:9	sensitivity 277:21	serial 344:9 series 417:6	542:6,9,15,25 543:6,8,13
sees 353:23	selecting 277:12	277.21 279:14 504:23 508:17 554:8	418:5 542:19 546:23	545:12,23 548:14,21 549:2,3
segment 306:7 309:21, 24 357:6,14 358:23	selection 283:19 284:9 285:17,19,21	sent 330:19 411:16	seriously 548:20 550:8	services 431:2 564:12
365:15 382:3 388:22 389:11,19,20 390:1,3,5,7, 11,12 427:8, 13,15 428:1 561:6	286:25 288:20 308:4 310:7 328:3 329:10,19 411:4 414:14 447:20	sentence 316:23 319:17 321:2 322:21 324:15 325:2 340:21	SERS 487:19 serve 283:14 359:4 361:15 391:20 457:18 556:2	set 266:20 271:22 273:2 292:20 311:25 322:14,16 425:15 465:16,17
segments	selections 268:18	397:23 529:11,13	served	467:18 475:18 477:4

1			I	1
494:8 495:18	434:20	308:4,9	285:10 286:8	shows 443:20
501:12	443:11,14	309:5,6,19	298:6,9	555:12 564:1
504:18	465:2 467:16	310:1,8,9,10	300:23 302:1	
508:20	506:11	312:4,21	303:14	side 315:23
532:24 537:6	516:13 520:5	313:3,6	305:16	
556:6 560:6	522:11 523:5	315:12 328:3,	347:23	316:18,22
	533:17	4 333:4,8	350:14	368:8 379:9
1 225 2	557:22	337:18 338:2,	381:19	508:16 565:3
sets 265:6		7,19,20	382:18 383:9,	
273:24		339:10,16	23,24,25	sign 415:5
491:25	share 277:19	340:6,8,10	393:7 394:9	453:12 481:6
493:19	420:3 559:14	346:3,9	421:6 455:19	100.12 101.0
		438:18 445:4	458:6,24	
setting	sharing	446:24 447:3,	502:11,20	signal 328:7
468:20	517:11 531:2	4 458:18	505:10	
480:10 530:4	017.11 001.2	530:23 534:8	508:12	signed
532:7		549:20	516:14 517:8	414:16,24,25
332.7	sheer 360:25	549.20 557:20	522:7,18	415:24
			·	434:19 454:2
settlement	shift 288:2	558:22	528:2 532:21	465:22 481:9,
533:16,18	386:3 531:25		534:4 537:6	405.22 461.9, 12,17
		short-listed	552:8,19	12,17
a attlemente	534:10	470:19	553:16	
settlements		480:20,21	556:17 557:1	significant
533:22	shifted 351:2		560:18	264:6 285:11
	558:9		561:18	287:12 295:9,
Settlers 377:3		short-term	564:19,23	20 386:22
	1:61 550.0	288:16	567:1	387:23 388:4
070.44	shifting 558:8	362:14		391:11,12,20
seven 273:11	560:6	368:24	shovel 498:1	419:3 421:7
446:18		561:10	3.10.01	430:1 433:9
	shifts 537:21			445:2 451:13
several 286:4		shorter 462:5	show 555:9	457:8 458:13
287:19 290:3,		31101101 702.0		469:2 486:15
24 297:25	Shipway		showed	487:17 516:4
298:2,22	283:11	shortly	279:17 405:4	518:17,18
299:20		349:23	275.17 405.4	519:17,10
312:11	short 285:17	407:18		520:2 527:13
324:19	299:21		showing	547:2 553:10
325:22	305:11,13	shot 333:7	279:24	554:2 559:15
383:11	306:19,20,21,	447:20		560:2
403:18	23,25 307:1,	44 7.20	chown	500.∠
425:20	2,3,4,5,14		shown	
425.20	۷,۵,4,۵,۱4	should	554:11	significantly
	-			_

	•		•	•
366:3 387:17 391:17 489:5	288:25 289:4 321:3,5 328:8 333:5 359:2	situation 373:3 398:9 400:22 401:1,	small 346:13 360:13 370:10 386:3	280:4,6,8,15, 16,21 281:3, 16 289:5,19
signing 479:19,20	365:5 376:16 422:8 430:20 446:16 451:15	4 402:13 436:10 549:1	417:21 520:12 552:6, 24	290:6 291:6, 9,12,15 292:6,17 293:3,8
similar 274:6, 12 332:6 354:23 355:5	506:20 507:14 509:3 523:24	situations 555:23	smaller 425:21 515:16	294:20 295:16 296:2, 20 302:16
364:11 425:1 440:21 457:12 487:17	530:12 548:5 557:11	six 272:24 273:8 274:9 372:14,17 410:7 454:9	smidgen 396:8	317:2,24 318:1,7 320:15 385:3 439:25
489:17 525:21 555:25 556:6	single 271:4, 6 312:8 313:11 445:5 524:16	461:10 size 401:8	Snarr 380:20 381:14,15,17	441:16 465:9 540:24 541:2,
557:4 558:13 similarly	sir 289:17 334:1 354:11	402:7 403:3,6 419:1 519:5 520:7	383:13,16 384:10 392:13,15	solar-only 279:2
279:12 527:16 554:1 555:25	366:11 547:20 549:7 550:13	sized 424:1	397:2,3 419:12,13,15 420:16 520:22	sold 433:17 464:1
simple 422:2	SIS 328:6,12	sizing 401:25 skip 369:18	social 276:22	solely 321:6 496:22
simplifying 291:11	sit 487:6 502:11	494:15 skipping	soft 536:6,19 537:1,4,6,11, 13	solicit 322:14 349:18
simply 281:7 558:14	site 453:8 490:11 523:22	493:20	solar 269:11,	solicitation 268:15
simulation 281:18	sites 412:20 489:10	slide 341:7 slightly 270:3	22 270:5,8, 12,14,15,21, 24 271:8,9, 12,14 277:9,	283:17,22,24 284:6,8,11, 13,17 285:8
simulations 554:10	situated 279:13	274:7 307:10 slipped 391:3	13,15,22,25 278:1,7,11, 17,21,23	288:10,25 291:4 294:5, 9,15 295:5 316:19
since 269:7		slips 471:16	279:5,6,19,22	317:10

	-	-	-	
318:12,13,15, 23 321:3,5,6,	347:10 349:4 352:13,17	305:7 306:24 315:14 327:1	sounded 466:16	speaking 370:20,25
12,25 323:18 324:20,21,23 326:8,9,15 335:1,17 336:9,12 348:14,17	353:6,8 354:12 387:7 395:6 396:7, 15 421:4 438:1 439:17 440:6 460:5	358:5 365:8 369:5 372:18 380:5 382:1 384:25 389:16 392:6, 10 394:13	sounds 295:1,14 399:1 412:6 469:5	489:4 509:3 special 369:25
350:9 363:24 495:14 496:2 498:20	497:18,25 501:17 505:22 507:7	399:11 402:2 404:25 405:11 408:21,25	source 438:15	specific 278:14 289:23 290:8 291:1 298:8
solicitations 290:24,25 292:13	sometime 465:19 477:9	409:4 410:16 434:3 452:14 456:15 460:4 469:8,9	sources 560:12	300:8 328:11 336:7 346:7 355:19 370:23 373:8
317:17 341:2 352:22 363:23	sometimes 274:19	475:15 478:23 493:5, 9 500:2	South 331:2 365:2,10 448:2	374:22 377:22 378:2, 6,9,24 403:12
solution 359:23 360:2 428:15 429:7	somewhat 291:17 331:25 342:3 490:9 540:13	507:12 526:22 529:15 533:14 536:24	southeast 359:11 390:25	424:21 488:10 490:12 494:8 496:7 499:12 501:15 507:5,
solve 427:23 428:11,24	somewhere 422:10	sort 334:18 339:19	southeastern 361:2,20 370:9 402:13	8 519:15 521:6 558:16
somehow 310:19 436:8	soon 295:8 344:2 413:12	341:24 349:5, 9 385:18 420:6 476:21 477:19 501:7	425:22 445:12	specifically 267:8 335:15 352:17,18 379:6 416:17
someone 344:15,18 389:8	Sophie 334:10	520:15 548:7 565:8,19	space 313:14 speak 274:4	491:9 523:25 533:25 535:22
something 269:8,13	sophisticated 341:25	sorts 290:5	401:20 428:22 452:17 486:7	563:24 specify
274:14 328:13 332:16	347:11,13 352:14 353:9 465:7	sound 295:12 398:25 482:11	499:10 522:24 523:25 531:9	529:20
343:24	sorry 275:4	521:12	534:17	spectrum 362:9

speculating 556:16	spot 304:1	stage 281:23 330:5	standardized 376:24	459:20 460:4 474:13
speculation 547:13	spreadsheet 291:10 299:22 314:12,15	stages 270:6 415:18	standards 324:25 362:1 367:9,11,14,	496:24 511:4 522:23 550:21 566:15,21,23
speculative 361:8	spring 465:21	staggered 270:3	17 369:15 370:8 385:12, 14 386:1,10 417:8 418:2	start-up 492:2 493:23 496:21
speed 265:7 369:18	Springs 312:2 313:16 447:9 450:2	stake 375:15	437:19 509:22 561:15	started 305:8
spell 356:16 431:24 442:12	451:9 456:16 472:20 476:24 521:11	stakeholder 407:16,22 516:24	standing 550:6	349:14 383:24 456:5 starting
512:16 539:1 spelled	sprinkled	stakeholders 405:17,20 406:6	standpipe 424:2	281:17 307:21 324:15 367:5
442:15	277:25	stale 274:20	standpoint	393:18 403:13 409:9
spend 378:7	SR 380:5 562:1	stand 264:12	275:6 382:3 388:25 393:21 402:5	470:11 491:24 497:23 527:1
spending 453:7	stability 400:10 422:1	282:8 430:12 451:18 477:2 480:3	404:17 413:17	529:11
spent 313:14	stable 558:4	stand-alone	421:14 422:25 424:12	starts 276:19 280:25 282:15
spin 424:5	stack 318:6	368:25 561:10	428:21 stands	320:23 321:2 322:21 368:19
spinning 400:5,11 422:21 423:3	stacked 278:25	standard 289:4 301:1, 7,24 302:1	274:18	377:22 400:23 440:18
424:19 spoken 550:23	staff 368:9 369:5,11 381:1	7,24 302:1 379:4 386:6 413:5 423:1 494:15 542:5 543:10	start 276:14 278:5 283:4 368:16 407:12 440:4 458:18	482:23 523:11 state 288:16
	staff's 561:4			300:23

Index: state's..stray

	1	1	1	
322:13 326:6,	statement	479:16 507:1	407:24	20 412:2,13,
11 335:14,15	271:2 295:1,	557:8		14 415:11
356:16	19 297:12		step 377:11	429:1 440:12
372:25	303:6 316:22	statute	481:20	460:21
379:17,18,19	320:1 322:18	437:18	495:22,24	467:22
403:16	325:2 367:15,	516:16	497:11 498:8,	479:14
408:13	19 378:18		497.11 496.6, 12	487:11
431:24	396:17	524:12,17	12	499:14 520:8
442:12 450:9	401:13	525:3 537:5		521:19
454:25	552:14		step-down	531:20
468:23		statutes	440:21	537:14
498:17		284:3,14		542:15 543:1,
501:23	statements	286:3 288:11		10,11 560:20
503:16	271:13 316:9	299:7 516:3	stepped	
504:25 507:5,		524:8	506:5	
8 508:4,15	states 268:11] "-""		stipulate
509:19 510:2	307:24		steps 425:21	493:15
511:3 512:16	316:23	statutory	440:7,15,16	
528:12	319:17 368:4,	282:16	496:6	stipulated
534:12,18	11 372:9,14,	298:10,12	400.0	449:23
539:1 551:15	17 372:3,14,	301:21 521:4		773.23
559:7	376:24		stepwise	
559.7	397:23	stay 274:25	281:19	stipulations
		461:22 507:2		533:24
state's	405:13	523:14	Steward	
421:16	429:17,21	523.14 552:18	512:6,7,11,	Stoel 539:7
	450:15 466:4	332.16		310e i 539.7
atata Post 4 d	474:6 475:1		16,18 513:11, 15 517:23	
state-by-state	508:8 509:23	stayed		stop 326:15
508:2	527:24	485:23 486:3	518:2 538:4	369:17 401:3
	531:17 532:1,			461:7
stated 268:24	14 533:12	-1	stick 421:20	
457:12	556:18	staying 459:9		-4
468:16,24	559:14,17		atili 004:40	stopping
469:13		steady	still 264:13	461:6,11,25
470:24	static 402:3	395:16	270:4 272:5	562:21
472:17 474:1,	0.00.0		276:8 279:8	
9,10 514:12			286:4 318:3	stops 401:2
521:8 526:16	stating	steel 412:22	321:14	2.000 .0
558:14	316:19	480:2,12	358:10 385:4	
560:23	469:20		397:10	strategy
561:14		steering	401:24	442:18 465:7
001.14	status 452:16	406:20,23	408:22 411:3,	
	318143 432.10	- 00.20,20		stray 269:17
				2

Index: stream..sudden

	I		I	
stream	448:11,13	305:16	9 330:12	294:10 331:4
465:25 508:6		306:17	332:3 336:5	358:18
	atudiad 000:5	308:17	349:24 406:7,	360:11
2 4	studied 296:5	331:19 332:1	22 427:15	470:12,13,25
Street 539:8	362:17	336:1 376:7	444:24 445:3	541:2
	407:10	390:22	446:11 467:1	
strengthen		406:14 407:4	486:21,24	
359:3 400:17	studies 272:3	414:13 415:1	504:10,23	substantially
	278:13	421:5 439:18	505:25	540:21
	287:21	469:3,5 470:4	539:10	
stricken	328:10 363:1,	471:24 475:1	000.10	substantive
269:17	11,16 365:16	479:14		356:3
277:20	377:5,7,10,	487:23	submitting	550.5
443:25 444:2	15,23 378:4	493:15 496:4	452:11	
	402:4,6	493.15 496.4 497:20	487:24	substation
strict 301:24	· '			389:17,18
302:2	405:17,21 407:16,22	516:11	subparagraph	390:2 401:17,
302.2	· ·	527:13,18		18,19,24
	427:23 554:9	554:2	494:4,13	402:8,10,11
strike 415:23				
	study 278:9	submit	subsection	
-4-11 - 41	314:24 328:5	301:10 344:4	307:14	successful
strikethrough	365:10	377:3 407:14		451:11
s 443:20	405:25 406:7,	413:9 445:24		
	12,15,17,25	446:25	subsegment	successfully
struck 269:24	407:1,6,7,17,	484:20 486:4	390:24	454:12
443:10	20,21 408:1	492:19 504:8		102
	421:17	505:22	subsequent	
	422:24	303.22	273:13	such 377:3
structure	427:16		443:13	449:14
276:4,6	427.16 428:17	submits	445:14	450:22,23
314:23 449:4,	519:25 564:4	559:13	773.17	453:4 490:16
14 456:22	J 13.20 004.4			496:15 497:6
		submittals	subsequently	514:14,22
structured	stuff 386:15		265:11	516:8 533:12
448:17		446:23		548:22 550:5
440.17	aub 207:40		ouboot 400.7	553:1 557:12
	sub 307:18	submitted	subset 438:7	560:22
structures	427:13	265:4 271:4		564:13
292:15		286:17	subsidized	
409:15	subject	288:22	360:8	
411:21,23	288:23	296:14		sudden
412:11	294:25	319:13 327:7,		386:12 401:1
			substantial	
				I

				-
sufficient	552:15	551:22	280:4 294:12	511:7
341:11		561:23		
516:17		563:15		
010.11	summary	000.10	suppose	suspect
	269:9 271:3		267:24	426:21
suggest	282:22	supplied	493:15	
324:23	295:24 300:2	265:4 266:20		suspension
331:21	358:4,7		supposed	494:24
352:23	365:17 366:5	ounnlier.	377:11	494.24
	370:6 386:2	supplier	3//.11	
	432:23 435:8	451:8,9		sustain
suggested	444:18	478:3,22	Supreme	297:22
290:25 315:4	457:15		485:22	
338:6,8 347:1	472:25 474:1	suppliers		
349:4 536:20	475:10	288:2 450:17		swear 282:9
	513:16	451:22	surfaced	356:7 431:15
suggesting	517:22 526:6	480:21 491:5	337:20	442:1,4 512:7
280:5 311:18	539:24	100.21 101.0		538:17 551:6
394:19	550:20		surprised	
557:16	563:12	supply 352:5	330:23	switch 322:2
007.10	303.12	448:19,22	000.20	403:10
		449:7,9		481:22
suggestions	summer	450:24	surrebuttal	401.22
468:17,19	455:12,13	452:12 453:8	356:24 357:5,	
		477:22 478:3	12 380:3	switching
cuagosts	superior	504:7,14	381:21	490:20
suggests 392:13	483:20	505:21 565:3	384:20,23	
	483.20		387:3 391:23	sworn 264:17
528:21 529:1			397:19	282:13
	superseded	support	403:14	
suit 494:21	443:12	272:7,8,9	408:10	356:13
		294:14,18	442:21	431:21 442:9
	l	375:18 400:7,	468:14 469:7,	512:13
summaries	supplemental	9,15,16,18,20	10 473:18	538:23
500:24	356:23,24	401:23	475:14	551:11
	408:16,18,24	402:15	476:18 513:1	
summarize	409:2,3	418:16,21	517:19 526:3,	synchronous
283:6 374:11	410:2,25	419:3,6	20,21 527:22	402:2 422:22
	411:19 432:6,	422:16	551:23	423:6,7,20,24
	17 442:20,21	423:23 443:7	561:24	424:1,2
summarized	470:7,22	445:14	563:16	425:24
279:25 470:3	472:13 473:5	452:18	000.10	'
	512:24,25			
summarizing	539:11,19	supported	surrogate	system 279:7
		Supported		
	-	- '	-	-

004 10 55- 5		007.04.004.5	400.40	
281:18 285:3	take 264:12	337:24 361:9	483:12	tax 276:3
289:6 295:10	285:9 319:2,8	403:21	484:13	285:10
314:9 321:6,9	335:20,24	425:16	488:19	350:18
328:5 330:19	336:8,25	459:20 477:6	491:16 498:3	360:16 433:6,
353:1,2	342:11 349:5,	540:6,16	506:21	8,10,12
358:13 359:4,	16 351:22		526:23	434:20,22,25
11,21,25	382:7 386:3	talked 290:19	531:11	435:1,5
361:23,24	388:20	292:5 298:7		439:24 440:4,
362:7,9,10,23	395:11		tongont	9,13 456:1
367:9 371:23	399:18 413:7	326:21	tangent	514:6 519:3,
378:14	421:18	331:12,23	410:14	4,9 533:20,25
385:12,13,18	425:20	341:8 400:6		534:1 540:6,
387:12,19	426:17 454:7	402:12,17,25	tangible	15 541:1,13 [°]
391:6 393:1,	458:17 459:7	410:15	509:23 511:5	549:8 559:25
11 398:1	479:13 485:8	419:21,24		
399:13,19,25	488:12	420:2 422:21		
401:7 402:22	497:25	424:15	target 275:7	Taxes 439:18
403:9 404:1	502:20,21	447:15	473:10	
417:20	510:17	484:10		taxpayer
418:24 420:3	554:24	509:11 541:4	targeted	433:23
421:12 423:3,	334.24		294:15	545:20 549:2
10 424:18		talking	335:16,24	040.20 040.2
425:24 426:9,	taken 423:3	306:25	336:4 348:14	
10 428:3	426:11	309:16,17	349:19	TB 445:5
484:23	525:23	315:11	472:17 474:2	446:13 447:5
510:17 564:3,		321:21	497:1	448:15
1	takes 320:5	325:13	437.1	449:25
7	427:10	343:13		456:14
	427.10		targeting	464:20
Т Т		370:23	475:23	472:19
	taking 288:12	371:19		473:22
	321:19	372:19	targets /11/1-7	476:23 477:4,
Tably	333:20	379:17	targets 414:7, 12	15 478:22
T-e-p-l-y	349:19	382:21	14	482:11
442:15	409:14	387:17		483:22
	472:11 488:3	389:11,23	tariff 358:14	500:17 521:9
table 287:13	560:24	392:16	360:18	_
316:13 322:7		393:25	364:25	4
327:2 517:19	4-11-044-	398:12 407:2	375:25 376:6	team 273:3
564:1	talk 314:5	425:2 426:5	493:10	415:16
	321:1 325:18	436:11,12		
1-1-004-00	327:25	448:12 457:8	(1 - 000 4	technical
tabs 291:23	331:15	476:4,17	tasks 290:1	551:17 561:8

technically	313:23 315:1,	364:24	413:21	344:13 348:9,
508:9	13,15,16	392:22 398:7	431:21 442:9	14,19 351:7
	316:5 400:14	400:4 414:13	472:1 473:8	353:21
technique	472:4 480:17	415:6,12	481:8 488:21	356:23,24,25
424:7	494:3 504:7	425:11 429:4	490:2 512:13	357:3,5,13,
424.7	535:16	436:19	519:3,13	17,21 358:18
		437:19 441:6,	538:23	363:18
technologies	termed 453:1	7 457:1	551:11 555:3	366:23 370:7
359:22	ternied 455.1	461:1,5,20		371:16 374:6
		473:9 477:21	testifies	375:20 380:2,
technology	terminal	478:5,10,16,	383:17	3 381:21
408:13	293:3,5	24 479:1,11	303.17	383:6,8,11
400.10	389:19	486:11,17		384:20
		487:6 488:10	testify 267:22	385:17,21
telling 320:10	terminate	489:19	376:4	388:10
	325:24	490:16		391:23
ten 398:21	020.21	503:10 509:5,	testifying	396:10
3011 333121		14 515:17	318:9,24	397:19,24
	terminated		351:9 373:25	400:14
tend 405:22	351:4 494:17	terrain 412:21	489:24	401:15
		torrain 412.21	100.21	403:11,13,14
tended	terminates			408:10,16,19
507:20,23	399:17	territory	testimonies	410:2 411:19
,		391:13	551:23 552:1	412:6 417:1
T	.		561:24	430:8 432:6,
Teply 430:15,	terminating	test 295:10		10,13,18
17 441:24,25	326:15	317:6 456:11	testimony	433:4,5 438:1
442:7,12,15,		521:5,17,20	264:11	441:20
16 444:17	termination	522:5 523:6	269:15,25	442:20,21,25
458:15,23	324:21	545:5	279:25	443:6 444:22
460:4 462:9,	494:24		280:16,24	445:18 447:8,
20 463:3		100104 047:40	282:3,18,20	17,25 448:24
468:11	torminology	tested 317:10	294:2,3,13,	451:13
485:19 493:1	terminology 378:8		14,17,24	457:12
499:3,11,19, 22 500:10	310.0	testified	296:5,8	459:21 463:7
511:10 521:8		264:17	319:1,6,11,12	464:21 465:1
311.10 321.0	terms 265:7	282:13	320:13	468:14,23
	269:20	321:11	321:11	469:7,10,19,
Teply's 443:6	273:24 275:4	334:11	322:15	25 470:3,6,8,
511:21	279:5 296:14	335:23	324:12 328:2	22 471:20
	300:1 344:2	356:13 383:7	329:6 335:9,	472:13,20,22
term 272:4,24	351:7 354:17	411:3,18	12,13,22	473:6,14,18,
2,2,7,27				
I		•		

_		_	_	
20,25 474:9, 13,16 475:18, 20,21 476:5, 19 480:25 487:1 488:7	287:6,20 291:25 301:8 307:11 309:5 324:8 332:19 333:17	394:10 396:15,24 407:14,15 412:17 427:16	thermal 386:13 510:19 thing 302:18	268:6,23 275:12 286:19 287:21 292:4 304:6 307:21
490:25 503:11,19,20 505:5 511:11 512:23,24,25 513:1,4,7,10, 19 517:20 518:20 524:3 526:3,10,18 527:22 528:4 529:4,7,10,25	335:24 336:4 340:2,8 347:21 355:5, 12 363:8 365:15 374:8 380:12 387:10 388:6 393:14 398:6, 10 421:22 433:24	428:11 452:18 456:8 457:21 462:13 467:13 469:21 475:12 478:1 480:14 484:16 505:8 510:9,20	315:20 325:12 329:22 331:22 332:2 344:11 347:12 350:7 353:4 378:1 426:16 459:11 483:2 492:12	361:6,22 370:16 371:2, 11 372:12 373:3 378:21 379:5 392:2, 17,25 393:6, 13,19 395:4, 15 396:2 418:6,11 419:21 420:4,
530:11 535:21 536:23 538:9 539:11,12,20, 25 540:5,13, 14 541:14 550:12 552:7, 12,15 558:10	434:13 439:22 441:4 447:23 449:14 459:14 460:10 461:3 462:6 472:2 482:8 483:6	543:16 556:18 themselves 266:23 279:7 379:21 396:21 550:4, 9	501:11 things 292:9 301:16 369:18 400:6 425:19 426:3 428:2 438:12	13 429:14 433:17 457:23 499:16 thirds 321:2
562:2 563:15 565:6 testing	499:22 503:4, 6 519:22 522:9,20 553:23,25	There'd 325:14	471:16,17 477:1 478:17 480:2,6 489:23 497:5	thoroughly 362:16 thought
409:15 410:24 411:20,22,24	565:5,17 566:20 Thankfully 462:5	therefore 287:2 434:7 435:5 439:3 529:12,18 542:25	508:16 509:22 541:20 548:10 550:4 560:13	269:12 294:20 350:13 353:6 355:1 374:11 388:25
tests 411:24 than 272:12	their 265:7,8 273:4 274:12 275:17 284:22	547:11 therein 449:16	thinking 319:25 341:11 460:7, 14 461:16,19, 23	thoughts 437:23 460:20
274:17 278:2, 3 279:4,23 280:22 285:14,16	343:17,22 344:4,17 346:7,24 388:14	thereto 494:17	third 266:21 267:15,17	thousand 279:21,22
, , ,				threatened

494:23 three 318:7 325:7 340:1,2 346:17,18 347:17 361:21 372:11 381:18 403:4 409:20 411:23,25 445:3 446:11, 12 449:24 456:13 475:1 524:7,23 through 265:19 271:6,	454:20 455:22 465:3, 4 466:5,11 469:11 472:15 473:1 475:21 480:24 486:2 487:5 490:6 496:7 502:10 510:25 514:14 521:24 525:20 533:24,25 546:17,20,22 554:7 562:20 564:4	time 265:19, 21 275:23 276:3,12 278:8 281:19 283:18 284:21 287:10 288:4 295:6 296:14, 15 301:16 304:8,14 313:13 314:16,24 315:10 316:1 319:22 320:6 325:14 327:24 328:3	472:22 473:13 474:8, 24 475:5 487:16,25 499:3 507:17 508:2 509:25 510:13,18 523:1,14 530:3,16 532:11 534:19 537:16 538:14 540:7 550:19 558:14 561:22 562:11 565:1 566:25	titles 377:23 today 274:18 282:5,18 294:2 295:6 303:16 329:6 332:25 339:13 340:9 353:21 357:3, 16 358:7 359:6,11 371:16 382:24 388:7 389:12 390:13 392:25 395:3, 10 415:20,24 417:12,17
325:7 340:1,2		21 275:23	•	282:5,18
· ·		•		
			· ·	
_		_	,	
381:18 403:4		287:10 288:4	·	353:21 357:3,
409:20		295:6 296:14,		16 358:7
411:23,25		15 301:16		359:6,11
445:3 446:11,		304:8,14		371:16
12 449:24		313:13		382:24 388:7
456:13 475:1	· ·	314:16,24		
524:7,23	, , ,	315:10 316:1		390:13
		319:22 320:6		392:25 395:3,
through	304.4	325:14		10 415:20,24
		327:24 328:3	300.23	417:12,17
203.19 27 1.0,	throughout	335:20 336:5		424:22
278:7 279:2,	272:7 273:21	349:8 350:3	time-limited	425:12
15 281:22	275:22 342:1	351:2 352:18	365:22 445:9	430:22
283:19 284:9	387:23 388:5	362:1 370:13		432:10,23
291:20 310:7	391:13	371:25 378:7	timelines	433:3 441:21
311:15 314:9	410:22	379:21 382:7	450:5,12	442:25
341:19 347:2	452:22	385:22	457:25	447:10,15
349:5 352:19	467:16 550:2	387:20	437.23	448:7,14
353:14 361:4		388:18		450:17
364:15	throw 459:18	391:20 397:4	timely 477:25	451:17
385:19 392:3,	1110W 408.10	407:20 411:8		456:14 457:9
22 394:17,18		414:18	times 266:2	461:3,5,23,25
395:1 401:15	throwing	427:24	314:21	462:16 465:8
408:10 409:7.	459:10	429:18	340:19 499:2	467:13 474:4
13 411:1		430:11 441:3	555:21	475:25 476:8,
414:21 420:7	tie 454:18	446:19	000.21	9 480:18
434:11 438:8,	110 -10-1.10	451:15		487:6,8,15
14 443:10,16,		452:16	timing 310:7	490:25
19,24,25	Tier 403:12,	453:13,16,20	355:11	509:21
444:2 445:20,	25 405:7	455:8,10	487:22	511:11 513:4,
21 446:19	406:6 451:21	459:2,6,24	515:21	16 533:20
451:11 452:1		460:7,12,13		538:9 539:15
453:14	tight 488:23	461:15 462:2,	titled 307:14	550:12 552:1
700.17	3.3 100.20	14,15 469:9	3.000 007.11	

today's 360:10	tool 418:1	totally 306:4 399:9 400:15	276:4 289:19	transacting 272:20 273:1
together 273:10 279:17 281:4	tools 370:11 417:15	touch 316:8 381:18	tradeable 507:21,25 510:4 511:4	transaction 491:2
318:3 353:7 354:23 378:7 477:6 520:4	top 274:25 285:25 306:16 322:9 373:7 378:25	towards 306:16 409:9	traded 464:1	transactions 352:1 564:19 565:5,8,18,23
told 345:6 499:10 505:1	379:3 421:6 474:19 491:11 548:9	tower 408:13 409:10 410:7, 10,14,20,24	tradeoffs 555:15 558:23	566:3
tolerances 490:22	torches 550:6	411:12 413:4 437:2,7	traders 272:19	294:23,25 295:3 335:22 369:20
tolerates 557:4	Tormoen 289:18 tossed	towers 410:4, 10,15,18 411:9 412:22, 25 413:8,20	trading 272:16,23 273:6 464:3 554:2	530:15 transcription 370:4
tomorrow 458:24 459:11,20 460:21 461:16	276:23 TOT 359:13 387:8,13 398:10 426:6,	436:24 town 354:7 431:4	traditional 517:13 523:15	transfer 268:19 363:2 4 387:5,20 401:14 426:8
462:10,16 480:14 550:19	7,13	track 291:20 472:11 553:19	traditionally 453:1	445:19,23 446:5 447:12 448:6,23
566:16,17,20 567:4 ton 511:6	total 265:23 266:1 311:8 317:25 347:21	tracking 497:4	trafficking 513:23	449:1,3,10 450:24 451:8 457:2 464:16, 19 465:22
tonight	361:18 364:2 424:4 433:25 459:15	tracks 320:15	Trail 373:19	467:3,8,10, 11,15,24 490:24 491:6
550:24 551:1	517:18 537:7 564:7	tradable 509:20	training 407:10	17 500:15,23 504:8 505:11
took 299:20 382:14,17 384:13	totaling 305:14	trade 272:9	trans 347:22	transfers 449:12

transition	262.2 7 47	25 422.0 42	422:4	22 206.6
transition	363:2,7,17,	25 423:8,13,	432:4	22 296:6
273:11,14	18,22 364:3,	22 428:3		308:12 379:4
375:25	11,17,25	429:14 430:3	treasury	388:13 421:9
425:17	365:19,23	445:10,12	547:7	436:3 440:8
440:22	367:7,9,12,16	446:4 450:11	547.7	471:6 521:14
	368:24 369:2,	453:19,22		522:1,10,21
	7,9,12	454:5,8,18,24	treat 514:21	523:4,8,16
transmission	370:12,17,19	455:2,14		524:11 525:4,
279:4 280:12	371:8,23	457:16		11,22 527:11
285:22 287:9,	372:2,5,6,7,8,	463:15 489:2	treated	528:14,18,20,
22 288:3	15 374:7	514:10	284:20 345:8	25 530:17
289:2 290:19,	379:9 381:24	521:15 524:6	346:1 565:3	535:15
20 291:1,7				535.15
303:23 304:2	382:3,11,15,	540:17	1 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	
305:25 306:7,	24 383:3,19	542:23,24	treatment	truth 282:9
9,12,22 307:4	384:17 385:4,	543:9 545:10	268:17	356:8 431:16
308:2,10,13,	11,12,13	547:3,4,9,10,	364:22	442:4 512:8
20,24,25	387:10,12	12 557:25	513:20	538:18 551:6
1 ' '	388:9,12,16,	558:20 559:3	514:15	556.16 551.6
309:3,17,21,	19,22 390:22	561:7,9,12,19	515:25 516:8	
23,24 310:2,	391:4 392:1,	564:10	517:20	truths 442:1
3,16 311:8,	2,18 393:1,		520:16 524:5	
10,11,15,18,	11,13,19		525:5	
21 328:9	394:2,11,18	transparency	020.0	try 274:25
330:18	395:5,15	292:1		276:4 281:12,
336:23 337:7,	· ·		tribes 548:10	20 301:19
19 338:22	398:2,5,11			329:11
340:20,23	399:12,16,18	transparent	4min of 220.46	331:21
341:1,8,15	400:8,17	310:13	tried 329:16	349:25 354:8
343:15 345:1,	401:6,22		508:5,15	356:1 391:19
7 346:1	402:22	transport		395:8 439:22
349:21	403:12,19,25	346:19	trigged 365:2	464:14
	404:1,4,6,11,	399:19	9904 000.2	545:16
352:15	14,17,18,20,	JJJ. 1 J		
353:16	22 405:2,7,8		trigger	563:13
356:20	406:6 407:15	transportatio	360:20 386:4	
358:13,14,16,	410:4,12	n 419:22		trying 273:25
20,21,23,24	412:19,24,25	420:13	1	312:22 313:9
359:1,2,4,9,	413:2 414:19		triggered	317:19
10,11,14,15,	416:10,11,23		365:10	354:19,22
21,22,25	417:2,15,25	travel 355:20		369:9 398:8
360:1,17,20		356:1	trouble	399:18
361:1,7,12,	418:7,12,17,		412:15	
17,22 362:2,	21,24 420:3	troocurer	712.10	401:16
17,22,23	421:8,14,23,	treasurer		405:10 414:8
', ',==			true 290:17,	
			· ·	

Index: TSA..under

140.00	400 00 404 7	047.40.004.0	l	40 40 407 00
418:23	482:20 491:7	317:12 324:3	Uh-huh	13,18 487:22,
426:16,24		325:12	277:14	24 498:16
427:4 439:16	turning	329:22 332:2,	501:11	509:9 528:22
474:18	368:14	11 336:7	503:14	529:2 531:5
479:16 496:9,	300.14	348:23 350:6	504:13	
12,14 499:7,		353:4 401:1	505:12	unable
8,12,16 541:3	two 270:2	426:1 436:10	544:18	
	273:10	440:21	548:25	545:20
	278:13 297:3	464:16		
TSA 473:11,	302:22	490:12		unacceptable
23 477:7,9,	311:13 312:8,	100112	Uinta 305:21	554:15
14,16,18	23 313:11		306:3,6	560:17
478:9 480:9	318:6 321:2	types 292:13	308:16 309:3	000.17
481:6 484:11	326:4,10	303:10	337:1,2,6,10,	
501:19	•	317:17	13 339:18,19	unaware
	346:11,12,13	323:12 324:2,	340:1,3,4,10	474:8
4	372:11	4 406:17	346:20	
turbine	381:18 390:5	422:5 448:12	447:14	, .
448:19,22	395:12 398:7	457:7 465:10	449:24 553:6	uncertain
449:7,9	409:23	471:17		276:2 536:22
450:16,24	419:17 445:3	478:16 480:6	_	554:12
451:22,24	447:9,11	486:16	ultimate	555:25 560:9
452:12	455:11,12	509:22	265:13 294:4	
477:22 478:3,	459:14 460:8	303.22	297:17 299:5	uncertainties
22 480:12,21	462:1 470:11		346:23,25	553:19 557:4
484:22,25	471:11 485:5	typical 379:6	456:20	333.13 337.4
504:14	488:21,22	484:1		
505:20	489:1 505:18			uncertainty
	523:1 532:9,		ultimately	362:5 435:6
	22 546:23	typically	265:5 268:21	530:25 531:4
turbines	555:24 557:4	272:5 273:22	270:7,14	540:8
436:11,16		355:3 356:2	275:14 280:7	
478:1 484:2		449:12	298:19 338:1,	
542:25 543:6,	two-year	509:12	14 360:23	under 264:13
8 545:12,23	520:5	555:24 556:4	429:6 445:1	277:10
			446:1,11,20	279:14 284:3
turn 264:14	tying 498:7		449:15	300:4 301:13,
267:9 319:15	tyllig 480.7	U	451:23	14 316:15
			453:13 455:9,	345:10 352:6
322:6 325:4	type 274:16		21,23 456:9	377:2 386:20
335:12	278:14 291:3	UAE 305:3	465:22 466:7	397:10
337:22 367:1	292:9,16	319:7,10	467:17	422:11
379:25	312:14	335:9 342:12	474:21 476:7	448:17
397:19	314:14	348:13 444:4	479:10 486:9,	449:10 456:9,
			1. 5.1. 5 1.55.0,	

				1 3 13
16 463:16,24,	understandab	284:3 286:2	400:11	unreviewed
25 470:14	le 540:22		420:25	553:6
471:1 472:9				
478:1 487:10		undertaking		
491:5 492:8	understandin	284:5	unless 437:3	unsupported
495:18	g 267:23		459:22	468:20
496:10	295:15	undeveloped	460:10	
504:16	297:23	408:14	566:16 567:1	until 276:15
506:24 507:4	303:24 306:1,	400.14		333:11 366:1
	2,10 311:7,24		unlika EEE.G	
509:15 517:7	314:6 334:22,	uneven	unlike 555:6	374:19
524:4 529:12,	25 337:8	517:10		461:10
22 530:10	339:12		unlikely	480:16 481:8
531:8 532:9,	342:23,25		549:24	490:25 511:2
16 534:14	350:1 352:15	unexpected		513:25
537:14,23	374:13,25	525:25		528:15
545:21	377:16		unnecessary	545:19
549:25 559:3	386:21 398:4	unforeseeabl	468:20	561:13
		e 525:7	516:16 526:8	566:17,20
	405:15 406:5	e 323.1	554:16	567:3
underlying	412:16			
555:19	414:20	unforeseen		
	421:14	525:15	unprecedente	up-to-date
underneath	511:20 566:6		d 359:5	275:1
504:22			365:18	
001.22	understated	unfortunately	468:20	update
	300:1	492:11		272:11
understand	300.1		unreasonable	2,2.11
275:8 290:20		unique	295:9 553:20	
306:4 313:9	understating	282:16 293:6	290.9 000.20	updated
321:16 330:1	556:23			274:20
336:8 345:6		321:19 335:17	unrecoverabl	393:10
348:24			e 536:5	411:16
377:25 384:3	understood	349:16		470:17
399:9 400:15	327:25	350:12,16		472:23
406:11 415:9,	347:14 349:6,	365:21	unrecovered	484:20
11 420:22	13 350:11		534:11	
422:24 427:6	529:3 557:5	unit 421:12		
440:2 465:18		501:22	unredacted	updating
475:17 477:1,	undertake	•••••	482:5	270:11
2 502:1	328:9	l	1	
536:18	J20.9	United 373:17		upgrade
544:10			unreviewable	307:25 308:9
344.10	undertaken	units 398:24	553:7	345:7 349:21
		dinto 000.24		J4J.1 J4J.Z1
				I

Index: upgrades..value

				gradesvarue
373:5,10	550:20	305:3 329:2	558:10,17	357:2,15
378:22		355:13	559:21,22	358:1,6
379:14		361:15	560:3 562:8	366:5,7,10
	used 266:12	370:18 373:4		373:25 375:4,
	271:22 272:2,	374:6 378:23		21 376:2,4,11
upgrades	3 273:21,24	394:17 420:8	utility's	380:4,17
346:1 359:22	274:6 275:11	450:14 468:3	553:19	381:18
370:17,20,24	284:24 285:2	469:1 474:20	556:21	383:17 384:5
371:1,7,15,	291:14 293:6	481:24	559:18	386:20
17,21,22	299:10	498:18 507:9		389:10 397:6,
372:1,15,16	346:10		4:1:4.,	•
374:7,15	382:13 383:3	524:8 526:17	utility-	10,18 405:10
377:8,11	400:14	528:11,12	imposed	408:9 416:8
378:5,11,12,	457:24 468:5	529:21 530:4	553:5	417:6 418:5
15 379:8,20	493:16	531:20 532:7,		419:16
10 01 010,20	534:14	12,13,17	utilize 361:14	420:18 430:8
	549:17 562:9	534:12 537:6,	378:3	447:17,25
upgrading	343.17 302.3	8 551:20	070.0	448:6 455:11
359:20		553:8 555:14		488:21
	useful 304:15	559:13,15	utilized	
	468:5	564:12	271:21	
upstream			407:13 410:8,	validate
483:13,15,17			14,18 413:1	456:7 457:24
	usefulness	Utah's 302:10	424:22	
upwards	458:25 460:1	527:8	510:10	validated
454:9			010.10	266:21 273:3
10 1.0	users 371:22	utilities		456:13
	393:11	274:11	utilizes	
upwind 484:8			271:23	457:20
	533:18	302:11		
450.40		303:12,18	4:1!:=:	validity
urge 458:12	using 265:7	374:3 407:14	utilizing	450:19 475:4
	273:19	427:11	410:5 427:1	478:14 480:1,
use 271:19,25	276:13 279:3	551:20		4
272:6,23	285:6 438:11	555:21	V	
273:8,17	521:4 556:19		-	
274:7,8,10	021.7 000.10	utility 264:9		valuable
275:14,22		7		280:22
364:13,20	usually 556:1	286:19,20	V-a-i-l 356:18	
· ·		288:15,18		veluetice
378:18	114ab 000:44	292:15 355:5	vague 503:3	valuation
394:18	Utah 283:14	368:5 434:24	vayue 505.5	267:11
409:10	284:3,14	507:10 553:1,		291:15 293:1
490:23	286:3 288:11	18 554:17,19	Vail 356:6,7,	
516:22	299:7 302:9	555:5 556:22	11,16,18,19	value 265:17,
			, , -, -	14140 200.17,
		<u> </u>		

				_ 1
40.00.05	070.04	400.45	200.05	
18,20,25	272:21	492:15	289:25	W
266:2 277:16	275:16	563:19	456:10	
278:2 279:4,	285:23 446:3			
18 280:5,9,17	454:2 468:18	versions	violate	wait 566:17,
281:6,9,21	474:5,6	487:4	530:18 537:2,	20
286:5 293:3,5	475:22 486:8		11	
335:18 353:8	503:19			
427:25 433:9	508:17 541:4,	versus		waiting
435:2 501:20	12	268:19	violates	453:25
507:25 508:6,		271:21	530:1 535:24	
8 509:18,23,	vary 471:7	277:24		waiver 493:8
25 510:4	vary 471.7	296:19	violation	Waive i 455.6
519:23		313:15 318:1		
556:13	Vastag	329:11	546:18	wake 483:12,
	527:25	373:19 403:8		16,23
	528:21 529:1	471:12	vision 564:2	
values 266:4,	532:5	484:24 566:3		alls 074:00
11 277:24	""			walk 271:20
503:10			voltage 362:2	443:16,19,24
510:16	Vastag's	via 445:1	400:7,9,15,	473:1 480:12,
	528:3 529:3,	485:1 488:17	16,18,20,24	13,17
variability	7,9		401:4,19,22,	
428:6		viable 327:12	23 402:3,10,	walking
420.0	vehicles	558:21 559:3	18,19,23	480:24
		000.21 009.3	418:16,20	400.24
variable	329:13		419:3,6	
424:9		vice 356:20	422:16	want 264:12
	Veil's 357:20	432:3 442:17	423:22	267:25
		512:21	425:25	269:17 277:8
variance	1			292:18 297:9
493:9	vendors	l	l	298:25
	517:7	vicinity	voltages	311:25 316:7,
variation		380:10	402:20	21 318:22
493:9	verify 362:18			319:2 320:18
100.0	368:12	view 272:5	volume 266:1	321:1 326:3
	411:17 412:6	288:20 341:5	360:25	331:20
varies 272:4	488:14	350:13 352:6	000.20	335:13 356:3
	700.17	489:8 524:25		358:3 361:9
variety		541:14,15	voluntary	372:19 376:4
451:21	version	J 4 1.14,10	264:7 516:4	377:12 381:5
	340:13,14		527:18	383:13 384:2,
507:19	482:5 486:20	viewed		•
	491:15	271:15		12 385:24
various 270:6				386:7 391:8
			I	

	1	1	1	
395:9 396:5	Wasatch	Wayne	452:18	265:12 274:8
397:18,22	391:11,21	282:11 283:9	4 52.10	276:3 278:11,
398:4 403:21	417:23	202.11203.9		17 287:19
413:15 414:9	411.23		west 331:3	288:10,12
		ways 278:13	357:7,14	,
421:20	Washington	300:19 317:9	361:12 363:2	294:4 295:21
425:10 429:2	539:8	499:2 554:15	390:4,19	296:10
453:19			427:8	298:20
458:23				299:25
459:14,18	watching	weak 428:3		309:20
462:2 465:24	479:6		Western	310:12
468:25 477:1		weather	334:11	311:22 315:1,
479:3 480:12	water 549:24	470:15 471:2,	355:14	24 317:5
481:22	774101 070.2 7	8,16,22		319:17
485:21		0,10,22	westward	320:15
488:19	watt 447:11		391:6	321:14,24
490:23		website	0.186	322:3 323:9,
491:16 493:4	way 274:22	506:1,6		21,22 325:15
499:5 503:15		511:22	whatever	327:17,18
505:14	280:18		347:16	333:8 334:17
518:19	282:21	WEGG	376:11	347:8 350:3
522:14	300:23	WECC	422:12,15,17	360:6 364:24
528:23 534:9	303:17 321:2	362:15,20	480:10,13	382:18
541:15	330:7 331:8,		537:15	383:23 384:7
563:12	18 332:7	WECCS		385:10,13
000.12	333:6 344:5,	509:12	_	396:13,19
	18 345:1		whatsoever	398:5 407:2
wanted 269:8	347:8 348:3	l	545:25	416:18 420:6
270:25	354:7 371:21	weekday		437:25 438:2,
289:22	384:5 390:6	272:19	wheeling	20 444:7,9
335:21	414:4 428:4		514:9 515:10	459:12
336:22	431:7,10	weeks 407:5	313310.13	465:13
337:23	450:13	1.00.00 107.0		482:18 501:2
427:19	453:10 476:4		whenever	
462:13	484:1 496:25	weigh 490:18	478:25	507:9 509:18
501:14 503:1	499:22			510:23
536:2 541:25	506:25	weights	Whereas	522:25
	507:20,23	413:4,19	301:10	529:25
	508:19	410.4,13	301.10	535:23 537:5
wants 405:9	510:24 515:7			542:21
503:8	540:8 542:13	went 279:13	wherein	548:20
	543:5 549:6,	313:17	449:4 467:15	553:15 560:9,
warranted	21	365:10 372:3		11 566:4
554:13		390:6,7 411:8	sade a the a r	
			whether	
	1			

Index: while..wind

Index: wind-only..Wyodak

470:14,19 482:7,24 483:5,21 484:3 485:5,6 489:10 514:6, 9 515:3 517:1 520:4 521:14	344:15 within 273:6 274:5 310:11 332:10 374:5 379:2 398:21	430:9 431:13, 17,20 439:18 441:22,23 442:2,5,8 462:14,15 468:17 502:9, 13,16,23	382:1 words 265:20 348:6 352:2 357:6,13 440:7 453:16	workshop 290:19,21 291:1,3,4 340:23 341:1, 4 347:2 352:19,24,25
524:6 540:23 541:3,8,10 549:23 557:25	402:8 407:4 462:15 472:2 484:20 489:25 533:21 542:6, 9 559:18	511:12 512:4, 9,12 519:20 533:6 538:15, 19,22 544:12 547:20	501:18 509:6 545:11,22 work 277:9 281:13 283:6	workshops 291:2 world 391:15
wind-only		550:13,23	289:24 296:9,	412:24 413:1
279:2 294:15 295:22	without	551:2,4,7,10	13 297:14 298:5 307:18	547:24
windows	269:23 278:21 295:23 306:8	witness's 550:20	318:23 354:10 389:1 453:9 454:5	worst 402:1
426:16	316:25 337:2,		455:3 463:10	worth 417:4
488:22	6 338:21	witnesses	483:21	448:11
	340:2 346:6	354:17 356:1	484:21 485:2	452:20
	360:15 369:5	431:1,4	514:2 560:7	
winds 270:16	398:1 426:4	461:2,19		
446:4	455:14	519:3 [°]		wrapped
	473:21 480:4	0.0.0	work-around	466:23
Windstar	496:2 515:1,		481:20	
390:6	· ·	won 301:13		writing
390.0	4,7,14 525:20		work-arounds	267:24
	560:11 564:1,			207.24
winning	9	wondered	455:14	
286:23		437:23		written 310:6
	witness		worked	
	264:9,16	wondering	450:15 454:3	
wins 286:20	282:4,10,12	273:23	456:25	wrong 269:21
	283:8 342:11	354:16		327:20 510:6
wire 403:6	354:3,5,6,9,	460:20		554:14
419:1	20 355:19	546:16	working	557:15
	356:5,9,12	0 10.10	289:20	
	357:12		307:18 455:1,	wrote 374:14
withdraw		word 350:21	17	WIGG 077.14
344:17	373:14	488:3,12		
454:14	374:12 375:6,		works 462:10	Wyodak
	9,12,16 384:8	wording		387:25 399:6,
withdraws	397:12 405:6	wording	541:13	

11	453:13,15 466:6,12,13	yet 354:6 405:24		
	467:17	408:23 412:4		
Wyoming		454:2 467:11		
349:22	471:13 474:4,			
359:12,24	22 510:21	487:3 508:14		
· ·	515:6 520:9	554:21		
361:2,15,20	521:4,5,17			
370:9 386:9,	522:5 523:6,			
17 387:12	•	yield 325:21		
388:6 389:21	7,10 535:12	327:4		
390:18,25	542:7 547:23			
391:12	560:8 561:13			
		yours 307:11		
399:19				
400:23	year's 273:12			
402:14 406:1,		Z		
2,13 417:22	years 272:14,			
424:2 425:22				
445:13	24 274:9	7		
449:23 454:9,	276:16	Z-e-n-g-e-r		
15 474:17	314:17 315:2,	551:17		
	6,24 398:17,			
507:10	21 399:4	Zenger 551:4,		
508:10,12	425:20 427:9	•		
533:12,14,16,	433:18	5,9,14,16,17		
17 557:3		561:21,24		
	436:14 440:7	562:16,23		
	515:22	563:10		
Y	522:12 523:1,	566:11		
	5,24 532:9,23			
	549:20			
	553:15	Zenger's		
year 266:1,2,	554:15	562:1		
19 272:5	559:25 564:4			
273:8,10,11,	000.20 004.4			
13 299:18		zero 275:22		
315:10	yesterday	279:14 436:4,		
387:23 388:5	264:13 267:9,	17 440:18		
403:18	18,21 268:4,	441:2 507:22		
407:20	17 269:7	508:18 514:8		
417:20		515:3 521:23		
	271:2,18	544:21		
429:18	278:9 282:5	J 44 .∠ I		
434:11,12	460:17 461:4			
437:6 438:5	469:19			
440:5,14,16	490:21			
441:7,13				
	•		•	