BEFORE THE PUBLIC SERVICE COMMISSION OF UTAH

In the Matter of the Application of Rocky Mountain Power for Modification of Contract Term of Docket No. 15-035-53 PURPA Power Purchase Agreements With Qualifying Facilities

HEARING PROCEEDINGS PRESIDING OFFICER THAD LAVAR

TAKEN AT: Public Service Commission

> Hearing Room 403 160 East 300 South Salt Lake City, Utah

Thursday, November 12, 2015 DATE:

9:03 a.m. TIME:

REPORTED BY: Clark L. Edwards, Utah CSR #109221-7801

Job No.: 262985

Page 2 1 APPEARANCES 2 THE HEARING OFFICER: THAD LAVAR COMMISSIONER DAVID CLARK COMMISSIONER JORDAN WHITE FOR ROCKY MOUNTAIN POWER COMPANY: YVONNE R. HOGLE, ESQ. 201 South Main Street, Suite 2400 Salt Lake City, Utah 84111 6 7 FOR DIVISION OF PUBLIC UTILITIES: 8 JUSTIN C. JETTER, ESQ. ASSISTANT ATTORNEY GENERAL 160 East 300 South, Fifth Floor Salt Lake City, Utah 84114 10 FOR OFFICE OF CONSUMER SERVICES: 11 ROBERT J. MOORE, ESQ. 12 ASSISTANT ATTORNEY GENERAL 160 East 300 South, 5th Floor Salt Lake City, Utah 84114 13 14 FOR UTAH CLEAN ENERGY: 15 MEGHAN E. DUTTON, ESQ. 1124 East Tulane Circle 16 Sandy, Utah 84094 FOR ROCKY MOUNTAIN COALITION FOR RENEWABLE ENERGY (RMCRE) 18 AND SUN EDISON: 19 GARY A. DODGE, ESQ. HATCH, JAMES & DODGE, P.C. 20 10 West Broadway, Suite 400 Salt Lake City, Utah 84101 21 FOR RENEWABLE ENERGY COALITION: 22 ADAM S. LONG, ESQ. 23 SMITH HARTVIGSEN PLLC 175 South Main, Suite 300 Salt Lake City, Utah 84111 24 25 IRION A. SANGER (Oregon)

```
Page 3
 1
                      APPEARANCES
                            (Continued)
 2
  FOR THE SIERRA CLUB:
   TRAVIS RITCHIE, ESQ.
   THE SIERRA CLUB
   85 Second Street, Second Floor
    San Francisco, California 94105
 6
7
8
 9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
```

1	INDEX	Page 4
2	WITNESSES AND EXAMINATIONS	Page
3	PAUL CLEMENTS	
4	DIRECT BY MS. HOGLE CROSS BY MR. MOORE	10 24
5	CROSS BY MR. MOOKE CROSS BY MS. DUTTON CROSS BY MR. RITCHIE	40 42
6	CROSS BY MR. DODGE CROSS BY MR. SANGER	54 92
7	REDIRECT BY MS. HOGLE COMMISSIONER CLARK	107 112
8	CHARLES PETERSON	
9	DIRECT BY MR. JETTER	115
10	CROSS BY MS. HOGLE CROSS BY MR. DODGE	122 123
11	CROSS BY MR. SANGER	151
12	JOHN LOWE	160
13	DIRECT BY MR. SANGER	162
	NATHAN RICH	167
15	DIRECT BY MR. SANGER CROSS BY MR. JETTER REDIRECT BY MR. SANGER	167 171 174
17	BELA VASTAG	
18	DIRECT BY MR. MOORE	176
19	CROSS BY MS. HOGLE	180
20	SARAH WRIGHT	102
21	DIRECT BY MS. DUTTON CROSS BY MR. JETTER CROSS BY MS. HOGLE	183 190 196
22	REDIRECT BY MS. DUTTON	200
23		
24		
25		

		Page 5
1	I N D E X (Continued)	-
2	WITNESS	Page
3	R. THOMAS BEACH	
4	DIRECT BY MR. RITCHIE	202
5	CROSS BY MR. JETTER CROSS BY MS. HOGLE	211 215
6	REDIRECT BY MR. RITCHIE RECROSS BY MS. DUTTON	224 225
7	COMMISSIONER CLARK	227
8	WINTEN LITEGING	
9	KEVIN HIGGINS	0.20
10	DIRECT BY MR. DODGE	230
11	BRYAN HARRIS	
12	DIRECT BY MR. DODGE CROSS BY MR. JETTER	237 240
13	CROSS BY MS. HOGLE COMMISSIONER CLARK	250 253
14	HANS ISERN	
15	DIRECT BY MR. DODGE	257
16	CROSS BY MR. JETTER COMMISSIONER CLARK	260 268
17	COMMISSIONER WHITE	268
18		
19		
20		
21		
22		
23		
24		
25		

				Page 6
1		EXHIBITS		
2	NUMBER	DESCRIPTION	MARK	ADMIT
3	RMP EXHIBIT-1	Direct, Rebuttal, and Surrebuttal Testimony	11	11
4		of Paul Clements		
5	OSC EXHIBIT-1	Docket 15-305-70 Statement of Paul Clements	24	28
7	RMCRE Cross EXHIBIT-1	Docket No. 03-035-14 Excerpt	68	
8	RMCRE Cross EXHIBIT-2	Utah Hedging Collaborative Report	75	84
9 10	DPU	Direct, Rebuttal, and Surrebuttal Testimony of Charles Peterson	115	116
11	RMCRE Cross EXHIBIT-3	Yieldco Articles	136	139
12	REC EXHIBIT-1	John Lowe Declaration Kevin Higgins' Testimony	153	160
14	REC `	Testimony of John Lowe	163	163
15	REC	Rebuttal Testimony of Nathan Rich	167	168
16	ocs	Direct, Rebuttal, and Surrebuttal testimony of Bela Vastag	176	176
18	UCE EXHIBIT-1	Direct Testimony of Sarah Wright	184	185
20	UCE EXHIBIT-2	Surrebuttal Testimony of Sarah Wright	184	185
21	TSC	Direct Testimony and Exhibits, R. Thomas Beach	202	203
23	RMCRE EXHIBIT 1.0	Kevin Higgins Direct Testimony	230	231
24 25	RMCRE EXHIBIT 1.0SR	Kevin Higgins Surrebuttal Testimony	230	231

				Page 7
1		EXHIBITS (Continued)		
2	NUMBER	DESCRIPTION	MARK	ADMIT
3	RMCRE	Bryan L. Harris	238	238
4	EXHIBIT 2.0	Direct Testimony		
5	RMCRE EXHIBIT 2.0R	Bryan L. Harris Rebuttal Testimony	238	238
6	RMCRE	Bryan L. Harris	238	238
7	EXHIBIT 2.0SR	Surrebuttal Testimony		
8	RMCRE EXHIBIT 3.0	Hans Isern Direct Testimony	257	258
9	RMCRE	Hans Isern	257	258
10	EXHIBIT 3.0R	Rebuttal Testimony	237	230
11	RMCRE EXHIBIT 3.0SR	Hans Isern Surrebuttal Testimony	257	258
12	EXHIBIT 5.05K	Suffeductal Testimony		
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				

	Page 8
1	PROCEEDINGS
2	THE HEARING OFFICER: Good morning. We are
3	here in the matter of the Application of Rocky Mountain
4	Power for Modification of Contract Term of PURPA Power
5	Purchase Agreements with Qualifying Facilities.
6	This is Public Service Commission Docket Number
7	15-035-53. And why don't we start with appearances from
8	the utility.
9	MS. HOGLE: Good morning, commissioners,
10	parties and spectators. My name is Yvonne Hogle.
11	I am here on behalf of Rocky Mountain Power.
12	With me here today is Mr. Paul Clements. Thank you.
13	THE HEARING OFFICER: Okay. Thank you.
14	The Division?
15	MR. JETTER: Thank you. I'm Justin Jetter
16	with the Utah Attorney General's Office. I represent
17	the Utah Division of Public Utilities. And with me at
18	counsel table is Charles Peterson with the Utah Division
19	of Publicly Utilities.
20	MR. MOORE: Bob Moore representing the Office
21	of Consumer Services. With me is Bela Vastag, a utility
22	analyst at the Office of Consumer Services.
23	THE HEARING OFFICER: Okay. Thank you.
24	MS. DUTTON: Good morning. I'm Meghan Dutton
25	representing Utah Clean Energy. And with me is our

Page 9 1 expert Sarah Wright. 2 THE HEARING OFFICER: Thank you. 3 MR. RITCHIE: Good morning commissioners. Travis Ritchie representing the Sierra Club. And with me 4 in the audience is Tom Beach. 5 THE HEARING OFFICER: Thank you. 6 MR. DODGE: Thank you. I'm Gary Dodge on 8 behalf of the Rocky Mountain Coalition for Renewable 9 Energy. 10 THE HEARING OFFICER: Okay. Thank you. MR. SANGER: Irion Sanger here on behalf of 11 12 Renewable Energy Coalition. We have two people here today. One of them is here today, Nathan Rich, 13 14 and John Lowe will be joining us very shortly. 15 THE HEARING OFFICER: Okay. Is that all for the appearances? No one else 16 in the room that wasn't able to fit at the tables? 17 MR. LONG: I'm Adam Long. I'm local counsel 18 19 for the Renewable Energy Coalition. 20 THE HEARING OFFICER: Okay. 21 MR. LONG: Mr. Sanger will be essentially the 2.2 face of it today. 23 THE HEARING OFFICER: Thank you. Anyone else? 24 Any other preliminary matters before we start? I'm not 25 seeing any. So, we'll turn to the utility.

Page 10 1 MS. HOGLE: Thank you. The Company calls 2 Mr. Paul Clements. 3 THE HEARING OFFICER: Mr. Clements, do you swear to tell the truth? 4 5 MR. CLEMENTS: I do. 6 THE HEARING OFFICER: Thank you. PAUL CLEMENTS, 8 having first been duly sworn, was examined and testified as follows: 9 10 DIRECT EXAMINATION BY MS. HOGLE: 11 12 Good morning, Mr. Clements. Q. Good morning. 13 Α. Can you please state and spell your name 14 Q. 15 for the record and your position? Yes. My name is Paul Clements, 16 Α. C-l-e-m-e-n-t-s. And I'm currently Director of 17 Commercial Services for Rocky Mountain Power. 18 19 And can you provide a brief background for the Q. 20 commissioners today? Certainly. I've worked for PacifiCorp 21 Α. 22 for over close to 11 years at this point. Primary 23 responsibilities include negotiating qualifying facility contracts and negotiating other wholesale energy supply 24 25 contracts in addition to negotiating large special

Page 11
1 contracts with our large industrial customers.
2 (Direct, Rebuttal, Surrebuttal Testimony of

- 3 Paul Clements identified).
- 4 BY MS. HOGLE:
- 5 Q. In that capacity, did you prepare direct
- 6 testimony with attached Exhibit-A, rebuttal testimony,
- 7 and surrebuttal testimony in support of the Company's
- 8 application in this case?
- 9 A. Yes, I did.
- 10 Q. And do you have any changes or edits to that
- 11 testimony?
- 12 A. I do not.
- 13 Q. So, if I were to ask you the questions in those
- 14 pieces of testimony again here today, would your answers
- 15 be the same?
- 16 A. They would.
- 17 MS. HOGLE: I move for the admission into the
- 18 record of the Company's, specifically Mr. Clements'
- 19 direct testimony in Exhibit-A, rebuttal testimony,
- 20 and surrebuttal testimony.
- 21 THE HEARING OFFICER: I'll ask any party to
- 22 indicate if you have an objection to that. And not
- 23 seeing any, that will be entered. Thank you.
- 24 (Direct, Rebuttal, Surrebuttal Testimony of
- 25 Paul Clements Admitted)

- 1 BY MS. HOGLE:
- 2 Q. Thank you. Mr. Clements, do you have a summary
- 3 that you would like to provide today?
- 4 A. I do.
- 5 Q. Please proceed.
- 6 A. Good morning. I'll try to keep my summary
- 7 brief while covering the important issues before us
- 8 today. So, the purpose of my testimony is to support
- 9 and to present the Company's application to modify the
- 10 maximum allowable contract term for qualifying facility
- or QF contracts that the Company must enter into under
- 12 the Public Utility Regulatory Policies Act of 1978 also
- 13 known as PURPA.
- 14 The Company is seeking a modification to the
- 15 maximum contract term of QF contracts executed under both
- 16 Schedules 37 and 38.
- 17 Specifically, the Company is requesting the
- 18 maximum contract term for PURPA contracts be reduced from
- 19 the current 20 years to three years.
- 20 I'd like to talk a little bit about why this
- 21 change is needed at this time. You may be thinking as
- 22 many of us have that the Commission has already addressed
- 23 just about every OF issue under the sun in the various
- 24 dockets that we've had over the past several years.
- 25 And, in fact, the Commission addressed the

Page 13 issue of a OF avoided cost or the price in Docket 1 2 03-035-14 and Docket 12-035-100. 3 I personally used to be of the opinion that if the QF price is set correctly, then the contract term 4 5 does not matter. However, my opinion changed on that matter. 6 When I further evaluated how QF contracts compared 8 to non-QF contracts that the Company enters into, I determined that a 20-year QF contract term does not 9 10 meet the ratepayer indifference standard required by 11 PURPA because it exposes customers to risks that they 12 otherwise would not be exposed to absent the QF contract. Let's talk a bit about the ratepayer 13 14 indifference standard. 15 So, the ratepayer indifference standard or the avoided cost standard is intended to leave customers 16 17 economically indifferent to the source of the utility's energy by ensuring that the cost to the utility of 18 purchasing from a OF does not exceed the cost the utility 19 20 would incur if it purchases from another source. 21 The 20-year contract term does not meet this 22 ratepayer indifference test for the following three 23 reasons. First, it is inconsistent with the Company's hedging practices which were implemented after a careful 24 25 review by stakeholders through a recent collaborative.

```
Page 14
               Second, it is inconsistent with resource
 1
 2
     acquisition policies and practices for non-PURPA energy
 3
     purchases.
               And third, it is not aligned with the Company's
 4
 5
     IRP or integrated resource plan, planning cycle, and
 6
     action plan.
 7
               This is a critical issue to protect customers.
 8
     At the time my testimony was prepared, PacifiCorp had
 9
     1,041 megawatts of existing PURPA contracts in Utah
10
     and 2,253 megawatts of proposed QF contracts in Utah.
               So, together, that's 3,294 megawatts of
11
12
     existing and potential Utah QF contracts. PacifiCorp's
     average Utah retail load in 2014 was 2,959 megawatts.
13
14
               So, we have more existing and proposed,
15
     at the time of the filing, more existing and proposed
     QF contracts than the average Utah retail load.
16
     We're talking about a lot of megawatts at stake.
17
               Now let's talk about the dollar impact.
18
19
               The expected system-wide costs or payments
20
     to QFs over the next ten years just from the executed
     QF contracts, so these are contracts that are already
21
22
     signed, is $2.9 billion.
23
               So, that's $2.9 billion in QF payments over the
24
     next ten years. In 2015 alone, the projected payments
     are 170.5 million and Utah's share of that is
25
```

Page 15 \$73.3 million. So, Utah customers are projected 1 2 to pay \$73.3 million to QFs in 2015. 3 I highlight that to illustrate that OF contracts are a major factor in customers' rates. 4 5 Now, let's talk a minute about the first point which is the 20-year OF contract term is inconsistent 6 with the Company's hedging practice and policy. 8 The Company modified its hedging horizon for natural gas and electricity trades and other commodities 9 10 as a result of a hedging collaborative and workshops that were held in 2011 and 2012. 11 12 That collaborative convened as a result of concerns expressed by the DPU, the Office, and various 13 14 other parties about some hedges the Company had entered 15 into. In its report on the collaborative, the DPU stated the following in part: 16 "Because of relative market illiquidity 17 and potential inaccuracy of the forecasted demand 18 requirements, hedges should normally be limited 19 20 to 36 forward months." 21 PacifiCorp's current practice which was 2.2 implemented as a result of the hedging workshops is to 23 actively manage electricity and natural gas positions that are 36 months out and nearer, meaning from today 24 25 out three years. What does that mean?

1	Page 16 That means that the Company would not and
2	arguably could not under its existing policies enter
3	into a 20-year contract to purchase electricity from a
4	counterparty who is not a QF. Our policy prohibits it.
5	And we do not enter into 20-year contracts
6	to purchase natural gas. Again, the policy prohibits
7	it as a result of the hedging collaborative.
8	But the Company must enter into an unlimited
9	amount of 20-year fixed-price contracts with QF
10	counterparties. That is inconsistent with the hedging
11	practice and policy for non-QF contracts.
12	I'd like to throw out an example of how this
13	inconsistency is occurring in practice.
14	So, the Company cannot without extensive
15	stakeholder interest and review enter into a 20-year
16	hedge for natural gas at one of its power plants like
17	Lakeside. Under the avoided cost method, a QF may
18	displace or avoid the operation of that very same
19	gas plant, Lakeside, let's call it.
20	To calculate the avoided cost at Lakeside,
21	the Company utilizes its production dispatch model and
22	forecasts out the cost of gas for 20 years.
23	So, if you have a seven heat rate at Lakeside
24	and the cost of gas is \$3 per an MBTU, then the model
25	would say that the cost of production at Lakeside is

Page 17 \$21 plus some variable 0 and M. So, seven heat rate 1 2 times a \$3 gas price. If the QF avoids Lakeside over the entire 20 years, the QF would get a \$21 plus the variable 3 0 and M, \$21 avoided cost price. If the OF executes that 4 5 20-year contract at that price, the Company is effectively locking in the cost of gas for 20 years. 6 In theory, Lakeside would not be operated and 8 the Company would purchase the energy from the QF at that 9 \$21 price. If gas prices were to drop to \$2 per MMBTU, 10 without the QF, the Company would operate Lakeside at \$14 per megawatt hour and achieve that difference in price. 11 12 However, since a 20-year contract was signed with the OF, the Company is locked into a gas price for 13 14 20 years. So, under a normal hedging policy and 15 practice, the Company would not hedge the price of gas for 20 years. 16 17 However, under a QF contract, the Company may be forced to do so. The 20-year QF contract term 18 therefore introduces the Company's customers to long-term 19 20 fixed-price risk that it otherwise would not occur. 21 Now, let's talk a little bit about what is 22 fixed-price risk and why does it matter. 23 The Company and its customers are not commodity traders. The Company hedges to reduce or to eliminate 24 25 volatility in the near term.

Page 18 1 The Company does not engage in speculative 2 Speculative trading attempts to profit from betting on the direction in which a market will move. 3 The longer the time horizon, the more likely your bet 4 5 will be wrong. For example, you can probably forecast with 6 relative accuracy the price of gasoline for next month. It will probably be \$2, \$2.20 per gallon. I think we 8 can feel somewhat confident about that. 9 10 However, if we were to try to predict today what the price of gasoline will be 20 years from now, 11 12 our prediction will likely be materially wrong. This concept represents fixed-price risk. 13 14 Here is an example of how the 20-year contract, 15 20-year QF contract has exposed customers to increased fixed-price risk. 16 The Company currently has 1,991 megawatts of 17 nameplate capacity QF contracts. That was at the time I 18 prepared this filing. It's changed slightly since then. 19 20 Over the next ten years, the Company is under contract to purchase 44.6 million megawatt hours under 21 22 these contracts. The average price for these contracts 23 is \$64.13 per megawatt hour.

The average forward price curve for

mid-Columbia, a major trading hub in the Northwest over

24

25

Page 19 this same ten-year time period \$38.11 per megawatt hour. 1 2 That is a difference of \$26.02 per megawatt hour or that equates to \$1.2 billion over this ten-year time period. 3 4 So, if you compare the price of the QF 5 contracts that we've entered into recently to the price at Mid-Columbia over the next ten years, it's 6 \$1.2 billion out of the money. 8 Now, I acknowledge and completely agree that that could just as easily be \$1.2 billion in the money. 9 10 The market could just as easily have moved in the opposite direction. 11 12 I'm not concerned about placing a bet and being right or wrong. The issue is fixed-price risk. And that 13 14 example illustrates that once you enter into a long-term 15 contract, you are automatically exposed to a considerable amount of fixed-price risk. And our stakeholders made it 16 17 clear that we should manage that fixed-price risk by limiting our contracts to 36 months or less in duration. 18 Briefly touching upon my second point, and that 19 20 is, QF contracts do not go through the same rigorous acquisition process as non-QF contracts, when the Company 21 22 determines that it needs to enter into a long-term 23 contract, it's usually the result of a need identified in the Integrated Resource Plan. 24 25 The Company then performs an extensive analysis

Page 20 to compare the contemplated transaction to other 1 2 available transactions and it does an extensive review 3 of the credit terms, contract terms, and the needs 4 assessment of the Company. 5 Most importantly, the Company utilizes a rigorous request for proposal or RFP process whenever 6 it acquires a long-term resource. 8 PURPA contracts do not go through that same 9 request for proposal process and the same rigorous review 10 process because the Company must execute the contract. On to my last point, and that is that the 11 12 20-year QF contract term is inconsistent with IRP timelines. So, some parties argue that my point that 13 14 we should look at our hedging policy as not relevant. 15 They argue that a QF contract is more like a Company resource that we inquire through the IRP. It is not. 16 17 First of all, the Company does enter into a long-term transaction unless there is a need identified 18 in the IRP. Now, the IRP goes out 20-plus years and it 19 20 acknowledges that the planning uncertainties grow as you get further out in time. 21 22 It is for that reason that the IRP action plan 23 is focused only on the next two to four years. 24 So, the IRP says, here's what we expect you 25 will need over the next 20-plus years. But it says,

Page 21 1 here's what you need to do over the next two to four 2 years. So, what does that mean? Currently, the 2015 IRP has identified a need 3 for a natural gas plant in 2028. However, the IRP action 4 5 plan does not have the Company go out and acquire that resource today because that resource is not needed for 6 another 13 years. The IRP action plan says, only take 8 action that's needed in the next two to four years. 9 Now, why is that important? Well, let's talk 10 about a real-world example. The 2013 IRP which was just 11 two years ago had a gas plant in 2024. 12 The 2013 IRP update which would have been a year ago moved that gas plant out to 2027. That was a 13 14 result of changes in load and other factors in the IRP. 15 The 2015 IRP pushed that gas plan further out 16 to 2028. So, there we see that over a two-year time period, the Company's resource need changed by four 17 years. Now, why does that matter to QF contracts? 18 Had the Company entered into a 20-year contract 19 20 with a QF based on the assumption that a resource was needed in 2024, the Company would be locked in to paying 21 22 that capacity payment starting in 2024. 23 The Company wasn't planning to go out and build 24 that 2024 resource, but if it signed this QF contract, 25 it's now locked into paying that capacity payment.

1	Page 22 That's a mismatch. Customers are exposed to
2	locking in costs in the future that they otherwise would
3	not be locked into under the current IRP action plan.
4	That mismatch does not meet the ratepayer
5	indifference standard that's required by PURPA.
6	The Company's proposal to limit QF contract
7	terms to three years is aligned with that two- to
8	four-year action plan.
9	Now, I'll touch briefly I'm very close to
10	being done. I'll touch briefly on a few of the comments
11	from the other parties in this docket.
12	Many of the intervenors carry common themes
13	in their responses to the Company's application.
14	Many parties suggest that we're trying to eliminate
15	the must-purchase obligation.
16	That's simply not true. My testimony is clear
17	that the must-purchase obligation remains. Many of these
18	parties suggest that a QF is not similar to a commodity
19	hedge but instead is more like a company resource.
20	However, it's clear that a 20-year QF contract
21	is a purchase of energy at a fixed price. That is a
22	commodity hedge. These parties suggest as I mentioned
23	that a QF contract is similar to a company resource.
24	But a company only acquires a resource if a
25	need is identified in the IRP and then the company goes

Page 23 out and acquires just what is needed at the time it is 1 2 needed. Also, a company resource can be dispatched down. 3 So, if there is a more economic option, it'll dispatch the unit down and take advantage of that 4 5 more economic option where a QF contract is a must-take 6 for the Company. Lastly, some of the parties have suggested that 8 QFs are a good hedge because they can meet future environmental compliance obligations. 9 10 Now, we don't know what those future environmental obligations currently are. They are not 11 12 known and measurable. And more importantly, these parties ignore the critical fact that the QF retains the 13 14 renewable energy credit or the environmental attribute 15 for their economic benefit. Those RECs represent the very environmental 16 17 benefits or attributes that these parties are touting as being beneficial to the Company. The Company doesn't 18 actually receive those. 19 20 In summary, no party has provided credible evidence to refute the three key points made the Company 21 22 in this proceeding. First, the 20-year contract term 23 is inconsistent with the Company's hedging policy. 24 Second, the 20-year contract term is 25 inconsistent with the Company's resource acquisition

	Page 24
1	practice for non-PURPA energy purchases.
2	And lastly, that the 20-year contract term
3	is not aligned with the IRP action plan.
4	I continue to recommend that the Commission
5	implement the three-year contract term for all QF
6	contracts, again, both those executed under Schedule 37
7	and Schedule 38. And that concludes my summary.
8	MS. HOGLE: Thank you, Mr. Clements.
9	Mr. Clements is available for cross-examination.
10	THE HEARING OFFICER: Thank you.
11	Before I go to the Division and then to the
12	Office, I do want to briefly ask Ms. Dutton, Mr. Ritchie,
13	Mr. Dodge, and Mr. Sanger if, when we get to this point,
14	do the four of you have a preference in terms of order of
15	cross-examination or should I just go in the order that
16	you're seated?
17	(Discussion off the record)
18	THE HEARING OFFICER: Okay. Thank you.
19	Mr. Jetter?
20	MR. JETTER: Thank you. The Division has no
21	cross-examination questions for Mr. Clements.
22	THE HEARING OFFICER: Thank you. Mr. Moore.
23	(OSC Exhibit-1 identified)
24	CROSS-EXAMINATION
25	BY MR. MOORE:

Page 25 The Office has just two areas of inquiry. 1 0. 2 Mr. Clements, two days ago last Tuesday, you participated in a hearing in Docket 15-305-70 concerning 3 4 an application for approval of a PPA which has some overlap with this case; isn't that correct? 5 6 Factual overlap. Α. You'll have to expand on the overlap that 8 you're referring to. 9 All right. I'll get to that. 0. 10 During the hearing you submitted some comments that you participated in preparing and adopted them 11 as your sworn testimony; wasn't that correct? 12 That's correct. 13 Α. 14 MR. MOORE: I have some copies of these 15 comments here. Can I pass them out the now? 16 THE HEARING OFFICER: Any other party, let me 17 know if you have an objection. MS. HOGLE: 18 The Company has an objection. 19 And the objection is that I believe whatever he's going 20 to be introducing is probably outside the scope of this 21 docket. 22 THE HEARING OFFICER: Mr. Moore? 23 MR. MOORE: I'll connect that up. 24 Mr. Clements spoke about -- one of the issues 25 in this docket is the threat of overwhelming QF contracts

Page 26 in the future. The discussion in the hearing on Tuesday 1 2 touched upon that issue. 3 THE HEARING OFFICER: Have you distributed this to the other parties? 4 5 MR. MOORE: I have not yet but I have them 6 right here. 7 THE HEARING OFFICER: Why don't you do that. 8 Why don't you distribute it to the other parties and then we'll deal with the objection and see if anyone 9 10 else wants to weigh in. (Document distribution by Mr. Moore) 11 12 THE HEARING OFFICER: Let me just ask, Mr. Hogle, do you want to say anything else to your 13 14 objection after looking at that or are you familiar 15 enough with it to say anything you need to? MS. HOGLE: I would like to add to the 16 17 objection that from Mr. Moore's response, he indicated that it was -- I'm not sure he said it was relevant, 18 but he did indicate that the comments in the proceeding 19 20 two days ago had a bearing on the number of PPA contracts that we were discussing in this case and the volume. 21 22 And I don't recall that being an issue in that case. 23 MR. MOORE: I would direct Ms. Hogle to 24 page four, the first full paragraph, and the first 25 two sentences.

```
Page 27
 1
               THE HEARING OFFICER: Mr. Moore, I think
 2
     I'm going to let you go ahead with this line of
 3
     questioning and we'll see where it goes subject to
 4
     more specific objection as you move forward.
     So, I think we'll just proceed that way.
 5
     BY MR. MOORE:
 6
               Mr. Clements, you have a copy of these?
          0.
 8
               I do, yes.
          Α.
               Could you please turn to page four?
 9
          0.
10
          Α.
               Okay.
11
               The first two sentences in the first paragraph
          Q.
     three: "The Company routinely manages between ten and
12
          22 negotiations at any given time. In the early and
13
          mid 2015, the Company was managing 170 different QF
14
15
          pricing requests and negotiation.
               "The large increase is primarily attributable
16
17
          to the solo projects attempting to execute a
          contract in the time to allow them to build a
18
          project by the end of 2016 in order to take
19
20
          advantage of expiring federal investment tax
          credit."
21
22
               Is that still your testimony today?
23
          Α.
               Yes.
               MR. MOORE: I would like to enter these
24
25
     comments into evidence at this time?
```

```
Page 28
 1
               THE HEARING OFFICER: And your motion is for
 2
     the entire document, not just the portion that was read?
                           Well, I have the entire document,
 3
               MR. MOORE:
 4
     yes, but the portion as read is the only portion I'll be
 5
     inquiring into.
 6
               THE HEARING OFFICER:
               Any objection to that motion?
 8
               MS. HOGLE: The Company renews its objection.
 9
     Thank you.
10
               THE HEARING OFFICER: Any other party have any
11
     position on that?
12
               MR. DODGE:
                           I believe you can take
     administrative notice of testimony in the record before
13
14
     you in another docket.
15
               So, it could be admitted, but either way,
     I think you have the right to rely on it and look at it.
16
17
               THE HEARING OFFICER: Any other comments?
               I think from a practical matter, the three of
18
     us are pretty familiar with this other docket. I think
19
20
     the prudent course is to allow this in and we'll take
     appropriate administrative notice of it considering that
21
22
     they are two separate dockets but we'll continue forward.
23
     Thank you. Mr. Moore.
               (OCS Exhibit-1 Admitted)
24
25
     BY MR. MOORE:
```

Page 29 1 Now, the 107 contract requests are only the 0. 2 ones active in the last six months. There are more OF contract requests than the 107 in the last two years 3 that's at issue in this case; isn't that correct? 4 5 I wouldn't say that what's occurred over the 6 past two years is what's at issue in this case, but the fact that there were 107 QF requests highlights the 8 concerns that the Company had and partially why it made its application. 9 10 0. But there were more ... 11 Maybe I can --Α. 12 Well --Q. -- help you out. So, 107 was just a snapshot 13 Α. in time. They come and go over time. 14 15 Q. Correct. 16 You know, for example, when we made the filing 17 in this docket, there were 3700 megawatts of requests. After we made this filing, that number grew to 42, 4300 18 19 megawatts of requests. Since then, it's dropped down to 20 probably 2400 megawatts of requests. So, it moves around 21 as projects come and qo. Right. So, there's been more requests in the 22 last two years where there's been -- in your testimony. 23 24 Didn't you testify that in the last two years

there's been a dramatic increase in QF requests?

25

- 1 A. Yes. I can point you to that part of my
- 2 testimony if that would be helpful. But yeah.
- 3 Q. That's fine.
- 4 A. It's actually on page ten of my testimony.
- 5 In Utah alone, we've had 24 new OF projects totalling
- 6 897 megawatts that we have executed in the last two
- 7 years. And again, that compares to the 2900 megawatts
- 8 of average Utah load.
- 9 Q. So, the 24 contracts that you signed in the
- 10 last two years is a considerably smaller amount than the
- 11 107 and more requests for contracts that you've
- 12 negotiated?
- 13 A. That's correct. And again, that's a Utah
- 14 number, where the 107 was a system-wide number.
- 15 Q. It's also true that assigning of a PPA is no
- 16 guarantee that the project will be built.
- 17 Applications can be withdrawn, in some cases
- 18 canceled; isn't that true?
- 19 A. Yes. That occurs.
- Q. Of the 24 new contracts that were signed in
- 21 Utah, have any of them been canceled or withdrawn or
- 22 presently being disputed?
- 23 A. I believe we have one small project that is
- 24 three megawatts or less that was terminated due to an
- 25 interconnection issue. But I believe that's the only

Page 31 1 one. 2 Q. That's the only one of the 24? 3 That's correct. Α. 4 0. All right. In preparing your testimony for this hearing, did you review the rebuttal testimony of 5 Mr. Peterson from the Department of Utilities? 6 Yes, I did. Α. 8 Do you have a copy of his rebuttal testimony? Q. 9 I believe I do, yes. Α. 10 Q. Could you turn to page seven of that rebuttal 11 testimony? Α. (Complying). 12 13 0. On line 27, it states: "Developers are hoping to take advantage of the ITC" -- that's the investment 14 15 tax credit, "will likely have need to sign the purchase agreements in place before the Commission is likely 16 to issue a decision in this docket." 17 Is that a fair statement in your opinion? 18 19 Yes. I agree with that. The ITC in its Α.

Q. That's right. And your testimony in the

set to be reduced at the end of 2016.

20

21

- 23 other -- on Tuesday was that the large increase is
- 24 primarily attributable to -- so the project attempting
- 25 to be executed on contract in time to allow to build them

current form. It may be extended or modified but it's

- 1 by the end of 2006 in order to take advantage of expiring
- 2 federal income tax credit; correct?
- 3 A. Yes, that's correct.
- 4 Q. Given the history that an overwhelming majority
- 5 of QF contract requests do not result in signed PPAs,
- 6 your testimony that a primary reason for dramatic
- 7 increase in contract requests to take advantage of
- 8 expiring federal tax credit and Mr. Peterson's testimony,
- 9 the opportunity to take advantage of the tax credits is
- 10 closing as we speak, isn't it extremely unlikely that a
- 11 significant number of the 40 outstanding contract
- 12 requests will result in projects being built?
- 13 A. Well, I'm not sure I can speculate on that.
- 14 We had a similar situation kind of in 2010, '11, and '12
- 15 with wind projects where we had a production tax credit
- 16 that was expiring.
- And so, it seemed like the rush on wind QFs was
- 18 over. And then here came a lot of solar QFs.
- 19 And so, it's difficult to speculate on how many
- 20 QF requests we'll get in the near future as panel prices
- 21 change, different financing vehicles come about.
- Q. If it's too speculative to determine that there
- 23 won't be that many contract requests in the future, isn't
- 24 it too speculative to suggest that there will be?
- 25 A. No. And it's not about a specific number.

Page 33 And this is where I struggled a bit in preparing my 1 2 testimony and forming an opinion on this matter. The issue of fixed-price risk obviously grows 3 with more megawatts. So, if you have one or two 4 5 contracts that come in with a 20-year contract term, while there is some fixed-price risk for customers, 6 that fixed-price risk is not as significant as if you 8 have 2,000 megawatts of QF contracts that come in. And I look at that as, you know, similar 9 10 to diversification of a stock portfolio or a retirement 11 portfolio. You may think natural gas stocks are quite 12 low today, which many of them are, and you would say, I'm going to add some of those to my retirement 13 portfolio. And you would add them in a percentage that 14 15 is appropriate for your allocation. You would not necessarily move your entire 16 17 portfolio to natural gas stocks. Now, what's challenging is, I don't know what 18 the appropriate allocation is for OF contracts. Like 19 20 I said, one or two QF contracts, you know, a hundred megawatts, perhaps, at a 20-year contract term, 21 22 that fixed-price risk is much smaller than a thousand 23 megawatts. So, there is some degree of variability depending on the size or the amount of QF contracts 24 25 that come through the door.

- 1 O. So, as you sit here today, you cannot speculate
- 2 to how many of the 40 outstanding contracts that are
- 3 presently being negotiated will be built?
- 4 A. Without knowing what the outcome of the ITC
- 5 would be, no. I would acknowledge that over the past two
- 6 years, we've signed contracts in the \$60 range and we
- 7 thought that was the lowest it could go, and a lot of our
- 8 developers said that's as low as it could go.
- 9 And then we signed some in the \$50 range and
- 10 had that same discussion. And then we signed a few
- in the \$40 range. And so, every time I think that
- 12 we've hit the end, we move forward.
- 13 Q. I want to turn now to your testimony regarding
- 14 the ratepayer indifference standard. In several places
- in your written testimony, you argue that the 20-year
- 16 contract term violates the ratepayer indifference
- 17 standard. And in your summary today, you've also made
- 18 that argument; isn't that true?
- 19 A. That's correct.
- 20 Q. On page nine and ten of your direct testimony,
- 21 you make the argument that a 20-year fixed-price contract
- 22 can be considered a subsidy to the QF in violation of the
- 23 ratepayer indifference standard.
- 24 Am I reading your testimony correct?
- 25 A. That is correct.

Page 35 1 But at no point do you attempt to quantify or 0. 2 monetize the amount of the subsidy; do you? 3 Α. No. Isn't it true for the last several years 4 0. 5 the Company, the Division, and the Office have been arguing for the Commission that an unquantifiable policy 6 consideration should not be taken into account in avoided 8 cost pricing cases involving the ratepayer indifference standard? 9 10 Α. Yes. When we're assigning costs and benefits. 11 And this would be considered a benefit in my opinion. 12 And if a QF is going to enjoy the benefit of a 20-year contract term, arguably, they should get a reduction 13 14 in their price because of that but I don't know how to 15 quantify that. 16 Well, the Company has taken the position in the past few years that unquantifiable policy considerations 17 should not be taken into consideration in avoided cost 18 pricing cases involving the ratepayer indifference 19 20 standards; isn't that true? Yeah, that's correct. And I believe this is a 21 benefit that cannot be quantified. So, it should not be 22 23 allowed. 24 Q. Can you identify any case from the Public

Service Commission or the Federal Energy Regulatory

25

- 1 Commission that apply to the ratepayer indifference
- 2 standard outside the context of avoided cost pricing?
- 3 A. I might need you to rephrase that or unpack it
- 4 a little bit.
- 5 Q. All right. I'm looking here at two
- 6 quasi-judicial bodies, the Utah Public Service Commission
- 7 and the Federal Energy Regulatory Commission. Do you
- 8 understand that?
- 9 A. Yeah.
- 10 Q. Those are the only two issues?
- 11 A. Judicial bodies.
- 12 Q. Right.
- 13 A. Not quasi.
- Q. Can you in your experience point to any
- 15 decision or case or regulation from those two bodies
- 16 where the ratepayer indifference standard was applied
- 17 outside the context of specifically setting avoided cost
- 18 pricing?
- 19 A. Certainly. We've had -- first of all, there's
- 20 been other jurisdictions in which the Company operates
- 21 such as Idaho where the contract --
- MR. MOORE: I'm going to object. That's
- 23 nonresponsive. I specifically asked about the Utah
- 24 Public Service Commission and Federal Regulatory
- 25 Commission.

```
Page 37
               MS. HOGLE: Mr. Clements, before you respond,
 1
 2
     can I ask counsel to please allow the witness to finish
     his testimony before he cuts him off?
 3
 4
               THE HEARING OFFICER: Thank you.
 5
               And with respect to the objection, I think if
     Mr. Clements wants to discuss Idaho a bit before he
 6
     answers the question, I think that's reasonable, and
 8
     I'll allow him to do that to an extent.
               THE WITNESS: Yeah, because the Idaho is
 9
10
     relevant to FERC. So, I was getting to that point.
11
               So, in Idaho, there were multiple rulings where
12
     there were issues other than the contract price. One of
     those was contract term. Some credit terms were also at
13
14
     issue, and parties even took the Idaho Commission to the
15
     FERC and the FERC said that the state Commission can
     opine and determine those particular things.
16
17
               In Utah in particular, we've had multiple
     dockets that have addressed non-pricing issues, things
18
     like credit terms, performance guarantees and other
19
20
     contract terms that are significant but are not
     associated with the price.
21
22
               And so, it's my position and I think the case
23
     law supports this, that the Commission has the ability
     to implement the ratepayer indifference standard across
24
25
     everything from price to contract terms to contract term
```

- 1 meaning duration.
- 2 BY MR. MOORE:
- 3 Q. In your prefiled testimony, you've cited
- 4 several cases, dockets both from this jurisdiction and
- 5 other jurisdictions, statutes, federal and state.
- 6 But I don't believe, and correct me if I'm
- 7 wrong, you cited to any case or precedent that applied
- 8 the ratepayer indifference standard outside the context
- 9 of the avoided cost pricing.
- 10 Could you correct me if I'm wrong?
- 11 A. Without performing a thorough review of each
- of those, many of those cases had issues beyond just the
- 13 price. So, I'm not sure I would agree with that
- 14 generalization.
- 15 Q. Well, you prepared -- you made the argument
- in your prefiled testimony, did you not, the ratepayer
- 17 indifference standard applies and you made the argument
- 18 here to terms outside the avoided cost pricing?
- 19 A. Yes.
- 20 Q. But you cannot cite to any case specifically
- 21 now with your testimony in front of you that stands for
- 22 that proposition. You can only say generally that some
- 23 of these cases might make it?
- A. Well, in general, I would refer to the two
- 25 significant portions which would be Section 210 of PURPA

Page 39 and Section 292 of the federal regulations which 1 2 encompass all of PURPA. I mean, we can take the time 3 if you want to go through each of those. But it speaks specifically to the ratepayer 4 indifference standard or to the fact that the -- and I'll 5 quote from one of them if it would help. "The 6 incremental cost to an electric utility" --"The incremental cost to an electric utility of 8 electric energy or capacity or both which, but for 9 10 the purchase from the qualifying facility or qualifying facilities, such utility would generate 11 12 itself or purchase from another source." And that's how they define avoided cost in 13 14 18 C.F.R. 292-101(b)(6). 15 0. That's exactly my point. That's dealing specifically with avoided 16 costing pricing; isn't that correct? 17 It doesn't specifically say avoided cost 18 Α. No. pricing. There's more that encompass avoided cost than 19 20 just the price. I would refer you to the order in 03-035-14 or 12-035-100. Those are two orders from this 21 22 particular Commission that addressed many issues besides just the price. 23 Avoided cost are a corollary of the federal 24 0. statute's incremental cost. Would you agree with that? 25

Page 40 I would say "avoided" and "incremental" 1 Α. 2 would be similar, yes. Would they refer to the same thing? 3 0. 4 Α. In practice, yes. And isn't the ratepayer indifference standard 5 0. also a corollary to avoided cost? 6 Α. Yes. 8 Q. And isn't that the only place that the 9 ratepayer indifference standards exist in cases from the 10 Utah Public Service Commission and the Federal Regulatory Commission? 11 12 MS. HOGLE: Objection. I believe that question has been asked and answered several times. 13 14 THE WITNESS: Yeah. Oh. Sorry. 15 THE HEARING OFFICER: I tend to agree that it has been. 16 17 MR. MOORE: We have no further questions. 18 THE HEARING OFFICER: Thank you. Ms. Dutton? 19 CROSS-EXAMINATION 20 BY MS. DUTTON: Thank you. Mr. Clements, do QF sources provide 21 0. 22 a capacity value? 23 Yes. The capacity value was determined in Α. 24 those two dockets I just referenced. So, that would be 03-035-14 and 12-035-100 the Commission determined the 25

- 1 capacity payment for QFs.
- 2 Q. And do commodity hedges provide the utility
- 3 with a capacity value?
- 4 A. Yes. Certain commodity hedges would.
- 5 Q. Could you explain that?
- 6 A. Certainly. When you purchase firm energy,
- 7 it comes with liquidated damages. And so, firm market
- 8 purchases do have some capacity value.
- 9 Q. Do you account for that in your IRP?
- 10 A. Yes. I believe some market purchases are
- 11 in the IRP.
- 12 Q. Are the ratepayer indifference standard and the
- 13 must-purchase obligation of PURPA applicable to
- 14 QF resources?
- 15 A. Yes. That's the very basis of PURPA.
- 16 Q. And is PURPA applicable to the commodity
- 17 hedges?
- 18 A. No. PURPA has no bearing on commodity hedges.
- 19 Q. Okay. Is it possible that at some point the
- 20 avoided cost price will be so low that it will be
- 21 uneconomical to build QF projects?
- 22 A. Again, I couldn't speculate on that because
- 23 every time I've tried to do that, I've been wrong.
- 24 So, I'm not going to guess on that one again.
- 25 Q. And did existing QF contracts contribute to the

Page 42 1 decision in the recent IRP to push the next company 2 resource acquisition out to 2028? 3 I'm not entirely certain. They probably did Α. play a small role in that. The capacity contribution 4 of wind and solar which is the majority of the OFs that 5 we have received is not a hundred percent. And so, they 6 may have contributed to that but I'm not certain. 8 MS. DUTTON: Thank you. No further questions. 9 THE HEARING OFFICER: Thank you. Mr. Ritchie? CROSS-EXAMINATION 10 11 BY MR. RITCHIE: Thank you, commissioners. Travis Ritchie with 12 0. the Sierra Club. Good morning Mr. Clements. 13 14 How are you? 15 Α. Good morning. Mr. Clements, I'd like to start with a point 16 that you made in your summary and you also addressed 17 in your testimony. If I could turn you to page three 18 of your rebuttal testimony, please. 19 20 Α. (Complying). And starting on line 46 after the semi colon 21 ο. 22 there, you state: 23 "A company resource can be dispatched and backed down when more economical alternatives are 24 25 available passing through to customers the savings

1	Page 43 from lower fuel and other operating costs because
2	the total cost of energy is not locked in for
3	20 years like it is in a QF contract."
4	Did I read that correctly?
5	A. That's correct.
6	Q. And is that the same point you were making in
7	your summary about distinguishing a company resource from
8	a QF contract?
9	A. That's one of the things that distinguishes it.
10	Q. And if I could also turn you to page twelve of
11	your rebuttal testimony, please, and directing you to
12	lines 246, you say:
13	"For example, if the marginal cost of a company
14	gas plant is \$40 per megawatt hour but another
15	alternative such as a short-term firm market
16	purchase costs only \$30 per megawatt hour,
17	the Company would dispatch down the gas plant
18	and buy from the market saving customers
19	\$10 per megawatt hour."
20	Did I read that correctly?
21	A. Yes.
22	Q. And does this example that you describe on
23	page twelve follow on the same point that I just read
24	on page three?
25	A. Yes, generally.

Page 44 1 Now, in this example here on page 12, you say 0. 2 that the Company could back down the gas plant when the marginal cost of the plant is higher than other 3 alternatives. And you specifically said marginal 4 for a reason; right? 5 6 Α. Absolutely, yes. 7 So, for a company-owned resource like a gas 0. 8 plant or a coal plant, are there costs that ratepayers 9 are responsible for covering other than the marginal 10 costs? 11 Yes. Α. 12 And so, if you back down a plant --Q. Well, let me back up a little bit. 13 14 What are those costs that ratepayers would be 15 responsible for other than marginal costs? Well, you primarily have capacity and energy 16 I mean, if you want to go line by line, we can 17 do that. But with any generating resource, you typically 18 19 have a capacity cost and an energy cost. And the energy 20 cost would be your marginal cost which would include fuel, variable 0 and M, chemicals, things of that nature. 21 22 And the point I was making here is with a 23 company resource, yes, you're capacity costs are fixed and sunk if you want to call it that, but your marginal 24 costs or your energy costs could be dispatched in such 25

- 1 a manner that they are economic.
- 2 So, if there's another area where you can get
- 3 a cheaper marginal cost, you can dispatch down your unit
- 4 and acquire that. With a QF contract, when we calculate
- 5 the capacity and the energy cost, we lock that in for
- 6 20 years, and the QF sells to us over the course of the
- 7 20 years at that price.
- And we don't have the ability to go to the QF
- 9 and say, we'll keep paying you the capacity but we've got
- 10 a cheaper energy alternative, so back down. We don't
- 11 have the ability to do that, and that was the point
- 12 I was making then.
- Q. And so, the ability that you have is that
- 14 customers see savings from reduced fuel and operating
- 15 costs; correct?
- 16 A. That's correct, yes.
- 17 Q. So, are you aware of any company-owned
- 18 resources that currently have operating long-term fuel
- 19 supply agreements that include minimum take privileges?
- 20 A. I'm not aware of any but I'm not aware of all
- 21 of our long-term fuel agreements. So, I wouldn't ...
- 22 Q. Were you familiar with the closure of the
- 23 Deer Creek Mine recently and the replacement coal supply
- 24 agreement?
- 25 A. I'm aware of it but not the details of the coal

- 1 agreement.
- Q. Would it surprise you to hear that the company
- 3 entered into a 15-year coal supply agreement?
- 4 A. No, it wouldn't surprise me. Coal agreements
- 5 are typically somewhat long term in nature.
- 6 Q. And based on your experience in the industry,
- 7 do fuel supply agreements often have minimum tank
- 8 provisions as well?
- 9 A. Gas do not, no. Coal often does, yes.
- 10 Q. And so, for a fuel provision like that, just
- 11 understanding how a minimum take provision works, if you
- 12 back down a plant, you still have to pay for some of that
- 13 fuel even if you don't use it; is that correct?
- 14 A. Again, it depends what your minimum tank
- 15 provisions are and if they require you to run a certain
- 16 capacity level. I'd have to look at the exact contract
- 17 on that.
- 18 Q. Fair enough. I'll move on from that.
- 19 A. Sure.
- 20 Q. So, I'd like to talk now about the kind of
- 21 other category of costs for a company-owned resource that
- 22 customers are on the hook for paying regardless of
- 23 whether the plant has backed down.
- 24 Isn't it true that ratepayers still have to pay
- 25 for the capital expenses at generating plants even if

- 1 those plants are backed down?
- 2 A. Yes, that's correct.
- 3 Q. So, when the Company is making a decision to
- 4 justify whether or not a capital expense and a generating
- 5 resource is prudent, the Company relies on the best
- 6 estimates it has available for things like
- 7 forward-looking fuel and power price forecasts to show
- 8 that the capital expenditures are the least-cost,
- 9 least-risk for the customer; is that correct?
- 10 A. Yes. And without rehashing that entire IRP
- 11 process again, that's typically done within the two-
- 12 to four-year action plan in the IRP and through that
- 13 competitive bid process I discussed earlier in my
- 14 summary.
- 15 Q. And now, if you have, let's say, a major
- 16 capital addition at an existing generating resource.
- 17 Does that go through a competitive bid process
- 18 like an RFP process comparing it to other generating
- 19 resources?
- 20 A. The IRP accounts for those major capital
- 21 improvements, and we'd have to talk about which ones
- 22 you're referring to exactly.
- Q. Okay. I'll take an example.
- 24 Are you familiar with the proceeding that
- 25 occurred here a couple years ago discussing major capital

- 1 expenses at the Jim Bridger coal plant?
- A. No. That's one I was not a part of.
- 3 Q. Are you aware of any of the proceedings that
- 4 the Company has pursued to get pre-approval for major
- 5 capital expenses at its generating facility?
- 6 A. Yes.
- 7 Q. And with regard to a large capital expenditure
- 8 at an existing facility, isn't it true that utilities
- 9 actions are generally judged based on the information
- 10 available to the company at the time that it made the
- 11 decision to spend the money?
- 12 A. Yes, after careful stakeholder review.
- 13 And that's a critical point that I've made and I feel
- 14 is very relevant here.
- 15 All of these major plant additions that you've
- 16 been talking about go through a rigorous review process.
- 17 And, in fact, some of these that you have discussed
- 18 actually came before the various commissions that we
- 19 have. The Company was required to justify their need.
- 20 The Company was required to justify the expense and a
- 21 lot of times got pre-approval before making that expense.
- So, we went through a litigious process or
- 23 at least an evidentiary hearing before making those
- 24 expenditures. And my point in my testimony is, that's
- 25 very different than what occurs with a QF contract

- 1 where we may sign a \$200 million nominal-value
- 2 transaction that gets very little commission oversight
- 3 or review. We're forced to execute that agreement.
- 4 Q. I believe you gave the example during your
- 5 summary that QFs effectively require the Company to lock
- 6 in the price of gas for 20 years because the avoided cost
- 7 of that QF is based off of the then current price
- 8 forecast; isn't that correct?
- 9 A. That's correct.
- 10 Q. But isn't it true that that same concept
- 11 applies in those proceedings that you were talking about
- 12 about capital expenditures where the Company comes
- 13 forward to makes its case based on the long-term
- 14 forward-looking price forecast available to the
- 15 Company at the time that the decision is made?
- 16 A. That is correct with a major difference being
- 17 need and the needs assessment. If you look at the 2028
- 18 resource, we're not going to go out and acquire that
- 19 resource today because it's outside the IRP action plan.
- 20 And that was the point I was trying to make is
- 21 with the QF contract, we don't go through that rigorous
- 22 review process to make sure we have the need.
- When we acquire these major plant additions,
- 24 when we build a new power plant, it's because a need has
- 25 been identified in the IRP, and that need shows up in

- 1 that two- to four-year action plan. And at that point
- 2 in time, we go out and acquire that resource. And that's
- 3 different again than the QF resource.
- 4 Q. So, setting aside the Company's determination
- 5 of its need for a minute, from the perspective of a
- 6 utility scales, let's take a solar QF project, if you
- 7 were in the shoes of that developer, isn't it true that
- 8 the decision to spend the capital on the project has
- 9 to be made up front?
- 10 A. Absolutely.
- 11 Q. And when the QF developer is considering
- 12 whether or not to build a project, they have to look
- 13 at the utilities current avoided costs to determine
- 14 whether or not their project pencils out at a given
- 15 price; is that correct?
- 16 A. That's correct.
- 17 Q. So, isn't it also correct that similar to a
- 18 utility's decision to deploy capital, the QF developer
- 19 should be provided with the same certainty that their
- 20 cost calculations will not be second guessed if price
- 21 forecasts and avoided cost calculations change three
- 22 years down the line?
- 23 A. And again, the difference there is the Company
- 24 only acquires those long-term resources when that need
- 25 is identified in the IRP. And I know you said you want

Page 51 to set aside the need issue but the need issue is the 1 2 crux of the argument here and the need issue is why 3 it is, in my opinion, a violation of the ratepayer indifference standard. 4 So, I'd like to turn you to page five of your 5 6 rebuttal testimony right now, please, and on line 108. Now, you state there -- are you there? 8 Α. Yes. Go ahead. "Limiting the term of the contract to three 9 10 years simply means that the price Rocky Mountain 11 Power and its customers will be required to pay to the QF will be subject to adjustment every 12 three years and will be more closely aligned 13 with the Company's current avoided costs." 14 15 Is that correct? 16 That's correct. Α. 17 For the capital expense projects that we were 0. talking about before where the Company has sought 18 pre-approval for major capital expenses, would the 19 20 Company accept a requirement to come back to the Commission every three years to prove that the capital 21 22 expenditures were still the least-cost, least-risk option 23 under updated power and fuel price forecasts? 24 Α. Again, it depends on what capital costs you're referring to. The Company does have to come in and offer 25

- 1 evidence of prudence on any expense it makes.
- Q. But isn't it true that the Company, the
- 3 original decision to deploy that capital is made based
- 4 off of the best information available to the Company at
- 5 the time that it made the decision to deploy the capital?
- A. Yeah, that's correct.
- 7 Q. And so, would it be fair to ask the Company
- 8 to come back in? Let's say if a decision to deploy
- 9 capital was made in 2010 and price forecasts have
- 10 changed since then.
- 11 Would it be fair to bring the Company back in
- 12 today and say, you know what, if we rerun the numbers
- 13 from the case that you presented in 2010, would these new
- 14 numbers today -- that decision was wrong and it turns out
- 15 that was not the least-cost least-risk decision.
- 16 Would that be a fair thing to impose on the Company?
- 17 A. Well, from a capital standpoint, that doesn't
- 18 occur. From an energy or marginal-cost standpoint, that
- 19 does occur. The Company comes in in rate cases and
- 20 energy balancing account proceedings and all its marginal
- 21 costs, natural gas, chemicals, variable 0 and M are
- 22 subject to review at that point in time.
- 23 And again, that's the difference between a
- 24 QF contract and these company resources where the Company
- 25 does lock in the capital piece through the lowest-cost

- 1 least-risk needs assessment in the IRP.
- 2 And then the marginal costs are subject
- 3 to change over the life of that asset. That's not the
- 4 case for the QF contract. The capacity and the marginal
- 5 costs are locked in from day one.
- 6 Q. But from the perspective of the QF as I think
- 7 we just discussed a little bit more, the QF is making a
- 8 decision of whether or not to pull the capital based
- 9 on the then current avoided costs of the Company which
- 10 dictates that pricing; isn't that correct?
- 11 A. Well, it's hard to speculate what they base
- 12 their decision on. Some do not. I mean, that seems
- to be very unique to renewable QFs who require
- 14 third-party financing to build the projects.
- 15 All of our combined heat and power projects,
- 16 so, these are entities that have generation behind their
- 17 meter like Tessoro, U.S. Magnesium, Kennecott, those
- 18 entities typically elect to one- to two-year contract
- 19 terms. And so, I don't know what they're basing their
- 20 analysis on, but they're not looking at a long-term
- 21 avoided cost as a justification for their project.
- Q. Isn't it true that a lot of those facilities
- 23 with cogeneration products, producing energy is not their
- 24 core business; correct?
- 25 A. No. It wouldn't be their core business and

- 1 that's the very reason why they -- and this is a very
- 2 good point you bring up. That's why they don't enter
- 3 into these long-term fixed-price sales to the Company.
- 4 It's for the same reason the Company doesn't
- 5 want to enter into the long-term fixed-price purchases.
- 6 Those entities say, I have too much fixed-price risk.
- 7 I'm not agreeing to sell to you for 20 years at a fixed
- 8 price. I'm only agreeing to sell to you for one or
- 9 two years. They are on the other end of that fixed-price
- 10 risk.
- 11 MR. RITCHIE: Thank you, Mr. Clements. I have
- 12 no more questions.
- THE HEARING OFFICER: Mr. Dodge?
- 14 CROSS-EXAMINATION
- 15 BY MR. DODGE:
- 16 Q. Thank you, Mr. Chairman.
- 17 Good morning, Mr. Clements.
- 18 A. Good morning.
- 19 Q. You've made pretty clear your legal or other
- 20 opinion that reducing the contract term to three years
- 21 doesn't violate PURPA.
- You haven't cited any FERC cases that say that;
- 23 have you? You said the opposite but you found no FERC
- 24 cases or regulations that say you have to offer long
- 25 term. You've also offered nothing that says it is in

- 1 conformity with PURPA to restrict a PPA to three years;
- 2 have you?
- A. I have said that it is consistent with the
- 4 ratepayer indifference standard which is really at the
- 5 heart of PURPA. And I can say that --
- 6 Q. Please answer my question which is:
- 7 Have you cited any case law or regulations
- 8 that say it is consistent with PURPA to offer a
- 9 three-year PPA to maximum?
- 10 A. Yes. Again, I'd refer to the sections that
- 11 I referred to earlier when the Office was providing their
- 12 cross-examination.
- 13 Q. So, turn to that and show me where it talks
- 14 about the length of the PPA.
- 15 A. It does not specifically talk about the length
- 16 of the PPA but it does talk about avoided cost leading
- 17 the ratepayer or customer in --
- 18 Q. I understand that. If you'll listen to the
- 19 question, we'll get through this a lot faster.
- I said, have you cited any regulation or case
- 21 from PURPA or FERC or this Commission that says a
- 22 three-year term is consistent with PURPA?
- The answer to that is no; is it not?
- A. No. That's correct.
- Q. Okay. That's all I wanted. It's clear that

Page 56 your company dislikes the must-buy obligation of PURPA. 1 2 That's a fair statement; isn't it? That's not a fair statement. 3 Α. One of the executives of Berkshire Hathaway 4 0. 5 appeared before congress and asked that it be removed; did he not? 6 MS. HOGLE: Objection. Outside the scope. 8 MR. DODGE: I don't think it's outside the 9 If the Company's trying to eliminate the 10 must-purchase obligation and he's sitting here saying that isn't their intent, I think it shows an 11 12 inconsistency. THE HEARING OFFICER: I think I'm going to rule 13 14 that it's within the scope based on the previous answer 15 Mr. Clements gave to answer within his knowledge. THE WITNESS: Yes. And without getting into 16 17 the details because I'm not knowledgeable of some of those that are current at the federal level, yes, 18 there has been some work done there. 19 20 In fact, I was just reading this morning a letter from Republican leadership to the FERC chairman 21 22 requesting they convene a technical conference to review 23 the applicability of PURPA now. So, I believe there are some efforts going on at the federal level. I was 24 25 responding from a personal level.

- 1 BY MR. DODGE:
- Q. No. I asked you, is it not true that
- 3 Berkshire Hathaway has taken the position that the
- 4 must-purchase obligation should be eliminated from PURPA?
- 5 A. I believe they have taken that position.
- 6 Q. Today at least that hasn't happened; has it?
- 7 A. It has not.
- 8 MR. DODGE: May I approach?
- 9 THE HEARING OFFICER: Yes.
- 10 BY MR. DODGE:
- 11 Q. Mr. Clements, I'm going to hand you -- I notice
- 12 in your testimony in all three rounds, although you
- 13 provide extensive opinions on what PURPA requires and
- 14 your interpretation of what PURPA is, et cetera, you
- 15 don't once reference the Utah section that deals directly
- 16 with PURPA. Is that a fair statement?
- 17 A. I don't believe I did reference it, no.
- 18 Q. Do you think it's relevant, should be relevant
- 19 to this Commission what Utah law mandates on this issue?
- 20 A. Sure.
- Q. Let's look at that. Before you I have an
- 22 excerpt from Utah Code Annotated Section 54-12-1.
- 23 The bold in there is mine. It's not in the statute.
- 24 Am I reading it correctly midway down at
- 25 subparagraph one:

1	Page 58
2	independent energy producers to competitively
3	develop sources of electric energy not otherwise
4	available to Utah businesses," et cetera, "and to
5	remove unnecessary barriers to energy transactions
6	involving independent energy producers and
7	electrical corporations."
8	Did I read that correctly?
9	A. Yes.
10	Q. It goes on in subparagraph two:
11	"It is the policy of this state to encourage
12	the development of independent and qualifying power
13	production and cogeneration facilities"
14	Now, it's a fair statement, is it not, that
15	nowhere in the Company's presentation to this Commission
16	in its testimony was any effort made to demonstrate or
17	even claim that reducing the PPA to three years
18	is consistent with this Utah statute?
19	A. No. I did not reference this statute.
20	Q. You don't take the position, Mr. Clements,
21	do you, that a three-year PPA will allow companies to
22	continue to develop renewable energy, QFs, like the ones
23	that you have signed in the last two years.
24	You don't take the position that will continue;
25	do you?

Page 59 Based on my experience, some may be able to 1 Α. 2 purchase it. Some may be able to continue to build 3 projects depending on what their financing options are. And that experience wouldn't be with anyone 4 0. who's done a large QF project and financed it with a 5 short-term PPA; would it be? 6 It's based on your speculation? 8 Α. There have been multiple projects -- oh. And you're speaking to renewable. There's one renewable 9 10 project that I'm aware of that built and completed construction without a long-term PPA. 11 And you're talking about one you referenced 12 13 in a data request in Wyoming? 14 Is that the one you're talking about? 15 Α. Yes. And it's 19 megawatts? 16 Q. 17 I believe it's actually 17 and a half. Α. 17 and a half megawatts. And are you aware 18 0. 19 there was actually no financing involved in that, it was 20 completely company -- it's on a greenfield site of an industrial customer; is it not? 21 22 Yeah. I'm sure the term wasn't free. I'm sure 23 there was some financing. They didn't require 24 third-party financing.

Did you know that there was outside financing?

25

Q.

- 1 A. No. Like I said, obviously there was some
- 2 financing. Whether it was outside or inside, I don't
- 3 know.
- 4 Q. Well, when I say financing, I'm talking about
- 5 going to the market to get it as opposed to using
- 6 internal capital. Are you aware that there was no
- 7 outside financing involved in that?
- 8 MS. HOGLE: Objection. I believe he's answered
- 9 that question.
- 10 BY MR. DODGE:
- 11 Q. Did he say he was not aware? If so, I'd just
- 12 like to know the answer. I didn't hear it.
- 13 A. I don't know. The money came from somewhere.
- 14 And whether it was internal financing that then required
- 15 external financing, I don't know, but the project was
- 16 built with a shorter PPA.
- 17 Q. And in Wyoming, 20-year PPAs are now allowed;
- 18 right?
- 19 A. Yes. They were allowed --
- Q. So, for some reason, a five-year PPA was
- 21 negotiated, built by a company potentially with no
- 22 outside financing for reasons you may not even fully
- 23 understand or be free to disclose; right?
- A. Well, I know the reason. The reason was,
- 25 they didn't like how low the price was and they didn't

- 1 want to be locked into that price for 20 years.
- 2 That's why they chose short term.
- 3 Q. So, that's the totality of your experience that
- 4 says maybe some companies can continue to develop large
- 5 renewable projects with a short term?
- 6 MS. HOGLE: Objection. Argumentative.
- 7 BY MR. DODGE:
- 8 Q. Isn't the totality of your experience --
- 9 You said based on your experience you think
- 10 maybe some can and you gave me one example. That's the
- 11 totality of your experience with large renewable energy
- 12 development projects being able potentially to be
- 13 developed with terms of less than 20 years?
- 14 A. Correct. I would agree that it will become
- 15 much more difficult for these entities to obtain
- 16 financing based on my inexperience. I'm not denying
- 17 that.
- 18 Q. Why don't you just admit it will stop it
- 19 completely?
- 20 A. Because I don't know if it will stop it
- 21 completely.
- Q. But if it does, that's okay with you?
- MS. HOGLE: Objection. Argumentative.
- 24 BY MR. DODGE:
- Q. Is it okay with you? Is that the goal?

Page 62 1 Are you trying to hit a pause button here and 2 say, look, we don't like PURPA, let's pause? 3 Let me answer your first question. If you're Α. 4 asking me personally or me as representing the Company, 5 I'll provide the same answer to you. 6 We are indifferent. The Company has never received a disallowance for a QF contract. When we sign 8 these QF contracts, they go into net power costs and we 9 get full recovery. 10 This proceeding will not impact the Company's 11 earnings or the Company's bottom line in any way. 12 This isn't about the Company versus QFs. This is about maintaining the ratepayer indifference standard. 13 14 And so, I'm not okay with it. I'm not okay 15 with it. I'm ambivalent. I've sat in this particular chair, sometimes that one, sometimes arguing for QFs, 16 sometimes arguing against QFs, but always trying to do 17 what's fair. 18 So, I'm a bit agnostic to the point of whether 19 20 they get built or not. And I don't mean that in a cold-hearted way. I just say, I try to administer PURPA 21 22 in a fair manner for both the QF and the customer. 23 That's what the Company's trying to do. And it's touching that you're looking out for 24 Q.

the customers. You recognize the only two customer reps

25

Page 63 in this room oppose your attempt to change the term. 1 2 You understand that; don't you? 3 I don't know which two customer reps --Α. 4 0. The Office is statutorily obligated to look out for the interests of residential and small business 5 customers; right? UAE is a member of our coalition 6 7 and it opposes it. 8 Is there any customer representative that you 9 know of here supporting your approach? 10 Α. No. They don't typically do that. Quite 11 honestly, I was surprised at the Office's position. 12 With some of the risks that they raised in their testimony, I was surprised at the position they took. 13 Maybe they know how to read a statute and 14 Q. 15 understand what Utah law requires in terms of encouraging the development of independent power production that 16 17 perhaps you lack. Do you think that --MS. HOGLE: Objection. Argumentative. 18 THE HEARING OFFICER: I'll sustain that 19 20 objection. 21 MR. DODGE: Mr. Clements --22 May I approach again, Mr. Chairman? 23 THE HEARING OFFICER: Yes. (RMCRE Cross Exhibit-1 identified) 24 25 BY MR. DODGE:

Page 64 Mr. Clements, you also I think fail in your 1 Q. 2 testimony to spend any time with the most recent Utah Public Service Commission ruling on the issue of the term 3 of PPAs. You referenced it this morning in a different 4 context but I'm going to hand you -- and I haven't marked 5 this or the last one, Mr. Chairman, because you can 6 clearly take administrative notice of it. I don't feel 8 the need to get it introduced into the record, although 9 I'm happy to if it would it be useful. 10 I'll represent that this is an excerpt from the Commission's order in Docket 03-035-14. 11 12 You referenced that this morning, although in your testimony I think, if at all, it was in response to 13 others. You didn't go into a discussion of what the 14 15 Commission and even the Company decided in this 03 docket. And it's the last time the Commission ever 16 looked at the length of QF PPAs; is it not? 17 I believe that was the last time, yeah. 18 Α. 19 0. If you look at on page 28 of this, it says, 20 "CONTRACT ISSUES, Contract Term." Right? And it starts with, "PacifiCorp testifies" --21 22 and I'll skip down a little bit: 23 "... the 20-year term represents an appropriate balance between a term that allows the QF to secure 24 25 financing and limiting the risks that accompany

Page 65 1 long range price forecasting ..." 2 Did I read that correctly? 3 Α. That's correct. 4 0. And if you turn to page 29 at the bottom of that section before the section that begins, 5 "Levelization," the Commission order says: 6 "We find reasonable and accept the parties' 8 common position providing for a standard term limit of 20 years for OF contracts with the allowance for 9 10 parties to petition the Commission for longer terms." 11 12 So, the Commission was even willing to accept potentially longer terms under circumstances if someone 13 could demonstrate the appropriateness of it; right? 14 15 Α. That's correct. So, if that was a governing concern the last 16 time this Commission looked at it, don't you think the 17 ability of QF developers to obtain financing is still 18 a relevant consideration? 19 20 Well, I don't see in the order where they Α. 21 specifically said that they were making that finding 2.2 based on the need to obtain financing. 23 Were you in that docket? Q. Yes, I was at the tail end. 24 Α. 25 And do you recall there was testimony from UAE Q.

Page 66 1 among others saying you need a long-term contract in 2 order for it to be financeable, we support QFs? And that was the whole discussion in the 3 settlement, was it not, does it have to be 30 years 4 versus 35 years versus 20 to be financeable. Was that 5 6 not the whole issue in that part of the docket? MS. HOGLE: Mr. Clements, if you cannot 8 remember, you don't have to answer that. That's ten 9 years ago or longer. 10 THE HEARING OFFICER: Is that an objection? 11 MS. HOGLE: Objection. Yes. 12 BY MR. DODGE: Well, let's see if he does remember. 13 0. Do you remember? 14 15 Well, I wouldn't -- you would probably need to Α. talk about what occurred during the settlement meeting 16 which I think is how you phrased that. This was the 17 issue during settlement. 18 No. In the testimony I said. Did we not file 19 0. 20 testimony to that effect, the parties not? 21 Α. I believe you did, yes. 22 And the parties ultimately settled on 20 with 23 the option to extend it to 35 with a filing with the Commission in large part as the Company testified to try 24 and balance the long-term price risk against the need

25

Page 67 1 of QF developers to have access to financing. 2 And my question is, is that not still a relevant consideration if it was in the Company's own 3 testimony in the 03 docket? 4 5 The Company's testimony did not speak to financing in that particular docket. And the Company's 6 testimony in support of the 20-year term at that point 8 in time was a compromise to other parties' desire for 9 a 35-year contract term. 10 And again, as I mentioned in my testimony, and 11 that's what you're failing to recognize or acknowledge, 12 that things have changed since this original docket kicked off in 2003. 13 I understand that and I'm going to cut you off 14 0. 15 and ask the chairman's permission to do so. I know you want to give a speech. I'm just going at, is it not 16 still a relevant consideration? 17 We know your testimony that you believe 18 circumstances have changed. I'm not asking about that. 19 20 Is it not still a relevant consideration? 2.1 Α. Do you mean --22 The ability --Q. 23 -- whether it can be financed --Α. -- to obtain --24 Q. 25 -- or not? Α.

Page 68 -- financing for OF projects in order to 1 Q. 2 encourage the development of such projects. 3 Again, that was your testimony at that point in Α. time that it was relevant. I don't see in the Commission 4 5 order where the Commission determined that was relevant and it wasn't the Company's position at that time that 6 being able to finance a project is relevant. And again, 8 it's not the Company's position at this point in time that being able to finance is relevant. 9 10 0. Let me read from the -- and I guess I will ask that this be marked because maybe we need to have it in 11 the record, we know what we're referencing. So, I'll ask 12 that this be marked as Coalition Cross Exhibit-1? 13 14 THE HEARING OFFICER: If any party objects 15 to that, please indicate. Not seeing any, it will be 16 marked. (RMCRE Cross Exhibit-1 marked) 17 BY MR. DODGE: 18 19 I'm going to read once again, Mr. Clements: Q. 20 "PacifiCorp testifies, contracts for the required purchase of power from QFs should be 21 22 limited to a term of 20 years ..." 23 It says: 24 "... the longer the term, the greater the risk to the Company and ratepayers of incurring an 25

Page 69 1 uneconomic power purchase agreement; semi colon 2 the 20-year term represents an appropriate balance between a term that allows the OF to secure 3 financing and limiting the risk that accompany 4 long range power price forecasting ..." 5 That is a reference to the Company's position 6 in that docket. So, the Company did take a position 8 in that one, did it not, that balancing those two issues, long-term risk and the ability to obtain financing was 9 10 an appropriate consideration? 11 MS. HOGLE: Objection. Asked and answered. 12 BY MR. DODGE: Well, he answered it wrong. I think I'm 13 ο. allowed to explore. He said the Company didn't take a 14 15 position. And I just read you that I believe they did take a position; did they not? 16 Yes. And the position was taken -- oh. 17 Α. THE HEARING OFFICER: Well, yeah. I think I'll 18 allow one more brief answer from Mr. Clements but then 19 20 ask the cross-examination to move on. BY MR. DODGE: 21 22 Q. Okay. 23 Yeah. At that point in time, the Company was Α. 24 assessing a 35-year contract term and determined that 20 years was appropriate or something it could support 25

- 1 at that point in time.
- Q. Mr. Clements, you discuss in great detail
- 3 ratepayer risk. And again, it's touching that you care
- 4 about it. Ratepayers have a risk of variable price
- 5 options, too; do they not?
- 6 A. You'll have to expand on that question.
- 7 Q. Is there no risk when ratepayers are left open
- 8 to variable price or market price options as opposed to
- 9 fixed price?
- 10 A. Yes. There is some risk. That's why you hedge
- 11 to avoid that risk.
- Q. Well, that's one way you hedge. Another way
- 13 you hedge that is you build resources when you determine
- 14 that that's the most cost-effective option; right?
- 15 A. That's correct.
- 16 Q. Another way that the Company has done for many
- 17 many years is enter into long-term PPAs; has it not?
- 18 A. Historically, yes. Over the past ten-plus
- 19 years it has not.
- Q. It still has some long-term power purchase
- 21 agreements; does it not?
- 22 A. I believe it does have a small amount.
- 23 The Company is prohibited by policy implemented as a
- 24 result of the hedging collaborative from doing that
- 25 today.

Page 71 1 MR. DODGE: We'll get to that. That's not a 2 true statement, but we will get to that in a minute. 3 MS. HOGLE: Mr. Dodge, objection. Can you please let Mr. Clements finish his 4 5 testimony before you cut him off? 6 MR. DODGE: Is that a request or are you asking the Commission to rule --8 MS. HOGLE: I'm asking you on a professional 9 level to please let my witness answer the question before 10 you cut him off. THE HEARING OFFICER: And I think we're on 11 12 Mr. Clements' answer right now. THE WITNESS: I think I may have been done. 13 14 BY MR. DODGE: 15 0. I think you were probably done. The risk, the fixed-price risk, meaning once you've tied into an 16 agreement, a contract, you no longer have the right to go 17 try and get market resources if they're lower. You no 18 longer have the risk of higher prices; right? 19 20 That same risk is faced with any long-term 21 company resource; correct? 22 Any long-term fixed-price contract or obligation carries that risk, yes. 23 24 Q. And so, you, for example, try and illustrate the prices of some PPAs entered into a few years ago 25

Page 72 1 in the last few years to what the current strip is. 2 First of all, the strip isn't guaranteed. That's a projection; right? 3 4 Α. That's correct. You can't go buy that ten-year strip today for 5 Q. 6 that price? Α. You potentially could. 8 Q. An electric strip? 9 Possibly. Α. 10 Q. Possibly? 11 Α. Yes. Not many customers are out there taking the 12 Q. other side of that risk; are they? 13 That was my exact point earlier, that long-term 14 Α. 15 electricity contracts are not entered into anymore. But you could make the similar analogy. You 16 use numbers in the range of 60 some-odd dollars for the 17 QFs and 40 some-odd dollars for this strip that isn't 18 tied down. What was the comparable cost of the last 19 20 resource the Company built? Let's go to the Lakeside two project. 21 22 If you looked at the 2015 price per megawatt 23 hour of that, would we not be in the \$80 range? I don't have information in front of me. 24 Α. Would that surprise you if it's in the \$80 25 Q.

Page 73 1 range? 2 80 would surprise me, yes. What would not surprise you? 3 0. 40, 50. We'd have to look at that price but 4 Α. 5 again, I don't speculate. You think all-in costs, including the fixed 6 costs of the Lakeside two power plant in 2015 is \$40 a megawatt hour? 8 9 Oh, including capital? 10 0. I'm talking the all-in cost. 11 Again, I don't have those numbers in front of 12 So, I couldn't speculate on that. me. \$80 there wouldn't surprise you; would it? 13 0. 14 Again, I don't have the numbers. So, I don't 15 want to speculate on that. 16 So, if you wanted to show ratepayer risk, you could say, well, that was a decision we made looking 17 at the exact same metrics shows we're \$40 out of the 18 19 money on the other side with a Company resource; right? 20 Α. Correct. And again, in my summary today, 21 I said -- I agreed with that very very point, that it 22 could just as easily be \$1.2 billion in the money. 23 It's not a matter of betting right or wrong. It's the fact that you're making a long-term bet that you 24

otherwise would not.

25

- 1 Q. But you do make that bet in other contexts?
- 2 A. I would say it's not a bet in that context.
- 3 And again, that gets back to the IRP. You have an
- 4 identified need that's gone through a rigorous review
- 5 process that goes through a request for proposal process.
- 6 You get exactly what you want, how much you want at the
- 7 time you want.
- 9 A. And that's something that's of a material
- 10 difference.
- 11 Q. I understand that's your testimony. We'll talk
- 12 about the IRP in just a moment.
- 13 You claim that the hedging policy now prohibits
- 14 you from entering into long-term power purchase
- 15 agreements; is that correct?
- 16 Is that your view of the hedging policy?
- 17 A. No. The hedging policy prohibits traders from
- 18 doing that without stakeholder review. So, long-term
- 19 contracts can be entered into but they require additional
- 20 review.
- 21 Q. Mr. Clements, were you a member of that hedging
- 22 collaborative?
- A. No, I was not.
- Q. I was. Would it surprise you or would it be
- 25 inconsistent with your view that long-term PPAs for

Page 75 1 electric power purchase agreements were never even 2 discussed in that collaborative? 3 That would surprise me. Α. 4 0. Would it surprise you that in the Exhibit-A to that collaborative that shows the policy, the principles 5 6 and the general guidelines adopted by the participants is never mentioned? Would that surprise you? 8 Α. It would. 9 MR. DODGE: Let me hand you that exhibit. 10 May I approach, Mr. Chairman? 11 THE HEARING OFFICER: Yes. 12 (RMCRE Cross Exhibit-2 identified) BY MR. DODGE: 13 What I'm going to hand you is Exhibit-A. 14 Q. 15 I chose not to copy the entire hedging report because it's somewhat voluminous, but I did copy the Exhibit-A 16 which was the document that was negotiated I'll represent 17 by the parties to that hedging collaborative and that 18 formed the basis for the stipulation to the Commission 19 20 to adopt these new hedging policies. 21 Is that consistent with your understanding 22 of what went on in the hedging collaborative? Again, I wasn't actively involved in it, no. 23 Α. So, I turn your attention and I'd invite you to 24 Q. read this. You weren't a participant in it and maybe you 25

1	have a different view of it than I do, but review this as
2	much as you want. I'll point out a few specific parts.
3	For example, in the paragraph one, it talks
4	about PacifiCorp's expertise, blah, blah, blah. And at
5	the end it talks about, " related to natural gas
6	procurement, energy balancing, and hedging."
7	First of all, would it surprise you to learn
8	that this whole collaborative came about because of
9	complaints about natural gas hedging, short-term
10	financial natural gas hedges the Company was making out
11	four and five years for more than a hundred percent
12	of its natural gas needs?
13	A. I'm not sure about all those facts you just
14	listed, but I know it came about because of the natural
15	gas hedges.
16	Q. Let me turn your attention down to paragraph
17	seven of that in the, "Principles."
18	"Voluntarily pre-approval procedures under Utah
19	Code Section 54-17-402 may be used for long-term
20	commitments that fall outside of the suggested
21	guidelines."
22	Did I read that correctly?
23	A. Yeah.
24	Q. So, you accept that part of the hedging
25	collaborative procedure was, if you're going to talk

- 1 long-term commitments --
- Now, this doesn't say PPAs, but even if it
- 3 included that, it contemplated that that would be dealt
- 4 with outside of the hedging guidelines; did it not?
- 5 A. Yes. And I referenced that in my testimony.
- 6 Q. And then we go down to paragraph nine of
- 7 "Principles."
- 8 "All commonly used, available and effective
- 9 physical products and financial instruments may be
- 10 utilized in Energy Planning and Procurement as
- 11 appropriate."
- 12 It specifically contemplates continuing to use
- 13 all commonly-available physical and financial products
- 14 including a PPA; would it not?
- 15 A. It doesn't prohibit the use of a PPA, no.
- 16 Q. Well, in fact, it says they should continue
- 17 to be used as appropriate; does it not?
- 18 A. Yes, "as appropriate" is pretty significant
- 19 there.
- 20 Q. And then under "General Guidelines" -- but
- 21 you're trying to claim that this hedging policy precludes
- 22 you or is inconsistent with what you're doing.
- 23 And I'm saying, in here, show me where that
- 24 inconsistency shows up in the Exhibit-A that the parties
- 25 agreed to in that hedging collaborative.

Page 78 Well, in, "General Guidelines" number one at 1 Α. 2 the bottom of page 14: 3 "The forecast total requirement for natural gas and electricity should not be fully hedged." 4 "Fully hedged" because the Company was 100 5 0. percent, more than 100 percent hedging its natural gas 6 requirements at the time. "Fully hedged." No one here 8 is talking about fully hedging anything; are we? Well, I don't know if you were testifying to 9 Α. 10 that. I mean --11 Q. Are you? 12 You're speaking to things that occurred during Α. the negotiation of this document. 13 I'm reading what's in the exhibit that 14 0. 15 went before the Commission. 16 Yes. And it says: 17 "The forecast total requirement for natural gas and electricity should not be fully hedged." 18 "Fully hedged." 19 Q. 20 Yes. And the point I made earlier -- and that Α. was my exact point and my exact concern with the PURPA 21 22 obligation. There's nothing stopping us. We can have 23 10,000 megawatts of QFs come through the door and we would have to execute each one of those contracts. 24 25 Let's get back to the Exhibit-A. The next Q.

```
Page 79
     sentence illustrates what the first sentence is talking
 1
 2
             "A reasonable percentage of the natural gas
          requirements should remain open to short-term market
 3
 4
          price exposure and allow for operational
          flexibility. The percentage of natural gas
 5
          requirement .... is as follows:"
 6
 7
               Now, that's blacked out because that's a
 8
     confidential part of this document.
 9
               That's talking about fully hedging natural gas
10
     and keeping some of it open; correct?
11
               That's correct.
          Α.
               It goes on in paragraph two that:
12
          Q.
               "PacifiCorp should use Fundamental and
13
          technical analyses with consideration of the
14
15
          Company's risk management metrics, to determine
          timing and volume of electricity hedges."
16
               There we're talking about financial hedges;
17
18
     are we not?
19
               I don't read it that way.
          Α.
20
              You weren't in the collaborative; were you?
          Q.
21
          Α.
               No. As I read the plain language of that,
     it says: "... Fundamental and technical analyses with
22
          consideration of the Company's risk management
23
          metrics to determine the timing and volume of
24
          electricity hedges."
25
```

Page 80 And "hedges" as described in this document is 1 Q. 2 talking about the financial instruments the Company was using to hedge natural gas and electricity purchases. 3 And I don't see a material difference between 4 Α. 5 a financial hedge and a physical hedge when it comes to fixed-price risk. The only difference is deliverability. 6 I understand that's your view. My point is, 7 Q. 8 you're trying to claim this document somehow requires the 9 position you're talking here in this case. 10 And I'm trying to find out where in this document it does it because I was part of that 11 12 collaborative and I completely disagree. MS. HOGLE: Objection. Assumes facts not in 13 14 evidence. 15 MR. DODGE: I'll tell you what, I'll withdraw it. 16 17 THE HEARING OFFICER: Make sure we're not crossing the line of you providing testimony on what 18 happened unless you're going to do that later. 19 20 BY MR. DODGE: Thank you, Mr. Chairman. I will do that. 21 22 Paragraph five: "Proposals for long-term natural gas 23 supplies, transportation, storage and price hedges should be solicited and evaluated as part of an 24

Energy Planning and Procurement process,

25

1	Page 81 particularly in an environment of favorable
2	Fundamentals."
3	Right? Now, that's natural gas, but I read
4	that correctly; did I not?
5	A. That's correct.
6	Q. "The 36-month guideline for financial hedges,"
7	financial hedges, "and the suggested annual
8	percentage guidelines should not limit opportunities
9	for longer term hedges, supply commitments, or
10	storage contracts in a price environment
11	advantageous to natural gas consumers as determined
12	by Fundamental analyses."
13	So again, that's natural gas. It contemplated
14	longer term acquisition when financial conditions
15	contemplated it; did it not?
16	A. Yes. And one of those actually occurred.
17	Q. My point comes back to, you tried to use this
18	hedging collaborative I understand if you're saying,
19	the principles as you read them of this hedging
20	collaborative you were not involved in somehow supports
21	your position. But it's not a fair statement; is it,
22	Mr. Clements, to claim that this requires a shortening
23	of the PPA term before this Commission?
24	MS. HOGLE: Objection. Asked and answered.
25	MR. DODGE: Well, if his answer was
1	

```
Page 82
               MS. HOGLE: Several times. Asked and answered.
 1
 2
               THE WITNESS: I'll answer it.
               THE HEARING OFFICER: I think there's a
 3
 4
     discreet part of the question that's unique that I'll
 5
     allow an answer to.
               THE WITNESS:
                             I'd like to answer that because
 6
 7
     several times you've said what my opinion is. You've
 8
     never let me actually say what my opinion is.
               This document -- so, the hedging collaborative
 9
10
     was around the fact, it got its basis around the fact
11
     that the Company put on some multi-year gas hedges that
12
     were in the money and then went out of the money.
               And the parties were concerned about the fact
13
14
     that there were these long-term hedges that were put in
15
     place and the impact that had on customer rates.
16
               The document, yes. The plain language of the
17
     document, one, applies to natural gas primarily; two,
     says, if you want to do something long term which is
18
     beyond 36 months, it needs to go through a fundamental
19
20
     analysis and a long-term review process.
21
               Those principles are consistent with the
22
     Company's application in this matter where we are
23
     requesting that if a contract locks in a price for
     20 years, it requires additional fundamental analysis
24
     and stakeholder review before being executed.
25
```

Page 83 That is my position, that the fundamental 1 2 principles behind the hedging collaborative say that 3 if you're going to put on a long-term fixed-price bet, it needs additional review. That's my testimony. 4 5 BY MR. DODGE: And does the avoided cost pricing at which 6 0. 7 QF contracts are executed not get significant review before this Commission? 8 9 Again, the methodology does. The price itself Α. 10 does not. 11 The price that comes out of the methodology; 0. 12 right? 13 Α. Yes. The methodology determines the price and in 14 Q. 15 light of changing information over time; correct? 16 Α. That's correct. 17 MR. DODGE: Thank you. THE HEARING OFFICER: Mr. Dodge, if I 18 could just -- I think it might be a good time to take a 19 20 short break unless you just have a little bit to do. But it seems like you have a couple more topics you're 21 22 going to address. 23 MR. DODGE: A couple more. It won't be 24 significantly longer but I'm happy to take a break. 25 THE HEARING OFFICER: Why don't we recess for

Page 84 1 ten minutes. Thank you. 2 (Recess taken from 10:36 a.m. to 10:47 a.m.) 3 THE HEARING OFFICER: Okay. It looks like we 4 have all counsels present. 5 Mr. Clements, you're still under oath and we'll continue with Mr. Dodge's cross-examination. 6 MR. DODGE: Thank you, Mr. Chairman, for that 8 break, and as a result of it, I'll be much shorter. 9 I just have a couple more issues to address with 10 Mr. Clements, but first I'd like to move the admission of Cross-Examination Exhibit-2, the hedging --11 THE HEARING OFFICER: I'll ask any party to 12 state their objection if they have one. I'm not hearing 13 14 any. So, it'll be admitted. Thank you. 15 (Rmcre Cross Exhibit-2 Admitted) BY MR. DODGE: 16 17 Mr. Clements, you discussed the IRP several times. I just want to ask you a few questions about your 18 understanding of the IRP. 19 20 Is it a true statement that long-term QF PPAs 21 at avoided cost prices are not among the resource options 22 that the IRP chooses? 23 Α. Yes. That would not be a resource that it could select. 24 25 Long-term arrangements maybe but they're set Q.

- 1 at cost and not at the utility's presumption of cost and
- 2 not based on avoided cost pricing; correct?
- A. Yes. Arguably, if the avoided cost reflects
- 4 the IRP avoided cost for resource, then those should be
- 5 the same in principle, yeah.
- 6 Q. Secondly, although you talked about the two- to
- 7 four-year action plan and in your view, the inconsistency
- 8 with 20-year PPAs with that, it is true, is it not, that
- 9 the IRP process, A, uses a 20-year planning horizon and,
- 10 B, based on that 20-year planning horizon results in
- 11 decisions that may be a 40- or 50-year resource
- 12 commitment?
- 13 A. Yes, that's correct. It tells you what you
- 14 should do over the next 20 years.
- However, it doesn't have you do anything until
- 16 you get within two to four years of when you actually
- 17 need that. But then when you do something, yes,
- 18 it often results in a 40- to 50-year asset life.
- 19 Q. And then let's talk just a minute about what
- 20 it says as the need. The 2015 IRP, does it not identify
- 21 roughly a thousand megawatt, talking capacity now, need
- 22 or shortage between projected resources and projected
- 23 demands or loads throughout most of that 20-year planning
- 24 horizon?
- 25 A. Yeah. I'm not sure I can confirm the thousand

- 1 megawatt number. There are quite a few front-office
- 2 transactions for the summer peak period.
- 3 Q. And so, the summer peak period, you get
- 4 short -- these transactions are under a year in the IRP;
- 5 correct? They assume contracts of under a year?
- 6 A. Yes. They assume you'll be able to go out
- 7 and acquire those in one-year increments, yes.
- 8 Q. So, isn't it a fair statement that under your
- 9 current IRP, there is a demonstrated need both for energy
- 10 and capacity above the Company's committed resources in
- 11 every of the 20 years but that the IRP has selected as
- 12 the least-cost resource, for the most part, demand-side
- 13 management and front-office market transactions,
- 14 short-term less-than-a-year market transactions?
- 15 A. Yes. And the primary reason for that is it's
- 16 selected primarily Q3 or summertime peak market
- 17 purchases. So, that's when we have that deficiency
- 18 and it says go out and get market purchases just for that
- 19 time period. So, that's a very unique product.
- Q. Had the cost benefit analysis that the Company
- 21 engages in in the IRP said with that -- and I'm just
- 22 using thousand as a round number. Maybe it's 800.
- 23 Maybe it's 11 some years, but had it said, in order to
- 24 meet that peek demand need -- and again, I'm talking
- 25 demand as opposed to energy, we're going to build another

- 1 Lakeside three if there were such a creature in the works
- 2 or something like that. If that had been the lower-cost
- 3 assumption, damn the market resources, it would have
- 4 picked that for now; correct?
- 5 A. Yes. It would have.
- 6 Q. And when you do avoided cost pricing, you look
- 7 at what your long-term projected energy and, if it defers
- 8 something down the road, demand savings will be and that
- 9 gets incorporated into the avoided cost pricing; correct?
- 10 A. Yes. It looks at your long-term capacity need
- and a forecasted long-term energy need; that's correct.
- 12 Q. And today, when you send out indicative pricing
- 13 today based on the current queue and your current
- 14 assumptions in the grid model, you're down in the \$30 per
- 15 megawatt hour range; correct?
- 16 A. Sorry. I'll need you to repeat that or
- 17 rephrase that.
- 18 Q. The most recent QF indicative pricing request
- 19 that you personally have responded to, that's been within
- 20 the last few months; correct?
- 21 A. Yes.
- Q. And the indicative pricing, without getting
- 23 specific, the levelized 20-year pricing is in the \$30
- 24 per megawatt hour range; correct?
- A. 30 to 40 depending on the project of course.

- 1 That's solar you're talking about. Other projects might
- 2 be higher.
- 3 Q. I am talking solar. Thank you. And that
- 4 represents primarily the displacement of front-office
- 5 transactions over that 20-year planning horizon; correct?
- 6 A. Correct. It displaces some front-office
- 7 transactions. Why the IRP didn't select a solar project
- 8 instead of those front-office transactions is because you
- 9 have to take the solar year round and not just during the
- 10 summer on peak period.
- 11 And the reason I'm well versed in that is
- 12 because I personally have looked at the front-office
- 13 transactions and the IRP and I said, is there a way for
- 14 us to build more renewables instead of having all these
- 15 market purchases. And it's not economic to do so.
- 16 So, that's why I'm fairly well versed in that one.
- 17 Q. And in those hours, the hours where you're
- 18 taking the energy when you don't need the capacity --
- 19 You still need the energy; correct? It's not
- 20 forcing you to take energy you can't use?
- 21 A. Well, you can always use the energy.
- 22 It's just, what are you avoiding and what are your costs
- 23 to do that.
- Q. And in the current grid model when you do
- 25 indicative pricing, primarily the energy that's being

- 1 displaced, the assumption of energy is the front-office
- 2 transactions out through that 20-year term; correct?
- 3 I'm talking --
- 4 A. Again, the front-office transactions cover
- 5 those on-peak summer periods and not the entire year.
- 6 And I will -- if I can have one correction to one of the
- 7 things I agreed with you earlier.
- 8 There will be times in the future where there
- 9 will be energy that we cannot use and there are quite a
- 10 few studies that have talked about how there may be some
- 11 hours with the proliferation of solar that's coming on,
- 12 there may be some hours where you have some negative
- 13 energy pricing but we don't see that now.
- 14 Q. And if that were forecast, that would reduce
- 15 the avoided cost pricing. In other words, the pricing
- 16 takes that into consideration; does it not?
- 17 A. Yes. The model does take that into account.
- 18 Q. And when you say you looked at a solar project,
- 19 this would be a Company-sponsored project where all the
- 20 costs go in. You take the energy, et cetera; right?
- 21 A. Yes.
- Q. That's a utility model. But with a QF model
- 23 where you're determining that long-term avoided-cost
- 24 pricing, it takes into consideration that energy in the
- 25 middle of the night in the shoulder months maybe almost

1	zero
2	A. Absolutely.
3	Q or very very low?
4	A. Yes.
5	Q. And that's all they're being paid for?
6	A. Yes.
7	Q. One last question. You comment that Mr
8	in your surrebuttal. You don't need to turn to it unless
9	you'd like to and I'll give you the cite.
10	You commented in your view Mr. Harris and
11	Mr. Isern who are Coalition witnesses, other than their
12	own opinions, they haven't provided any evidence that the
13	three-year term would stop all renewable development.
14	Is that a fair characterization of what you
15	testified to?
16	A. Correct.
17	Q. It's on lines 42 to 46 of your surrebuttal.
18	A. Yeah, that's correct.
19	Q. A, asking Mr. Harris and Mr. Isern to provide
20	evidence other than their own opinions that it would stop
21	development is asking them to approve a negative; right?
22	That it cannot be financed with a three-year term.
23	They said in their opinions it can be.
24	You're saying, other than their opinions, they
25	haven't provided evidence. That would be asking them

- 1 to prove a negative; would it not?
- 2 A. Yeah. It's difficult to prove a negative as we
- 3 witnessed when you asked me to prove that PURPA doesn't
- 4 say a three-year contract term. So, yes, it's very
- 5 difficult to prove a negative.
- 6 Q. You understand, do you not, that Rocky Mountain
- 7 has the burden of proof in this docket?
- 8 A. Yes.
- 9 O. And you accept that part of that burden is to
- 10 show that its proposal is consistent with all aspects
- 11 of Utah law, not just the ratepayer indifference standard
- 12 but also the policy to encourage the development of these
- 13 resources. You accept that; do you not?
- 14 A. I do, yes.
- MR. DODGE: Thank you. No further questions.
- 16 THE HEARING OFFICER: Thank you. Before I go
- 17 to Mr. Sanger, to make sure we have the record clarified,
- 18 I want to ask Mr. Dodge earlier in his
- 19 cross-examination, were you making an appearance
- 20 on behalf of UAE?
- 21 MR. DODGE: No. I don't remember, honestly,
- 22 if UAE intervened separately. If so, then I guess I'm
- 23 appearing for them as a member of the Coalition. And so,
- they're a member of the Coalition and they support the
- 25 Coalition testimony.

Page 92 1 Oh, okay. That clarifies THE HEARING OFFICER: 2 it. 3 That was the point I meant to make, MR. DODGE: and I apologize if I said it in a different way. 4 5 THE HEARING OFFICER: Thank you. Mr. Sanger. 6 CROSS-EXAMINATION BY MR. SANGER: 8 Q. Thank you. Good afternoon. 9 Α. Good afternoon. 10 Q. Or actually, good morning. 11 Good morning. Α. 12 I won't be quite as much fire and brimstone Q. as Mr. Dodge, but I'd like to move forward a little bit. 13 I wanted to ask you a couple of questions on the 14 15 testimony you gave a little bit earlier. You said that the Company or that you are 16 agnostic regarding the purchase of QF power; 17 is that correct? 18 Α. 19 That's correct, yes. 20 And is that the Company's view, that they're Q. agnostic on the purchase of QF power as well? 21 22 Yes. We try to implement the Commission orders Α. 23 and make recommendations to the Commission that would 24 leave us in that position. 25 Again, we're balancing customers and the

- 1 ratepayer indifference standard and the rights that OFs
- 2 have under PURPA and state law.
- Q. And you get to recover all your costs of QF
- 4 contracts and your power cost to adjustment mechanisms
- 5 or rate cases or whatever; is that correct?
- 6 A. Well, we have the opportunity to recover all of
- 7 our costs in some circumstances, a portion of our costs
- 8 in other circumstances. And without elaborating on that
- 9 too much, due to the sharing bands in the energy
- 10 balancing account, there are some QF costs that go
- 11 unrecovered. So, maybe we're not agnostic.
- 12 Q. So, that means that you've moved from the
- 13 agnostic to the slightly opposed category?
- 14 A. No. I guess I should revise my earlier
- 15 testimony where I said it doesn't impact our bottom line.
- 16 But the energy balancing account is short term in nature,
- 17 and so, most of those contracts would fall within that
- 18 anyway. And so, our proposal would not affect the
- 19 financial impact to the Company. And that's not our
- 20 objective here.
- Q. Okay. So, does the Company earn a return on
- 22 its QF contracts?
- 23 A. It does not unless it owns it which the Company
- 24 currently does not own a QF contract at the PacifiCorp
- 25 level.

- 1 Q. Okay. And if the Company built a similar
- 2 biomass or solar or wind or any other sort of QF project
- 3 or any other renewable project, would the company earn
- 4 a return on that investment?
- 5 A. Presumably, yes, if we had the opportunity to.
- 6 Q. So, if the Company builds its own resources
- 7 rather than purchase QF power, there's a different impact
- 8 on the Company?
- 9 A. From an earning standpoint, yes.
- 10 Q. So, is Berkshire Hathaway, they're not
- 11 indifferent to whether the Company purchases QF power
- 12 or builds its own power?
- 13 A. Again, at the Berkshire level, they may have
- 14 a different opinion, but at the PacifiCorp level, we're
- 15 simply trying to balance customer interests and rights
- of OFs.
- 17 Q. But the Company's shareholders aren't
- 18 indifferent?
- 19 A. Well, PacifiCorp doesn't have any plans to
- 20 develop QFs within its service territory to own and
- 21 operate them.
- Q. But you have plans at some point to own and
- 23 operate renewable projects or at least nonrenewable
- 24 projects at some point?
- 25 A. Well, they are in the Integrated Source Plan

- 1 but when we go out and acquire those, it's through a
- 2 request for proposal process and --
- 3 Q. Well, I know we've gone through the process.
- 4 Right now I'm just trying to get to the point about
- 5 whether your shareholders are indifferent to whether you
- 6 purchase QF power or you build a resource yourself.
- 7 MS. HOGLE: Mr. Clements, I would advise you
- 8 to only answer that question if you know for a fact that
- 9 that's true or not.
- 10 THE WITNESS: Well, trying to finish my earlier
- answer, when we go out and acquire renewable resources,
- 12 we do so through an RFP. And sometimes the Company does
- 13 submit its own project, but the RFP selects the
- 14 lowest-cost least-risk project. And in many of our wind
- 15 RFPs, that turned out to be a power purchase agreement.
- So, there's no -- in the Company's procurement
- 17 process, there's no additional desire or credit given to
- 18 a company project over a PPA.
- 19 BY MR. SANGER:
- 20 Q. But if the Company acquires a renewable
- 21 project, then it can earn a return on that project if it
- 22 builds it or purchase it for its own self?
- 23 A. Yes.
- Q. And you said the Company always does an RFP for
- 25 its wind purchases?

- 1 A. Typically, yes. I mean, there is statute in
- 2 Utah and in Oregon that requires us to do so if the
- 3 project's of a certain size.
- 4 Q. And has the Company always done that?
- 5 A. I would say that's the typical practice, yes.
- 6 It's unusual for the Company to go out and acquire a
- 7 project without that RFP. In the last several years,
- 8 there were some times the Company built projects that
- 9 were economically sensitive from a timing standpoint.
- 10 Q. And did the Company do that for its
- 11 Rolling Hills project, did it have an RFP?
- 12 A. I believe that was one of those instances where
- it was an economic timely opportunity.
- Q. And by "economic timely opportunity," are you
- 15 aware that the Oregon Commission disallowed the Rolling
- 16 Hills and rates because they concluded it was not
- 17 economic?
- 18 A. I'm not certain of the exact reason.
- 19 That's not my understanding.
- 20 Q. Did the Oregon Commission disallow
- 21 Rolling Hills rates?
- 22 A. I'm not certain of the details around that.
- 23 I believe they did on a portion of it.
- Q. Okay. I'd like to move on to how Schedule 37
- 25 works. Can you just give a brief one-minute overview

- 1 of how Schedule 37 prices are set?
- 2 A. So, Schedule 37 prices are set in a similar
- 3 manner to Schedule 38 where there is a production
- 4 dispatch model run and there's an avoided capacity
- 5 determination. The difference between Schedule 37 and
- 6 Schedule 38 is Schedule 37, the calculation's performed
- 7 once and prices are set in the tariff and there's a cap
- 8 on the tariff at 25 cumulative megawatts for that tariff
- 9 and then any QF contract can be entered into under that
- 10 tariff at that pricing.
- 11 Q. And isn't there a difference between resource
- 12 sufficiency and resource deficiency in Schedule 37?
- 13 A. I don't believe so.
- Q. And how are capacity payments paid in
- 15 Schedule 37?
- 16 A. They could be paid levelized over the term of
- 17 the agreement or unlevelized.
- 18 Q. Does the time of the Company's next resource,
- 19 thermal resource acquisition, have any impact on capacity
- 20 payments?
- 21 A. The timing would, yes.
- 22 Q. So, how does that work?
- 23 A. I believe in 37 now, it's calculated in a
- 24 similar manner to 38, but we've had so many 37 dockets
- 25 recently, I'd have to check on that one.

- 1 Q. So, wasn't there a recent proceeding here at
- 2 the Utah Public Service Commission where certain capacity
- 3 payments were removed during the early years out of
- 4 Schedule 37?
- 5 A. Yes. There's no longer a simple cycle capacity
- 6 payment during the sufficiency period.
- 7 Q. Okay. So, what is the sufficiency period?
- 8 MS. HOGLE: Objection. I've allowed Mr. Sanger
- 9 to ask these questions, but I think it's getting a little
- 10 beyond the scope of the proceeding and Mr. Clements'
- 11 knowledge with respect to that particular proceeding.
- 12 And so, I'm wondering how much longer Mr. Sanger is going
- 13 to question or go beyond this line of questioning.
- 14 THE HEARING OFFICER: Mr. Sanger, would you
- 15 like to address the objection?
- MR. SANGER: Yes. So, this is an issue that
- 17 my witness John Lowe addressed, the resource
- 18 efficiency/deficiency determination. I assume
- 19 Mr. Clements read that testimony.
- 20 Did you, Mr. Clements?
- 21 A. Yes.
- 22 MR. SANGER: And his rebuttal testimony does
- 23 not respond to Mr. Lowe on this point. So, I wanted to
- 24 inquire. I'm laying the foundation for my questions.
- 25 I wanted to inquire about how those prices are determined

- 1 and how the three-year contract term impacts that
- 2 determination.
- THE HEARING OFFICER: Okay. And so, you know,
- 4 I think we need to, as a general rule, limit
- 5 cross-examination to issues that Mr. Clements addressed
- 6 or doesn't address in his rebuttal or surrebuttal.
- 7 I think there is some relevance of the manner in which
- 8 Schedule 37 pricing is calculated, but that may be more
- 9 appropriate to deal with with your witness if
- 10 Mr. Clements did not address that in his testimony.
- 11 BY MR. SANGER:
- 12 Q. Okay. So, I will abbreviate things and try to
- 13 move on. So, Mr. Clements you had proposed three-year
- 14 contract terms in this case; is that correct?
- 15 A. That's correct.
- 16 Q. So, during those three years, would a QF be
- 17 paid capacity payments based on a peaking resource?
- 18 A. It's possible depending on when they requested
- 19 pricing and whether there was a peaking resource included
- 20 in the Integrated Resource Plan.
- Q. So, in the current IRP, is there a peaking
- 22 resource included in the resource sufficiency period?
- 23 A. No. There's no deferrable resource included
- 24 until 2028.
- Q. Okay. So, there's nothing until 2028?

Page 100 1 Α. Yes. 2 Q. So, if a QF entered into a 20-year contract, how many years out does 20 years ago? 3 4 Α. From today? Yeah. 5 Q. 20. 6 Α. Q. What's that? 8 Α. 20. 9 And what year does that get us to? 0. 10 Simple math here. 11 Α. 2035. 12 Okay. So, if a QF entered into a 20-year Q. contract, they would be paid some resources based on the 13 costs of a net, a new thermal resource acquisition 14 15 starting in 2027 or 2028? 16 That's correct, yes. 17 And if a QF entered into a three-year contract, 0. they would not? 18 Under the current preferred portfolio, yes, 19 Α. 20 correct. 21 So, in the past, has the portfolio included 22 a peaking resource, say, between a four- to seven-year 23 period out? 24 Α. I'm not sure the preferred portfolio has ever 25 had a peaking resource in it, but there have been gas

- 1 plants that have been three to four years out.
- 2 Q. Okay.
- 3 A. In fact, back in the 2010, '11, '12 IRPs, we
- 4 had gas plants stacked up in '14, '15, '16, '18.
- 5 There was a whole line of combined central gas plants
- 6 that were to be built that subsequently were deferred
- 7 and not built.
- 8 Q. And those were three, four, five years out?
- 9 A. At the time, yes.
- 10 Q. So, if the QF had entered into -- if you had
- 11 three-year pricing in effect or three-year contract terms
- 12 in effect at that point and the QF entered into a
- 13 three-year contract, they would not be paid based on the
- 14 thermal resource because that's three to four years out.
- The contract only goes three years?
- 16 A. Correct.
- 17 Q. So, if that QF renewed its contract in three
- 18 years and the next thermal resource acquisition was out
- 19 again another three years, they again would not be paid
- 20 rates based on the thermal resource acquisition?
- 21 A. Yes, that's correct. That's a concern that I
- 22 considered as well, that if you only have a three-year
- 23 contract term, you're never going to catch up to the
- 24 resource deficiency period because the Company will go
- 25 out and acquire that resource when it needs it.

- 1 And I would agree with that issue. I would
- 2 agree that Mr. Peterson's proposal somewhat addresses
- 3 that issue with how he calculated the capacity payment
- 4 for five years.
- 5 Q. Thank you. I appreciate you agreeing to that
- 6 issue. Now, that cuts off the rest of my questions on
- 7 that point. Have you read the testimony, the rebuttal
- 8 testimony of Nathan Rich on behalf of the Renewable
- 9 Energy Coalition, REC?
- 10 (Recess taken)
- 11 THE HEARING OFFICER: Okay. We're back on the
- 12 record. We'll continue with Mr. Sanger.
- 13 BY MR. SANGER:
- 14 Q. Thank you. I think my last question was
- 15 whether you read the rebuttal testimony of Nathan Rich
- on behalf of Renewable Energy Coalition; correct?
- 17 A. Yes.
- 18 Q. And does his company or his district sell power
- 19 to PacifiCorp? Do they have a current contract with the
- 20 company?
- 21 A. I believe they do. I'm not as familiar with
- 22 our smaller QF contracts but I believe they do.
- Q. So, in his testimony he describes his project.
- 24 He describes it as a 300 kilowatt project. So, you're
- 25 not familiar with that contract? You don't remember it?

- 1 A. No. I'm familiar with this project, though.
- 2 O. Okay. Do you remember in his testimony where
- 3 he talked about needing or entering into an 11-year PPA?
- 4 A. Yes, I recall that.
- 5 Q. And is this project a wind or solar project?
- 6 A. No, it's not.
- 7 Q. Now, can you refer to your rebuttal testimony
- 8 on page 21? In this rebuttal testimony, you discuss the
- 9 difference between small and large QFs and you discuss
- 10 the Company's concern, the Company's more concerned with
- 11 larger QF contracts. Is that still the case?
- 12 A. Yes, that's correct.
- 13 Q. So, what's the difference in your mind between
- 14 small and large QF contracts? Why do you have a lower
- 15 concern for the smaller contracts?
- 16 A. The primary difference is that -- so, the
- 17 smaller contracts, if we're calling small less than three
- 18 megawatts, the smaller contracts are subject to Schedule
- 19 37. And that particular tariff has a cumulative
- 20 25-megawatt cap in the tariff.
- 21 And the Company files that tariff once per
- 22 year, typically. And so, under that tariff, the Company
- 23 will receive no more than 25 megawatts worth of projects
- 24 each year. And if there are requests exceed that amount,
- 25 then the Company would need to file another tariff.

- 1 And i'm getting to the answer here.
- 2 The primary concern with fixed-price risk is magnitude.
- 3 And so, 25 megawatts worth of QFs do carry some
- 4 fixed-price risk with a 20-year contract but that
- 5 magnitude is reasonable.
- 6 Two thousand megawatts of fixed-price risk
- 7 perhaps is not reasonable. And that goes back to my
- 8 earlier comments where I'm not sure what that number
- 9 would be but the 25-megawatt cap in Schedule 37
- 10 significantly decreases the fixed-price risk for those
- 11 types of QFs.
- 12 Q. And that's even more so for a 300-kilowatt
- 13 project?
- 14 A. Yes. That would be much less than the 25
- 15 megawatts. So, that risk would be further diminished.
- 16 Q. And moving on to your testimony at the bottom
- 17 of the page 21, you talk about, you do not agree with the
- 18 recommendation that capacity payments would apply to
- 19 existing QFs even if the Company does not have a forecast
- 20 capacity need during the three-year term.
- 21 And you then state that there's no guarantee
- 22 that a QF will sell power to the Company at the
- 23 expiration of any contract term.
- 24 And that is your testimony; correct?
- 25 A. That's correct.

- 1 Q. Now, are you aware that in the Integrated
- 2 Resource Plan that the Company plans on small QFs
- 3 renewing their contracts?
- 4 A. Yes. I believe that has been the practice.
- 5 I'm not sure if it continues to be the practice.
- 6 Q. And at least historically, the Company has for
- 7 the entire 20-year planning horizon assumed that the
- 8 small QFs will continually renew their contracts?
- 9 A. I believe that's correct.
- 10 Q. So, in, say, 2027 or 2028, the Company is
- 11 counting on a small QF being there and selling power
- 12 to it in the IRP for the entire 20-year horizon which
- 13 we determined would be out to year 2035?
- 14 A. Yes. If that's the treatment, then yes,
- 15 it would. And again, the magnitude plays a pretty
- 16 material role in that as the small QFs all added up
- 17 equate to a fairly small amount of megawatts.
- 18 Q. And you participated in the Idaho Public
- 19 Utilities Commission proceeding in which the Company
- 20 also requested a three-year contract term?
- 21 A. Yes, I did.
- 22 Q. And did the Idaho Public Utilities Commission
- 23 treat small base-load QFs differently than wind and solar
- 24 QFs?
- 25 A. They did. They call it published-rate

- 1 contracts as opposed to small or Schedule 37. That's
- 2 their distinction. But the published rate which are the
- 3 small projects which I believe are ten average megawatts
- 4 and below for hydro and base load and a hundred kilowatts
- 5 and below for wind and solar, those projects continue to
- 6 receive 20-year contract terms while the non-published
- 7 rates which would be anything above that were limited to
- 8 a two-year contract term.
- 9 Q. And did the small projects also, are they also
- 10 entitled to capacity payments in their contract renewals?
- 11 A. Currently that's the methodology in Idaho, yes.
- 12 Q. And the resolution of that proceeding where
- 13 small QFs obtained 20-year contracts instead of the
- 14 shortened contract term, would that sort of distinction
- 15 between small and large OFs, would that be a reasonable
- 16 resolution? I know that's not the Company's position
- 17 but is that within the zone of reasonableness that the
- 18 Company could accept?
- 19 A. Yes. I would agree that's reasonable in that
- 20 the primary concern that the Company has in this docket
- 21 is protecting customers from fixed-price risk.
- 22 And fixed-price risk really rose with the
- 23 magnitude of megawatts. And with the small projects
- 24 being limited to 25 megawatts cumulative for each year,
- 25 that risk is much smaller.

Page 107 1 MR. SANGER: No further questions. 2 THE HEARING OFFICER: Thank you. Ms. Hogle, 3 any redirect? 4 REDIRECT EXAMINATION 5 BY MS. HOGLE: I just have a few. Thank you. Mr. Clements, 6 7 Mr. Ritchie in earlier cross-examination asked you about 8 the Company's forecast used to justify the acquisition 9 of capital additions. Do you recall that discussion? 10 Α. I do, yes. So, when the Company purchases fuel for those 11 12 capital additions, does the Company execute long-term contracts or does the Company execute short-term 13 14 contracts? 15 For the natural gas plants, typically the Α. contracts are short term in nature within the 36-month 16 hedging horizon that I spoke of unless there is a 17 specific economic opportunity that's well vetted before 18 all stakeholders which occurred. The Company did go out 19 20 and acquire some ten-year fixed-price gas at a very small 21 volume. 22 But typically the gas plants are not hedged 23 beyond the 36-month time period. There are some coal 24 contracts that go longer in nature which is the nature 25 of most coal supply agreements. But for gas, no.

- 1 Q. And in cross-examination, you were also asked
- 2 whether you could quote a decision where a court or
- 3 commission limited a QF term and found that this does not
- 4 violate PURPA. Do you recall that line of questioning?
- 5 A. I do.
- 6 Q. Is it your understanding that on
- 7 reconsideration, the Idaho Commission just very recently
- 8 affirmed its earlier order that PURPA in its implementing
- 9 regulations do not require a specific number of years or
- 10 establish a certain time period for PURPA contracts?
- 11 A. Yes. The Idaho decision which was upheld on
- 12 reconsideration by the Idaho Commission, they made it
- 13 clear that the Commission did have the legal right to
- 14 set the contract term.
- 15 O. And do you recall another decision in the
- 16 country where that was found to be the case?
- 17 A. Yes. I couldn't recall it previously and
- 18 didn't want to get the details wrong, but there was an
- 19 excellent wind case or a case involving Exelon Wind in
- 20 Texas where the 5th Circuit upheld a Texas Commission
- 21 decision which allowed the local utility there to limit
- 22 the contract term for firm sales.
- Q. Okay. Mr. Clements, you were also asked about
- 24 your position on the hedging guidelines and what ensued
- 25 as a result of the hedging collaborative.

Page 109 Do you recall that line of questioning? 1 2 Α. Yes. Very much. Do you know what the Company's current risk 3 0. management and training policy is with respect to 4 5 contract term? 6 Α. Yes. So, the traders who manage our position on a daily basis are limited to 36 months for natural gas 8 and electricity hedges, and they cannot exceed that 9 amount without upper management approval or on the case 10 of natural gas, there's additional requirements. 11 And why did the Company limit the term for 12 those hedges? 13 So, the Company had a similar term, it was Α. 14 slightly longer, I believe 48 months, but they limited it 15 to 36 months primarily, again, in response to the hedging collaborative. And without getting into the weeds of 16 that discussion again, it was primarily in response to 17 stakeholders saying, we don't want you, Company, to take 18 long-term fixed-price positions because that introduces 19 20 price risk that we don't want customers to bear. And I know there are a lot of details that 21 22 Mr. Dodge and I discussed in that particular 23 collaborative, but that policy was put in place in response to that stakeholder desire to limit the 24 25 fixed-price exposure to customers.

Page 110 1 0. Okay. In cross-examination, you were also 2 asked about the ratepayer indifference standard and Utah's policy to encourage the development of small 3 4 power production. 5 Do you recall that line of questioning? 6 Α. I do. Is it your understanding that the must-purchase 0. obligation and the exemption of OFs from federal and most 8 9 states, most federal and most state laws and regulations 10 are built-in provisions within PURPA that serve to encourage the development of small power production? 11 12 Yes. And that's where the Commission has the ability to implement PURPA in a manner it sees fit and it 13 14 strikes a balance between encouraging the development 15 which is consistent with Utah statute and protecting customers which is consistent with PURPA legislation 16 that requires ratepayer indifference. And sometimes 17 that requires a policy decision. 18 And an example of that is the ownership of 19 20 renewable energy credits. I believe in the order in the 12-035-100 docket, the Commission actually referenced 21 22 that portion of code -- I may be wrong but that's my 23 recollection -- as one of the reasons why the RECs should stay with the QF. 24 And so, the Commission can determine what's 25

- 1 fair within its purview. And in my opinion, it's not
- 2 fair to customers to saddle them with a limitless amount
- 3 of fixed-price risk. And I believe that would be
- 4 consistent with Utah statute and with PURPA.
- 5 Q. One last question, Mr. Clements.
- 6 Would you agree with me that another policy
- 7 of the state of Utah is to have a target amount of
- 8 qualifying electricity?
- 9 A. A target amount of renewable electricity?
- 10 Q. Yes.
- 11 A. Yes. A renewable portfolio goal I guess you
- 12 would call it. RPG. I don't know what the official term
- 13 is.
- Q. And would you agree with me that that goal,
- 15 pursuant to Utah statute and that the statute indicates
- 16 expressly that it should be met or it's a goal provided
- 17 that the renewable energy is cost effective?
- 18 A. Yes. There is the customer protection that
- 19 that energy needs to be cost effective. And it also
- 20 highlights the issue I raised earlier where, I'm not sure
- 21 that a QF would meet that requirement because we do not
- 22 get the renewable energy credit.
- 23 And again, we don't know all the details about
- 24 how that's going to work out with the Utah clean power
- 25 act and some of the other environmental issues coming

	D 110]
1	Page 112 down the road, but not getting the environmental
2	attribute from QFs will certainly be an issue.
3	MS. HOGLE: Thank you.
4	THE HEARING OFFICER: Any recross from the
5	Division, Mr. Jetter?
6	MR. JETTER: No. Thank you.
7	THE HEARING OFFICER: Mr. Moore?
8	MR. MOORE: No.
9	THE HEARING OFFICER: Ms. Dutton?
10	MS. DUTTON: No.
11	THE HEARING OFFICER: Mr. Ritchie?
12	MR. RITCHIE: No.
13	THE HEARING OFFICER: Mr. Dodge?
14	MR. DODGE: No.
15	THE HEARING OFFICER: Could we have somebody
16	close that door in the back?
17	(Brief break)
18	THE HEARING OFFICER: Mr. Sanger?
19	MR. SANGER: No.
20	THE HEARING OFFICER: Thank you, Mr. Clements.
21	You're excused. Oh, yes. Sorry. Commissioner White?
22	COMMISSIONER WHITE: None for me, Chair Lavar.
23	THE HEARING OFFICER: Okay.
24	Commissioner Clark?
25	EXAMINATION

- 1 BY COMMISSIONER CLARK:
- Q. I want to take you back to your conversation
- 3 with Mr. Sanger about IRP planning and QFs with
- 4 short-term contracts. And I'd like you to, rather than
- 5 look historically to look prospectively, assuming that
- 6 the application is granted and that the maximum term
- 7 is adjusted to three years.
- 8 Has the Company determined how it would address
- 9 the capacity related to QF projects under these
- 10 short-term contracts from an IRP perspective, how it
- 11 would address them in its planning?
- 12 A. In terms of whether the Company would assume
- 13 they would continue?
- Q. Well, I think that's probably the fundamental
- 15 question, yes.
- 16 A. I think we would have to evaluate that on a
- 17 project-by-project basis. Some projects have shown an
- 18 inclination to sell to other parties while some projects
- 19 have made it clear that they have no other market
- 20 alternatives. So, we would have to look at that and
- 21 determine what's most appropriate in that scenario.
- Q. Do you see any system reliability issues
- 23 related to this scenario from a planning perspective
- 24 going forward?
- 25 A. I do. And without rehashing what ground we've

1	Page 114 covered in the 12-035-100 docket, we allow this partial
2	displacement method where we say that a solar or a wind
3	project can partially displace the gas plant in 2028.
4	If we have enough QF projects come on, wind and
5	solar let's say, arguably, you could displace that entire
6	resource on paper through the method. Yet, I'm not sure
7	that three or four thousand megawatts worth of wind and
8	solar are going to provide the capacity products that we
9	would get from that from that gas plant such as operating
10	reservations, load following services, voltage control,
11	some of those things that might be required.
12	And so, from a reliability standpoint, yes,
13	I do have concerns about replacing some of the base-load
14	dispatchable units with non base-load intermittent
15	resources, yes. I apologize for the lengthy answer
16	there.
17	COMMISSIONER CLARK: That's all my questions.
18	Those are all my questions.
19	THE HEARING OFFICER: Thank you. And I don't
20	have anymore. So, thank you, Mr. Clements.
21	THE WITNESS: You're welcome.
22	THE HEARING OFFICER: Ms. Hogle?
23	MS. HOGLE: The Company rests.
24	THE HEARING OFFICER: Thank you. Mr. Jetter?
25	MR. JETTER: Thank you. The Division would
I	

```
Page 115
 1
     like to call Charles Peterson as its witness.
 2
               THE HEARING OFFICER: Mr. Peterson, do you
     swear to tell the truth?
 3
 4
               THE WITNESS: Yes.
 5
               THE HEARING OFFICER: Thank you.
 6
                        CHARLES PETERSON,
                 having first been duly sworn, was
                 examined and testified as follows:
 8
 9
                        DIRECT EXAMINATION
10
     BY MR. JETTER:
               Good morning, Mr. Peterson. Would you please
11
     state your name and occupation for the record today?
12
               Yes. Charles E. Peterson, P-e-t-e-r-s-o-n.
13
          Α.
14
     And I'm a technical consultant for the Division of
15
     public Utilities.
               (DPU Direct, Rebuttal, and Surrebuttal
16
     Testimony of Charles Peterson identified)
17
     BY MR. JETTER:
18
19
          Q.
               Thank you. And in the course of your
20
     employment with the Division of Public Utilities,
     have you had the opportunity to review the application
21
22
     filed by the Company and after doing so, have you created
23
     or caused to be created and filed with the Commission
     direct, rebuttal, and surrebuttal testimony in this
24
25
     docket?
```

- 1 A. Yes, I have.
- 2 Q. Are there any corrections that you would like
- 3 to make in any of those?
- 4 A. None that I'm aware of.
- 5 Q. And if you were asked the same questions today
- 6 that are contained in those three prefiled testimony
- 7 documents, would your answers be the same?
- 8 A. Yes.
- 9 MR. JETTER: Thank you. With that,
- 10 the Division would move for the admission of Charles
- 11 Peterson's direct, rebuttal, and surrebuttal testimony
- 12 into the record in this hearing.
- 13 THE HEARING OFFICER: If any party objects to
- 14 that, please indicate. Hearing no objection, that will
- 15 be entered. Thank you.
- 16 (DPU Direct, Rebuttal, and Surrebuttal
- 17 Testimony of Charles Peterson Admitted)
- 18 BY MR. JETTER:
- 19 Q. Thank you. Mr. Peterson, have you prepared a
- 20 brief summarization of the position of the Division
- 21 of Public Utilities in this matter?
- 22 A. Yes, I have.
- Q. Please go ahead.
- A. I think it's still morning. So, good morning
- 25 commissioners. The Division generally supports

1	Page 117 PacificCorp's request to reduce the maximum contract term
2	for QF power purchase agreements.
3	As noted by Mr. Clements, the Company has
4	experienced an extraordinary increase in QF applications
5	in the last couple of years, something that was not
6	foreseen by anyone a few years ago.
7	The problem is the potential to lock in
8	substantial amounts of intermittent, nondispatchable
9	resources at long-term prices while at the same time
10	holding dispatchable resources as backup. The long-term
11	prices create risk to ratepayers, something that you've
12	heard a lot about so far.
13	As a way to mitigate the problems that could
14	arise as a substantial portion of the QFs get built
15	including likely higher prices to ratepayers, PacificCorp
16	is proposing reducing the maximum QF contract term from
17	20 to three years.
18	For reasons set forth in my direct testimony,
19	the Division is suggesting a modification of the
20	Company's proposal to a five-year term but also to allow
21	a QF to receive capacity contribution payments over the
22	five-year term as based upon the present value of the
23	capacity over 20 years similarly to the way it's done
24	now.
25	Every five years the pricing would be updated

Page 118 1 including the capacity payments. Other parties in this 2 docket have uniformly opposed making any change to the status quo. However, in my opinion, none have proposed 3 an alternative solution to the potential problems faced 4 5 by the Company other than to suggest that low avoided cost pricing would eventually discourage developers. 6 The prediction of what that low avoided cost 8 price level is by one intervenor expert witness has already failed. Generally, the opponents of a change 9 10 make three arguments. One, PacificCorp and Utah generally needs all 11 12 the renewable generation resources it can get to mitigate various environmental concerns and the federal and state 13 14 laws set a policy to support renewable resource 15 development. Renewable resources are substantially 16 17 just like Company-acquired resources in that the use of avoided cost pricing and the Company's IRP to determine 18 the next deferrable resource makes it irrelevant whether 19 20 the resource is acquired today or in 2028 or later. 21 And three, reducing the maximum contract term 22 will make it nearly impossible for QF developers to 23 obtain financing, thereby reducing QF developments 24 in Utah to essentially zero. The Division does not believe that federal and 25

- 1 state policies contemplated the occurrence of
- 2 unrestrained limitless development of renewable
- 3 resources. You can get too much of even a good thing,
- 4 and the Division is concerned that we may be heading down
- 5 that road. Proponents of the Company's proposal strain
- 6 to show that QF development is just like Company-acquired
- 7 resources. They emphasize some similarities but largely
- 8 ignore or downplay the differences.
- 9 For example, the Company has to pay power when
- 10 the QF generates it no matter whether or not the power
- is needed on that day and hour and whether the cost is
- 12 economic.
- 13 Company-acquired resources aside from the
- 14 Company's own renewable resources can generally be
- 15 dispatched when it is needed or when it is economic
- 16 to do so.
- 17 As I've indicated in my testimony, the Division
- 18 believes that the financing issue is overstated; that is,
- 19 there are possibilities for financing if a developer
- 20 wants to pursue them.
- 21 Of course a developer cannot be forced to
- 22 pursue alternative financing or do anything at all if it
- 23 doesn't want to. The Division does recognize that the
- 24 20-year term is a benefit to developers and that reducing
- 25 that benefit will likely reduce development.

```
Page 120
               In Docket Number 03-035-14, PacificCorp witness
 1
 2
     Bruce Griswold supported the 20-year contract term limit
 3
     versus a request for 35 years as, quote:
               "... an appropriate balance between a term that
 4
 5
          allows the OF to secure financing and limiting the
          risks that accompany long range power price
 6
          forecasting."
 8
               The Division believes that it may be time to
     reevaluate whether this balance between benefiting OF
 9
10
     developers with 20-year contracts and the risks assumed
     by ratepayers that Mr. Griswold testified to ten years
11
12
     ago is still intact.
               The Division's position can be questioned
13
14
     regarding a couple of other issues.
15
               First, the Division has in the past not opposed
     longer contract terms in an effort to be supportive of
16
17
     the relatively few renewable QF projects that have come
     through and focused on assuring that the contract pricing
18
     appropriately reflected avoided costs and the methodology
19
20
     that was approved by the Commission and, to a lesser
     extent, other contract terms that seem to affect whether
21
22
     or not ratepayers can rely on the projects being built
23
     in a timely fashion.
24
               Second, the Division suggested an alternative
25
     to a term of five years but with a capacity payment based
```

- 1 upon a 20-year forecast as is done today has been
- 2 criticized for contradicting the ratepayer indifference
- 3 standard since the developer could be paid for a capacity
- 4 payment as if it were going to be in place for 20 years
- 5 but then opt out after as few as five years.
- 6 This part of the Division's proposal is not
- 7 consistent strictly speaking with ratepayer indifference.
- 8 However, if the Commission orders a reduction
- 9 in the contract term, then ratepayers would still be
- 10 better off generally.
- 11 And under that condition, the Division believes
- 12 that it is appropriate to give some additional
- 13 encouragement to renewable developers beyond the must-buy
- 14 requirement of PURPA which also is a benefit to
- 15 developers.
- 16 At this time, the Division believes that the
- 17 risk of a QF developer opting out after five or 10 years
- is small based upon the fact that the developer has
- 19 chosen the QF route to begin with as the best option
- 20 available to it. But of course the future will likely
- 21 be different than anyone of us expects.
- 22 And that concludes my statement.
- 23 MR. JETTER: I have no further questions for
- 24 Mr. Peterson. He's available for the parties to
- 25 cross-examine.

Page 122 1 THE HEARING OFFICER: Okay. Thank you. 2 Ms. Hogle, do you have any cross-examination? 3 CROSS-EXAMINATION BY MS. HOGLE: 4 Just a couple. Mr. Peterson, you were in the 5 room when Mr. Dodge was asking Mr. Clements about his 6 recollection of the scope of the hedging collaborative 8 workshops. Do you recall that? 9 Α. Yes. 10 Q. Did you participate in those hedging collaboratives? 11 12 Α. Yes. Can you tell us what your recollection was with 13 0. respect to the scope of the hedging collaboratives? 14 15 Α. My recollection is is that the intention of the hedging collaborative was to limit the Company to 16 36-month contracts. And these also included not only 17 financial contracts; swaps, typically, but also the 18 19 physical commodity contracts. 20 And in fact, I've also participated in the Division's review and audit of the Company's annual 21 22 energy balancing account filings, and the Division's 23 audit is consistent with the view I just stated. We look at the physical as well as the 24 25 financial transactions that the Company entered into

	D 102
1	Page 123 and we attempt to verify that they are consistent not
2	only with the 36-month term limit but also with the
3	percentages that the collaborative restricted the
4	company to over that 36 months.
5	Q. So, there's no distinction between gas and the
6	electricity hedging contracts; is that correct?
7	A. In the Division's view and in the way that
8	we have applied it to the energy balancing account,
9	the answer is no.
10	MS. HOGLE: Thank you.
11	THE HEARING OFFICER: Is that all?
12	MS. HOGLE: Yes.
13	THE HEARING OFFICER: Mr. Moore?
14	MR. MOORE: The Office has no questions.
15	Thank you.
16	THE HEARING OFFICER: Ms. Dutton?
17	MS. DUTTON: Utah Clean Energy has no
18	questions.
19	THE HEARING OFFICER: Mr. Ritchie?
20	MR. RITCHIE: No questions. Thank you.
21	THE HEARING OFFICER: Mr. Dodge?
22	MR. DODGE: Sorry. I do have some.
23	THE WITNESS: I'm not surprised.
24	CROSS-EXAMINATION
25	BY MR. DODGE:

- 1 Q. Mr. Peterson, first I'd like to clarify your
- 2 testimony. It is not your testimony here that reasonable
- 3 financing terms are available to a developer of a
- 4 renewable energy project with a five-year PPA;
- 5 is that correct?
- 6 A. It is correct, but I cannot specifically
- 7 identify that those terms are available.
- 8 Q. In fact, in response to a data request from the
- 9 Coalition, you said we were mischaracterizing your
- 10 testimony because it's not your position, you haven't
- 11 taken the position whether reasonable financing would be
- 12 available on a five-year term; correct?
- 13 A. That's correct. Specifically, I answered that
- 14 we think that the financing world has changed from where
- it was ten years ago when the Commission previously
- 16 reviewed this issue.
- 17 Q. Right. And I'd like to go through that with
- 18 you briefly, but first of all, you also complained that
- 19 there's been no hard evidence that there's not available
- 20 financing. You said that in your testimony;
- 21 is that right?
- 22 A. I did say that but I also have subsequently
- 23 provided examples where such short-term contracts or
- 24 shorter term than 20-year contracts have been entered
- 25 into.

Page 125 And we'll talk about that in a minute. 1 0. 2 You understand that asking intervenors to provide hard evidence that financing is available or that 3 financing would not be available with a short-term PPA 4 is asking them to prove, A, a negative and, B, 5 a situation they haven't faced before. 6 Do you understand those two things? 8 Α. Well, in the sense that I'm asking them to approve a negative, it may be difficult for them to do 9 10 so, although I can conceive of a scenario in which they 11 might be able to demonstrate it with a high probability. But then the alternative is is to show that they have 12 been financing less than 20 years. 13 14 And we'll talk about that. 0. 15 You also understand that the proponents of the change to a policy have the burden of proof. 16 17 You understand that, too; do you not? 18 Α. Yes. You said you believe that there is some 19 Q. 20 evidence that perhaps financing might be available to short-term PPAs. And I want to go through each of your 21 22 examples and let's talk about it. 23 But let me start by saying, let's say that you were persuaded that there will be zero QF renewable 24

projects done in Utah for so long as there were a three-

25

- 1 or a five-year term. Let's pretend as a hypothetical.
- A. So, that's the sole reason that there would not
- 3 be --
- 4 Q. Because of the term.
- 5 A. Okay.
- 6 Q. Because of the three- or five-year term,
- 7 the projects that are now being developed wouldn't have
- 8 been developed and the projects that might come forward
- 9 in the future won't be.
- 10 Let's assume that as a fact, recognizing we
- 11 don't have that evidence one way or the other.
- 12 If that were the case, would your view be that
- 13 the Company's proposal or the Division's proposal to
- 14 limit the term would be consistent with Utah statute that
- 15 states the state policy to encourage the development
- 16 of these types of projects?
- 17 A. I think that the Division or the Company's
- 18 burden of proof would be higher to show that it was still
- 19 consistent if -- solely because of the reduction in turn,
- 20 there would be exactly zero development made or that it
- 21 would even be possible for zero development to be made
- 22 or more than zero development. I think that would be
- 23 concerning, yes.
- Q. You complain that there's no hard evidence.
- 25 But I'd like to talk for a minute about the evidence that

- 1 is in the record. First of all, you've seen evidence in
- 2 the record that 20-year PPAs for QFs is the industry
- 3 standard throughout the country.
- 4 You've seen that testimony?
- 5 A. I believe I have seen that stated. I don't
- 6 dispute that that would be the common contract language.
- 7 Q. We know from experience in Utah that a 20-year
- 8 PPA, at least in the last two years, has been sufficient
- 9 to encourage the development of renewable projects and
- 10 get projects financed and constructed; correct?
- 11 A. All the QFs that I have -- contracts that
- 12 I have reviewed are 20-year contracts.
- Q. And so, that is working. We know that 20 years
- 14 is working ing to encourage it. But there's no evidence,
- 15 is there -- well, I'm not going to ask that question
- 16 because we're going to go through that now.
- 17 You accept that -- you're not a financing
- 18 expert, is that right, of renewable energy projects?
- 19 A. I have not worked in that arena of financing
- 20 renewable energy projects.
- Q. And you accept that every witness in this
- 22 docket who can claim to be an expert in actual financing
- 23 renewable projects has said they won't be able to get
- 24 them developed if the term is reduced to three or five
- 25 years. You're aware of that testimony; right?

- 1 A. Well, I'm aware, yes.
- Q. Okay. Now, you've indicated several times
- 3 in your testimony here -- excuse me, in your prefiled
- 4 testimony and in your summary that you think there's some
- 5 evidence that the financing situation might be changing
- 6 for renewable projects; right?
- 7 A. Yes.
- 8 Q. I'd like to walk through that evidence that you
- 9 cited and talk about whether that does provide any
- 10 support for the notion that short-term PPAs are
- 11 financeable for renewable projects.
- 12 First of all, you reference the concept of
- 13 yieldco; correct?
- 14 A. Yes.
- 15 Q. Do you understand that yieldcos are an
- 16 alternate form of sponsor equity in a project as opposed
- 17 to either tax equity or debt?
- 18 A. I understand that there are various flavors of
- 19 yieldcos and but, basically, the developer can sell his
- 20 project into a yieldco possibly making a profit on the
- 21 sale and then receive dividends back out from the
- 22 yieldco.
- Q. I guess, let me ask my question more directly.
- 24 Do you understand that an entity that uses a
- 25 yieldco to help finance a project typically also has to

- 1 obtain debt from more traditional debt sources?
- 2 A. Yes. I understand that there is debt and
- 3 equity involved in both the developing company or
- 4 sponsoring company and in the yieldco.
- 5 Q. So, when you point to the fact that the yieldco
- 6 may be a new financing option, you understand that a
- 7 developer has to come up with a combination of debt and
- 8 equity to make the project work, that will make the
- 9 project work; correct?
- 10 A. Presumably, yes.
- 11 Q. You also understand, do you not, that an
- 12 investor or a lender would view a PPA with five years
- 13 as having greater risk than a PPA with 20 years fixed
- 14 prices?
- 15 A. Generally, yes.
- 16 Q. And with increased risk, investors or lenders
- 17 expect higher rates; do they not?
- 18 A. That would be the traditional financial theory.
- 19 Q. You specifically referenced one of the
- 20 participants in the Coalition that I represent,
- 21 SunEdison, and their use of yieldcos.
- 22 And you reference to the fact that they were
- 23 going to maintain a portfolio of projects for a certain
- 24 period of time and then potentially drop it into a
- 25 yieldco; right?

- 1 A. Yes.
- 2 Q. You understood, did you not, that the average
- 3 remaining length of term for all of those PPAs that were
- 4 involved in that particular transaction was 18 years?
- 5 A. Yes. That's what the news release said.
- 6 Q. And that was remaining years presumably at the
- 7 time the PPAs were entered -- did you understand these
- 8 PPAs were entered into by a utility and they were being
- 9 purchased from them?
- 10 A. Yes. I understood that. And the 18 years is a
- 11 weighted average. So, there would have been contracts or
- 12 projects there that would have had presumably more or
- 13 less than the 18 years.
- 14 Q. Left; correct?
- 15 A. Left.
- 16 Q. You don't know whether every one of them, when
- 17 initially financed and built, was a 20-year or a 25 or
- 18 some other number? What you know is what's left at the
- 19 time of the transaction according to the report was
- 20 18 years; right?
- 21 A. That's correct.
- 22 Q. And you pointed out that Sun Edison's CEO or
- 23 CFO, I forgot which, had indicated that maybe those would
- 24 be held within the Company for up to seven years and at
- 25 some point perhaps dropped into a yieldco; is that right?

- 1 A. It was the CEO as I understand it, to make that
- 2 clarification. Yes. The Company Sun Edison has created
- 3 yet another vehicle which contained a warehouse to hold
- 4 the purchase of these assets and the financing is
- 5 provided over a seven-year term. I think JP Morgan was
- 6 the funder of that financing.
- 7 And the intention certainly is is to drop those
- 8 projects into the yieldco as the yieldco is able to
- 9 purchase the amount of the warehouse. That's my
- 10 understanding of what's going on there.
- 11 Q. But didn't you suggest that because they could
- 12 be held as long as seven years in that warehouse before
- 13 being dropped into the yieldco, meaning that there would
- 14 be a weighted average of 11 years left of that time,
- 15 that that somehow demonstrated that financing an
- 16 11-year PPA might be possible?
- 17 A. Yes. And I'd be happy to explain my thinking
- 18 about that. What that demonstrates is is that a yieldco,
- 19 when it receives a project, is not requiring that the
- 20 project already have or have a 20 years remaining which
- 21 also suggests to me that there is no magic number that
- 22 the yieldco has to have a 20-year contract when it first
- 23 acquires the project or even an 11-year contract when it
- 24 first acquires it.
- 25 The idea is is that the yieldco acquires a

- 1 project with the remaining contract that may be just a
- 2 remaining but it can be as low as 11 years or, depending
- 3 on what the original contract term distribution was,
- 4 it could be under ten years.
- 5 Q. But you understand, do you not -- let's pretend
- 6 for a moment, another hypothetical, that each of those
- 7 projects that you're referencing was a 20-year PPA.
- 8 Now it's sold with 18 years left, and then you're saying
- 9 maybe with 11 years left it's dropped into a different
- 10 yieldco financing mechanism.
- 11 You understand that the investment at year one
- 12 for a 20-year PPA -- I'm going to make up a number,
- 13 it may have been \$100 million. Two years later the
- 14 remaining investment that has to be recovered might be
- 15 lower than that, 18 -- you know I said a 100 million.
- 16 \$90 million. Let's just pretend.
- 17 Seven years later when there's only 11 years
- 18 left, the remaining investment might only be \$50 million;
- 19 right? In other words, the amount that the investor
- 20 is putting at risk is going to change as the project
- 21 depreciates and that investment is already recovered;
- 22 correct?
- 23 A. Well, that depends on -- you're making a lot of
- 24 assumptions there. But the value -- I'll go this far
- 25 with you. The value of the project will be different

- 1 for a -- if it has a 20-year PPA than if it has an
- 2 11-year PPA, but my point is is that the yieldco and its
- 3 investors -- and the yieldco has a separate set of
- 4 investors who financed it -- are willing to take in
- 5 projects, apparently, with contract terms that are
- 6 potentially much less than the 20 years that you're
- 7 proposing.
- 8 Q. But the risk is also half as much or almost
- 9 half as much 11 years in. The remaining amount to be
- 10 collected is reduced significantly. The risk is reduced
- 11 significantly, and these are already constructed projects
- 12 that presumably required 18 or 20 years to get financed
- 13 and built in the first place; right?
- A. Well, presumably, but you've said the risk is
- 15 reduced. So, that would make the value higher again
- 16 under typical finance theory.
- 17 Q. But what we're dealing with is the
- 18 encouragement of the development of a QF resource.
- 19 Nothing about the fact that a depreciated resource
- 20 already built eleven, seven or eight years or nine years
- 21 into its life might be financeable or might be traded to
- 22 someone for the remaining risk, for the remaining life.
- Nothing about that speaks to what it takes to
- 24 get it built in the first place; does it?
- 25 A. I think that it does. I think that it shows

- 1 that the yieldco as a financing vehicle for the
- 2 sponsoring developer may be willing to accept, say,
- 3 a ten-year contract as part of its portfolio.
- 4 Q. You've seen testimony, have you not, in this
- 5 docket that the average PPA length of yieldco is at
- 6 least, that Mr. Isern knows about, 15 to 20 years and
- 7 that's about what the average yieldco PPA remaining life
- 8 is? Do you remember reading that testimony?
- 9 A. Not specifically, but if you want to represent
- 10 that that's what he said, then I won't dispute that.
- 11 Q. He can speak to that, but the point I'm trying
- 12 to get to, and you seem to be resisting me -- maybe we
- 13 need to go through some of this -- is that yieldcos are
- 14 viewed as a means to provide a different kind of equity
- 15 for long-term PPAs that are already there for investors
- 16 who want to invest in them.
- 17 You haven't shown any testimony or any
- 18 evidence, have you, that a yieldco was willing to invest
- in a short-term PPA from the get-go as opposed to buying
- 20 a depreciated set of assets years into the development
- 21 or into the development?
- 22 A. Well, yieldco's are relatively new and how they
- 23 may evolve into the future is anyone's guess at this
- 24 point. My point in bringing up the subject of yieldcos
- 25 is that they are a new animal that did not exist ten

- 1 years ago when the Commission last reviewed this issue
- 2 of term contract term limits. And that a yieldco might
- 3 in the future as part of its overall portfolio support
- 4 a contract that has five or 10 years on it is something
- 5 that I can at least conceive of.
- Q. As someone who's never done it; right?
- You could conceive of it, but you don't have
- 8 any experience that would suggest that's true; do you?
- 9 A. Well, to the extent that there is evidence
- 10 available to this relatively new animal, I think I
- 11 presented evidence that yieldcos are not locked into
- 12 making 20-year contracts.
- 13 Q. Do you accept the notion that yieldcos are
- 14 premised upon the fact that there are long-term PPAs with
- 15 creditworthy utilities backing the return and therefore
- 16 they can be sold to these yieldcos, these individual
- 17 investors who buy into the yieldco at perceived low risk
- 18 and relatively low rates at least right now?
- 19 Is that consistent with what you understand of
- 20 yieldcos?
- 21 A. Well, I think that's consistent with what some
- 22 yieldcos are aiming at, but I've read also where there's
- 23 been complaints already in the media where yieldcos have
- 24 taken in projects that maybe are not what -- or maybe not
- 25 the quality that have been expected.

- 1 Q. And indeed, if they started taking in five-year
- 2 PPA projects, there would probably be a lot of
- 3 complaining about lack of long-term stability and
- 4 high risk; right?
- 5 A. Well, it would depend on what portion of the
- 6 portfolio it was.
- 7 MR. DODGE: May I approach?
- 8 THE HEARING OFFICER: Yes.
- 9 BY MR. DODGE:
- 10 Q. I'd like to hand you -- and I have all of them
- 11 if you'd like to look at them.
- Mr. Peterson, in your testimony, you provided
- 13 web sites, links to web sites for five or six articles
- 14 describing this new yieldco entity; correct?
- 15 A. Yes, I did.
- 16 Q. This new yieldco concept?
- 17 A. Right, in order to provide some background
- 18 information.
- 19 Q. And I trust you read through those articles?
- 20 A. Yes.
- 21 (RMCRE Cross Exhibit-3 identified)
- 22 BY MR. DODGE:
- Q. And I have the entire articles here if you'd
- 24 like to see them in context. What I've done in this that
- 25 I'd ask to be marked Coalition Cross Exhibit-3 I believe,

Page 137 1 what I've done is highlighted certain paragraphs from 2 several of those articles. And I'd like to see if you understood this as you talked about yieldcos. 3 And I turn to the first one which was in this 4 Social CSP Today. And in the highlighted part, I'd like 5 to read it and you tell me if this is consistent with 6 7 your understanding. 8 "Yieldcos are essentially publicly-traded 9 holding companies which bundle assets that produce 10 a steady and predictable flow of income, such as 11 energy plants, that have long-term distribution agreements." 12 13 Did I read that correctly? 14 Α. Yes. 15 0. The next highlighted part: 16 "While they can face many uncertainties during 17 bidding, permitting and development, once they are connected to the grid their cash flows are low-risk, 18 because they typically generate a steady income from 19 20 20 or 25-year PPAs or tariffs, once in operation." 21 Now, is that consistent with your understanding 22 that yieldcos are viewed as low risk because they have 23 long-term PPAs? 24 Α. I would agree that that's what the statement 25 says.

Page 138 1 And again, these are what you cited in your 0. 2 testimony to explain what yieldcos are; right? 3 Α. Right. 4 0. If you'll turn to the next highlighted part, this is a Bloomberg article, the highlighted part. And I 5 6 will read it. "In thinking about how to value yieldcos, 8 it is vital to understand that they are, at the end of the day, portfolios of projects. Any yieldco 9 10 valuation has to start with a valuation of its underlying projects, and any premium over that value 11 needs to be carefully justified. 12 "Most wind and solar projects have a life of 13 20 to 25 years. Revenues over the first 15 or so 14 15 years are often underpinned by feed-in tariffs, 16 power purchase agreements, or long-term green 17 certificate sales arrangements." Again, consistent with the notion that why 18 yieldcos have become popular is because they have 19 20 long-term sustainable power purchase agreements; right? 21 Right. I'll just point out that this does not -- this says revenues over the first 15 years or so. 22 23 So, again, it's a break from the 20 years. Q. So, 15 years, they're saying at least 15 has a 24 guaranteed amount but it doesn't say anything about five 25

- 1 years; does it?
- 2 A. No.
- 3 Q. And we don't want to read all of these, but
- 4 I'd invite you to look at the highlighted parts where
- 5 they talk about the risks of yieldcos are when they drop
- 6 off the end of the PPAs. There's one here under UBS that
- 7 talks about a contract tenor of ten to 20 years.
- 8 They talk about significant expiration risk.
- I guess my point is, isn't it inconsistent with
- 10 the whole concept of yieldcos as you understand them
- 11 based on your review of these articles that putting into
- 12 them short-term PPAs with high risk when the goal here is
- 13 long-term low-risk assets that investors can invest in
- 14 without as a high of a return expectation as another
- 15 equity investor might expect?
- 16 A. I would agree that the goal is to put in as
- 17 least risky assets as they can find and that a five-year
- 18 contract term is less risky or is, excuse me, is more
- 19 risky than a 20-year contract term.
- 20 MR. DODGE: Thank you. I'd move the admission
- 21 of Cross Exhibit-3.
- 22 THE HEARING OFFICER: If any party objects to
- 23 that, please indicate. It will be admitted. Thank you.
- 24 (RMCRE Cross Exhibit-3 admitted)
- 25 BY MR. DODGE:

- 1 Q. One of the other pieces of evidence you
- 2 referred to, Mr. Peterson, for the notion that financing
- 3 might be changing is balance sheet financing, the
- 4 possibility that a company might just choose to take
- 5 a project on its own balance sheet.
- 6 What if Rocky Mountain Power came in here and
- 7 said, we'd like to finance a hundred percent of our next
- 8 power plant with equity, would you object? Let me add,
- 9 with the equity return that they are offering.
- 10 A. With the equity return that they are
- 11 authorized? No, I don't think the regulatory -- I think
- there would be objections to that and I would object to a
- 13 hundred percent, the equity financing as being imprudent
- in the sense that it was not minimizing costs.
- 15 Q. And that's because equity is much more
- 16 expensive. Most people expect more return when their
- 17 equity's at risk than a debt lender who's first in line
- 18 to be paid back; correct?
- 19 A. That's generally correct, yes.
- 20 Q. And so, it would be imprudent for a utility to
- 21 finance a hundred percent of its investment with equity.
- Would it not also be imprudent for a public
- 23 company or a privately-held company that has
- 24 shareholders, stakeholders, to not leverage its equity
- 25 in the manner you're suggesting by using balance sheet

- 1 financing? In other words, it would be the exact same
- 2 concept and would be using high-priced equity that
- 3 would not allow the return that the Company's expect
- 4 from thereafter.
- 5 A. Well, a balance sheet financing to me means
- 6 using both debt and equity components. So, I would
- 7 expect even a Sun Edison or a similar publicly-traded
- 8 company or a privately-held company would use a mixture
- 9 of debt and equity in any financing they would do.
- 10 Q. So, it gets back to, then, what do the debt and
- 11 equity markets expect in terms of financing this kind of
- 12 project; correct?
- 13 A. Yes.
- 14 O. You also reference a few short-term PPAs and
- 15 I'd just like to make sure we're communicating correctly.
- 16 When you try and give examples of some PPAs that maybe
- 17 have been financed with shorter terms, you reference the
- 18 one in the testimony of the renewable energy Coalition
- 19 that you say has a 11-year contract; right?
- 20 A. Yes.
- 21 Q. You understand from the testimony here this
- 22 morning and your reading of the testimony of Mr. Rich
- 23 that that's a municipal solid waste combustion facility;
- 24 right?
- 25 A. Yes.

HEARING PROCEEDINGS DOCKET NO. 15-035-53 - 11/12/2015 Page 142 1 0. And it was built in 1987 nearly 30 years ago? 2 Α. Yes. And municipalities have different financing 3 0. options than do private companies? 4 5 I pointed that out in my testimony. Α. So, it doesn't go to show that a company trying 6 0. 7 to develop a renewable energy project can finance an eleven-year contract but it shows us one that's built 8 9 and that's 30 years depreciated might be willing to sign 10 an 11-year contract; correct? Well, I think that it goes to the issue that we 11 12 are dealing with or talking about QF contracts generally and not specifically about whether a private developer 13 14 can come in and develop an 80-megawatt QF project. 15 So, to me, the financing available to a municipality or some other not-for-profit company can be completely 16 17 different than what SunEdison requirements are. Exactly. But it doesn't support the notion 18 Q. than an 11-year PPA can be financed by projects that are 19 20 just now being constructed as opposed to one that's been depreciated for 30 years, correct, this example, because 21

- 23 I think I would accept that, but it doesn't Α. 24 support the idea that a new greenfield project would be
- 25 11 years.

you used it --

22

- 1 Q. You also referenced three projects in
- 2 Washington that the Company referenced in a data
- 3 response; correct?
- 4 A. Yes.
- 5 Q. You understand those are all under two-megawatt
- 6 projects?
- 7 A. I understood that they were what we call small
- 8 QFs, yes.
- 9 Q. And none was wind or solar?
- 10 A. I'm not familiar with what they were. We just
- 11 asked them about QF projects. Again, the issue is not
- 12 necessarily what type of technology is being used.
- Q. Would you accept subject to check that DPU data
- 14 request 3.2 said how many renewable projects counted
- 15 under 3.2(a) above are wind or solar OF projects?
- 16 A. Okay.
- 17 O. And the answer was none.
- 18 So, the three projects they referenced in A,
- 19 none of them is wind or solar.
- 20 A. Okay. I had forgotten that little tidbit.
- 21 Q. And so, you don't know who did those projects,
- 22 how they were developed, how they were financed, why they
- 23 were financeable with a five-year PPA.
- 24 You didn't investigate any of that; correct?
- 25 A. No. It didn't seem to be relevant.

- 1 Q. So, it doesn't really support the notion that a
- 2 project, if the goal is to encourage the development of
- 3 renewable projects in Utah, that three nonrenewable small
- 4 QF projects in Washington that somehow got built would
- 5 suggest that other projects in Utah could be built with
- 6 just five-year PPAs; does it?
- 7 A. Well, I think the original impetus to ask me
- 8 that question about Washington was that we learned that
- 9 Washington had already had a five-year limit on
- 10 contracts. So --
- 11 Q. On which contracts?
- 12 A. On the QF contracts.
- Q. On which QF contracts? Under two megawatts?
- 14 A. Well, the under two megawatt but --
- 15 Q. They don't on large projects; do they?
- 16 A. I don't know what the Washington law is there,
- 17 but on small QFs, they are limited to five years, and
- 18 that seems to me to be the relevant point here.
- 19 So, those projects, whatever they are, biomass or
- 20 whatever, were developed under a five-year contract.
- Q. But it's also relevant, is it not, that
- 22 Washington doesn't limit larger QFs to five years?
- 23 A. Well, the point is is that it gets back to this
- 24 issue of whether something is financeable or not as a QF
- 25 for a term that's less than 20 years. And the answer is

- 1 yes. There are possibilities to finance projects whether
- 2 they are two megawatts or 80 megawatts or whatever.
- 3 They are possibilities --
- 4 Q. And they may all be municipal waste projects.
- 5 You don't know; correct?
- 6 A. Well, if that's what they are --
- 7 Q. I don't know. I'm asking you, do you know?
- 8 A. Well, I don't know. And to me it's irrelevant.
- 9 Q. You also reference, you said you did a quick
- 10 Internet search and came up with a First Solar project
- in California that had 11 years on the PPA; right?
- 12 A. I said 11 --
- 13 Q. Or ten years?
- 14 A. Ten years.
- 15 Q. Did you also read in the article that you cite
- 16 that, in addition to a ten-year PPA with Roseville, the
- 17 municipality, that the owner of that also had a backup
- 18 PPA with Pacific Gas and Electric?
- 19 A. I remember reading something to that effect.
- 20 Q. Do you think that backup PPA would also go into
- 21 a financing entity's willingness to consider financing
- 22 that project? Do you know if that PPA, for example,
- 23 is a 20-year contract?
- 24 A. I don't know.
- Q. Or a ten-year at the end of the ten years?

Page 146 1 Without knowing that, you can't really cite it 2 as an example of something that can be financed with just 3 the 10-year PPA; can you? Well, I think it shows that there was a 4 5 ten-year contract that was entered into and at the end of the ten years, it's up in the air what would happen 6 after that. So, there is a risk to any developer or 8 whoever was financing that that the subsequent contract might not be available. 9 10 0. But this article said there is a backup contract. I'll read it and I'll give it to you if you 11 "First Solar has an additional PPA for 12 lost Hills' output with Pacific Gas and Electric 13 which goes into effect in 2019." 14 15 They have a backup contract with an investor-owned utility. You don't know the length of it. 16 Neither do I. But it doesn't support the notion that 17 that ten-year contract with a municipality was sufficient 18 in and of itself to get this financed; does it? 19 20 Α. Well, it may not have been sufficient in and of itself, but there's still a risk about the 2019 contract. 21 22 So, I guess my point is, you reference other 23 financing projects but you have not been able to point to one greenfield renewable project that has been 24 25 financed with a short-term PPA despite whatever research

- 1 you've done; right?
- You haven't shown us that there's even one?
- 3 A. Well, I think the Washington PPAs.
- Q. Well, and you know nothing about them. You
- 5 know don't know if they're greenfield, brown field,
- 6 municipal?
- 7 A. Well, my understanding is is they would have
- 8 had to have been developed under the five-year term,
- 9 under the five-year contract.
- 10 Q. Mr. Peterson, you say that you're concerned
- 11 about ratepayer risk and you said in your testimony that
- 12 you assume there will likely be higher prices as a result
- 13 of these QFs. Is that really your testimony?
- 14 A. The testimony is is that if we get this mass
- of QFs that are potential, that that would likely raise
- 16 prices to ratepayers because the Company would have to
- 17 maintain its existing fleet, essentially, intact to
- 18 supply backup power and so on when the wind doesn't blow
- or the sun doesn't shine. And yet we'd have to pay the
- 20 contractual amounts of the PPAs. That's when its
- 21 potential for ratepayers to pay higher prices.
- Q. You use the word "likely." It's equally likely
- 23 the price will be below what the then available price is;
- 24 is it not?
- 25 A. Well, if gas prices continue to plunge, I guess

- 1 it could be lower, but if you assume that they stay the
- 2 same, again, it's the idea that the Company's going to
- 3 have to maintain a certain amount of its existing fleet
- 4 as backup to, you know, an additional 2,000 or 3,000
- 5 megawatts of solar or PPAs.
- 6 Q. That's factored into the price, the avoided
- 7 cost pricing.
- 8 A. Well, we can get into that if you'd like,
- 9 but I'm saying, if that were to occur, there's going to
- 10 be reliability issues that Mr. Clements testified to and
- 11 I think there's potentially higher prices alternately to
- 12 ratepayers because of the intermittency and the fact that
- 13 you have to support, now essentially have to support two
- 14 electric generation systems, the QF generation system
- 15 and the backup system.
- 16 Again, this is all under the assumption that
- 17 all of this two or 3,000 megawatts gets built.
- 18 Q. And do you believe that's going to happen?
- 19 A. I don't personally think it's going to happen.
- 20 Q. You heard what QF prices are today, in the 30s
- 21 you said or maybe 40s?
- 22 A. I think in the low 40s or upper 30s is correct.
- Q. So, you're representing ratepayer interests
- 24 here in your concern, and you ask me as a ratepayer,
- 25 would you rather take a \$30 fixed 20-year resource for

- 1 energy with no fuel-price risk and no environmental risk
- 2 or go on the short-term market for that same amount of
- 3 energy for the next 20 years, what do you think my
- 4 reaction would be?
- 5 A. Well, I know what your reaction would be.
- 6 Q. And I'm here representing ratepayers who have
- 7 the same reaction among others. I mean, does that
- 8 surprise you that the ratepayer advocates here are saying
- 9 these are good deals if we can get them?
- 10 A. Well, I think it's more complicated than you're
- 11 making it sound because, again, if you're going to get
- 12 3,000 megawatts of generation at \$30 a megawatt hour,
- 13 to follow on your hypothetical, you still have --
- 14 the ratepayers are still going to have to pay for
- 15 substantially all of the system that the Company
- 16 currently has. And it may turn out that that will
- increase the price to ratepayers.
- I don't know that for a fact but it seems like
- 19 a good possibility under my hypothetical.
- Q. Does it not seem just as likely that the
- 21 opposite will be true, that gas prices will go up,
- 22 and so, by displacing market purchases at this 30 to
- 23 \$40 range, you're saving money?
- Does that not seem as likely as the other?
- 25 A. Well, we're talking about risk. And risk has

- 1 to do with the variability of prices, not whether they're
- 2 higher or lower. And the longer term -- the longer you
- 3 go out, the greater the risk in terms of price
- 4 volatility.
- 5 Q. I understand that. I was addressing your
- 6 statement that prices would likely be higher but let's
- 7 move on.
- 8 A. And I think I explained what I intended with
- 9 that statement.
- MR. DODGE: Let's move on.
- 11 THE HEARING OFFICER: Mr. Dodge?
- MR. DODGE: Yes.
- 13 THE HEARING OFFICER: I might suggest this
- 14 might be a good time for a break.
- MR. DODGE: I'm down to one last couple of
- 16 questions if you would indulge me for just a minute.
- 17 THE HEARING OFFICER: Sure.
- MR. DODGE: But I'm happy to break if you'd
- 19 rather.
- 20 THE HEARING OFFICER: If you have one or two
- 21 questions, then it's probably best to keep going.
- MR. DODGE: It's the last area.
- THE HEARING OFFICER: Okay.
- 24 BY MR. DODGE:
- Q. Mr. Peterson, you testified at some length

- 1 about the Idaho order that reduced PPA terms to two
- 2 years; right?
- 3 A. I think I wrote a paragraph in my direct.
- 4 Q. And I assume you viewed that as relevant to the
- 5 Commission, let's see what the Idaho Commission did?
- 6 A. Yes.
- 7 Q. Did you also review the Oregon staff testimony
- 8 on this exact same issue where PacifiCorp is asking to
- 9 reduce the PPA term in Oregon?
- 10 A. No.
- 11 Q. Are you aware they opposed the reduction for
- 12 basically all the same reasons that my Coalition is
- 13 opposing it?
- 14 A. Well, since I didn't read it, again, I'm not
- 15 aware of it.
- MR. DODGE: Thank you. No further questions.
- 17 THE HEARING OFFICER: Okay. Thank you.
- 18 Why don't we recess until 1:30 by that clock.
- 19 Thank you.
- 20 (Lunch recess 12:25 p.m. to 1:35 p.m.)
- THE HEARING OFFICER: Okay. I think we're back
- 22 on. Mr. Peterson, you're still under oath. And I think
- 23 we're ready to move to Mr. Sanger; correct?
- 24 CROSS-EXAMINATION
- 25 BY MR. SANGER:

Page 152 1 0. Good afternoon, Mr. Peterson. 2 Α. Hello. I'm not intimidating. I'm not Mr. Dodge. 3 0. I wanted to ask you some questions about your earlier 4 testimony about the Washington QFs. 5 So, can you refresh for all of us what your 6 7 testimony was on those? 8 Α. Essentially, the testimony is is that I asked data requests of the Company regarding Washington OFs. 9 10 They responded that they have three contracts. My understanding is, at least for small QFs, 11 12 Washington has a five-year term limit on contracts and the Company responded that they have three PPAs that are 13 14 within that five-year limit. And did you investigate when those PPAs were 15 0. built or constructed? 16 17 No, I didn't. Α. MR. SANGER: May I approach the witness? 18 19 THE HEARING OFFICER: Yes. 20 MR. SANGER: BY MR. SANGER: 21 22 (Document distribution) So, my client is the 23 Renewable Energy Coalition who is a party in this 24 proceeding; correct? 25 That's my understanding.

Α.

Page 153 (REC Exhibit-1 identified) 1 2 BY MR. SANGER: So, the Renewable Energy Coalition submitted 3 0. testimony in a Washington avoided cost case earlier this 4 year. And two of the Coalition members or one of the 5 coalition's members is Yakima Tieton Irritation District 6 7 described on page two of the Declaration of John Lowe 8 which is page five in terms of page numbers, in terms of numbers of actual pages, but it's page two of 13, 9 10 the Declaration of John Lowe. And I've highlighted in the middle of the 11 sentence there that Yakima Tieton is a Coalition member 12 and they sell their power to PacifiCorp from two 13 one-and-a-half megawatt hydroelectric projects and these 14 15 facilities have been operating since 1986. 16 Do you have any reason to contradict that? 17 Α. No. 18 0. If you could turn to the next page of this. And it's page three of the Declaration of John Lowe. 19 20 And there's a sentence in paragraph seven which states 21 "The Deruyter Dairy methane facility is the only 22 Washington QF that has been built in and currently selling power to PacifiCorp since 1990." 23 24 Did you inquire into when this project was 25 constructed or built?

- 1 A. So, you're looking at paragraph seven?
- 2 Q. Yeah. Paragraph seven, the third sentence.
- 3 It's talking about the third QF project that's in
- 4 Washington.
- 5 A. Okay.
- 6 Q. The dairy methane facility, it was constructed
- 7 in 1990?
- 8 A. Well, in answer to your question which I
- 9 believe was, did I inquire into that? The answer is no.
- 10 Q. Okay. Are you aware that the Washington
- 11 Commission adopted five-year contract terms sometime
- 12 after 1990?
- 13 A. I'm not familiar when they adopted that.
- Q. So, you're not aware that there have been no
- 15 Washington QFs that have been built recently under the
- 16 five-year contract term?
- 17 A. I'm not aware one way or the other.
- 18 Q. Okay. And are you aware that the four
- 19 operating megawatts of Washington QFs represents less
- 20 than 0.3 percent of PacifiCorp's total megawatts of QFs
- 21 on its system?
- 22 A. I see that's what it says there, but otherwise,
- 23 I'm not aware of that.
- Q. Okay. So, in terms of pointing to contracts
- 25 or QFs that might be able to operate under a five-year

- 1 contract, these projects may not be ones that would
- 2 support your assertion that QFs can operate under
- 3 five-year contracts or be financed under five-year
- 4 contracts?
- 5 A. Well, obviously they're operating under
- 6 five-year contracts. The question of whether they can be
- 7 constructed or not, I don't have an opinion about these
- 8 particular contracts. I merely asked a data request of
- 9 PacifiCorp and reported what the response was.
- 10 Q. Right. But you used that information in the
- 11 portion of your testimony supporting the view that
- 12 projects can obtain financing in order to develop
- 13 with five-year contract terms; correct?
- 14 A. I think that's a fair characterization.
- 15 It was to obtain evidence of five-year contracts. And
- 16 I knew that PacifiCorp or that Washington, rather, had
- 17 this limitation. And PacifiCorp represented that they
- 18 had projects that were operating under those terms.
- 19 Q. But you did not investigate as to whether those
- 20 projects were constructed with five-year contracts,
- 21 only that they could continue to operate under
- 22 five-year contracts?
- A. As I said earlier, I did not investigate
- 24 further.
- 25 Q. Okay. Thank you. Can you please refer to your

Page 156 1 direct testimony on page twelve? 2 Α. Unfortunately, during the break ... 3 Which page? 4 0. Page twelve. Sorry about that. 5 Okay. I have page twelve. Α. So, in the first full Q and A in the first full 6 Q. 7 paragraph, there's the last sentence there. It reads --8 well, could you read that last sentence that starts with the word, "Similarly"? 9 10 Α. "Similarly, QF developments funded by municipalities will probably not be affected since 11 12 they are doing QF projects presumably as a matter of the municipalities' public policy and without profit 13 14 motive." 15 Have you been able to identify any Utah 0. municipalities or other nonprofits that have been able 16 or I guess any municipalities or nonprofits that have 17 been able to develop under five-year contract terms? 18 I haven't specifically investigated that. 19 Α. 20 So, the answer is no. Did you inquire to potential municipalities 21 22 that might want to the develop QF projects as to whether 23 they can obtain financing? 24 Α. I did not specifically investigate that. Are you aware that Mr. Nathan Rich who is a 25 Q.

1	Page 157 Coalition member submitted testimony on behalf of Wasatch
2	Integrated Waste Management?
3	
	A. I've seen his testimony, yes.
4	Q. And that's a waste management entity that's a
5	nonprofit; correct?
6	A. That would be my understanding.
7	Q. And are you aware that he testified that his
8	waste management service district would need to obtain
9	financing and that under short-term contracts they could
10	not obtain financing to develop the QF project?
11	A. Well, you'd have to show me specifically.
12	I remember him saying something to that effect.
13	Q. Do you have any information to contradict
	2
14	Mr. Rich's testimony?
14 15	
	Mr. Rich's testimony?
15	Mr. Rich's testimony? A. No.
15 16	Mr. Rich's testimony? A. No. MR. SANGER: Okay. I have no further
15 16 17	Mr. Rich's testimony? A. No. MR. SANGER: Okay. I have no further questions.
15 16 17 18	Mr. Rich's testimony? A. No. MR. SANGER: Okay. I have no further questions. THE HEARING OFFICER: Thank you.
15 16 17 18 19	Mr. Rich's testimony? A. No. MR. SANGER: Okay. I have no further questions. THE HEARING OFFICER: Thank you. Mr. Jetter, any redirect? MR. SANGER: Your Honor?
15 16 17 18 19 20 21	Mr. Rich's testimony? A. No. MR. SANGER: Okay. I have no further questions. THE HEARING OFFICER: Thank you. Mr. Jetter, any redirect? MR. SANGER: Your Honor? THE HEARING OFFICER: Yes.
15 16 17 18 19 20 21 22	Mr. Rich's testimony? A. No. MR. SANGER: Okay. I have no further questions. THE HEARING OFFICER: Thank you. Mr. Jetter, any redirect? MR. SANGER: Your Honor? THE HEARING OFFICER: Yes. MR. SANGER: Can I move for the admission
15 16 17 18 19 20 21 22 23	Mr. Rich's testimony? A. No. MR. SANGER: Okay. I have no further questions. THE HEARING OFFICER: Thank you. Mr. Jetter, any redirect? MR. SANGER: Your Honor? THE HEARING OFFICER: Yes. MR. SANGER: Can I move for the admission of the exhibit that I crossed Mr. Peterson on?
15 16 17 18 19 20 21 22	Mr. Rich's testimony? A. No. MR. SANGER: Okay. I have no further questions. THE HEARING OFFICER: Thank you. Mr. Jetter, any redirect? MR. SANGER: Your Honor? THE HEARING OFFICER: Yes. MR. SANGER: Can I move for the admission

- 1 MR. JETTER: I would just raise an objection
- 2 that if it's entered to establish the facts that are
- 3 referenced therein because we have no -- I have no
- 4 knowledge of whether those facts or accurate or not.
- 5 I've never seen this document before.
- 6 And so, I'm troubled by entering this into the
- 7 record in its entirety especially for anything that might
- 8 be in there that I don't believe most of the parties here
- 9 have had an opportunity to vet in any way.
- THE HEARING OFFICER: Mr. Sanger, do you have
- any response to that concern?
- MR. SANGER: Yes, your Honor. Mr. Peterson
- 13 directly testified on this issue. This is a
- 14 publicly-available document in another jurisdiction.
- 15 If necessary, Mr. John Lowe who submitted this
- 16 testimony is in the chamber today and he's scheduled to
- 17 testify. I could have him verify the truth and
- 18 authenticity of this document as well.
- 19 THE HEARING OFFICER: Does any other party have
- 20 any comment on this motion?
- 21 MR. JETTER: What I'd like to ask, maybe a
- 22 question if this is the case. Mine also came with
- 23 testimony of Higgins attached to the back.
- MR. SANGER: We can remove the last part,
- 25 the testimony of Mr. Higgins if that's a concern.

```
Page 159
 1
               MR. JETTER: I think it would be appropriate
 2
     to do that also if there's no other reason to enter that
     into the record.
 3
               THE HEARING OFFICER: Mr. Jetter, you're still
 4
 5
     maintaining your objection to the entry of Mr. Lowe's
     testimony?
 6
               MR. JETTER: I think at this point, yes,
 8
     without some authenticity or authentication of it.
               THE HEARING OFFICER:
 9
                                     Okay. Let me ask you,
10
     Mr. Sanger. We have Mr. Peterson's testimony on the
     record with respect to this issue, but you still would
11
12
     like to enter the entire testimony into evidence?
               MR. SANGER: I would like to enter the portions
13
14
     that I cross-examined Mr. Peterson on. I'm happy to
15
     reduce the length of it so that the whole document does
     not come into the record, but the portions that he --
16
     I cross-examined him on, I would like to have that
17
     in the record.
18
19
               THE HEARING OFFICER: So, you're speaking of
20
     just that -- well, paragraph four and paragraph seven?
               MR. SANGER: Well, I would move for the
21
22
     admission of up to page four because the rest of those
23
     paragraphs in that section add light to that information.
24
     But starting on page four, there's a new section.
               So, I would move for the admission of the first
25
```

Page 160 four pages of the declaration. 1 2 THE HEARING OFFICER: Okay. I think we'll 3 allow this to be admitted. And again, we recognize that it doesn't have the same weight as other testimony. It's from a separate docket. And we also have 5 6 Mr. Peterson's testimony on the stand that pretty much establishes his position on the issues in these. 8 So we'll allow that. Thank you. (REC Exhibit-1 Admitted) 9 10 MR. SANGER: Thank you. 11 THE HEARING OFFICER: Anything else, 12 Mr. Sanger? 13 MR. SANGER: No, your Honor. Thank you. 14 THE HEARING OFFICER: Back to Mr. Jetter for 15 redirect. MR. JETTER: I have no redirect for 16 17 Mr. Peterson. He's available for questions from the Commission. 18 THE HEARING OFFICER: 19 Okav. 20 Commissioner White? 21 COMMISSIONER WHITE: I have no questions, Chair. 22 23 THE HEARING OFFICER: Commissioner Clark? 24 COMMISSIONER CLARK: No questions. 25 THE HEARING OFFICER: And I have none.

1	Page 161 Thank you.
2	MR. PETERSON: Thank you.
3	THE HEARING OFFICER: Mr. Jetter?
4	MR. JETTER: Thank you. Charles Peterson
5	is the Division's only witness. And that is I guess the
6	conclusion of our evidence we are going to present today.
7	Thank you.
8	THE HEARING OFFICER: Okay. Thank you.
9	And I think at this point Mr. Sanger had contacted our
10	office with a witness availability issue.
11	So, why don't I let you address that at this
12	point and see where we should go with that.
13	MR. SANGER: Thank you. I have two witnesses,
14	Mr. John Lowe and Mr. Nathan Rich. I contacted the
15	Commission about the availability of Mr. John Lowe, that
16	I would strongly prefer to have him on the witness stand
17	today. Mr. Nathan Rich has subsequently informed me that
18	he has scheduling issues and would also like to get on
19	the stand today.
20	So, I would like to at some point schedule time
21	so that we can have them testify potentially the first
22	of the intervenors so we can get them on the stand today.
23	THE HEARING OFFICER: Okay.
24	Does anyone have any comments or concerns
25	with that request? And it probably doesn't matter
ı	

Page 162 whether we go before or after the Office. The Office 1 2 and the remaining intervenors all have similar positions. Would there be any rejection to going to those 3 two first and then moving on with the Office? 4 5 MR. JETTER: No. 6 MR. MOORE: No objection. THE HEARING OFFICER: Any other objection? 8 Why don't we go that way. So, Mr. Sanger, why don't you 9 go ahead with your first witness. 10 MR. SANGER: Thank you very much. I call 11 Mr. John Lowe to the witness stand. 12 THE HEARING OFFICER: Mr. Lowe, do you swear to tell the truth? 13 THE WITNESS: I do. 14 15 JOHN LOWE, having first been duly sworn, was 16 examined and testified as follows: 17 DIRECT EXAMINATION 18 19 BY MR. SANGER: 20 Mr. Lowe, did you prepare or have prepared on Q. your behalf testimony of Mr. John Lowe on behalf of the 21 22 Renewable Energy Coalition? 23 A. Yes. 24 Do you have any corrections at this time to Q. your testimony? 25

- 1 A. No.
- Q. If you were asked the same questions today,
- 3 would your answers be the same?
- 4 A. Yes, they would.
- 5 MR. SANGER: I respectfully move for the
- 6 admission of the testimony of Mr. John Lowe.
- 7 THE HEARING OFFICER: If any party objects,
- 8 please indicate. Seeing none, they will be entered.
- 9 (REC Testimony of John Lowe Admitted)
- 10 BY MR. SANGER:
- 11 O. Mr. Lowe, do you have a short statement
- 12 prepared?
- 13 A. A few comments. I don't know that it's much
- of a preparation. First of all, let me tell everyone
- 15 of the Commission what REC is.
- We are a Coalition of renewable energy projects
- 17 which are all base load in nature and all small, less
- 18 than ten megawatts except one which is 32 megawatts in
- 19 size. And except for two projects which is the biomass
- 20 project I just mentioned which is in Oregon and Nathan
- 21 Rich's Wasatch project here in Utah, all of the other
- 22 projects which are close to 50 in the Northwest states;
- 23 Oregon, Idaho, Washington, Utah, Montana and Wyoming,
- 24 about 50 projects are included. So, I think about 48
- 25 of those are hydroelectric projects.

Page 164 The other thing about these projects is that 1 2 they are all existing projects unlike a lot of the conversation that takes place is in the context of new 3 projects. The coalition's main interest, not exclusive, 4 5 but main interest is in protecting the interests and balancing the interests of these existing projects 6 in that they would require new power purchase agreements 8 or replacement agreements, whatever you want to refer to 9 them as, interconnection agreements, so forth, as the 10 projects mature and continue on. And in addition to that, these projects will 11 12 likely require additional capital to make improvements, repairs, replacements, efficiency changes, 13 14 interconnection redos, et cetera, et cetera. 15 So, our concern is with these types of projects and that fact that they will in fact need contracts that 16 are in excess of three years in order to meet their needs 17 similar to new projects. 18 The other concern that we have in this 19 20 proceeding has to do with the capacity issue. And we're very concerned about existing projects that have been 21 paid capacity and typically treated as part of the 22 23 resource stack and the utility's IRP may not get capacity payments. And if the sufficiency period is always in 24 25 excess of the contract term, it's highly improbable they

1	Page 165 would get capacity payments under the concepts that are
2	going forward. So, we're very concerned about that.
3	And the last thing I would mention is regarding
4	some of the points that were discussed in the state of
5	Washington because one of the projects that was being
6	discussed as a member of the Coalition in the form of
7	Yakima Tieton Irritation District.
8	And in my former role at 26 years dealing with
9	PURPA issues for PacifiCorp, I have a long and deep
10	history with that particular entity, those two projects
11	as well as the third project that was referred to in the
12	previous conversation were projects that were all built
13	under long-term contracts that existed and were allowable
14	in the state of Washington.
15	That was subsequently replaced by the five-year
16	contract term. And so, these projects are under
17	short-term contracts, but in no way were they ever
18	built or financed under short-term contracts.
19	I think that's really all I have to say to
20	summarize our testimony and position.
21	THE HEARING OFFICER: Okay. Thank you.
22	Anything further, Mr. Sanger, of this witness?
23	MR. SANGER: No. Thank you.
24	THE HEARING OFFICER: Ms. Dutton, any
25	cross-examination?

1	Page 166 MS. DUTTON: No. Thank you.
2	THE HEARING OFFICER: Thank you. Mr. Ritchie?
3	MR. RITCHIE: No cross.
4	THE HEARING OFFICER: Mr. Dodge?
5	MR. DODGE: No. Thank you.
6	THE HEARING OFFICER: Mr. Moore?
7	MR. MOORE: No. Thank you.
8	THE HEARING OFFICER: Mr. Jetter?
9	MR. JETTER: I have no questions. Thank you.
10	THE HEARING OFFICER: Thank you. Ms. Hogle?
11	MS. HOGLE: I have no questions.
12	THE HEARING OFFICER: Okay. Thank you,
13	Mr. Lowe. Commissioner White, do you have any questions?
14	COMMISSIONER WHITE: I have no questions.
15	Thanks.
16	THE HEARING OFFICER: Commissioner Clark?
17	COMMISSIONER CLARK: It's unanimous.
18	THE HEARING OFFICER: Mr. Sanger?
19	MR. SANGER: I would call to the witness stand
20	Mr. Nathan Rich.
21	THE HEARING OFFICER: Mr. Rich, do you swear to
22	tell the truth?
23	THE WITNESS: I do.
24	(REC Rebuttal Testimony of Nathan Rich
25	identified)
1	

	Dago 167
1	Page 167 NATHAN RICH,
2	having first been duly sworn, was
3	examined and testified as follows:
4	DIRECT EXAMINATION
5	BY MR. SANGER:
6	Q. Mr. Rich, did you prepare or have prepared on
7	your behalf rebuttal testimony of Mr. Nathan Rich on
8	behalf of the Renewable Energy Coalition?
9	A. I did.
10	Q. Do you have any corrections to that testimony
11	at this time?
12	A. No.
13	Q. If I asked you the same questions here today,
14	would your answers be the same?
15	A. Yes, they would.
16	MR. SANGER: I respectfully move for the
17	admission of Mr. Nathan Rich.
18	THE HEARING OFFICER: If any party objects,
19	please indicate. Seeing no indication, it will be
20	entered. Thank you.
21	(REC Rebuttal Testimony of Nathan Rich
22	Admitted)
23	MR. SANGER: I tender Mr. Rich for
24	cross-examination. And I believe he has a short
25	statement to start the process.

```
Page 168
 1
               THE HEARING OFFICER:
                                     Okay. We'll start with
 2
     the statement.
 3
               MR. RICH: Thank you. I appreciate the
     opportunity to be heard by the Commission. You have my
 4
 5
     testimony. I won't spend a great deal of time going back
     over that. But I think it's important and I understand
 6
     the concern that 2,000 megawatts of new QF power would
 8
     cause a problem to the Company.
 9
               But I think we need to be careful about
10
     unintended consequences and I think our projects speak
11
     directly to that. We have two projects just to clarify
12
     a little bit some of the earlier testimony.
13
               When our facility was built -- and it's a
14
     municipal waste combustion facility. So, we generate --
15
     primarily our business is to generate renewable steam
     which we sell to Hill Air Force Base and they use that
16
17
     generally as heating on the other side of the base.
               So, as part of the construction of the
18
19
     facility, it was constructed with 1.6 megawatt
20
     back-pressure turbine.
21
               So, we take the high-pressure steam down
22
     through our turbine. The turbine is there to operate the
23
     facility. It was put there to operate the facility.
               We made an interconnection to the utility
24
     in the 1993 time frame. And that was our original power
25
```

Page 169 1 purchase agreement was actually an open ended 2 year-to-year agreement. 3 We were approached by PacifiCorp two or three years ago and they were cleaning up their old contracts. 4 5 They wanted to enter into a new contract. Hence, our 6 current 11-year power purchase agreement. The reason that that's an 11-year agreement is because that matches 8 the timeframe of our current contract with Hill Air Force Base for the sale of steam. So, we didn't want to firm 9 10 up our power beyond that. And to put this into perspective, we sell 11 12 between five and \$6 million worth of steam to Hill Air Force Base in a year, and we're currently generating 13 14 revenues of 30 to \$40,000 on our power purchase agreement 15 with PacifiCorp. So, it was really not the driving And that turbine is there to power the facility. 16 17 The second project, and this is really why I felt it was important to be heard on the issue, Hill 18 Air Force Base uses 100 percent of our steam during the 19 20 winter months. So, in the summer months --21 And we generate typically about 100,000 pounds 22 per hour of steam. In the summer months, they are not 23 able to use our full load and we've looked a number of times at adding additional generation capacity to capture 24 25 that unused summer steam. And we've been through several

Page 170 1 engineering cycles on that project. 2 Most recently, in fact, PacifiCorp just completed the first part of an interconnection study to 3 help us understand our interconnection cost for that 4 5 program. It's about a \$10 million project. It's not something that we currently have equity on hand to 6 finance. We're old school. We would finance that 8 project typically through a revenue bond. 9 So, right now we're trying to understand 10 whether that project actually has economic viability, but without the ability to contract at least for the 11 12 period that might represent a simple payback on the project is not something, number one, that I believe 13 we would be able to receive favorable terms on financing. 14 15 And beyond that, it wouldn't be something that I would probably be able to convince our board that would 16 17 make good sense if we couldn't find the financing at least to cover us during the payback period in that 18 19 project. 20 So, you have my testimony. And if there's anything additional you'd like to add, that would be 21 22 great. Thank you. 23 MR. SANGER: I have nothing further. 24 THE HEARING OFFICER: 25 Ms. Dutton, any questions?

	Page 171
1	MS. DUTTON: No. Thank you.
2	THE HEARING OFFICER: Thank you. Mr. Ritchie?
3	MR. RITCHIE: No. Thank you.
4	THE HEARING OFFICER: Mr. Dodge?
5	MR. DODGE: No.
6	THE HEARING OFFICER: Mr. Moore?
7	MR. MOORE: No.
8	THE HEARING OFFICER: Mr. Jetter?
9	CROSS-EXAMINATION
10	BY MR. JETTER:
11	Q. I do have a few questions. Good afternoon.
12	In your brief statement that you've just
13	discussed, did I understand you correctly that the
14	current project that you have, the first one, was built
15	and financed with year-to-year contracts with
16	Rocky Mountain Power?
17	A. It was built and financed as part of a \$54
18	million bond issue in 1987 because that turbine is part
19	of the physical operation of the plant.
20	The primary reason for the 1.6 megawatt turbine
21	is to power the plant. Frankly, selling the power to
22	Rocky Mountain Power is an afterthought and that
23	interconnection was added seven years later.
24	So, we're generating 1.6 megawatts and we're
25	selling, it's up and down, but typically three to 400
1	

- 1 kilowatts is all that we're selling to PacifiCorp.
- 2 So, the contract is to help us continue with
- 3 the ongoing maintenance and operation of the facility.
- 4 Q. Okay. And with respect to the current
- 5 facility, the term of the contract was immaterial
- 6 to whether it was built or not; is that correct?
- A. Absolutely because the project is a municipal
- 8 waste incinerator selling steam to Hill Air Force Base,
- 9 and the term of the contract with Hill Air Force Base
- 10 as the major power off-take of the project was critical
- 11 and that was also an open-ended contract with
- 12 Hill Air Force Base at the time.
- So, that's the contract that -- it's hard to
- 14 draw the parallel between our small electric contract and
- 15 the real power purchase agreement that built the facility
- is the sale of steam to Hill Air Force Base.
- 17 Q. Thank you. With respect to the second project,
- 18 the desire to add an additional turbine is my
- 19 understanding; is that correct?
- 20 A. That's correct.
- Q. What is the payback period for that?
- 22 A. Well, it depends on the power off-taker and how
- 23 much they're willing to pay for the power. Using current
- 24 Schedule 37 -- and in -- the project actually would
- 25 deliver about five and a half megawatts of power to the

- 1 grid. So, Schedule 37 doesn't strictly apply.
- 2 But using Schedule 37 as a best case,
- 3 the project is about a \$10 million project. And because
- 4 the power is seasonal -- and that's one thing that makes
- 5 it hard. The steam is worth much more than the
- 6 electricity. So, in the winter we sell steam and then
- 7 in the shoulder months, we would start to ramp all the
- 8 electricity and then its base load power through the
- 9 summer season. The current simple payback on that
- 10 scenario selling to PacifiCorp under Schedule 37 is
- 11 about 24 years.
- 12 Q. And so, your testimony earlier, even in a
- 13 20-year term, you don't think that you could finance that
- 14 or convince your board because you wouldn't have a
- 15 contract, then, throughout that period?
- 16 A. Oh, I think a 20, with the possibility of a
- 17 20-year agreement would give me hope that we could work
- 18 toward finding a power off-taker or having actual
- 19 conversations which would be required contract
- 20 negotiations under Schedule 38.
- 21 But it's a tough project, absolutely.
- 22 But a three-year contract slams the door.
- Q. Okay. But a three-year contract on your first
- 24 project wouldn't have mattered. That would have actually
- 25 been three times as long as your --

Page 174 Because the first project was a waste energy 1 Α. 2 project selling steam to Hill Air Force Base. You can't look at that as an electrical contract. In fact, the 3 interconnection to the utility wasn't made until the 4 5 facility had been on line for five years. 6 MR. JETTER: Okay. That's all the questions I have. Thank you. 8 THE HEARING OFFICER: Thank you. Ms. Hogle? 9 I have no questions. MS. HOGLE: 10 THE HEARING OFFICER: Do you have any redirect, 11 Mr. Sanger? 12 REDIRECT EXAMINATION BY MR. SANGER: 13 14 Yes, Your Honor. One question. Q. 15 Just to clarify, your existing project, it was not built as a qualifying facility project designed to 16 sell electricity. It wasn't your intention in the reason 17 that you sold it because you didn't start selling it 18 until seven years after? 19 20 Α. That is correct. And could you have financed that under a 21 22 three-year financing arrangement? Well, no. And again, you know, the original 23 Α. bond issue on the waste energy facility was a 20 --24 25 was financed several times, but I believe a 25-year

	2 155
1	Page 175 bond issue for the original facility which included
2	the generation capacity that's currently on line.
3	MR. SANGER: No further questions.
4	THE HEARING OFFICER: Thank you. Any recross?
5	If anyone wants recross, let me know.
6	(No response) Okay. Thank you. Mr. Sanger, anything
7	else? Oh, I'm sorry. I forgot.
8	Commissioner White, do you have any questions?
9	COMMISSIONER WHITE: I have no questions.
10	Thank you, Chair.
11	THE HEARING OFFICER: Mr. Clark?
12	COMMISSIONER CLARK: I don't have any.
13	THE HEARING OFFICER: I don't have any either.
14	Thank you.
15	MR. SANGER: Your Honor, may I excuse Mr. Rich
16	and Mr. Lowe for the rest of the hearing or at least from
17	participation tomorrow?
18	THE HEARING OFFICER: Is there any objection
19	from any party? (No response). Certainly. Thank you.
20	MR. SANGER: Thank you.
21	THE HEARING OFFICER: Anything else from you,
22	Mr. Sanger?
23	MR. SANGER: No, your Honor. Thank you.
24	THE HEARING OFFICER: Okay. Thank you.
25	Mr. Moore?
1	

```
Page 176
               MR. JETTER: The Office calls Bella Vastag.
 1
 2
               THE HEARING OFFICER: Do you swear to tell the
 3
     truth?
               THE WITNESS: Yes, I do.
 4
 5
               THE HEARING OFFICER: Thank you.
 6
                           BELA VASTAG,
                 having first been duly sworn, was
                 examined and testified as follows:
 8
 9
                       DIRECT EXAMINATION
10
     BY MR. MOORE:
          Q. Could you state and spell your name and
11
     occupation for the record?
12
          A.
               Yes. My name is Bela, B-e-l-a, Vastag,
13
    V-a-s-t-a-g. I'm a utility analyst employed by the
15
     Office of Consumer Services.
          Q. Have you reviewed the Company's application
16
     in this case?
17
         A. Yes, I have.
18
19
               (Direct, Rebuttal, and Surrebuttal Testimony of
20
     Bela Vastag identified)
     BY MR. MOORE:
21
22
               Have you prepared direct, rebuttal, and
23
     surrebuttal testimony?
24
          A. Yes.
25
          Q. Do you have any corrections to that testimony?
```

- 1 A. No corrections.
- 2 Q. If I were to examine you and ask you the
- 3 questions in your testimony, would your answers be the
- 4 same?
- 5 A. Yes.
- 6 MR. MOORE: The Office would move for admission
- 7 of his testimony.
- THE HEARING OFFICER: If any party objects,
- 9 please indicate. Seeing none, thank you. It'll be
- 10 entered.
- 11 (Direct, Rebuttal, and Surrebuttal Testimony of
- 12 Bela Vastag Admitted)
- 13 BY MR. MOORE:
- 14 Q. Have you prepared a statement summarizing your
- 15 testimony?
- 16 A. Yes. I have a brief statement.
- 17 Good afternoon. Federal and state laws have
- 18 been enacted to encourage the development of small power
- 19 producers such as qualifying facilities or QFs.
- 20 The Company proposes in this docket to limit
- 21 the maximum contract length for a QF's power purchase
- 22 agreement or PPA to three years.
- The Office believes that this would be an
- 24 unnecessary barrier against QFs and would discourage the
- 25 development of these small power producers contrary

Page 178 to the intent of laws to promote their development. 1 2 Therefore, the Office opposes the Company's 3 request and recommends that the maximum PPA contract length remain at 20 years. 4 5 The Office also opposes some parties' proposals that the calculation of the compensation for capacity 6 value in a QF contract be based on a longer term than the 8 term of the PPA. 9 If this method was adopted and such a PPA was 10 not renewed at the end of its term, then ratepayers would 11 have paid for capacity that was never delivered which 12 would violate the PURPA standard of ratepayer indifference. The Commission should reject a capacity 13 value calculation that goes beyond the term of a 14 15 OF's PPA. The Office does agree with some of the concerns 16 17 that the Company and the Division have raised with acquiring a large amount of power from QFs. 18 These concerns include, A, resource acquisition 19 20 being done outside of the Company's system-wide 21 Integrated Resource Plan or IRP evaluation and planning 22 process; 23 B, an increased risk to ratepayers with carrying large amounts of long-term fixed-price contracts 24 25 for power. The direction of power prices in the future

	D 180
1	Page 179 is uncertain. And unlike a company-owned resource,
2	QFs cannot be economically dispatched to take advantage
3	of periods when low-priced market purchases of power are
4	available.
5	The office believes that the best remedy
6	for these concerns is the use in QF PPAs of avoided cost
7	pricing that is properly modeled, accurately calculated,
8	and timely updated. We request that the Commission
9	always insist on continual diligence and rigor in
10	establishing avoided cost prices under Schedule 37
11	and Schedule 38. And that concludes my statement.
12	THE HEARING OFFICER: Anything else, Mr. Moore?
13	MR. JETTER: No, sir.
14	THE HEARING OFFICER: Okay. Thank you.
15	Ms. Dutton, any cross-examination?
16	MS. DUTTON: No. Thank you.
17	THE HEARING OFFICER: Mr. Ritchie?
18	MR. RITCHIE: No cross.
19	THE HEARING OFFICER: Mr. Dodge?
20	MR. DODGE: No. I have no questions. Thanks.
21	THE HEARING OFFICER: Thank you. Mr. Sanger?
22	MR. SANGER: No questions.
23	THE HEARING OFFICER: Mr. Jetter?
24	MR. JETTER: I have no questions.
25	THE HEARING OFFICER: Ms. Hogle?
1	

Page 180 1 MS. HOGLE: A few. 2 THE HEARING OFFICER: Thank you. 3 CROSS-EXAMINATION BY MS. HOGLE: 4 Good afternoon, Mr. Vastag. 5 Ο. 6 Α. Good afternoon. To your knowledge, was the OCS a participant Q. 8 in the hedging collaboratives? 9 To my knowledge, yes. Α. 10 Q. And is it your understanding and, more importantly, the OCS's understanding that the principles 11 and guidelines that were entered into the record as 12 I believe Cross Exhibit-2 for the Coalition applied 13 to both gas and electricity hedges? 14 15 Α. I was not involved in that docket. So, I'm not sure if that's correct. 16 17 Okay. But as a representative of the OCS, is it true that the OCS supports the principles and 18 guidelines that resulted from that hedging collaborative? 19 20 Α. Yes. It's safe to say we were supportive of the results. 21 22 Okay. Did you read Mr. Higgins' and Ms. Ferk's 23 testimony in this case? 24 Α. Yes. 25 And would you agree with me that both of them Q.

- 1 being a 20-year PPA, a QF PPA has a risk mitigation or
- 2 reduction of potential 111(d) requirements?
- A. I would agree with that, yes.
- 4 Q. Okay. You participated in the avoided cost
- 5 Docket Number 12-035-100 where the current avoided cost
- 6 methodology was approved; is that correct?
- 7 A. That's correct.
- 8 O. And one of the issues in that case was whether
- 9 the RECs would stay with the developer or with the
- 10 Company in the PPA transaction; right?
- 11 A. Yes.
- 12 Q. And do you recall what the Commission's
- 13 decision was on that issue in that case?
- 14 A. Yes, I do.
- 15 O. So, you would agree with me that the Commission
- 16 decided that the RECs would be retained by the QF absent
- 17 an expressed negotiation for additional compensation
- 18 for those RECs; is that correct?
- 19 A. That's correct.
- Q. And so, would you also agree with me that a
- 21 20-year PPA under current law would not, in fact,
- 22 mitigate any potential 111(d) requirements for the
- 23 Company?
- 24 A. That is uncertain whether or not the REC issue
- 25 would affect compliance but it is an issue.

- 1 Q. Okay. I'd like you to turn to your direct
- 2 testimony if you will, please, specifically page three.
- 3 And actually, I believe that you said this in your
- 4 summary. So, at line A-1 you state that it is extremely
- 5 important that avoided cost modeling be rigorously and
- 6 maintained and updated; is that correct?
- 7 A. Correct. Uh-huh (affirmative).
- 8 Q. And you would agree with me that current
- 9 avoided cost prices reflect current or near term
- 10 conditions?
- 11 A. Well, they're calculated using current data --
- 12 Q. Okay.
- 13 A. -- but they reflect a 20-year time period.
- Q. Okay. So, would you agree with me that it's
- 15 much easier to forecast prices two to three years out
- 16 as compared to 20 years out?
- 17 A. It's probably easier to do a shorter term
- 18 forecast.
- 19 Q. Okay. And so, isn't it true that all long-run
- 20 estimates, no matter how rigorous of avoided costs will
- 21 be prone to forecast inaccuracies?
- 22 A. Yes. And I admitted in my surrebuttal that
- 23 forecast error is an issue, but there are other issues
- 24 with inaccurate avoided cost calculations, not just
- 25 forecasting of future prices.

1	Page 183 MS. HOGLE: Okay. Thank you. That's all
2	I have.
3	THE HEARING OFFICER: Mr. Moore, any redirect?
4	MR. MOORE: No redirect, sir.
5	THE HEARING OFFICER: Okay. Thank you.
6	Commissioner White?
7	COMMISSIONER WHITE: No questions. Thank you.
8	THE HEARING OFFICER: Commissioner Clark?
9	COMMISSIONER CLARK: Thank you. I have no
10	questions.
11	THE HEARING OFFICER: I have none. Thank you,
12	Mr. Vastag. Anything further, Mr. Moore?
13	MR. MOORE: Nothing further.
14	THE HEARING OFFICER: We'll go to Ms. Dutton
15	next.
16	MS. DUTTON: Thank you. Utah Clean Energy
17	calls Ms. Sarah Wright.
18	THE HEARING OFFICER: Do you swear to tell the
19	truth?
20	THE WITNESS: I do. Good afternoon and thank
21	you.
22	SARAH WRIGHT,
23	having first been duly sworn, was
24	examined and testified as follows:
25	DIRECT EXAMINATION

- 1 BY MS. DUTTON:
- 2 Q. Please state your name, position, and business
- 3 address for the record.
- 4 A. My name is Sarah Wright and my business is
- 5 Utah Clean Energy. We're a nonprofit incorporation.
- 6 And the address is 1014 Second Avenue, Salt Lake City,
- 7 Utah 84103.
- 8 Q. Have you reviewed the Company's application
- 9 in this case?
- 10 A. Yes, I have.
- 11 (UCE Exhibit-1 and Exhibit-2 identified)
- 12 BY MS. DUTTON:
- 13 Q. And did you submit direct and surrebuttal
- 14 testimony in this docket marked as UCE Exhibits 1 and 2?
- 15 A. Yes, I did.
- 16 Q. Do you have any changes or corrections to make
- 17 to your written testimony?
- 18 A. No, I don't.
- 19 Q. If I asked you the same questions today as are
- 20 set forth in your written testimony, would your answers
- 21 be the same?
- 22 A. Yes, they would.
- MS. DUTTON: Thank you. Utah Clean Energy
- 24 moves to enter Ms. Wright's direct and surrebuttal
- 25 testimony into the record.

Page 185 1 THE HEARING OFFICER: Okay. If anyone objects, 2 please indicate. Seeing none, that will be entered. 3 Thank you. (UCE Exhibit-1 and Exhibit-2 Admitted) 4 5 BY MS. DUTTON: Did you prepare a summary of your written 6 testimony to share with the Commission today? 8 Α. Yes, I did. 9 Please proceed. 0. 10 Α. As most of you know, Utah Clean Energy strives to create safer, more efficient, cleaner, and a smarter 11 12 energy future. And the Public Utility Regulatory Policy Act, PURPA, is an important mechanism for influencing 13 renewable energy development in Utah and diversification 14 of our energy supply. 15 It is in the best interest of ratepayers to 16 17 safeguard the proper implementation of PURPA. Rocky Mountain Power's proposal to reduce the 18 contract term to three years undermines PURPA and the 19 20 state policy by effectively making these projects extremely expensive, extremely difficult, if not 21 22 possible to finance. 23 It would ensure that projects will not be built and it would therefore allow the utility to circumvent 24 25 PURPA and prevent ratepayers from benefiting from

- 1 QF resources.
- In the Company's testimony, they incorrectly
- 3 compared QFs to hedging practices. Renewable QF projects
- 4 are clearly not economic hedges and it is incorrect to
- 5 apply the Company's hedging and trading practices to
- 6 QF projects. QF projects are steel in the ground
- 7 resources that provide a capacity value to the system
- 8 and this value is significant.
- 9 In contrast, hedging projects do not provide
- 10 the ratepayers with a long-term capacity value.
- 11 And finally, further -- not finally, but
- 12 finally for this section, a QF project is not a commodity
- 13 hedge just because it provides incidental but significant
- 14 risk mitigating benefits to ratepayers.
- So, now we move to risk and protection from
- 16 risk. Of course we know and it's been discussed quite a
- 17 bit today that there is always risk associated with all
- 18 resource decisions including short-term decisions.
- 19 And FERC contemplated that prices would go up
- 20 and down and that this reality would be borne both ways.
- 21 The presence of risk does not alleviate the Utah Public
- 22 Service Commission of its duty to implement the policies
- 23 and requirements of PURPA and Utah statute which states
- 24 that it is the policy of this state to encourage the
- 25 development of independent and qualifying power

Page 187 production and cogeneration facilities to produce a 1 2 diverse array of economical and permanently sustainable resources in an environmentally acceptable manner. 3 QF projects do provide ratepayers with 4 5 additional value by protecting ratepayers over the 20-year contract for risk associated with fuel 6 volatility, unanticipated O and M costs, environmental 8 cost, and environmental compliance cost. And I'm happy to address some of the issues around the clean power 9 10 plan. Regardless of REC ownership, these projects 11 12 will reduce the Company's emissions. And in the long run, the lower emissions that we have, especially if the 13 state chooses to go with a mass-based profile, it will 14 15 help with compliance. The exact mechanisms of how the clean power plan will operate we don't know yet or how 16 Utah will implement it. 17 But there are benefits to reduced carbon 18 emissions, risk-mitigating benefits regardless of whether 19 20 you own the RECs. And you have, as I understand, at least for about 300 megawatts of the projects negotiated 21 22 ownership of the RECs. 23 On contrast, company-owned resources and market 24 purchases do not provide the protection from these risks. 25 In fact, the Company has an energy cost

HEARING PROCEEDINGS DOCKET NO. 15-035-53 - 11/12/2015 Page 188 1 adjustment mechanism that they can use to recoup costs 2 if the future unfolds in a way that's different when they planned their resources. They can recoup costs for 3 4 planned O and M expenses and other environmental 5 upgrades. OF procurement is definitely aligned with the 6 Company's Integrated Resource Plan. Because the PDRR 7 8 avoided cost pricing method is directly tied to the resources that are identified in the company's least-cost 9 10 least-risk portfolio and the type and timing of those resources identified in their least-cost least-risk 11 12 portfolio, to the extent the capacity is not needed until a date into the future or if there are a number of OFs 13 14 ahead of this resource in the queue, the pricing is 15 reduced. The avoided cost pricing method is an iterative and dynamic tool that was approved by the Commission to 16 17 align with the IRP and to meet the ratepayer indifference standard. 18 The final point I'd like to make is that the 19 20 20-year contract term allows viable QF projects to secure financing. And this pricing method, the avoided cost 21

22 pricing method, is what ensures the ratepayer 23 indifference standard is protected and only viable projects that meet the ratepayer indifference standard 24 will be built. 25

1	Page 189 The Commission approved avoided cost method
2	is the mechanism that the Commission approved to ensure
3	that rates are just and reasonable to ratepayers and
4	nondiscriminatory to QFs consistent to the requirements
5	of the PURPA and state statute.
6	Both those requirements are equally important.
7	The pricing method was built on the assumption of a QF
8	that the QF may contract for 20 years.
9	The Commission's role based on PURPA and state
10	policy is to encourage the development of QF resources
11	while ensuring rates are just and reasonable to
12	ratepayers and nondiscriminatory to QFs.
13	The current QF avoided cost method with a
14	20-year contract will do just that. While a change to a
15	three-year contract would circumvent the intent of PURPA
16	and state statute and deny ratepayers the benefits of
17	QFs. I recommend that the Public Service Commission
18	deny the Company's application to reduce the contract
19	term. Thank you.
20	THE HEARING OFFICER: Anything else,
21	Ms. Dutton?
22	MS. DUTTON: No. Ms. Wright is available for
23	cross-examination.
24	THE HEARING OFFICER: Thank you.
25	Mr. Ritchie, any questions?

1	Page 190 MR. RITCHIE: No questions. Thank you.
2	THE HEARING OFFICER: Mr. Dodge?
3	MR. DODGE: No questions.
4	THE HEARING OFFICER: Mr. Sanger?
5	MR. SANGER: No questions.
6	THE HEARING OFFICER: Mr. Moore?
7	MR. MOORE: No questions. Thank you.
8	THE HEARING OFFICER: Mr. Jetter?
9	CROSS-EXAMINATION
10	BY MR. JETTER:
11	Q. I do have a few questions.
12	A. Hello, Mr. Jetter.
13	Q. Good afternoon, Ms. Wright. You testified
14	I believe both in direct and in your surrebuttal
15	testimony that shortening the term of these contracts
16	would make them difficult, if not impossible to finance;
17	is that correct?
18	A. Yes.
19	Q. And the reason for that, is it correct,
20	that the lenders, the market providing the financing,
21	is unwilling to take the risk of variation in price
22	into the future; is that correct?
23	A. They are unwilling to take the risk to build a
24	project that doesn't have a long-term off-taker.
25	Q. And do you believe that shortening the term

- 1 of the contract changes the obligation to purchase that
- 2 energy in periods into the future?
- A. So, I guess maybe I will amend my first answer
- 4 that it's the off-taker and it's the price. They have
- 5 to know that that project is financeable and that they
- 6 are going to recoup enough through sales to finance and
- 7 pay for the project.
- 8 Q. Okay. And you testified that you believe that
- 9 the current future projections have significantly greater
- 10 risk. And let me clarify this. Current future forecasts
- 11 for energy prices you think have greater upside risk.
- 12 And by that, I mean it's more likely than not
- 13 they will be higher than we predict rather than lower
- 14 than we predict; is that correct?
- 15 A. I tried to clarify that in my surrebuttal.
- 16 I talked a lot about asymmetrical risk. So, you can
- 17 think of -- so, today prices are about \$3 or whatever
- 18 they are a megawatt hour, I mean, \$30 a megawatt hour.
- And so, and most of that is fuel cost, and that
- 20 price is bound by zero but it's actually bound by more
- 21 than that because you have to develop those risk.
- So, those prices, it's asymmetrical.
- 23 The magnitude that we can go lower is much smaller than
- 24 the magnitude that we can go higher.
- 25 Any of us that were here in the year 2000 know

- 1 that prices could be much higher. Plus, there are many
- 2 environmental regs coming down. So, yes, the magnitude
- 3 of risk is more, the magnitude that they can go up is
- 4 much greater than what's bound by zero.
- 5 Q. Okay. And so, it would seem financially
- 6 foolish, then, to enter into a long-term contract today
- 7 when you have greater potential for higher energy prices
- 8 in the future; is that correct?
- 9 A. No, because you have to -- you have to be able
- 10 to build those and finance those projects. If you're a
- 11 financier, you're not someone that plays in the energy
- 12 markets. You want to know that you have a project that
- is financeable and that that is a locked in -- you know,
- 14 that that project is going to go.
- 15 Q. And so, you would say, then, that the contract
- 16 for the 20 years removing the risk of market fluctuations
- 17 and energy prices has a significant value.
- In fact, that value is so high that a project
- 19 cannot be completed without it; is that correct?
- 20 A. Well, it depends on what you mean by value.
- 21 It has a value to ratepayers, too because if we can lock
- 22 in that price. The higher the risk, the higher the
- 23 financing cost. And when you're dealing with a very
- 24 capital-intensive project, those projects would then
- 25 be much more expensive and then they would not be built

- 1 to the benefit of ratepayers.
- Q. And so, is it correct, then, that your
- 3 testimony is that the risk has such a high cost I guess
- 4 on the flip side of that, the risk has such a high cost
- 5 that no lenders will lend on these projects?
- 6 A. Well, I think that the developers should speak
- 7 more to that, but from seminars and research that I've
- 8 done that -- well, just think about if you bought a house
- 9 and the cost of financing.
- 10 If you had a very bad credit rating, it would
- 11 cost you a lot more to finance that house over the term
- of the house over the 30-year mortgage than it would if
- 13 you were, you know, an A-plus credit rating.
- So, just, the higher the risk, the higher the
- 15 cost to finance that project which makes them more
- 16 expensive, which puts them out of the money for PURPA
- 17 which circumvents PURPA.
- 18 Q. Okay. Let me use that analogy. If you have
- 19 very bad credit -- and I believe your analogy is,
- 20 in that, probably intermittent nature of these resources
- 21 and the variability of market prices, you would probably
- 22 seek a cosigner maybe with better credit; is that
- 23 accurate?
- 24 A. I'm talking about the difference in pricing of
- 25 financing. So, these projects, it's not that they're

- 1 variable that's a problem. It's the fact that they need
- 2 a long -- you know, you're buying 20 years of fuel up
- 3 front when you build one of these projects. So, you need
- 4 long-term financing.
- 5 Q. And you compared it to a person with bad
- 6 credit; is that right?
- 7 A. No. I compared that with the risk is higher
- 8 because you don't have a 20-year contract, then your
- 9 interest rates and your finance costs will be higher.
- 10 Q. But if you could find somebody to take that
- 11 risk for you, so, to guarantee those payments for 20
- 12 years, then you can get the financing; is that correct?
- 13 A. Meaning if you have an off-taker for your
- 14 project?
- 15 Q. If you have any source of guaranteed funding
- 16 for your project.
- 17 A. I think these questions would probably be best
- 18 asked to the renewable energy developers. But what I'm
- 19 saying is that the financiers, to give you good credit
- 20 that keeps the cost down so these projects can be built
- 21 within avoided cost pricing to the benefit ratepayers,
- 22 especially, I mean you've heard UAE talk about how these
- 23 projects are beneficial, you need low-cost financing.
- 24 You need a long-term power purchase agreement.
- 25 Q. Okay. And so, the long-term financing is

- 1 conditioned upon the long-term -- excuse me.
- 2 The low-cost financing would be in your
- 3 testimony conditioned upon long-term power purchase
- 4 agreements?
- 5 A. That's my understanding from talking to
- 6 developers.
- 7 O. Okay. And that reduction in the cost of
- 8 financing is due to somewhat other than the developer
- 9 taking that risk, removing the risk that you're worried
- 10 about in year-to-year or short-term contracts?
- 11 A. I think we're mixing different types of risks.
- 12 The risk that I talk about with the asymmetrical risk
- in the project has to do with what's going to happen to
- 14 ratepayers in the future.
- 15 And the risks that we're talking about
- 16 regarding financing is the risk associated with investing
- 17 millions of dollars in a project and being able to, as a
- 18 financier, having the assurance that you will get paid
- 19 back.
- Q. And that's what I think I'm looking at here
- 21 is the risk of the insurance you'd be paid back.
- 22 You need to put that risk on some other party
- 23 in order to have these projects achieve low-cost
- 24 financing; is that correct?
- 25 A. If you're trying to say that customers are

Page 196 1 bearing them? I mean, I'm not sure what you're getting 2 at because they're two different types of risk, and if a 3 long-term power purchase agreement, if it's your position that that's a risk at these low prices, then yes. 4 5 MR. JETTER: Thank you. I have no further questions. Thank you, Ms. Wright. 6 THE WITNESS: Thank you, Mr. Jetter. 8 THE HEARING OFFICER: Thank you. Ms. Hogle? 9 CROSS-EXAMINATION 10 BY MS. HOGLE: I have a few. Good afternoon. 11 0. 12 Α. Good afternoon, Ms. Hogle. Would you agree with me that some states have 13 0. RPS requirements? 14 15 Α. Yes. 16 And that Utah has a renewable energy target for 17 qualifying facilities? It's actually a requirement, but the way that 18 Α. this document was written, it allows RECs from 1995 to 19 20 qualify. It says that they're cost effective, we need to

- do it, but you guys have already complied because of the 21
- 22 way that the statute was influenced when it was passed.
- 23 MS. HOGLE: Okay. May I approach the witness?
- 24 THE HEARING OFFICER: Yes.
- 25 BY MS. HOGLE:

```
Page 197
 1
               Okay. And you've already mentioned the cost
          0.
 2
     effectiveness. So, can you read for me 54-17-602(a)
     where it starts, "Cost-effectiveness" under subsection
 3
     one, it is determined?
 4
               Wait. 54-17-602(a), (1)(a)?
 5
               54-17-602(2)(a) --
 6
          0.
               Oh, (2)(a). "Cost-effectiveness under
          Α.
 8
          Subsection (1) for other than a cooperative
 9
          association is determined in comparison to other
10
          viable resource options using the criteria provided
          by Subsection 54-17-201(2)(c)(ii)."
11
     Do you want to let people know what I'm reading from?
12
               Well, I believe that I just mentioned --
13
          0.
               Okay. So, this is Utah state statute?
14
          Α.
15
               Yes. Utah state statute. So, if you flip
          0.
     to the next page that I handed to you?
16
               Certainly.
17
          Α.
               Can you read 54-17-201(2)(c)?
18
          Q.
19
               "In ruling on the request for approval of
          Α.
20
          a solicitation process, the commission shall
21
          determine whether the solicitation process: " --
22
               And then can you skip to little numeral two?
          Q.
               "shall provide an opportunity for public
23
          Α.
          comment."
24
25
               "is in the public interest taking into
          Q.
```

```
Page 198
          consideration:"
 1
               Wait. I read the wrong two? I did read the
 2
 3
     wrong two.
 4
          0.
               Yes.
 5
               "is in the public interest taking into
          consideration: (A), whether it will most likely
 6
          result in the acquisition, production and delivery
 8
          of electricity at the lowest reasonable cost to the
          retail customers of an affected electrical utility
 9
          located in this state;"
10
               Continue.
11
          0.
12
               "long-term and short-term impacts; (C) risk,
          Α.
          (D) reliability; (E) financial impacts on the
13
14
          affected electrical utility; and (F), other factors
15
          determined by the commission to be relevant."
               Thank you. Okay. Can you now please go back
16
17
     to 54-17-602(3)(b). Can you start reading?
               Wait, wait, wait. 602(3)?
18
          Α.
19
          0.
               602(3)(b).
20
               Oh. I thought you said E.
          Α.
21
               "This section does not require ..."
          0.
22
               Oh, three.
          Α.
23
               (3)(b). Excuse me.
          Q.
24
          Α.
               "This section does not require an electrical
25
          corporation to: (b) enter into any additional
```

Page 199 1 electrical sales commitment or any other arrangement for the sale or other disposition of electricity that is not already, or would not be, entered into 3 4 by the electrical corporation." "or" 5 0. "or (c) acquire qualifying electricity in 6 Α. excess of its adjusted retail electric sales." 8 Q. Okay. Thank you. So, is it a fair 9 characterization of your testimony that avoided cost 10 prices are very low right now? 11 Α. Yes. Okay. And you would agree with me, would you 12 Q. not, that the Commission's decision in this case is not 13 a short-term decision? 14 15 Α. Yes. And that you have testified that avoided costs 16 are, with your clarification today, more likely to go up 17 and down from this point? 18 19 Α. The magnitude. 20 Okay. And so, you would agree with me that Q. higher avoided cost pricing will make PPAs more 21 attractive? 22 23 Yes, if all things are equal, if the extension Α. of the ITC. There are a number of factors. 24 25 And the higher avoided cost pricing for Q.

Page 200 1 20 years will make them even more attractive? 2 Α. Yes. 3 MS. HOGLE: Okay. I have no further questions. 4 Thank you. 5 THE HEARING OFFICER: Thank you. 6 Ms. Dutton, any redirect? REDIRECT EXAMINATION 8 BY MS. DUTTON: 9 Yes, please. Just a couple. 0. 10 Does the fact that or the possibility that avoided cost prices could go up alleviate the Commission 11 12 of its duty to implement PURPA? No, it doesn't. And it also doesn't mean that 13 Α. 14 they wouldn't be in the best interest of ratepayers. 15 0. And in your analogy, you used two mortgages. You were comparing a bad credit rating to an inability 16 17 to secure long-term financing; is that correct? Yes, or to -- trying to finance something 18 Α. 19 without a long-term purchase commitment. 20 Q. And one last question. Why is it a good Yes. idea to enter into QF contracts now? 21 22 You know, there are number of reasons. One is Α. 23 because, and I think it was brought up by the Office, is that renewable projects, solar projects in particular 24 25 with the investment tax credit, these prices are likely

1	Page 201 as low as they're going to be for a while. 30 percent
2	reduction in cost to Utah ratepayers for these projects
3	from the investment tax credit.
4	MS. DUTTON: Thank you.
5	THE HEARING OFFICER: Thank you. Does any
6	party desire recross? Seeing none, Commissioner White?
7	COMMISSIONER WHITE: I have no questions.
8	Thank you.
9	THE HEARING OFFICER: Commissioner Clark?
10	COMMISSIONER CLARK: No questions. Thank you.
11	THE HEARING OFFICER: Thank you. I don't have
12	any. Thank you, Ms. Wright.
13	THE WITNESS: Thank you.
14	Anything further, Ms. Dutton?
15	MS. DUTTON: No. Thank you.
16	THE HEARING OFFICER: Okay. Mr. Ritchie?
17	MR. RITCHIE: Sierra Club calls Mr. Thomas
18	Beach, please.
19	THE HEARING OFFICER: Mr. Beach, do you swear
20	to tell the truth?
21	THE WITNESS: I do.
22	THE HEARING OFFICER: Thank you.
23	R. THOMAS BEACH,
24	having first been duly sworn, was
25	examined and testified as follows:

Page 202 1 DIRECT EXAMINATION 2 BY MR. RITCHIE: Can you make sure your microphone is on, 3 Q. 4 please? 5 Α. It is. 6 And can you please state your name and business address for the record? 8 Α. My name is first initial R. Thomas Beach. Business address, 2560 9th Street, Suite 213-A, Berkeley, 9 10 California 94710. And what is that business? 11 12 Α. I have an energy consulting firm Crossborder 13 Energy. 14 (Direct Testimony and Exhibits of 15 R. Thomas Beach identified) BY MR. RITCHIE: 16 17 And did you prepare direct testimony and the accompanying exhibits on behalf of Sierra Club in this 18 19 proceeding? 20 Α. Yes, I did. 21 And do you have any corrections to that 22 testimony here today? 23 Α. Yes. I just have one minor correction on 24 footnote -- on page 45 of testimony, footnote 60. That footnote refers to footnote 29 above and the 25

- 1 accurate reference is to footnote 43 above.
- 2 And then the one other correction is that in
- 3 two places, first on page six, line 111 and again on
- 4 Page ten in footnote eight, I reference California's
- 5 increase in its renewable portfolio standard to 50
- 6 percent by 2030. And in those locations, I say that the
- 7 legislature had passed that increase and the governor was
- 8 expected to sign it.
- 9 I just wanted to update the testimony that
- 10 he actually did sign it.
- 11 Q. Thank you, Mr. Beach. And with those
- 12 corrections, is the testimony true and correct to the
- 13 best of your knowledge?
- 14 A. Yes, it is.
- 15 Q. And if asked those same questions today,
- 16 would your answers be the same?
- 17 A. Yes, they would.
- MR. RITCHIE: Commissioners, with your leave,
- 19 I'd like to move into the record the direct testimony
- 20 and accompanying exhibits of Thomas Beach.
- 21 THE HEARING OFFICER: Does any party object
- 22 to that motion? Okay. The motion's granted. Thank you.
- 23 (Direct Testimony and Exhibits of
- 24 R. Thomas Beach Admitted)
- 25 BY MR. RITCHIE:

Page 204 1 0. And, Mr. Beach, have you prepared a summary of 2 your testimony here today? Yes, I have. 3 Α. Please provide that summary? 4 0. 5 Thank you very much. My name is Tom Beach and Α. I appreciate the opportunity to address the Commission 6 on behalf of the Sierra Club today. 8 The Sierra Club is here today to ask the Commission to keep Utah open for business. And by that, 9 10 I mean open for the business of developing new clean energy infrastructure in Utah for the benefit of 11 12 Utah ratepayers and the environment in Utah. 13 Rocky Mountain Power has asked the Commission 14 to reduce from 20 years to three years the maximum term 15 of power purchase contracts with new renewable generation QFs developed in its service territory under PURPA. 16 17 Sierra Club opposes Rocky Mountain Power's application. The utility is essentially asking the 18 Commission to interfere with the functioning of a market 19 20 that was expressly designed to counter the monopoly power of the utility. Your role as commissioners of course 21 22 is to regulate the utility so that it doesn't exert that 23 power. 24 I started my career 35 years ago in the early 1980s on the staff of the California Public Utilities 25

Page 205 Commission where I worked on the initial implementation 1 2 of PURPA shortly after its passage by congress. Since then, I have observed and I provide 3 examples in my testimony from Idaho, North Carolina 4 and California as well as from Utah that historically 5 renewable QFs have not been developed successfully 6 where only short-term contracts are available. 8 If you look on the PacifiCorp system, their operating renewable QF contracts that obviously have been 9 10 successfully developed, the average contract length is 19.7 years. 11 12 It's clear to me that the intent of the utility's request in this case is to make it impossible 13 14 to finance additional renewable projects in its service 15 territory. Capital-intensive solar and wind projects simply cannot be developed successfully with three-year 16 contracts, and there's no history of them being able 17 to be developed on that basis. 18 The Rocky Mountain Power proposal is clearly 19 20 an effort to relieve the utility of its must-purchase 21 obligation under PURPA. 22 The utility says that it would still be 23 required to purchase QF power under three-year contracts, but there really is no must-purchase obligation if 24 25 there's nothing to purchase because projects cannot

Page 206 obtain financing to be built. 1 2 This step to reduce the contract term is of questionable legality under PURPA whose purpose is to 3 encourage the development of qualifying renewable 4 5 generation that can be developed at the utility's avoided cost. 6 7 If Rocky Mountain Power does not want to 8 comply with its PURPA obligations, then there are well-established ways under federal law, Section 210 and 9 10 PURPA, for the utility to replace its traditional PURPA obligation and for the state of Utah to assume greater 11 12 control of over utility procurement of renewable generation in the state. 13 14 Many other states have followed this course. 15 And their procurement of renewable generation is now under RFPs and under the same type of process that 16 17 Rocky Mountain Power now uses to procure other types of resources. 18 However, pursuing 210(m) of PURPA may require 19 20 other changes in the energy markets in Utah that 21 Rocky Mountain Power does not seem interested in. So, we are left with the utilities still being 22 23 under a traditional PURPA obligation, the traditional PURPA must-purchase obligation. 24 So, now I'd like to talk a little bit about the 25

Page 207 ratepayer indifference issue. Prices in PURPA contracts 1 2 are set based on the utility's avoided cost; that is, on the cost the utilities would incur for the same amount 3 of power if it did not purchase the QF generation. 4 5 As a result, the utility's ratepayers will be indifferent on a forecast basis to the purchase of the 6 additional solar or wind generation. Rocky Mountain Power claims that this is too 8 risky. However, it's no riskier than when a utility 9 10 makes a long-term commitment to a new generating plant that the ratepayers will pay for through the rate base. 11 12 When the utility makes such a proposal, whether that plant is cost effective is decided using the same 13 14 types of long-term forecasts that the Commission uses to 15 set avoided cost prices for QFs using the same type of information developed in Integrated Resource Plans. 16 17 QF pricing is not like short-term hedging of energy commodities such as natural gas, oil, or 18 short-term market power and should not be subject to the 19 20 Commission's short-term hedging programs and policies for such commodities. 21 22 Renewable QFs are new steel in the ground 23 generation projects. And no one builds those new generation projects on the basis of three-year contracts. 24 The Sierra Club believes that the QF market 25

Page 208 that the Commission has established in Utah is working 1 2 exactly the way you designed it. There's simply no present crisis with an oversupply of renewable QFs 3 in Utah such that the Commission needs to shorten 4 5 the contract term that will no longer encourage the development of solar and wind OFs in Utah. 6 The Commission's method for setting avoided 8 cost prices provides the utility with the ability to update its forward price curb for avoided costs in order 9 to reflect changing loads and resources, changing natural 10 gas prices, and changes in the need for generation. 11 12 As Rocky Mountain Power adds more renewable OF generation, its avoided cost prices drop as this 13 14 generation replaces progressively less expensive power. 15 And this could be seen in the declining indicative prices that Rocky Mountain Power has provided 16 to solar projects in its pricing queue. 17 These indicative prices, when compared on an 18 apples-to-apples basis with the lowest public power 19 20 purchase agreement prices for solar in the Western U.S. show that it's likely that none of the solar QFs in 21 22 Rocky Mountain Power's queue are likely to be 23 successfully developed at the indicative prices. And even for those projects that have that in 24 25 the contract, time is running out for those projects

Page 209 to be developed before the end of 2016 when there's 1 2 the stepdown of the federal investment tax credit. 3 So, in short, there's no crisis. The market is working correctly and will be self limiting. 4 5 Finally, even if there are a few more OFs developed before the ITC stepdown, this fixed-price 6 renewable generation offers significant benefits to 8 Rocky Mountain Power's ratepayers. And these benefits are not included in the avoided cost price that the 9 10 utility will pay for the power. And Sierra Club's not suggesting that these 11 12 additional benefits be included in the price. We're not proposing to change the Commission's avoided cost pricing 13 14 methodology, but the existence of these additional 15 benefits means that if you can buy additional solar and wind generation at these prices, it's going to be 16 17 a good deal for the ratepayers of Utah. First of all, there is -- the utility does 18 have the ability to negotiate for the RECs associated 19 20 with this generation. In some instances, not all, they have procured the RECs associated with QF generation, and 21 22 that's a direct and quantifiable benefit to ratepayers. 23 The second benefit to ratepayers is avoiding price spikes. We've seen in 2000, 2001 with the 24 25 California energy crisis, we've seen natural gas price

1	Page 210 spikes in 2005 and 2007. Fixed-price generation provides
2	protection for customers against such run-ups in prices.
3	By bringing on more generation in the West that
4	has zero marginal costs, it lowers the price of lowers
5	the market prices generally across the whole market. And
6	since Rocky Mountain Power is short on power, these lower
7	market prices are an additional benefit to customers.
8	And finally, there is an economic development
9	benefit for Utah. These potential solar and wind
10	projects represent investment of potentially hundreds
11	of millions of dollars in clean energy infrastructure
12	in the state of Utah over the next several years.
13	Even if only a fraction of them are developed,
14	they would provide Utah with economic benefits associated
15	with the construction of modern clean energy facilities.
16	If these projects are not built in Utah, they
17	could be developed in one of the surrounding states
18	that also are rich in renewable resources.
19	So, in conclusion, I ask again if Utah's open
20	for this business or is going to hang out a closed sign
21	similar to the unfortunate recent decision in Idaho
22	to shorten its QF contract term.
23	Many states in the West are rich in renewable
24	resources and developers have options to take their
25	business elsewhere. And so, the Sierra Club looks

1	Page 211 forward to how the Commission answers this question.
2	Thank you very much for your attention.
3	MR. RITCHIE: Thank you, Mr. Beach. Mr. Beach
4	is available for cross-examination.
5	THE HEARING OFFICER: Thank you. Ms. Dutton?
6	MS. DUTTON: No. Thank you.
7	THE HEARING OFFICER: Mr. Dodge?
8	MR. DODGE: No questions.
9	THE HEARING OFFICER: Mr. Sanger?
10	MR. SANGER: No questions.
11	THE HEARING OFFICER: Thank you. Mr. Moore?
12	MR. MOORE: No questions.
13	THE HEARING OFFICER: Mr. Jetter?
14	CROSS-EXAMINATION
15	BY MR. JETTER:
16	Q. I do have a few questions. Good afternoon.
17	These are probably similar to what I asked Ms. Wright.
18	Do you recognize or do you agree or maybe a
19	better question would be that a 20-year contract reduces
20	the risk of the income stream upon which financing for
21	these projects is based?
22	A. Yes.
23	Q. And do you agree that there is any value to the
24	reduction of that risk in income variation over the term
25	of that income stream?
I	

- 1 A. A value to who?
- Q. In this case, I suppose it would be, there's
- 3 a value in that reduction in risk to the lenders on these
- 4 projects?
- 5 A. Yes. Generally, lenders on a renewable energy
- 6 project are only willing to take certain risks. And
- 7 generally they're not willing to take the price risk of
- 8 fluctuating market prices for a new energy facility
- 9 that is going to have a useful life of 20 to 25 years.
- 10 There are a lot of risks on these projects.
- 11 There are development risks. There are construction
- 12 risks. There are operating risks. There's environmental
- 13 risks. And developers are only willing to take a certain
- 14 amount of risk. And one of the risks that it's clear
- 15 from the market for these projects that they're not
- 16 willing to take is the risk of price fluctuations.
- 17 Q. Thank you. And so, the 20-year contract
- 18 at risk, those prices are ultimately passed through to
- 19 consumers and so that risk would also then be passed
- 20 on to customers of the utility; is that correct?
- 21 A. Yes. And that's no different than when the
- 22 utility builds any kind of plant. It's based on -- whose
- 23 economics are based on a long-term forecast of what fuel
- 24 prices and market prices are going to be in their service
- 25 territory. Customers take that risk all the time and the

- 1 Commission is here in part to make sure that those risks
- 2 of evaluated fairly.
- Q. Are you familiar with how Utah calculates its
- 4 QF pricing?
- 5 A. I'm familiar in general terms.
- 6 Q. Okay. Do you know in the QF pricing
- 7 calculation if there is anywhere in that formula where
- 8 we include the value of this risk?
- 9 A. The value of this risk to who?
- 10 Q. To the customers or to the -- either way.
- 11 A. Well, I'm not aware that it's included either
- 12 in QF pricing or in the way that you would evaluate a
- 13 utility-owned resource.
- Q. Okay. And so, if we're estimating our best
- 15 quess of a 20-year future avoided cost rate and we want
- 16 to keep consumers in a position where they are
- indifferent to these contracts, are they really
- 18 indifferent if we are placing the price risk upon
- 19 the customers when we're calculating it without any
- 20 evaluation of that price risk being placed on the
- 21 customers?
- 22 A. Well, I think you need to -- there certainly
- 23 is -- you know, there is a price risk there. Market
- 24 prices can be higher or lower than what is forecasted
- 25 in the model used to set the avoided cost prices.

- 1 You have to evaluate whether that risk is
- 2 worthwhile given, you know, some of the other benefits
- 3 that ratepayers gain from these resources which I think
- 4 are significant in terms of the fact that it's new clean
- 5 energy infrastructure, that's it's going to drive down
- 6 market prices generally, that it can help with future
- 7 carbon compliance, and that it's economic development
- 8 for the state of Utah.
- 9 If you think that those benefits are worth this
- 10 risk, then I think you would say, let's keep our pricing
- 11 methodology in place and if more of these resources show
- 12 up, that'll be a good thing.
- 13 Q. Thank you. I would just like to address one
- 14 other issue. I believe you covered it briefly in your
- 15 opening statement, but you had testified in your direct
- 16 testimony that it was your understanding I think at the
- 17 time you had written that that in Utah the utility owned
- 18 the RECs for these projects?
- 19 A. I don't think so. I think I testified that the
- 20 utility had acquired some RECs associated with some
- 21 contracts. We did discovery on this and they provided,
- 22 you know, an amount of RECs that they had procured from
- 23 QFs in Utah. So, it was my understanding that they
- 24 didn't get RECs associated with all of their QF contracts
- 25 but that they had negotiated the acquisition of some.

Page 215 1 MR. JETTER: Okay. That's what I would like to clarify. I have no further questions. Thank you. 2 3 THE WITNESS: Thank you. 4 THE HEARING OFFICER: Thank you. I think 5 it might be a good time for a short break before your cross-examination. Why don't we break until about 3:10. 6 We're in recess. 8 (Recess taken 3:00 p.m. to 3:10 p.m.) 9 THE HEARING OFFICER: Okay. Thank you. 10 Mr. Beach, you're still under oath. Ms. Hogle? CROSS-EXAMINATION 11 12 BY MS. HOGLE: 13 Q. Good afternoon, Mr. Beach. 14 A. Good afternoon. 15 My name is Yvonne Hogle. I don't think we have Q. met formally. I'm in-house counsel for Rocky Mountain 16 17 Power. 18 Α. Nice to meet you. 19 Q. Nice to meet you. 20 You worked for the California Public Utilities Commission in the '80s; is that correct? 21 2.2 Α. That's correct. 23 And you mentioned that you started your career Q. 24 there working on the initial implementation of PURPA; 25 correct?

Page 216 1 Yes. Α. 2 0. And so, you dealt directly with issues like avoided costs; is that correct? 3 4 Α. Yes. Okay. And so, when you first started, PURPA 5 0. had just been enacted in 1978; is that correct? 6 Α. Yes. 8 0. Would you agree with me that PURPA was 9 instrumental in opening up wholesale power markets 10 by, one, including the must-buy obligation in its 11 provisions? 12 Yes. I generally agree with that. It opened up the generation market to a lot of new actors other 13 14 than the utilities who had not been able to participate 15 in that market previously. Well, independent power producers just 16 17 multiplied in the '80s and into the '90s and into the 2000s; is that right? 18

- 19 A. Yes.
- Q. Okay. I'd like you to turn to page 14 of your
- 21 direct testimony.
- 22 A. Okay.
- Q. So, on line 270, you state that California
- 24 offered 20- to 30-year PURPA contracts in the 1980s with
- 25 renewable QFs provided fixed energy and capacity prices

- Page 217 for up to the initial 10 years of the contract and fixed 1 2 capacity prices for the full contract term; right? 3 Α. Yes. 4 0. And when you say, "prices," do you mean 5 payments? I mean prices. You only get -- if you're 6 Α. No. a QF, you only get paid if you actually produce the 8 power. So, the energy and capacity prices were fixed. 9 So, when they did enter into these 0. Okay. 10 contracts, assuming they offered the power, they would 11 get these payments; is that correct? 12 Α. They would get those prices used to calculate 13 their payments, yes. 14 Okay. And so, are these what are known as Q. standard-offer rates? Could these be part of what you're 15 talking about here? 16 Yes. Those -- well, that's what the 17 Α. contracts -- they were called standard offer contracts. 18 19 And so, is it fair to say that these energy Q. 20 payments were established at a time of high oil and natural gas prices and forecasts that assumed the price 21 22 of these fuels would increase significantly?
 - of oil went down. So, for a number of years those prices

Yes. That is what happened. In 1986 the price

Do you recall from the 1980s?

23

24

25

Α.

- 1 were above what you would consider market prices.
- Q. And am I correct that the California PUC placed
- 3 no limit on these rates initially when they started
- 4 offering them; is that correct?
- 5 A. Are you talking about no limits on the number
- of QFs that could be developed?
- 7 Q. The number and volume of contracts.
- 8 A. Yes. There were no limits at that time.
- 9 I would say that when the program started, California
- 10 was in a dire straight in terms of electric generating
- 11 capacity. The state desperately needed electric
- 12 generation. And, basically, QFs were the only
- 13 alternative. It was impossible to develop coal plants
- in California because of air quality issues.
- The utilities were having great difficulty
- 16 developing nuclear plants. It was actually prohibited to
- 17 burn natural gas in power plants at that time.
- 18 So, literally, the state's only option to meet a critical
- 19 shortage of electric generating capacity was QFs.
- Q. Okay. And then, but on line 275, you note that
- 21 the development of these rates ceased when the long-term
- 22 contracts were suspended in the late 1980s;
- 23 is that correct?
- 24 A. Yes.
- Q. So, do you know the year when these SO,

- 1 standard offer rates were first offered in California?
- A. I believe they were started in 1983.
- 3 Q. And do you know approximately when they were
- 4 suspended?
- 5 A. Well, they were suspended over a period of
- 6 time. I think in the '85 to '87 timeframe was when they
- 7 were suspended. There were a number of different
- 8 contracts and they were suspended at different times.
- 9 Q. And do you know why they were suspended?
- 10 A. At that time that there was a concern with the
- 11 drop in oil prices in 1986 and there was a concern with
- 12 an oversupply of QF capacity.
- Q. So, they were widely successful?
- 14 A. They were successful, yes.
- 15 Q. Beyond regulators' expectations?
- 16 A. Yes. And I think that was a learning
- 17 experience. And I will say that although those prices
- 18 were above market for a number of years, those projects
- 19 ended up being an incredibly economic resource for the
- 20 state during the 2000-2001 California energy crisis.
- 21 And the renewable QFs that were developed
- in the 1980s are today the least-cost source of renewable
- 23 generation for California because many of those projects
- 24 are still generating, you know, 30 years after they were
- 25 developed. So, they have been recontracted and those

- 1 contracts are among the least cost source of renewable
- 2 generation today in California.
- 3 So, yeah, those contracts were above market
- 4 for a number of years but you need to look at the
- 5 economics over the full life cycle of those projects.
- 6 And I think over their full life cycle, they were a
- 7 good deal for their ratepayers.
- 8 Q. Do you feel what the California utility's
- 9 reactions were to the offering and the continuation
- 10 of the standard offer rates while they were valid?
- 11 A. They complained a lot.
- 12 Q. Okay. Isn't it true that they filed comments
- 13 with FERC complaining, as you put it, that these and
- 14 other standard offers have forced them to purchase
- 15 too much capacity at too high of prices?
- 16 A. Yes, they did complain. I think if you examine
- 17 what their alternatives were, their alternatives would
- 18 have been building more nuclear plants. And if you look
- 19 at what they actually paid for the nuclear plants that
- 20 they actually built, the QF program was a much better
- 21 deal.
- 22 Q. Is it fair to say that California retail
- 23 customers in the '90s and maybe into the early 2000s
- 24 were paying a lot more for their electricity in part
- 25 due to these above-market rate PPAs?

Page 221 Well, again, you know, hindsight's always 1 Α. 2 20-20. And, yes, there was a period of time in the late '80s into the '90s where ratepayers in California paid 3 above what they would have paid if -- for example, if 4 5 they had not entered into those contracts and had waited for gas supplies to rebound and then they'd build gas 6 plants. But again, you know, hindsight's always 20-20. 8 And then it turned out that when we went through the California energy crisis in 2000, 2001, 9 10 those fixed-prices resources turned out to be a 11 very good deal for those years for ratepayers. 12 So, again, you have to look at it over the entire history of those projects. 13 14 But for probably 20 years, California suspended Q. 15 long-term QF PPA contracts, is that correct, as a result of these standard-offer contracts? 16 California did not offer -- in terms of 17 renewable contracts, they did not offer long-term 18 contracts to renewable QFs until they started the RPS 19 20 program in 2003. 21 MS. HOGLE: Okay. 22 May I approach the witness, Your Honor? 23 THE HEARING OFFICER: Yes. BY MS. HOGLE: 24 25 So, this, Mr. Beach, is a background Q.

Page 222 information from Southern Cal Edison's web site 1 2 on Qualifying Facilities Background. Do you have any reason to dispute that what I 3 4 just handed you is just that? If you look at the bottom of the address, the web site address, you can clearly see 5 that it is from Southern Cal Edison's web site. 6 Α. Yes. I see that. 0. Can you please read for me the highlighted 8 9 paragraphs? "The California Public Utilities Commission 10 Α. 11 decided to encourage QF development further 12 by establishing generous 'Standard Offer' power purchase contracts that utilities were required 13 14 to accept from QFs. 15 "The CPUC also based avoided cost on the cost 16 of owning and operating a natural gas-fired power plant, which, at the time, was the most costly 17 of fossil fuel plants to run." 18 "In 1983, the bottom fell out of international 19 20 energy prices and the cost of oil and gas dropped precipitously, but the lucrative terms of the 21 22 Standard Offer contracts did not change, producing 23 a 'gold rush' of new applicants. 24 "In response, the CPUC began to phase out the Standard Offer program. By 1986, the CPUC had 25

1	Page 223 suspended the availability of new power purchase
2	contracts for QF projects larger than 100 kW."
3	MS. HOGLE: At this time, Your Honor, I would
4	like to move for the admission of Rocky Mountain Power
5	Cross Exhibit-1 into the record.
6	THE HEARING OFFICER: If anybody party objects,
7	please indicate.
8	MR. RITCHIE: Mr. Chairman, I do object based
9	on what Ms. Hogle intends to introduce by this.
10	Mr. Beach has read that statement. She's not asked him
11	to adopt that statement and I think she can fairly ask
12	questions about the statement read into the record.
13	But I don't think we have any foundational
14	evidence or any support to authenticate this document
15	or to prove up this piece, this document as evidence.
16	He's welcome to answer questions about it,
17	but the document itself, I don't think it's necessary
18	to go into evidence at this time.
19	THE HEARING OFFICER: Okay. Thank you.
20	Ms. Hogle, do you have any response to that?
21	MS. HOGLE: Sure. I believe I established
22	foundation already. I asked him if he believed that
23	I received or that I printed this off of the Southern
24	Cal Edison web site.
25	And it goes directly to his testimony wherein

HEARING PROCEEDINGS DOCKET NO. 15-035-53 - 11/12/2015 Page 224 1 he testifies about these very same 20, 30-year PURPA contracts in the 1980s. And he was an employee of the 2 California Public Utilities Commission. 3 So, I think it presents a full picture of his 4 5 testimony that is not included in his testimony of the conditions and circumstances in California with OF 6 contracts in the 1980s. 8 THE HEARING OFFICER: Given that this is 9 basically a statement of a California utility that's not 10 a party to this, I think I'm going to grant the objection to the motion to enter it but allow questions about the 11 statements and ask the witness whether he agrees with 12 them. But I don't think I see an evidentiary biases 13 14 for putting this into evidence. 15 MS. HOGLE: Okay. 16 THE HEARING OFFICER: Thank you. 17 MS. HOGLE: I have no further questions. 18 Thank you. 19 THE HEARING OFFICER: Thank you. 20 Any redirect? Mr. Ritchie? REDIRECT EXAMINATION

- 21
- 2.2 BY MR. RITCHIE:
- 23 Ο. Yes. Thank you.
- 24 Mr. Beach, Mr. Jetter of the Division asked you
- 25 a couple questions about ratepayers assuming the risks

Page 225 1 of long-term contracts. 2 Do you remember that line of questioning? Yes, I do. 3 Α. What about short-term contracts? 4 0. If the Commission was to adopt three-year or five-year contracts 5 that have been proposed today, would ratepayers be 6 assuming any risks from those contracts? 8 Α. Yes, they would. They would assume the market 9 pricing risk under those contracts because, you know, 10 market prices can fluctuate and they are very low today, but we certainly have seen episodes in the past and I'm 11 sure we will see episodes in the future where market 12 prices are going to be much higher than they are today. 13 14 So, under a short-term contract, ratepayers 15 bear the risk of those kinds of market price fluctuations. And, you know, if you live by the market, 16 you die by the market I guess is the way to put it. 17 MR. RITCHIE: I have no further questions 18 19 at this time. Thank you. 20 THE HEARING OFFICER: Okay. Thank you. 2.1 Any desire for any recross from any party? 22 MS. DUTTON: Can I ask a recross question? 23 THE HEARING OFFICER: Sure. 24 RECROSS-EXAMINATION 25 BY MS. DUTTON:

	HEARING PROCEEDINGS DOCKET NO. 13-033-33 - 11/12/2013
1	Page 226 Q. It's based on the document that Ms. Hogle asked
2	the witness to read.
3	In the second paragraph, the highlighted
4	section, could you read the first sentence again?
5	A. "In 1983, the bottom fell out of international
6	energy prices and the cost of oil and gas dropped
7	precipitously, but the lucrative terms of the
8	Standard Offer contracts did not change, producing
9	a 'gold rush' of new applicants."
10	Q. And under Utah's avoided cost method,
11	would that ever be the case in Utah that the prices
12	would not change?
13	A. Well, my understanding in Utah is that the
14	utility is able to update its avoided cost prices as
15	natural gas prices and forward electric market curves
16	change.
17	Q. And so, would you agree that the terms of the
18	contracts would change in Utah to adjust the avoided cost
19	price for QF projects?
20	A. Yes. So, a QF that's developed this year might
21	not get the same price as a QF developed next year or the
22	year after that.
23	MS. DUTTON: Okay. Thank you.
24	THE HEARING OFFICER: Commissioner White,

any questions for the witness?

25

1	Page 227 COMMISSIONER WHITE: No questions. Thank you.
2	THE HEARING OFFICER: Thank you.
3	Commissioner Clark?
4	EXAMINATION
5	BY COMMISSIONER CLARK:
6	Q. A couple of questions about this subject we've
7	been discussing here.
8	First, the two paragraphs that you read into
9	the record, do you disagree in any essential way with
10	what's represented here as a description of the
11	historical events of this period?
12	A. Well, I actually do disagree with some of the
13	dates. For example, the bottom fell out of international
14	energy prices in 1986, not 1983. And, you know, I guess
15	I would quibble with some of the adjectives that the
16	utility used here.
17	But, you know, otherwise, you know, generally,
18	I think that what is described here is pretty consistent
19	with what I described in my earlier testimony.
20	You know, I think that we've learned a lot
21	since then in terms of updating avoided cost prices on a
22	regular basis so they keep track with the market.
23	We've also learned a lot about procuring resources.
24	So, you know, utilities often have the ability
25	to negotiate with QFs to some extent, and so, certainly
I	

- 1 this experience has not been repeated in California
- 2 nor in any other state.
- And as I earlier testified, I think in the
- 4 final analysis, what California got out of what was
- 5 admittedly a flawed initial process was a set of
- 6 resources that over the last 30 years has stood
- 7 the test of time.
- 8 Q. Did the standard-offer contracts specify a
- 9 price or a formula for deriving a price?
- 10 A. The standard-offer contracts that were
- 11 applicable to renewable QFs, they had ten years of fixed
- 12 prices similar to what contracts in Utah have today.
- But they were up to 30-year contracts but the
- 14 price was only fixed for the first ten years except for
- 15 the capacity price. The capacity price was fixed for the
- 16 full 30 years. The energy price was fixed for the first
- 17 ten years, and then after that first ten years of the
- 18 contract, the energy was priced back at the market
- 19 prices.
- So, in terms of the energy component of those
- 21 projects, they were really only above market for the
- 22 first ten years. And because oil prices didn't crash
- 23 until '86, some of those projects, they were probably
- 24 at market for a number of -- for the first several years
- 25 of those projects.

- 1 O. How was PURPA administered, then, during the
- 2 time period following the suspension of the
- 3 standard-offer contracts?
- 4 A. Well, following the suspension, there were
- 5 shorter term contracts available, you know. They were
- 6 one-year contracts, basically, at avoided energy and
- 7 capacity prices.
- 8 Initially, they did have longer term contracts
- 9 with fixed-capacity prices available but not fixed-energy
- 10 prices. And then they went to just -- for a period of
- 11 time in the '90s, the only thing that was available was
- 12 a one-year contract at short-run prices. And then
- 13 California launched into its deregulation experiment
- 14 which did not work out.
- 15 COMMISSIONER CLARK: Thank you. That's all
- 16 my questions.
- 17 THE HEARING OFFICER: Thank you. And I don't
- 18 have any. Thank you. Anything else, Mr. Ritchie?
- 19 MR. RITCHIE: No. Thank you, commissioners.
- 20 THE HEARING OFFICER: Thank you. We'll turn
- 21 to Mr. Dodge.
- MR. DODGE: Thank you, Mr. Chairman.
- 23 The Rocky Mountain Coalition for Renewable Energy would
- 24 like to call Kevin Higgins.
- THE HEARING OFFICER: Mr. Higgins, do you swear

```
Page 230
     to tell the truth?
 1
               THE WITNESS: Yes, I do.
 3
               THE HEARING OFFICER: Thank you.
 4
                         KEVIN HIGGINS,
 5
                 having first been duly sworn, was
                 examined and testified as follows:
 6
                        DIRECT EXAMINATION
 8
     BY MR. DODGE:
 9
               Would you please explain who you are and on
10
     whose behalf you are testifying?
               My name is Kevin Higgins. I'm here on behalf
11
12
     of the Rocky Mountain Coalition for Renewable Energy.
               (RMCRE Exhibit 1.0 and Exhibit 1.0SR
13
14
     identified)
15
     BY MR. DODGE:
               And did you cause in this docket to be prepared
16
17
     and filed direct testimony and surrebuttal testimony?
              Yes, I did.
18
          Α.
19
               And do you have any corrections to any of that
          Q.
20
     testimony?
              I do not.
21
          Α.
22
               And does that testimony represent your sworn
23
     testimony here today?
              Yes, it does.
24
          Α.
               MR. DODGE: I'd move the admission of
25
```

- 1 Coalition Exhibit 1.0 and 1.0SR.
- THE HEARING OFFICER: If any party objects to
- 3 that motion, please let me know. Seeing none, the motion
- 4 is granted. Thank you.
- 5 (RMCRE Exhibit 1.0 and Exhibit 1.0SR Admitted)
- 6 BY MR. DODGE:
- 7 Q. Thank you. Mr. Higgins, could you provide a
- 8 summary of your testimony?
- 9 A. Yes, I will. Thank you. Good afternoon
- 10 commissioners. While we're waxing nostalgic a little bit
- 11 about PURPA, maybe you'll indulge me and allow me to
- 12 point out that my very first experience as a witness
- was in 1984 on behalf of the State of Utah Energy Office
- 14 before this Commission when the state of Utah was
- 15 attempting to implement PURPA for the very first time.
- And so, I now find myself 31 years later here
- 17 testifying before this Commission on essentially the same
- 18 topic. And I will volunteer that if I show up 31 years
- 19 from now to discuss this topic, someone should encourage
- 20 me to get a hobby. But you can look for me on public
- 21 witness day in 2046.
- Now, in my opinion, the Company's proposal to
- 23 reduce the maximum term for fixed-price contracts for QFs
- 24 from 20 years to three years is not reasonable nor is it
- 25 in the public interest and the proposal should be

- 1 rejected by the Commission.
- 2 I believe that the Commission's current
- 3 approach to contract terms is reasonable and it provides
- 4 an appropriate framework for encouraging QF development
- 5 while protecting customer interests.
- 6 The Company is asking the Commission to abandon
- 7 its long-established policy of reasonably encouraging QF
- 8 development by ensuring the availability of the long-term
- 9 power purchase contracts at avoided costs. In its place,
- 10 the Company seeks adoption of a new policy that is
- 11 clearly designed to hinder further QF development
- 12 in Utah.
- In supporting it's argument, the Company relies
- on inept comparisons to hedging and utility planning
- 15 criteria while ignoring the obvious fact that the Company
- is compensated for its own resources in a fundamentally
- 17 different and far more favorable manner than OFs are.
- Take, for example, the unfavorable comparison
- 19 of long-term OF contracts to hedging practices. In my
- view, this is an apples-to-oranges comparison.
- 21 Hedging contracts are simply an instrument
- in pricing the Company's fuel supply and market
- 23 purchases, whereas the Company's generation assets that
- 24 are served by the fuel hedges are in fact long-term
- 25 obligations for which customers are bound for decades.

Page 233 So, while the Company enjoys a long-term 1 2 revenue security of earning returns from its assets in rate base, the Schedule 37 or 38 contract is the sole 3 means by which a QF is compensated for its power. 4 5 The more apt comparison is not between the Company's hedging practices and long-term QF contracts 6 but it is between long-term QF contracts and the 8 Company's recovery of its generation investments 9 in the rate base. In this comparison, the obligations 10 of customers are longer term and more open ended when it comes to paying for utility-owned plant in contrast with 11 12 QF contracts because utility generation assets are subject to ongoing environmental risks that are commonly 13 14 addressed through environmental upgrades which customers 15 are routinely required to fund pursuant to general rate case decisions. 16 You know, in the last three general rate cases 17 in Utah, the Company has requested and been granted 18 approval for hundreds of millions of dollars of 19 20 additional rate base for environmental upgrades. Customers are also at risk for future 21 22 accelerated depreciation of utility generation assets 23 to the extent that plant lives are shortened in response to environmental pressures. 24 25 So, there are considerable risks today for

Page 234 customers under the acquisition of power from 1 2 utility-owned assets. Mr. Clements argues that PURPA contracts do not 3 go through the same extensive IRP process to determine if 4 5 they are needed. In making this argument, Mr. Clements overlooks the fact that the pricing methodology adopted 6 in Utah by this Commission relies upon the Company's IRP 8 least-cost plan. And QF prices are tied directly to that 9 least-cost IRP plan. This is how ratepayer indifference 10 is accomplished. When Mr. Clements discusses the IRP and its 11 12 relationship to QF pricing, he limits his discussion to the next planned thermal resource. 13 14 He neglects to point out that the IRP calls 15 for the purchase of around one million megawatt hours per year in front-office transactions from 2016 to 2024. 16 17 And it is those anticipated purchases that a long-term PPA with a QF would primarily be displacing, 18 and it is the displacement of those anticipated purchases 19 20 that drives the pricing in QF contracts in Utah today. 21 In fact, the indicative price posted in 22 Appendix B of the Company's Q2 filing with this 23 Commission indicates a long-term 20-year price including capacity of \$33.12 per megawatt hour. That's for 100 24 25 megawatts of displacement with an 85 percent capacity

Page 235 1 factor. 2 So, with prices like those, it is difficult to 3 understand the great alarm that is being expressed with regard to customer interests in protecting ratepayers. 4 5 Finally, the proposed change by the Company is likely to quash QF development in Utah at a time when 6 implementation of the EPA's clean power plants is 8 creating significant uncertainty with respect to the 9 Company's long-term resource plan. 10 It strikes me as unwise to be signaling to QFs, particularly in light of their various renewable, zero 11 12 emitting and combined heat and power attributes that their power is of little long-term value and consequently 13 14 discouraging their development at a time when new 15 environmental regulations are placing long-term resource planning in a state of flux. 16 This seems particularly unwise when we 17 understand that the development of renewable 18 zero-emitting and combined heat and power resources, 19 20 each of which has a nexus to QF generation, is encouraged by the clean power plan as a means of gaining compliance. 21 22 In countering my argument, the Company points 23 out that it's the QF, not Rocky Mountain Power, that owns the renewable energy certificates. 24 25 But this does not refute my argument. If the

1	Page 236 state of Utah, in complying with the clean power plan
2	adopts a rate-based plan, then the availability of
3	additional renewable energy in the state creates a
4	marketplace from which renewable energy can be purchased
5	or the credits or the certificates could be purchased for
6	compliance. So, it's a supply-and-demand situation.
7	Yes, the Company doesn't own the RECs or most
8	of the RECs that the QFs provide, but renewable QFs will
9	provide a ready supply of RECs that will be available for
10	sale for compliance.
11	On the other hand, if Utah adopts a mass-based
12	plan to comply with the clean power plan, then the simple
13	displacement of the Company's thermal generation with
14	renewable energy will help the Company comply.
15	So, that concludes my summary. Thank you.
16	MR. DODGE: Mr. Higgins is available for cross.
17	THE HEARING OFFICER: Okay. Thank you.
18	Ms. Dutton, anything from you?
19	MS. DUTTON: No. No questions.
20	THE HEARING OFFICER: Mr. Ritchie?
21	MR. RITCHIE: No questions. Thank you.
22	THE HEARING OFFICER: Thank you. Mr. Moore?
23	MR. MOORE: No questions.
24	THE HEARING OFFICER: Mr. Jetter?
25	MR. JETTER: I have no questions. Thank you.

	- 005
1	Page 237 THE HEARING OFFICER: Okay. Thank you.
2	Ms. Hogle?
3	MS. HOGLE: I have no questions.
4	THE HEARING OFFICER: Okay.
5	Commissioner White?
6	COMMISSIONER WHITE: I have no questions.
7	Thanks.
8	THE HEARING OFFICER: Commissioner Clark?
9	COMMISSIONER CLARK: No questions. Thank you.
10	THE HEARING OFFICER: I have none. Thank you,
11	Mr. Higgins.
12	THE WITNESS: Thank you.
13	MR. DODGE: Mr. Chairman, the Coalition would
14	also like to call Mr. Bryan Harris.
15	THE HEARING OFFICER: Mr. Harris, do you swear
16	to tell the truth?
17	THE WITNESS: Yes.
18	BRYAN HARRIS,
19	having first been duly sworn, was
20	examined and testified as follows:
21	DIRECT EXAMINATION
22	BY MR. DODGE:
23	Q. Mr. Harris, could you tell us who you are and
24	for whom you work and on whose behalf you're testifying?
25	A. My name is Bryan Harris. I am a project
1	

Page 238 development manager for SunEdison and I am testifying 1 2 on their behalf. And on behalf of the Rocky Mountain Coalition; 3 is that correct? 4 5 Yes, that's correct. Α. (RMCRE Exhibits 2.0R, 2.0SR, and 2.0 6 identified) 8 BY MR. DODGE: 9 Thank you. And under your direction, 0. 10 Mr. Harris, what was direct testimony and rebuttal testimony and surrebuttal testimony filed on your behalf? 11 12 Α. Yes. 13 0. And does that testimony represent your 14 testimony here today? 15 Α. Yes, it does. MR. DODGE: I'd move the admission of Coalition 16 17 Exhibits 2.0R, 2.0SR, and 2.0. THE HEARING OFFICER: Okay. If any party 18 objects to the motion, please let me know. I'm not 19 20 seeing any. So, the motion's granted. 21 (RMCRE Exhibits 2.0R, 2.0SR, and 2.0 Admitted) BY MR. DODGE: 2.2 23 Mr. Harris, do you have a summary of your Q. testimony in this docket? 24

Yes. I have a few comments I'd like to provide

25

Α.

- 1 to the Commission to start out. SunEdison is a large
- 2 independent power producer working to develop, build,
- 3 and operate renewable energy projects around the world.
- 4 We are also very active in developing and
- 5 constructing renewable energy projects in Utah.
- 6 We've been working on quite a few projects in Utah
- 7 over the last several years.
- 8 Currently, we have 22 QF power contracts
- 9 in place with Rocky Mountain Power. All of those
- 10 projects are either constructed or in construction.
- 11 Those projects are all located in Beaver County
- 12 and in Iron County in southern Utah. I believe nine
- of the projects are completed with the remaining ones
- 14 in construction. Those projects are currently employing
- 15 about 800 construction workers in southern Utah.
- The projects are an economic boon to southern
- 17 Utah. They will pay a significant amount of property
- 18 taxes over the life of the project as well as about 25
- 19 full-time operations jobs. I bring that up just to point
- 20 out that these projects are providing a significant
- 21 impact, a positive impact to the state of Utah to the
- 22 counties where they are.
- In addition, I believe the projects are great,
- 24 are a great asset for the ratepayers in Utah.
- 25 They provide a long-term contracted amount which

	D 040
1	Page 240 provides well, the projects are contracted and
2	they have a steady rate for the ratepayers.
3	The main reason why I'm testifying today is to
4	provide some information that if those projects were not
5	open to having a 20-year contract, 20-year term in the
6	contract, if it was a three-year term, those projects
7	would not be built or would not be under construction
8	today. And moving forward, if the Commission changes the
9	term to three years, we will not be able to build future
10	projects in the state of Utah. And that's really the
11	crux of my testimony today and my opening statement.
12	MR. DODGE: Thank you. Mr. Harris is available
13	for cross-examination.
14	THE HEARING OFFICER: Thank you.
15	Ms. Dutton, anything?
16	MS. DUTTON: No. No questions.
17	THE HEARING OFFICER: Thank you. Mr. Ritchie?
18	MR. RITCHIE: No questions.
19	THE HEARING OFFICER: Mr. Sanger?
20	MR. SANGER: No questions.
21	THE HEARING OFFICER: Mr. Moore?
22	MR. MOORE: No questions.
23	THE HEARING OFFICER: Mr. Jetter?
24	CROSS-EXAMINATION
25	BY MR. JETTER:
1	

- 1 Q. Yes. Mr. Chairman, I do have a few questions.
- 2 Good afternoon. I'm Justin Jetter and I represent the
- 3 Utah Division of Public Utilities.
- 4 You're an expert in financing qualifying
- 5 facility projects; is that correct?
- 6 A. I'm an expert in developing solar and wind
- 7 projects. And a critical part of that is the financing,
- 8 although I would say that Sun Edison has a very
- 9 sophisticated finance team that are the true experts
- 10 in project finance. I work closely with them.
- 11 Q. You know enough about it to know that, at least
- 12 in your testimony, you testified that shortening the
- 13 contract term would make it impossible to finance these
- 14 projects; isn't that correct?
- 15 A. Shortening the term to three years or
- 16 five years, yes.
- 17 Q. Okay. And that's because the variability is a
- 18 risk that investors are unwilling to take; isn't that
- 19 correct?
- 20 A. Yes.
- Q. And that's based on two factors, is that right,
- 22 that if you were in an environment where you had higher
- 23 avoided cost rates, you could potentially have a shorter
- 24 contract term; is that accurate?
- A. By shorter, you mean how many years?

- 1 Q. Yes.
- 2 A. Yes, that's correct. That's correct. It would
- 3 need to be significantly higher in order to meet a
- 4 three-year or a five-year contract term. I don't know
- 5 how many times higher it would need to be but several
- 6 fold higher I would imagine.
- 7 Q. And so, is it accurate that the decision to
- 8 finance these is based both on a rate of return of the
- 9 project as well as the risk involved?
- 10 A. Could you clarify that a little bit?
- 11 I don't quite understand your question.
- 12 Q. Whether or not your financing department is
- 13 able to seek and secure financing for QF projects is both
- 14 based on the rate of return on the project that you're
- 15 offering to those investors as well as the risk that is
- 16 involved?
- 17 A. I would say those are two of the factors.
- 18 There are additional factors as well.
- 19 Q. Okay. Thank you. And a number of witnesses
- 20 today have compared QF projects to steel in the ground
- 21 resources as opposed to fuel price hedging.
- Do you know what the stockmarket price will be
- 23 in 2035 on August 5th?
- 24 A. No.
- 25 Q. I don't know either. But is it possible that

- 1 if the Company has, let's say, a gas resource and the
- 2 cost of running that gas resource is higher than the
- 3 market price on that day, the Company could essentially
- 4 shut off that gas resource and buy market purchases?
- 5 A. I presume.
- 6 Q. And in the alternative, if the market is
- 7 considerably lower or at all lower than the cost of
- 8 running that resource and there's excess capacity,
- 9 the Company could run that resource at its capacity and
- 10 sell the additional into the market; is that correct?
- 11 A. I presume that that's correct as well. I would
- 12 add that, you know, with a gas plant, obviously there's
- more uncertainty what's going to happen 20 years from now
- 14 than with a solar project that has contracted terms for
- 15 20 years. I think both the ratepayer and the developer
- 16 have certainty they know that price is going to much more
- 17 than the gas plant.
- 18 Q. Okay. But the Company does have the
- 19 opportunity in the future to choose at what rate it's
- 20 going to run that gas plant and that would be based on
- 21 optimizing its economics with whatever the current market
- 22 prices are.
- Is that correct to the best of your knowledge?
- A. So, I quess, so, could you clarify that a
- 25 little bit more as well? So, you're asking me,

- 1 if the Company -- in 20 years if the Company will be
- 2 able to run their natural gas plant or not?
- 3 Q. I'm just asking that if the Company owns the
- 4 gas plant, would it not have the ability in 20 years,
- 5 whatever the market conditions are, to choose to run it
- 6 in an optimal economic fashion, whether that be full
- 7 output, no output or somewhere in between?
- 8 A. Well, I guess I have a hard time answering that
- 9 question, but I guess it's hard to predict whether it
- 10 would be able to run it economically or not because who
- 11 knows what the price of natural gas is going to be in
- 12 20 years.
- 13 Q. Okay. But I guess if the gas price in 20 years
- 14 is too high to run economically, they could shut that
- 15 plant off and not produce any 20:52:30 hadn't proves any
- 16 energy?
- 17 A. I would assume that would be the case.
- 18 Q. Okay.
- 19 A. And with a renewable energy project that's
- 20 contracted for 20 years, they wouldn't even need to worry
- 21 about that because they know what the price is today
- 22 20 years in the future.
- Q. Twenty years into the future, they are also
- 24 locked into purchasing every kilowatt hour that comes out
- 25 of that renewable project whether that's economic or not?

- 1 A. Right, but there is a huge benefit to the
- 2 ratepayers to know what that certainty is in the future
- 3 to date whether it's in the money or out of the money,
- 4 correct. But they do know what that is.
- 5 Q. Okay. I'm not saying the risk is the risk that
- 6 your investors are unwilling to take; is that correct?
- 7 A. I would say that the certainty that comes with
- 8 that is required for our investors, whether that's debt
- 9 or equity, but the same benefit is also enjoyed by the
- 10 ratepayers.
- 11 Q. And so, that's -- you're saying that that's a
- 12 risk that your investors are unwilling to take but that
- 13 that same risk is a benefit to ratepayers; is that
- 14 correct?
- 15 A. That the certainty of knowing what the price
- is going to be paid and received is a benefit to both
- 17 parties in my opinion.
- 18 O. And how would that differ from the certainty
- in price of, say, a natural gas purchase in 20 years?
- 20 Would that not also be a benefit to the natural
- 21 gas producer and the Company under that same reasoning?
- 22 A. I think it would if there was a contracted
- 23 price for that natural gas in 20 years, presuming that
- 24 it was a low price today.
- 25 Q. Okay. Thank you.

- 1 A. And not taking into account the environmental
- 2 risk and other things that go along with that.
- 3 Q. Thank you. It's really been compared today,
- 4 and I'm asking you because you're more knowledgeable
- 5 about the development side, it's been said that the
- 6 Company and ultimately these costs generally passed to
- 7 ratepayers are making similar long-term hedges when they
- 8 construct a new generation facility; is that correct?
- 9 A. It would seem so to me, yes.
- 10 Q. And it's also been argued that the Company does
- 11 so with limited risk because it seeks a pre-approval here
- 12 and --
- 13 A. Correct.
- 14 Q. -- and it recovers those through its rate base
- 15 through the period in which that plant is still being
- 16 used; isn't that correct? And because of the lower risk,
- 17 would you expect that a rate of return on that would be
- 18 commensurately lower?
- 19 A. Which risk are you talking about?
- 20 Q. So, Company-owned generation facilities.
- 21 A. Okay.
- 22 Q. Because of their reduced risk, would it be a
- 23 fair assumption that their rate of return on that, then,
- 24 is lower because they are more assured of the return that
- 25 they'll get on that?

Page 247 Their rate of return is lower than what? 1 Α. 2 0. Well, that was my next question. What rate of return is SunEdison requiring to build these projects? 3 What's the return on equity on it? 4 5 MR. DODGE: I'm going to object to that specific question. I'm pretty sure that's considered 6 confidential and proprietary and not something that could 8 be disclosed in public. 9 THE WITNESS: That is correct. 10 MR. DODGE: Nor do I think it's relevant. MR. JETTER: I think it's directly relevant. 11 12 If you're going to compare, which has been done multiple times by certain parties today, if we're going to compare 13 14 Company-owned resources in the long-term hedges and risk 15 involved with those, I think the rate of return on those is important to evaluate whether financing those projects 16 17 is in fact similar to financing long-term QF projects. MR. DODGE: And that could have been asked in 18 discovery and appropriate protections taken. It was not 19 20 done. It can be disclosed publicly. If you're going to insist upon clearing the room and trying to get an 21 22 answer, we'd have to go call the general counsel and see 23 whether he's allowed to testify. This could have been anticipated in advance. 24 That's very highly proprietary confidential information 25

Page 248 1 to any developer or any company. It's not something 2 they disclose. 3 MR. JETTER: Would you be able to answer 4 whether it's higher than ten percent? 5 MR. DODGE: I don't know that, but if you're going to ask, the Company's return is over 15 percent 6 before tax. So, let's get apples and apples and not oranges. But I don't know if he can even answer that. 8 9 I really do not know that. 10 THE WITNESS: I can't answer that. 11 MS. HOGLE: Your Honor, excuse me. I'm sorry. 12 THE HEARING OFFICER: Yes. 13 MS. HOGLE: I think I heard Mr. Dodge testify 14 that the Company's return was 15 percent. I'd like that stricken from the record. That may or may not be 15 confidential or what have you, but I think that needs 16 to be stricken from the record. 17 MR. DODGE: It isn't testimony. It's just my 18 19 statement. So, whether you strike it or not, it's 20 irrelevant. Take 9.8 and gross it up by tax because it's 15 point something, but if she doesn't trust my math --21 22 THE HEARING OFFICER: Okay. Well, I think the 23 record should reflect that that was a statement not under 24 oath and not by a witness. And I think that covers it. 25 Back to Mr. Jetter. I guess I'll ask you,

- 1 are you making a motion to close the hearing and take
- 2 some time to deal with answering this question?
- 3 BY MR. JETTER:
- 4 Q. I'll withdraw the question. I'm not sure the
- 5 value of that would be persuasive in the outcome of this
- 6 necessarily. So, I'll withdraw the question, but I would
- 7 like to ask kind of a corollary question with that.
- 8 If you're getting a guaranteed fixed-price
- 9 payment for every kilowatt hour you deliver over the
- 10 course of 20 years, is it accurate to say that, at least
- 11 within that period, that your risk involved in that
- 12 project is as low as the Company's risk in one of its
- 13 resources?
- A. I would say no, it is not. And I am not an
- 15 expert in utility finance, but my understanding is,
- 16 their rate of return is quaranteed. I don't know
- if that's accurate or not, but I know that our rate
- 18 of return is not quaranteed.
- 19 There's lots of factors that go into that.
- 20 If you build a wind farm and you miscalculated how much
- 21 the wind blows, you can end up with a much lower return
- 22 and there's no way to inflate that return. It's going
- 23 to be what it is. So, I would say our risk is not
- 24 comparable with a utility, with the Company.
- Q. Would you say that that probably varies with

Page 250 1 the type of resource that you're using? So, for example, 2 would you say that solar is significantly lower risk? 3 Α. It could be. Solar resource is generally more consistent than a wind source. So, it could be, but if a 4 5 certain developer was not sophisticated enough to understand that, then they could take a lot of risk 6 upon themselves. 8 Q. Thank you. You said that currently your projects employ about 800 construction workers; 9 10 is that correct? 11 Α. That is correct. 12 And there would be about 25 ongoing full-time Q. employees? 13 14 Α. Yes. 15 Do you know if that's more or less than there 0. would be had that same generation come from another 16 17 source like a natural gas plant? I do not know on the construction side of that. 18 Α. I would imagine that on the operation side it's less but 19 20 I do not know. For a coal plant it would be less. 21 I don't know about a natural gas plant. 22 MR. JETTER: Okay. Thank you. Those are all 23 of my questions.

CROSS-EXAMINATION

THE HEARING OFFICER: Thank you. Ms. Hogle?

24

25

- 1 BY MS. HOGLE:
- Q. Just a few questions. Were you in the room
- 3 when Mr. Beach testified that current avoided cost prices
- 4 are about \$30 per megawatt hour?
- 5 A. I was.
- 6 Q. Would it surprise you to know that the 20-year
- 7 levelized price of some of SunEdison's contracts is
- 8 around \$100 per megawatt hour?
- 9 A. It would not.
- 10 Q. Okay. On cross-examination you testified that
- 11 it was a benefit for customers to have fixed-price
- 12 contracts because they know what it costs for 20 years
- 13 let's say; is that correct?
- 14 A. That is correct.
- 15 Q. How is that a benefit for ratepayers if current
- 16 market prices stay for 30 years -- for the 20 years,
- 17 how would that be a benefit?
- 18 A. At the time -- so, SunEdison has signed 22
- 19 power purchase agreements. And first of all, maybe I
- 20 should back up a little bit. So, the power purchase
- 21 contracts that you're referring to are the Schedule 37
- 22 power contracts; correct?
- Q. Correct.
- A. Okay. So, those contracts make up a small
- 25 portion of SunEdison's portfolio of megawatts, probably

Page 252 around 20 megawatts. And so, those higher priced power 1 purchase contracts were executed under a former avoided 2 cost methodology which took into account a significant 3 capacity cost, capacity payment which would be counted 4 5 for about half of the energy of payments and the other half was energy payments. So, the total of the project. 6 So, probably about 20 megawatts is what you're referring 8 The larger contracts, and I would say 95 percent of contracts that SunEdison has signed is significantly 9 10 lower than that, less than half of that in general terms. So, I would say that the majority of our 11 12 contracts are significantly beneficial to ratepayers. The first contracts that we signed were developed under 13 14 avoided cost methodology, they give a lot more benefit to 15 capacity and because solar projects do generate during the day, they do receive a significant capacity payment. 16 And I think that whole argument and discussion 17 that was discussed in one of the dockets whether that was 18 fair or not. And I think since that was -- since the 19 20 capacity payment was removed from the avoided cost methodology, I think it was determined that that 21 22 did not benefit the ratepayers. 23 So, I would concede that on those approximately 24 20 megawatts, it probably wasn't a good deal for the 25 ratepayers, but I would say that the system is working

- 1 because after we sign those contracts, then that issue
- 2 is brought before this Commission and they were able
- 3 to remove that at their discretion.
- 4 And so, I believe that the current avoided cost
- 5 methodology is very beneficial to ratepayers.
- 6 Hence, the \$33 that you mentioned earlier.
- 7 MS. HOGLE: I have no further questions.
- 8 Thank you.
- 9 THE HEARING OFFICER: Thank you. Any redirect?
- 10 MR. DODGE: No. I have none. Thanks.
- 11 THE HEARING OFFICER: And Commissioner Clark?
- 12 EXAMINATION
- 13 BY COMMISSIONER CLARK:
- Q. Good afternoon, Mr. Harris. Thanks for being
- 15 here. I have some questions for you about the projects
- 16 that you refer to early in your direct testimony.
- 17 Were they all constructed on the strength
- 18 and financed on the strength of purchase power agreements
- 19 that the Commission approved?
- 20 A. Yes -- no, they were not. So, the Schedule 38
- 21 projects were. The Schedule 37 projects did not need
- 22 approval from the Commission.
- Q. And as to the Schedule 38 projects, a number of
- 24 those aren't yet completed if I'm correct; is that right?
- 25 A. None of the Schedule 38 projects are completed.

- 1 Q. And what's the completion date that you're
- 2 contemplating, the operations date for those?
- A. They will be completed between June and
- 4 September of 2016.
- 5 Q. Do you have experience in seeking financing
- 6 for these sorts of projects that involves a stream
- 7 of payments that's different than 20 years?
- 8 A. I do not.
- 9 Q. Do you know whether your company does?
- 10 A. Yes. I believe they do.
- 11 Q. And do you have any knowledge of the Company's
- 12 experience in seeking financing?
- 13 A. I have general knowledge but not details.
- 14 But we do develop projects in different markets
- in different parts of the country and --
- 16 Q. And can you put boundaries on the financing
- 17 arrangements that you're familiar with, the high side
- 18 and the low side in relation to the duration of the
- 19 payment streams or the pricing, the periods of time
- 20 over which the pricing is fixed?
- 21 A. Yeah. So, generally, there are some parts
- 22 of the country where some markets that are more liquid
- 23 than Utah or the terms are less than 20 years.
- 24 However, there are hedging instruments
- 25 available in those markets that are used in order to

- 1 contract out the power for a longer term. And I don't
- 2 understand the nuances of how that works because
- 3 I haven't worked with them specifically.
- 4 But if you're in a liquid market and you can
- 5 hedge that out further, then that creates the certainty
- 6 that banks and investors need if that makes sense.
- 7 Q. And when you say, "less," how much less?
- 8 A. I believe 15 years in some of those markets.
- 9 However, the caveat is at the end of the 15 years, the
- 10 projects are still located in a liquid market where they
- 11 can readily sell the power from those projects.
- 12 Q. In those arrangements or any others that you're
- 13 aware of -- well, before I ask that, actually, what's the
- 14 high side, in other words --
- 15 A. The longest term --
- 16 Q. Right. Right.
- 17 A. We've done 25 years and I believe there are
- 18 some 30-year power purchase contracts. And obviously,
- 19 from a developer, the longer the better. The cost of
- 20 capital goes down with the longer terms and hence the
- 21 lower price of the PPAs that we can enter into.
- 22 Q. In any of these arrangements that you're aware
- of, is there a provision for adjusting either the energy
- 24 or the capacity payment before the expiration of the
- 25 term?

- 1 A. I really don't know the answer to that.
- 2 I presume that there may be, but I really don't know
- 3 the answer to that.
- 4 Q. Regarding your testimony that PacifiCorp's
- 5 proposal would -- I don't want to mischaracterize it, but
- 6 would either halt or significantly retard the development
- 7 of QF projects, do you have a sense of where the tipping
- 8 point is between three years and 20 years?
- 9 A. You know, that's a good question and obviously
- 10 we've thought about that. And we don't have a good
- 11 answer to that. We know that we can finance a 20-year
- 12 project or a 20-year contract term.
- 13 Could we contract a 19-year? I would think we
- 14 probably could. But where that starts stops, I don't
- 15 know. But what I do know is that the shorter term, the
- 16 more difficult it becomes and the higher our cost of
- 17 capital becomes and it makes projects less financially
- 18 viable overall because the cost of capital increases
- 19 because there's more risk introduced.
- 20 COMMISSIONER CLARK: That's all. Those were
- 21 all my questions. Thank you, Mr. Harris.
- 22 THE HEARING OFFICER: Commissioner White?
- 23 COMMISSIONER WHITE: I have no questions.
- 24 Thanks.
- THE HEARING OFFICER: I don't have any.

Page 257 Thank you. Mr. Dodge? 1 2 MR. DODGE: As a final witness, the Coalition would like to call Hans Isern. 3 4 THE HEARING OFFICER: Mr. Isern, do you swear 5 to tell the truth? 6 THE WITNESS: I do. THE HEARING OFFICER: Thank you. 8 HANS ISERN, 9 having first been duly sworn, was 10 examined and testified as follows: DIRECT EXAMINATION 11 12 BY MR. DODGE: Would you please state for the record who you 13 Ο. are, for whom you work, and on whose behalf you're 14 15 testifying? Yes. My name is Hans Isern. It's spelled 16 And the last name is I-s-e-r-n. 17 H-a-n-s. I am the senior vice president of origination 18 for sPower. sPower is a Utah-based IPP. 19 20 I apologize, Mr. Isern. I've been calling you Q. Isern. You were too nice to correct me before. 21 22 That's fine. Everybody does. 23 (RMCRE Exhibit 3, 3.0R, and 3.0SR identified) 24 BY MR. DODGE: 25 Q. Mr. Isern, did you cause to be developed and

- 1 filed in this docket direct testimony, rebuttal
- 2 testimony, and surrebuttal testimony under your name?
- 3 A. Yes.
- 4 Q. And do you adopt that testimony here as your
- 5 testimony in this proceeding?
- 6 A. I do.
- 7 MR. DODGE: Mr. Chairman, I'd move the
- 8 admission of Coalition Exhibits 3, 3.0R and 3.0SR?
- 9 THE HEARING OFFICER: If any party objects to
- 10 the motion, please let me know. Seeing no objections,
- 11 the motion's granted.
- 12 (RMCRE Exhibits 3, 3.0R, and 3.0SR Admitted)
- 13 BY MR. DODGE:
- 14 Q. Mr. Isern, would you provide a summary of your
- 15 testimony?
- 16 A. Absolutely. sPower believes that the current
- 17 20-year PPA term is proper and should remain in place.
- 18 Anything less we believe will be a major blow to utility
- 19 scale renewable development.
- 20 We further believe that capital and jobs
- 21 will leave Utah based on any decision of that sort.
- 22 And pricing under three-year PPA terms very well might
- 23 be higher than pricing under longer PPA terms due to the
- 24 risks involved and the requirement for capital providers
- 25 such as ourselves to invest in projects.

Page 259 Essentially, for three-year and five-year 1 2 terms, we very likely just won't do. We'll move our development efforts and dollars to another state for, 3 you know, terms and the kind of, call it the 15- to 4 5 20-year range, it would be very difficult for us to do and would severely impact our ability to arrange for 6 low-cost financing. 8 We have discussed this both with our own board and investment committees as well as our tax, equity, 9 10 and debt providers. And everyone had the same reaction that we did. One of the items that I don't think has 11 12 been covered well thus far is the categorization of risks. And our opinion, the benefits of a long-term 13 14 QF pricing are two ways. 15 It does benefit developers who need long-term price certainty for power sales, but we also believe that 16 it benefits ratepayers who likely intend to be in the 17 Utah market purchasing energy for long periods of time 18 who would like to not be exposed to risks of long-term 19 20 purchases. 21 Furthermore, we think that the OF program is 22 working very well as of today as evidenced by the PPA 23 rates going from over \$60 down to 60 to 50 to 40 to 30. That's what should happen in competitive markets, and we 24 25 view that as a success, not as a reason for concern.

	Page 260
1	We also believe that 20 years is the current
2	industry standard. It is the standard for reasons.
3	That is the usual finance tenor of debt that gets put
4	on the projects. And I have found it interesting that,
5	you know, Rocky Mountain Power might consider entering
6	into a 15-year coal supply provision because that is
7	standard for coal. Our standard is 20 years.
8	So, we would ask not to have our standards
9	significantly changed as well. I think that concludes my
10	summary.
11	MR. DODGE: Thank you. Mr. Isern is available
12	for cross-examination.
13	THE HEARING OFFICER: Thank you.
14	Ms. Dutton, anything?
15	MS. DUTTON: No questions.
16	THE HEARING OFFICER: Mr. Ritchie?
17	MR. RITCHIE: No questions.
18	THE HEARING OFFICER: Mr. Sanger?
19	MR. SANGER: No questions. Thank you.
20	THE HEARING OFFICER: Mr. Moore?
21	MR. MOORE: No questions.
22	THE HEARING OFFICER: Mr. Jetter?
23	CROSS-EXAMINATION
24	BY MR. JETTER:
25	Q. I do have a few questions. Good afternoon.

- 1 Thank you for being here.
- Is it correct that a big part of your job
- 3 in evaluating the way in which you finance a project
- 4 is evaluating the risk involved with that project?
- 5 A. Absolutely.
- Q. And is it also -- generally, your testimony
- 7 has been that, I believe you had said that you might be
- 8 able to finance a 15- to 20-year project and then you
- 9 generally only finance 20-year or longer projects;
- 10 is that correct?
- 11 A. That's correct. We have financed 15-year
- 12 projects in states and markets where there are other
- 13 incentives. For example, in North Carolina, there was
- 14 a large state tax credit that provided additional revenue
- 15 to offset the fact that it is a shorter term PPA.
- 16 We've seen the same in certain Northeast states
- 17 such as Massachusetts which have very high prices.
- 18 Essentially, what that leads to is front loading of the
- 19 revenues. So, we've been comfortable in certain
- 20 circumstances with shorter term PPAs, once again,
- 21 in the 15-year time range when there are other
- 22 significant revenue streams to help keep investors cool.
- Q. Okay. And so, really, that's just based
- on a higher rate of return for that investment;
- 25 is that correct?

- 1 A. Not necessarily. Think about the percentage
- 2 of revenue that is contractually guaranteed.
- 3 Q. Okay. And the more percentage that's
- 4 guaranteed, the more likely you are to lend on it;
- 5 is that correct?
- 6 A. Yes. Not exactly lend but provide capital.
- 7 Q. Okay. And in that formula, do you compare --
- 8 essentially, you would make money by having a variation
- 9 or a difference between the cost of the capital to your
- 10 company and then the rate at which you seek return on
- 11 that capital when you lend it to one of these projects?
- 12 A. Somewhat, yes. We're an equity provider. So,
- 13 we would provide cash equity into the projects and then
- 14 earn a return over time. Usually most of that return
- 15 comes from revenues under a long-term PPA.
- 16 Q. Okay. And would you say, then, that the
- 17 ability to provide financing for a project, then,
- 18 is dynamic? It changes with cost of capital in the
- 19 market or other resources? It's not a fixed number
- 20 that's always going to be the same?
- 21 A. Well, I suppose that the ability to provide
- 22 capital or the availability of capital does change from
- 23 year to year. That said, in my experience and in the
- 24 past multiple years of having renewable projects
- 25 financed, no one has been doing three- to five-year PPAs.

- 1 And the industry standard has been 20.
- 2 We've seen a lot of 25-year PPAs as well.
- 3 Q. I'd like you to change to a slightly different
- 4 line of questioning here just briefly.
- 5 You had mentioned that you think that the Utah
- 6 QF pricing mechanism, our method of calculating the price
- 7 has been working appropriately because as each additional
- 8 resource is added to the queue, the price is lower.
- 9 Eventually that would presumably I guess reach zero.
- 10 Is that ...
- 11 A. I don't know about reaching zero but having
- 12 your marginal costs decrease with increasing supply
- is consistent with my understanding of the intent.
- Q. Okay. And so, you could have a perfectly
- 15 working-well market where you have a lot of QF
- 16 applications and a lot of QFs being built;
- 17 is that correct?
- 18 A. Yes.
- 19 Q. And you could also have a perfectly
- 20 working-well market where there are no QF applications
- 21 and none being built; is that correct?
- 22 A. Well, I don't think that would be a QF market,
- 23 then. If there's no participants, I don't see how you
- 24 would have the existence of a market.
- Q. Well, isn't it your testimony that as the

- 1 prices being paid decrease that your supply would
- 2 decrease?
- 3 A. Yes. So, efficiently or effectively, you have
- 4 a dynamic mechanism to ensure that the most economically
- 5 viable projects get built and those that are not
- 6 economically viable, they would not accept the QF price
- 7 and would exit the queue.
- 8 Q. Okay. And At some point, you would reach a
- 9 point where there is not another economically viable
- 10 project; is that correct?
- 11 A. Not necessarily because conditions will change
- 12 so that you might reach that point where you don't see
- 13 anything for a year or two years.
- 14 But, you know, as there are fluctuations and
- 15 panel prices and other costs, as there are fluctuations
- in natural gas prices, you might see it become more
- 17 viable to once again develop under the QF program.
- 18 Q. Thank you. And so, following up on that,
- 19 it would be fair to say, then, that it's certainly
- 20 possible, then, to have a multi-year period with no
- 21 QFs being built and it would still qualify in your
- 22 opinion as a market that's working well?
- 23 A. I don't know if I would say it's working well
- 24 if you have multiple years where no QF projects are being
- 25 built. It might be working well if you have low volume

- 1 for a couple of years, but without any specifics of the
- 2 example, it's hard for me to opine.
- Q. Let's just assume everything stays equal,
- 4 energy prices stay equal and each QF in the queue
- 5 displaces a reduced value and so each QF subsequently
- 6 receives a lower value.
- 7 In an efficient market, would you not expect
- 8 that you would reach a point where there are no more
- 9 efficient projects to be built and that would be the
- 10 optimum number of QFs?
- 11 A. I suppose, theoretically, if PacifiCorp is --
- 12 other supply stays statistic and their load stays static,
- 13 you know, and a lot of -- I think you said if all else
- 14 stays equal, then, yes, they would expect for there to be
- 15 a set number of QF projects developed unless, you know,
- 16 developers can somehow create more economically
- 17 attractive projects over time, but assuming that they
- 18 can't, then, yes, there would be a point where you would
- 19 fill up the abilities of QFs to provide a benefit
- 20 to ratepayers and to obtain contracts.
- 21 Q. Thank you. And so, wouldn't that ultimately
- 22 reach the conclusion that the number of QFs being built
- 23 in a particular period is not necessarily indicative
- 24 of whether the market is working correctly?
- 25 A. Well, I don't know if your example is really

- 1 realistic because it assumes a lot of things that we
- 2 don't see in practice.
- In my opinion, a working QF market would see
- 4 contracts being signed at declining marginal prices.
- 5 Now, that might take time to get there. I don't think
- 6 anyone would expect, you know, your QF program to develop
- 7 overnight. I don't think anyone would expect it would,
- 8 you know, fill up in a number of months.
- 9 But there would be period as projects are
- 10 developed and development cycles can range from I guess
- 11 six to 48 months depending on the size of the project.
- 12 And during that time, you would start seeing
- 13 the marginal price decreasing as more and more projects
- 14 are brought on line, all else being equal.
- Q. And let's say hypothetically you are in an
- 16 environment where you have a 30 percent tax credit and
- 17 that tax credit ends.
- 18 A. Yes.
- 19 Q. And in an efficient market, would you expect
- 20 that you would reach every QF or nearly every QF that
- 21 could be developed economically taking into account
- 22 the 30 percent tax credit. Once that tax credit ends,
- 23 would you expect to see the need for QFs?
- 24 A. I think that it would take some time. I think
- 25 that the ITC expiration at the end of '16 would

- 1 definitely hit the pause button on QF CODs.
- 2 Q. And whether there are new QFs built in the
- 3 subsequent years, would you say that that may or may not
- 4 be a reflection -- may not be I guess a reflection of
- 5 whether the market is working well or whether it's not
- 6 working well?
- 7 A. Well, the ITC would be an external factor that
- 8 would effect the economic viability of the project.
- 9 So, we're not asking for, you know, higher avoided cost
- 10 pricing because the ITC is expiring. We're asking for
- 11 the PPA terms to remain unchanged at 20 years.
- 12 Q. And do you think -- I guess -- let's ask a
- 13 slightly different question.
- 14 At the current avoided cost rates, without the
- 15 tax credit, is it likely that you would finance a 20-year
- 16 project based on the costs that you're seeing today for
- 17 those projects as well as the avoided cost rate of,
- 18 let's say, \$40 a megawatt hour?
- 19 A. I think that would be difficult and we would
- 20 need to see significant movement in EPC costs that would
- 21 be essentially construction and then your equipment
- 22 costs.
- MR. JETTER: Okay. Thank you. That's all the
- 24 questions that I have. Thank you.
- 25 THE HEARING OFFICER: Thank you, Mr. Jetter.

	Page 268
1	Ms. Hogle?
2	MS. HOGLE: I have no questions.
3	THE HEARING OFFICER: No questions? Okay.
4	Mr. Dodge, any redirect?
5	MR. DODGE: No. Thank you.
6	THE HEARING OFFICER: Okay. Thank you.
7	Commissioner Clark?
8	EXAMINATION
9	BY COMMISSIONER CLARK:
10	Q. Mr. Isern, in the descriptions that you've
11	given us of the kinds of arrangements, PPA arrangements
12	that are acceptable to the Company in terms of
13	development, do any of those or have any of those
14	involved some form of adjustment or adjustability either
15	to the energy component or the capacity component?
16	A. No, none that I can think of. Everything is
17	under a fixed-price contract. There may be escalation
18	built into the pricing but it's still fixed from day one
19	and then, you know, each year your contract price may
20	vary but it is a fixed price from the day you sign
21	through the delivery term of the PPA.
22	COMMISSIONER CLARK: Thank you. That's my only
23	question.
24	THE HEARING OFFICER: Commissioner White?
25	EXAMINATION

- 1 BY COMMISSIONER WHITE:
- Q. With respect to the ITC eligibility,
- 3 I understand from the testimony given today that it's
- 4 set to expire at the end of this year.
- 5 For eligibility purposes, does a QF have
- 6 to reach the commercial operations day or is it a certain
- 7 amount of construction or capital spent to be eligible
- 8 for that ITC?
- 9 A. Yeah. I might have misspoken. The ITC
- 10 deadline would be to have a project in service by the
- 11 end of 2016. If you are not in service and delivering
- 12 energy and receiving revenue, then you would not qualify
- 13 for the ITC.
- 14 There is some discussion about amending that
- 15 to have started construction language where developers
- 16 and financiers can invest a certain amount of money and
- 17 start work on a site to qualify it, but as of today,
- 18 the projects must be in service and delivering energy
- 19 and receiving revenue as of December 31st, 2016.
- 20 COMMISSIONER WHITE: I have no further
- 21 questions.
- THE HEARING OFFICER: Okay. Thank you.
- 23 I don't have any. Thank you, Mr. Isern.
- MR. ISERN: Thank you.
- 25 THE HEARING OFFICER: Mr. Dodge, anything

1	Page 270 further from you?
2	MR. DODGE: That's all. Thank you.
3	THE HEARING OFFICER: Okay. Does any party
4	have anything else before we adjourn?
5	MR. RITCHIE: Mr. Chairman?
6	THE HEARING OFFICER: Mr. Ritchie, yes.
7	MR. RITCHIE: I did want to ask about whether
8	a briefing schedule would be available here. I would say
9	from Sierra Club's standpoint, I think it could be
10	helpful in this case.
11	In particular, I think there was some issues
12	addressed about the legality of some of the proposals
13	under PURPA. And if that gets into some pretty
14	complicated legal questions, that we would like to brief.
15	THE HEARING OFFICER: Okay. So, we have a
16	request from the Sierra Club for legal briefing.
17	Let me ask all the parties to comment on that.
18	Why don't we start with the applicant.
19	MS. HOGLE: I would leave it up to the
20	Commission. If the Sierra Club is going to brief, the
21	Company would then want the opportunity to do so as well.
22	THE HEARING OFFICER: Okay. And, Mr. Jetter?
23	MR. JETTER: I think from the Division's
24	perspective, we're probably a little indifferent. We're
25	happy to do it if the Commission thinks it's of value.

- 1 I guess that's probably my response. Thanks.
- THE HEARING OFFICER: Okay. And, you know
- 3 what, to save time, why don't I go back and say,
- 4 do you have thoughts on timing or length?
- Why don't we go back to Mr. Ritchie.
- 6 And I'll still get around to everybody, but I wanted
- 7 to get those two issues out of the way.
- 8 MR. RITCHIE: The immediate thing that comes
- 9 to mind for me is Thanksqiving. That's why I would maybe
- 10 say the week sometime after Thanksgiving.
- 11 THE HEARING OFFICER: Okay. Ms. Hogle?
- MS. HOGLE: So, that would mean next week and
- 13 then Thanksgiving week and then they would be due the
- 14 week after Thanksgiving. Is that --
- 15 MR. RITCHIE: I would normally say two weeks
- 16 but two weeks puts us right there in that Thanksgiving
- 17 holiday. So, I would say, you know, go to the following
- 18 week.
- 19 MS. HOGLE: And I think that would be
- 20 appropriate, and I would add that it would be one round
- 21 submitted by everybody at the same time.
- 22 As far as length, I'm not sure. I think there
- 23 should be a limit. Again, I think I would leave it up to
- 24 the Commission to determine.
- 25 THE HEARING OFFICER: We stop reading after the

Page 272 limit. Thank you. Mr. Jetter? 1 2 MR. JETTER: That's a reasonable schedule for 3 I don't think anyone would need a lot of pages to cover it. So, whatever page limit the other parties 4 or the Commission would like. 5 THE HEARING OFFICER: Okay. Thank you. 6 Mr. Moore? 8 MR. MOORE: The Office would be would be happy 9 to go along with the Division's recommendation. 10 THE HEARING OFFICER: Okay. Thank you. 11 Ms. Dutton? 12 MS. DUTTON: I think that if the Commission feels it's necessary, then we would definitely comply 13 14 and submit a brief. 15 THE HEARING OFFICER: Mr. Dodge? MR. DODGE: Yeah. I think maybe the 16 17 Commission's sort of practice is if someone feels it would be useful unless the Commission feels otherwise 18 that that's been accommodated. And I encourage you to do 19 20 that. I guess I might suggest one additional as a 21 personal item. And that is, it would be work better 22 for me if we went into the following week, the 11th of 23 December or something like that. Kind of splitting the 24 holidays. 25 THE HEARING OFFICER: Okay. Thank you.

	Page 273
1	Mr. Sanger?
2	MR. SANGER: If other parties believe that
3	briefs are necessary, then we would support that.
4	We're not asking for briefing, but if other parties
5	believe it's necessary, we would support that.
6	As late as possible for the briefs given the
7	holidays. So, whatever the Commission wants but the
8	later the better for us.
9	THE HEARING OFFICER: Okay. Should we
10	deliberate just for a moment or two and chat? Why don't
11	we take a recess until about, I'm going to say 4:40.
12	Thank you.
13	(Recess taken from 4:36 p.m. to 4:40 p.m.)
14	THE HEARING OFFICER: Okay. We're back on the
15	record to address the issue of legal briefing.
16	Any party who desires to express to us their
17	position on legal issues with respect to interpretation
18	of federal or state PURPA may do so by Wednesday,
19	December 9th within a 10-page limit. And we will
20	consider anything submitted by that date before we
21	finalize our order. Anything further from anyone?
22	(Discussion off the record)
23	THE HEARING OFFICER: The witnesses, if you
24	have your summary in writing, the court reporter would
25	appreciate having a copy of that if you have it here
1	

1	Page 274 with you. And seeing nothing further from anybody
2	oh, sorry.
3	MR. SANGER: Your Honor, I would just like to
4	ask the question so I understand. You said the legal
5	issues on the interpretation of PURPA. Do I read that
6	as the legal brief should be limited to only those legal
7	issues or whether it would be broader than that?
8	THE HEARING OFFICER: Well, I think the request
9	was for legal briefing, not for necessarily closing
10	statements or something to that effect.
11	Since it wasn't a brief that the Commission
12	asked for, it was something requested by the parties,
13	I was, I think, just trying to be helpful in my
14	explanation, but I don't think we're limiting it to any
15	legal issues. I think any legal issue that any party
16	wants to address is not off the table.
17	MR. SANGER: Okay. I wanted to give you
18	whatever you want. Okay. Thank you.
19	THE HEARING OFFICER: And seeing nothing
20	further, we are adjourned. Thank you.
21	(Proceedings concluded at or about 4:42 p.m.)
22	
23	
24	
25	

1	Page 275 CERTIFICATE
2	
3	This is to certify that the foregoing
4	proceedings were taken before me, CLARK L. EDWARDS, a
5	Certified Shorthand Reporter and Notary Republic in and
6	for the State of Utah, residing at West Jordan, Utah;
7	That the proceedings were reported by me in
8	stenotype and thereafter caused by me to be transcribed
9	into typewriting, and that a full, true, and correct
10	transcription of said proceedings so taken and transcribed
11	is set forth in the foregoing pages, inclusive.
12	I further certify that I am not of kin or
13	otherwise associated with any of the parties to said cause
14	of action, and that I am not interested in the event
15	thereof.
16	Clark L. Edunh
17	Canya V. Carrent
18	Clark L. Edwards, CSR Utah License No. 109221-7801
19	
20	
21	
22	
23	
24	
25	
1	

Index: \$1.2..1995

	\$30 43:16	(E) 198:13	107 29:1,3,7,13	15-305-70 25:3
Exhibits EXHIBIT-	87:14,23 148:25 149:12 191:18 251:4	(F) 198:14	30:11,14 108 51:6	15-year 46:3 260:6 261:11,
0REC1	\$33 253:6	0	10:36 84:2	21
EXHIBIT- 00RMP 6:12	\$33.12 234:24	0 17:1,4 44:21	10:47 84:2	16 101:4 266:25
153:1 160:9	\$38.11 19:1	52:21	11 10:22 32:14 86:23 101:3	17 59:17,18
EXHIBIT- CROS1 6:5 24:23	\$40 34:11 43:14 73:7,18 149:23 267:18	0.3 154:20 03 64:15 67:4 03-035-14 13:2	131:14 132:2, 9,17 133:9 142:25 145:11,	170 27:14 170.5 14:25
EXHIBIT- CROS2 6:8 75:12 84:15 180:13	\$40,000 169:14 \$50 34:9 132:18	39:21 40:25 64:11 120:1	12 11-year 103:3 131:16,23 133:2 141:19	18 39:14 101:4 130:4,10,13,20 132:8,15 133:12
EXHIBIT-	\$54 171:17	·	142:10,19	19 59:16
CROS3 6:11 136:21,25	\$6 169:12	1 184:14	169:6,7	19-year 256:13
139:21,24	\$60 34:6	1,041 14:9	111 203:3	19.7 205:11
\$	259:23 \$64.13 18:23	1,991 18:17 1.0 230:13	111(d) 181:2, 22	1978 12:12 216:6
\$1.2 19:3,7,9	\$73.3 15:1,2	231:1,5	11th 272:22 12 32:14 44:1	1980s 204:25 216:24 217:23
73:22 \$10 43:19	\$80 72:23,25 73:13	1.0SR 230:13 231:1,5	101:3	218:22 219:22 224:2,7
170:5 173:3	\$90 132:16	1.6 168:19 171:20,24	12-035-100 13:2 39:21 40:25 110:21	1983 219:2 222:19 226:5
\$100 132:13 251:8	(10 121:17 135:4 217:1	114:1 181:5	227:14
\$14 17:10	(1) 197:8	10,000 78:23	12:25 151:20	1984 231:13
\$2 17:9 18:8	(1)(a) 197:5	10-page	13 21:7 153:9	1986 153:15 217:24 219:11
\$2.20 18:8	(2)(a) 197:7	273:19	14 78:2 101:4 216:20	222:25 227:14
\$2.9 14:22,23	(3)(b) 198:23	10-year 146:3	15 101:4 134:6	1987 142:1
\$200 49:1	(A) 198:6	100 78:5,6 132:15 169:19	138:14,22,24 248:6,14,21	171:18
\$21 17:1,3,4,9	(b) 198:25	223:2 234:24	255:8,9	1990 153:23 154:7,12
\$26.02 19:2	(c) 198:12 199:6	100,000 169:21	15- 259:4 261:8	1993 168:25
\$3 16:24 17:2 191:17	(D) 198:13	1014 184:6	15-035-53 8:7	1995 196:19
	l	1	<u> </u>	1

Index: 1:30..30s

1:30 151:18	245:19,23	267:15	99:24,25	275 218:20
1:35 151:20	249:10 251:12, 16 252:1,7,24	2000 191:25	100:15 105:10 114:3 118:20	28 64:19
	254:7,23 256:8	209:24 221:9		29 65:4 202:25
2	260:1,7 263:1	2000-2001	2030 203:6	
	267:11	219:20	2035 100:11	2900 30:7
2 184:14	20- 216:24	2000s 216:18	105:13 242:23	292 39:1
2,000 33:8	20-20 221:2,7	220:23	2046 231:21	292-101(b)(6)
148:4 168:7	·	2001 209:24	20:52:30	39:14
2,253 14:10	20-plus 20:19, 25	221:9	244:15	
2,959 14:13		2003 67:13	21 103:8	3
•	20-year 13:9,	221:20	104:17	3 057.00 050.0
2.0 238:6,17,21	21 15:6 16:3,5, 9,15 17:5,12,	2005 210:1	210 38:25	3 257:23 258:8, 12
2.0R 238:6,17,	18 18:14,15		206:9	
21	20:12 21:19	2006 32:1		3,000 148:4,17 149:12
2.0SR 238:6,	22:20 23:22,24	2007 210:1	210(m) 206:19	
17,21	24:2 33:5,21	2010 32:14	213-A 202:9	3,294 14:11
20 12:19 16:22	34:15,21 35:12 60:17 64:23	52:9,13 101:3	22 27:13 239:8	3.0R 257:23
17:3,6,14,16	67:7 69:2 85:8,	2011 15:11	251:18	258:8,12
18:11 43:3	9,10,23 87:23		24 30:5,9,20	3.0SR 257:23
45:6,7 49:6 54:7 61:1,13	88:5 89:2	2012 15:11	31:2 173:11	258:8,12
65:9 66:5,22	100:2,12 104:4	2013 21:10,12	2400 29:20	3.2 143:14
68:22 69:25	105:7,12 106:6,13	2014 14:13		
82:24 85:14	119:24 120:2,	2015 14:24	246 43:12	3.2(a) 143:15
86:11 100:3,6, 8 117:17,23	10 121:1	15:2 21:3,15	25 97:8 103:23	30 66:4 87:25
121:4 125:13	124:24 127:2,	27:14 72:22	104:3,14 106:24 130:17	142:1,9,21 149:22 169:14
127:13 129:13	7,12 130:17 131:22 132:7,	73:7 85:20	138:14 212:9	201:1 219:24
131:20 133:6,	12 133:1	2016 27:19	239:18 250:12	228:6,16
12 134:6	135:12 139:19	31:21 209:1	255:17	251:16 259:23
137:20 138:14, 23 139:7	145:23 148:25	234:16 254:4	25-megawatt	266:16,22
144:25 149:3	173:13,17	269:11,19	103:20 104:9	30-year 193:12
173:16 174:24	181:1,21	2019 146:14,21	25-year 137:20	216:24 224:1
178:4 182:16	182:13 187:6 188:20 189:14	2024 21:11,21,	174:25 263:2	228:13 255:18
189:8 192:16	194:8 211:19	22,24 234:16	2560 202:9	300 102:24
194:2,11 200:1 204:14 212:9	212:17 213:15	2027 21:13		187:21
204.14.212.9	234:23 240:5	100:15 105:10	26 165:8	300-kilowatt
231:24 243:13,	251:6 256:11, 12 258:17	2028 21:4,16	27 31:13	104:12
15 244:1,4,12,	259:5 261:8,9	42:2 49:17	270 216:23	30s 148:20,22
13,20,22	200.0 201.0,0			,
	l	l	1	1

Index: 31..acquire

31 231:16,18	40s 148:21,22	l ———		access 67:1
31st 269:19	42 29:18 90:17	6	A	accommodated
32 163:18	42 29.18 90.17 43 203:1	60 72:17	A-1 182:4	272:19
35 66:5,23 120:3 204:24	4300 29:18 44.6 18:21	202:24 259:23 602(3) 198:18	A-plus 193:13 a.m. 84:2	accompany 64:25 69:4 120:6
35-year 67:9 69:24 36 15:20,24 19:18 82:19	45 202:24 46 42:21 90:17 48 109:14	602(3)(b) 198:19 8	abandon 232:6 abbreviate 99:12	accompanying 202:18 203:20 accomplished 234:10
109:7,15 123:4 36-month 81:6 107:16,23 122:17 123:2	163:24 266:11 4:36 273:13 4:40 273:11,13	80 73:2 145:2 80-megawatt 142:14	abilities 265:19 ability 37:23 45:8,11,13 65:18 67:22 69:9 110:13	account 35:7 41:9 52:20 89:17 93:10,16 122:22 123:8
37 12:16 24:6 96:24 97:1,2,5,	5	800 86:22 239:15 250:9	170:11 208:8 209:19 227:24	246:1 252:3 266:21
6,12,15,23,24 98:4 99:8 103:19 104:9	50 73:4 163:22, 24 203:5 259:23	80s 215:21 216:17 221:3	244:4 259:6 262:17,21	accounts 47:20
106:1 172:24 173:1,2,10 179:10 233:3 251:21 253:21	50-year 85:11, 18 54-12-1 57:22	84103 184:7 85 219:6 234:25	above-market 220:25 absent 13:12 181:16	accuracy 18:7 accurate 158:4 193:23 203:1 241:24 242:7
3700 29:17 38 12:16 24:7	54-17-201(2)(c)	86 228:23 87 219:6	absolutely 44:6 50:10	241.24 242.7 249:10,17 accurately
97:3,6,24 173:20 179:11 233:3 253:20,	197:18 54-17-201(2)(c)(ii) 197:11	897 30:6	90:2 172:7 173:21 258:16 261:5	179:7 achieve 17:11
23,25 3:00 215:8	54-17-402 76:19	9 9.8 248:20	accelerated 233:22	195:23 acknowledge
3:10 215:6,8	54-17-602(2)(a) 197:6	90s 216:17 220:23 221:3 229:11	accept 51:20 65:7,12 76:24 91:9,13 106:18	19:8 34:5 67:11 acknowledges
4	54-17-602(3)(b) 198:17	94710 202:10	127:17,21 134:2 135:13	20:20 acquire 21:5
40 32:11 34:2 72:18 73:4 87:25 259:23 40- 85:11,18	54-17-602(a) 197:2,5 5th 108:20 242:23	95 252:8 9th 202:9 273:19	142:23 143:13 222:14 264:6 acceptable 187:3 268:12	45:4 49:18,23 50:2 86:7 95:1, 11 96:6 101:25 107:20 199:6
400 171:25				

acquired	171:23 263:8	adds 208:12	258:12	12 211:16
118:20 214:20	adding 169:24	adjectives	admittedly	215:13,14
acquires 20:7		227:15	228:5	231:9 241:2
22:24 23:1	addition 10:25	- dia 070.4	- don't 75.00	253:14 260:25
50:24 95:20	47:16 145:16	adjourn 270:4	adopt 75:20 223:11 225:5	afterthought
131:23,24,25	164:11 239:23	adjust 226:18	258:4	171:22
acquiring	additional	adjustability		agnostic 62:19
178:18	74:19 82:24	268:14	adopted 25:11	92:17,21
	83:4 95:17		75:6 154:11,13	93:11,13
acquisition	109:10 121:12	adjusted 113:7	178:9 234:6	
14:2 19:21	146:12 148:4	199:7	adoption	agree 19:8
23:25 42:2	164:12 169:24	adjusting	232:10	31:19 38:13
81:14 97:19	170:21 172:18 181:17 187:5	255:23	- 11- 000-0	39:25 40:15
100:14 101:18, 20 107:8	198:25 205:14		adopts 236:2,	61:14 102:1,2 104:17 106:19
178:19 198:7	207:7 209:12,	adjustment 51:12 93:4	11	111:6,14
214:25 234:1	14,15 210:7		advance	137:24 139:16
	233:20 236:3	188:1 268:14	247:24	178:16 180:25
act 12:12	242:18 243:10	administer	advantage	181:3,15,20
111:25 185:13	261:14 263:7	62:21	23:4 27:20	182:8,14
action 14:6	272:20	administered	31:14 32:1,7,9	196:13 199:12,
20:22 21:4,7,8	1 114	229:1	179:2	20 211:18,23
22:3,8 24:3	additions			216:8,12
47:12 49:19	48:15 49:23	administrative	advantageous	226:17
50:1 85:7	107:9,12	28:13,21 64:7	81:11	agreed 73:21
actions 48:9	address 83:22	admission	advise 95:7	77:25 89:7
actions 40.9	84:9 98:15	11:17 84:10	advesstes	
active 29:2	99:6,10 113:8,	116:10 139:20	advocates 149:8	agreeing 54:7,
239:4	11 161:11	157:22 159:22,	149.0	8 102:5
actively 15:23	184:3,6 187:9	25 163:6	affect 93:18	agreement
75:23	202:7,9 204:6	167:17 177:6	120:21 181:25	45:24 46:1,3
	214:13 222:5	223:4 230:25	affected	49:3 69:1
actors 216:13	273:15	238:16 258:8	156:11 198:9,	71:17 95:15
actual 127:22	addressed	admit 61:18	14	97:17 169:1,2,
153:9 173:18	12:22,25 37:18			6,7,14 172:15
Adam 9:18	39:22 42:17	admitted 11:25	affirmative	173:17 177:22
Audili 9.10	98:17 99:5	28:15,24	182:7	194:24 196:3
add 26:16	233:14 270:12	84:14,15 116:17 139:23,	affirmed 108:8	208:20
33:13,14 140:8	addresses	24 160:3,9	afternoon	agreements
159:23 170:21	102:2	163:9 167:22	92:8,9 152:1	8:5 31:16
172:18 243:12		177:12 182:22	171:11 177:17	45:19,21 46:4,
271:20	addressing	185:4 203:24	180:5,6 183:20	7 70:21 74:15
added 105:16	150:5	231:5 238:21	190:13 196:11,	75:1 107:25
		_		117:2 137:12

Index: agrees..arise

				agreesarrse
138:16,20	118:4 119:22	57:22	applicability	approval 25:4
164:7,8,9	120:24 125:12		56:23	109:9 197:19
195:4 251:19	218:13 243:6	annual 81:7		233:19 253:22
253:18		122:21	applicable	
	alternatives	answering	41:13,16	approve 90:21
agrees 224:12	42:24 44:4	244:8 249:2	228:11	125:9
ahead 27:2	113:20 220:17		applicant	approved
51:8 116:23	ambivalent	answers 11:14	270:18	120:20 181:6
162:9 188:14	62:15	37:7 116:7	270.10	188:16 189:1,2
102.9 100.14	02.13	163:3 167:14	applicants	253:19
aiming 135:22	amend 191:3	177:3 184:20	222:23 226:9	200.19
_		203:16 211:1		approximately
air 146:6	amending		application 8:3	219:3 252:23
168:16 169:8,	269:14	anticipated	11:8 12:9	
12,19 172:8,9,	amount 16:9	234:17,19	22:13 25:4	apt 233:5
12,16 174:2	19:16 30:10	247:24	29:9 82:22	area 45:2
218:14	33:24 35:2	anymore 72:15	113:6 115:21	150:22
alarm 235:3	70:22 103:24	114:20	176:16 184:8	100.22
alailli 233.3		114.20	189:18 204:17	areas 25:1
align 188:17	105:17 109:9	anyone's		407.40
	111:2,7,9	134:23	applications	arena 127:19
aligned 14:4	131:9 132:19		30:17 117:4	arguably 16:2
22:7 24:3	133:9 138:25	apologize 92:4	263:16,20	35:13 85:3
51:13 188:6	148:3 149:2	114:15 257:20	applied 36:16	114:5
all-in 73:6,10	178:18 207:3	apparently	38:7 123:8	114.5
all-III 73.0, 10	212:14 214:22	133:5	180:13	argue 20:13,15
alleviate	239:17,25	133.3	100.15	34:15
186:21 200:11	269:7,16	appearance	applies 38:17	
	amounta 117:0	91:19	49:11 82:17	argued 246:10
allocation	amounts 117:8			argues 234:3
33:15,19	147:20 178:24	appearances	apply 36:1	
allowable	analogy 72:16	8:7 9:16	104:18 173:1	arguing 35:6
12:10 165:13	193:18,19	appeared 56:5	186:5	62:16,17
12.10 100.10	200:15	appeared 50.5	approach 57:8	argument
allowance 65:9	200.10	appearing	63:9,22 75:10	argument
allawad 05:00	analyses	91:23	136:7 152:18	34:18,21
allowed 35:23	79:14,22 81:12	A	196:23 221:22	38:15,17 51:2
60:17,19 69:14	analysis 10:05	Appendix		232:13 234:5
98:8 108:21	analysis 19:25	234:22	232:3	235:22,25
247:23	53:20 82:20,24	apples 248:7	approached	252:17
alternate	86:20 228:4		169:3	Argumentative
128:16	analyst 8:22	apples-to-		61:6,23 63:18
120.10	176:14	apples 208:19	appropriately	01.0,20 00.10
alternately		apples to	120:19 263:7	arguments
148:11	animal 134:25	apples-to-	annronriatores	118:10
altannat!	135:10	oranges	appropriatenes s 65:14	447:44
alternative	Annotated	232:20	3 00.14	arise 117:14
43:15 45:10	Annotated			

Index: arrange..balance

arrange 259:6	assumed	265:17	36:2,17 38:9,	213:11 255:13,
arrangement	105:7 120:10	attributable	18 39:13,16,	22
174:22 199:1	217:21	27:16 31:24	18,19,24 40:1,	
174.22 199.1	assumes 80:13	27.10 31.24	6 41:20 49:6	В
arrangements	266:1	attribute 23:14	50:13,21 51:14	
84:25 138:17	200.1	112:2	53:9,21 55:16	B-e-l-a 176:13
254:17 255:12,	assuming	-44-114	83:6 84:21	D-C-1-a 170.13
22 268:11	113:5 217:10	attributes	85:2,3,4 87:6,9	back 44:2,12,
407.0	224:25 225:7	23:17 235:12	89:15 97:4	13 45:10 46:12
array 187:2	265:17	audience 9:5	118:5,7,18	51:20 52:8,11
article 138:5			120:19 148:6	74:3 78:25
145:15 146:10	assumption	audit 122:21,	153:4 179:6,10	81:17 101:3
	21:20 87:3	23	181:4,5 182:5,	102:11 104:7
articles	89:1 148:16	August 242:23	9,20,24 188:8,	112:16 113:2
136:13,19,23	189:7 246:23	August 212.20	15,21 189:1,13	128:21 140:18
137:2 139:11	assumptions	authenticate	194:21 199:9,	141:10 144:23
aspects 91:10	87:14 132:24	223:14	16,21,25	151:21 158:23
dopcoto 91.10	57.14 102.24	authentication	200:11 206:6	160:14 168:5
assertion	assurance	159:8	207:2,15	195:19,21
155:2	195:18	159.6	208:7,9,13	198:16 228:18
accepting	assured	authenticity	209:9,13	248:25 251:20
assessing	246:24	158:18 159:8	213:15,25	271:3,5 273:14
69:24	240.24		216:3 222:15	
assessment	assuring	authorized	226:10,14,18	back-pressure
20:4 49:17	120:18	140:11	227:21 229:6	168:20
53:1		automatically	232:9 241:23	backed 42:24
	asymmetrical	19:15	251:3 252:2,	46:23 47:1
asset 53:3	191:16,22		14,20 253:4	40.23 47.1
85:18 239:24	195:12	availability	267:9,14,17	background
assets 131:4	attached 11:6	161:10,15	207.0,14,17	10:19 136:17
134:20 137:9	158:23	223:1 232:8	avoided-cost	221:25 222:2
139:13,17		236:2 262:22	89:23	backing
232:23 233:2,	attempt 35:1	Avenue 184:6	avoiding 99:22	135:15
12,22 234:2	63:1 123:1		avoiding 88:22 209:23	133.13
,	attempting	average 14:13,	203.23	backup 117:10
assigning	27:17 31:24	16 18:22,24	avoids 17:2	145:17,20
30:15 35:10	231:15	30:8 106:3	0woro 45:17	146:10,15
association		130:2,11	aware 45:17,	147:18 148:4,
197:9	attempts 18:2	131:14 134:5,7	20,25 48:3	15
107.0	attention 75:24	205:10	59:10,18 60:6,	had 400:40.40
assume 86:5,6	76:16 211:2	avoid 16:18	11 96:15 105:1	bad 193:10,19
98:18 113:12	70.10 211.2	70:11	116:4 127:25	194:5 200:16
126:10 147:12	Attorney 8:16	70.11	128:1 151:11,	balance 64:24
148:1 151:4	attractive	avoided 13:1,	15 154:10,14,	66:25 69:2
206:11 225:8	199:22 200:1	16 16:17,20	17,18,23	94:15 110:14
244:17 265:3	199.22 200.1	17:4 35:7,18	156:25 157:7	120:4,9 140:3,
	•	•		•

Index: balancing..Bryan

				- and the same
5,25 141:5	basically	believed	biases 224:13	borne 186:20
balancing	128:19 151:12	223:22	bid 47:13,17	bottom 62:11
52:20 69:8	218:12 224:9	believes	·	65:4 78:2
76:6 92:25	229:6	119:18 120:8	bidding 137:17	93:15 104:16
93:10,16	basing 53:19	121:11,16	big 261:2	222:4,19 226:5
122:22 123:8		177:23 179:5		227:13
164:6	basis 41:15	207:25 258:16	billion 14:22,	
	75:19 82:10		23 19:3,7,9	bought 193:8
bands 93:9	109:7 113:17	Bella 176:1	73:22	bound 191:20
banks 255:6	205:18 207:6,	beneficial	biomass 94:2	192:4 232:25
	24 208:19	23:18 194:23	144:19 163:19	
barrier 177:24	227:22	252:12 253:5		boundaries
barriers 58:5	Beach 9:5		bit 12:20 13:13	254:16
	201:18,19,23	benefit 23:15	17:21 33:1	break 83:20,24
base 53:11	202:8,15	35:11,12,22	36:4 37:6	84:8 112:17
106:4 163:17	203:11,20,24	86:20 119:24,	44:13 53:7	138:23 150:14,
168:16,17	204:1,5 211:3	25 121:14	62:19 64:22	18 156:2
169:9,13,19	215:10,13	193:1 194:21	83:20 92:13,15	215:5,6
172:8,9,12,16	221:25 223:10	204:11 209:22,	168:12 186:17	,
173:8 174:2	224:24 251:3	23 210:7,9	206:25 231:10	Bridger 48:1
207:11 233:3,	h 400 00	245:1,9,13,16,	242:10 243:25	briefing 270:8,
9,20 246:14	bear 109:20	20 251:11,15,	251:20	16 273:4,15
base-load	225:15	17 252:14,22	blacked 79:7	
105:23 114:13,	bearing 26:20	259:15 265:19		briefly 19:19
14	41:18 196:1	benefiting	blah 76:4	22:9,10 24:12
		120:9 185:25	Bloomberg	124:18 214:14
based 21:20	Beaver 239:11		138:5	263:4
46:6 48:9 49:7,	began 222:24	benefits 23:17		briefs 273:3,6
13 52:3 53:8		35:10 186:14	blow 147:18	
56:14 59:1,7	begin 121:19	187:18,19	258:18	brimstone
61:9,16 65:22	begins 65:5	189:16 209:7,	blows 249:21	92:12
85:2,10 87:13		8,12,15 210:14		bring 52:11
99:17 100:13	behalf 8:11	214:2,9	board 170:16	54:2 239:19
101:13,20	9:8,11 91:20	259:13,17	173:14 259:8	
117:22 120:25	102:8,16 157:1	Berkeley 202:9	Bob 8:20	bringing
121:18 139:11	162:21 167:7,8	Daulsahira 50:4		134:24 210:3
178:7 189:9	202:18 204:7	Berkshire 56:4	bodies 36:6,	brought
207:2 211:21	230:10,11	57:3 94:10,13	11,15	200:23 253:2
212:22,23	231:13 237:24	bet 18:4 19:12	bold 57:23	266:14
222:15 223:8	238:2,3,11	73:24 74:1,2		
226:1 241:21	257:14	83:3	bond 170:8	brown 147:5
242:8,14	Bela 8:21	hetting 40:0	171:18 174:24	Bruce 120:2
243:20 258:21	176:6,13,20	betting 18:3	175:1	
261:23 267:16	177:12	73:23	boon 239:16	Bryan 237:14,
			200.10	18,25

Index: build..catch

				bullucatch
build 21:23	burden 91:7,9	calculation's	45:5,9 46:16	care 70:3
27:18 31:25	125:16 126:18	97:6	53:4 85:21	career 204:24
41:21 49:24	burn 218:17	calculations	86:10 87:10	215:23
50:12 53:14	DUIII 210.17	50:20,21	88:18 97:4,14,	213.23
59:2 70:13	business	182:24	19 98:2,5	careful 13:24
86:25 88:14	53:24,25 63:5	102.24	99:17 102:3	48:12 168:9
95:6 190:23	168:15 184:2,4	California	104:18,20	a a wa fu illu
192:10 194:3	202:6,9,11	145:11 202:10	106:10 113:9	carefully 138:12
221:6 239:2	204:9,10	204:25 205:5	114:8 117:21,	130.12
240:9 247:3	210:20,25	209:25 215:20	23 118:1	Carolina 205:4
249:20	husingge	216:23 218:2,	120:25 121:3	261:13
building	businesses	9,14 219:1,20,	164:20,22,23	
220:18	58:4	23 220:2,8,22	165:1 169:24	carries 71:23
220.10	button 62:1	221:3,9,14,17	175:2 178:6,	carry 22:12
builds 94:6,12	267:1	222:10 224:3,	11,13 186:7,10	104:3
95:22 207:23	h.m. 40:40 70:5	6,9 228:1,4	188:12 216:25	
212:22	buy 43:18 72:5	229:13	217:2,8	carrying
huilt 20:16	135:17 209:15	Californiala	218:11,19	178:24
built 30:16 32:12 34:3	243:4	California's 203:4	219:12 220:15	case 11:8 25:5
	buying 134:19	203:4	228:15 229:7	26:21,22 29:4,
59:10 60:16,21	194:2	call 16:19	234:24,25	6 35:24 36:15
62:20 72:20		44:24 105:25	243:8,9 252:4,	37:22 38:7,20
94:1 96:8		111:12 115:1	15,16,20	49:13 52:13
101:6,7 117:14		143:7 162:10	255:24 268:15	53:4 55:7,20
120:22 130:17	01	166:19 229:24	capital 46:25	80:9 99:14
133:13,20,24	C-I-e-m-e-n-t-s	237:14 247:22	47:4,8,16,20,	103:11 108:16,
142:1,8 144:4, 5 148:17	10:17	257:3 259:4	25 48:5,7	19 109:9
	C.F.R. 39:14	a all a d 047:40	49:12 50:8,18	126:12 153:4
152:16 153:22,	2 1 000 4 0	called 217:18	51:17,19,21,24	158:22 173:2
25 154:15 165:12,18	Cal 222:1,6	calling 103:17	52:3,5,9,17,25	176:17 180:23
168:13 171:14,	223:24	257:20	53:8 60:6 73:9	181:8,13 184:9
•	calculate 16:20		107:9,12	199:13 205:13
17 172:6,15 174:16 185:23	45:4 217:12	calls 10:1	164:12 255:20	212:2 226:11
188:25 189:7		176:1 183:17	256:17,18	233:16 244:17
192:25 194:20	calculated	201:17 234:14	258:20,24	270:10
206:1 210:16	97:23 99:8	canceled	262:6,9,11,18,	
220:20 240:7	102:3 179:7	30:18,21	22 269:7	cases 30:17
263:16,21	182:11	,	22 209.1	35:8,19 38:4,
264:5,21,25	calculates	cap 97:7	capital-	12,23 40:9
265:9,22 267:2	213:3	103:20 104:9	intensive	52:19 54:22,24
268:18		capacity 11:5	192:24 205:15	93:5 233:17
200.10	calculating	18:18 21:22,25	capture 160:24	cash 137:18
built-in 110:10	213:19 263:6	39:9 40:22,23	capture 169:24	262:13
bundle 137:9	calculation	41:1,3,8 42:4	carbon 187:18	
Dunule 137.9	178:6,14 213:7	44:16,19,23	214:7	catch 101:23
		, , -		
	I	l	I	I

categorization	chamber	chosen 121:19	253:11,13	Clements'
259:12	158:16	Circuit 108:20	256:20 268:7, 9,22	11:18 71:12 98:10
category 46:21 93:13	change 12:21 32:21 50:21	circumstances	clean 8:25	client 152:22
caused 115:23	53:3 63:1 118:2,9 125:16	65:13 67:19 93:7,8 224:6	111:24 123:17 183:16 184:5,	clock 151:18
caveat 255:9	132:20 189:14	261:20	23 185:10	close 10:22
ceased 218:21	209:13 222:22 226:8,12,16,18	circumvent 185:24 189:15	187:9,16 204:10 210:11,	22:9 112:16 163:22 249:1
central 101:5	235:5 262:22 263:3 264:11	circumvents	15 214:4 235:7,21	closed 210:20
CEO 130:22 131:1	changed 13:6	193:17	236:1,12	closely 51:13
certainty 50:19	18:19 21:17	cite 38:20 90:9 145:15 146:1	cleaner 185:11	241:10
243:16 245:2,	52:10 67:12,19 124:14 260:9	cited 38:3,7	cleaning 169:4	closing 32:10
7,15,18 255:5 259:16	changing	54:22 55:7,20	clear 19:17	closure 45:22
certificate	83:15 128:5 140:3 208:10	128:9 138:1 City 184:6	22:16,20 54:19 55:25 108:13	Club 9:4 42:13 201:17 202:18
138:17	characterizatio	claim 58:17	113:19 205:12 212:14	204:7,8,17 207:25 210:25
certificates 235:24 236:5	n 90:14 155:14 199:9	74:13 77:21 80:8 81:22	clearing	270:16,20
cetera 57:14	Charles 8:18	127:22	247:21	Club's 209:11 270:9
58:4 89:20 164:14	115:1,6,13,17	claims 207:8	Clements 8:12 10:2,3,5,7,12,	coal 44:8
CFO 130:23	116:10,17 161:4	clarification 131:2 199:17	16 11:3,25 12:2 24:8,9,21	45:23,25 46:3, 4,9 48:1
chair 62:16	chat 273:10	clarified 91:17	25:2,24 27:7	107:23,25
112:22 160:22 175:10	cheaper 45:3,	clarifies 92:1	37:1,6 40:21 42:13,16	218:13 250:20 260:6,7
chairman 54:16 56:21 63:22 64:6	check 97:25 143:13	clarify 124:1 168:11 174:15 191:10,15	54:11,17 56:15 57:11 58:20 63:21 64:1 66:7 68:19	coalition 9:8, 12,19 63:6 68:13 90:11
75:10 80:21 84:7 223:8	chemicals 44:21 52:21	215:2 242:10 243:24	69:19 70:2 71:4 74:21	91:23,24,25 102:9,16 124:9
229:22 237:13 241:1 258:7 270:5	choose 140:4 243:19 244:5	Clark 112:24 113:1 114:17 160:23,24	81:22 84:5,10, 17 95:7 98:19, 20 99:5,10,13	129:20 136:25 141:18 151:12 152:23 153:3,
chairman's 67:15	chooses 84:22 187:14	160.23,24 166:16,17 175:11,12	107:6 108:23 111:5 112:20	5,12 157:1 162:22 163:16 165:6 167:8
challenging 33:18	chose 61:2 75:15	183:8,9 201:9, 10 227:3,5 229:15 237:8,9	114:20 117:3 122:6 148:10 234:3,5,11	180:13 229:23 230:12 231:1
	[[1	1

227.42 220.2		170.12 170.0		22:40 22 24 25
237:13 238:3,	comfortable	178:13 179:8	commissions	22:19,23,24,25
16 257:2 258:8	261:19	181:15 185:7	48:18	23:2,6,18,21
coalition's	commensurate	186:22 188:16	commitment	25:18 27:12,14
153:6 164:4	ly 246:18	189:1,2,17	85:12 199:1	28:8 29:8 35:5,
		197:20 198:15	200:19 207:10	16 36:20 42:1,
code 57:22	comment 90:7	200:11 204:6,		23 43:7,13,17
76:19 110:22	158:20 197:24	9,13,19 205:1	commitments	44:2,23 46:2
CODS 267:1	270:17	207:14 208:1,4	76:20 77:1	47:3,5 48:4,10,
	commented	211:1 213:1	81:9	19,20 49:5,12,
cogeneration	90:10	215:21 222:10	committed	15 50:23
53:23 58:13		224:3 225:5	86:10	51:18,20,25
187:1	comments	231:14,17		52:2,4,7,11,16,
cold-hearted	22:10 25:10,15	232:1,6 234:7,	committees	19,24 53:9
62:21	26:19 27:25	23 239:1 240:8	259:9	54:3,4 56:1
	28:17 104:8	253:2,19,22	commodities	59:20 60:21
collaborative	161:24 163:13	270:20,25	15:9 207:18,21	62:4,6,12
13:25 15:10,	220:12 238:25	271:24 272:5,	10.0 201.10,21	64:15 66:24
12,15 16:7	commercial	12,18 273:7	commodity	68:25 69:7,14,
70:24 74:22	10:18 269:6	Commission's	17:23 22:18,22	23 70:16,23
75:2,5,18,22	10.10 203.0	64:11 181:12	41:2,4,16,18	71:21 72:20
76:8,25 77:25	commission	189:9 199:13	122:19 186:12	73:19 76:10
79:20 80:12	8:6 12:22,25	207:20 208:7	common 22:12	78:5 80:2
81:18,20 82:9	24:4 31:16	209:13 232:2	65:8 127:6	82:11 86:20
83:2 108:25	35:6,25 36:1,6,	272:17	05.0 127.0	92:16 93:19,
109:16,23	7,24,25 37:14,		commonly	21,23 94:1,3,6,
122:7,16 123:3	15,23 39:22	Commissioner	77:8 233:13	8,11 95:12,18,
180:19	40:10,11,25	112:21,22,24	commonly	20,24 96:4,6,8,
collaboratives	49:2 51:21	113:1 114:17	commonly- available 77:13	10 101:24
122:11,14	55:21 57:19	160:20,21,23,	avaliable //.13	102:18,20
180:8	58:15 64:3,15,	24 166:13,14,	communicatin	103:21,22,25
100.0	16 65:6,10,12,	16,17 175:8,9,	g 141:15	104:19,22
collected	17 66:24 68:4,	12 183:6,7,8,9	aamnaniss	105:2,6,10,19
133:10	5 71:7 75:19	201:6,7,9,10	companies	106:18,20
solon 40:04	78:15 81:23	226:24 227:1,	58:21 61:4	107:11,12,13,
colon 42:21	83:8 92:22,23	3,5 229:15	137:9 142:4	19 109:11,13,
69:1	96:15,20 98:2	237:5,6,8,9	company 10:1	18 113:8,12
combination	105:19,22	253:11,13	12:11,14,17	114:23 115:22
129:7	108:3,7,12,13,	256:20,22,23	13:8 15:8,14	117:3 118:5
	20 110:12,21,	268:7,9,22,24	16:1,8,14,21	119:9 122:16,
combined	25 115:23	269:1,20	17:5,8,10,13,	25 123:4
53:15 101:5	120:20 121:8	commissioners	15,17,23,24	129:3,4 130:24
235:12,19	124:15 135:1	8:9 9:3 10:20	18:1,17,20	131:2 140:4,23
combustion	151:5 154:11	42:12 116:25	19:21,25 20:4,	141:8 142:6,16
141:23 168:14	160:18 161:15	203:18 204:21	5,10,15,17	143:2 147:16
	163:15 168:4	229:19 231:10	21:5,19,21,23	149:15 152:9,
		ZZ3.13 Z31.10	, , ,	

13 168:8	Company-	complain	compromise	condition
177:20 178:17	acquired	126:24 220:16	67:8	121:11
181:10,23	118:17 119:6,		_	
187:25 232:6,	13	complained	concede	conditioned
10,13,15		124:18 220:11	252:23	195:1,3
233:1,18	company-	complaining	conceive	conditions
235:5,22	owned 44:7	136:3 220:13	125:10 135:5,7	81:14 182:10
236:7,14	45:17 46:21		-	224:6 244:5
243:1,3,9,18	179:1 187:23	complaints	concept 18:13	264:11
244:1,3 245:21	246:20 247:14	76:9 135:23	49:10 128:12	
246:6,10 248:1	Company-	completed	136:16 139:10	conference
249:24 254:9	sponsored	59:10 170:3	141:2	56:22
262:10 268:12	89:19	192:19 239:13	concepts	confident 18:9
270:21		253:24,25	165:1	
	comparable	254:3		confidential
company's	72:19 249:24		concern 65:16	79:8 247:7,25
11:7,18 12:9	compare 19:4	completely	78:21 101:21	248:16
13:23 14:4	20:1 247:12,13	19:8 59:20	103:10,15	confirm 85:25
15:7 17:19	262:7	61:19,21 80:12	104:2 106:20	
21:17 22:6,13		142:16	148:24 158:11,	conformity
23:23,25 50:4	compared 13:7	completion	25 164:15,19	55:1
51:14 56:9	182:16 186:3	254:1	168:7 219:10,	congress 56:5
58:15 62:10,	194:5,7 208:18		11 259:25	205:2
11,23 67:3,5,6	242:20 246:3	compliance	concerned	
68:6,8 69:6	compares 30:7	23:9 181:25	19:12 82:13	connect 25:23
79:15,23 82:22 86:10 92:20	-	187:8,15 214:7	103:10 119:4	connected
94:17 95:16	comparing	235:21 236:6,	147:10 164:21	137:18
97:18 103:10	47:18 200:16	10	165:2	
106:16 103:10	comparison	complicated		consequences
109:3 117:20	197:9 232:18,	149:10 270:14	concerns	168:10
118:18 119:5,	20 233:5,9		15:13 29:8	considerable
14 122:21		complied	114:13 118:13	19:15 233:25
126:13,17	comparisons	196:21	161:24 178:16,	
141:3 148:2	232:14	comply 206:8	19 179:6	considerably
176:16 178:2,	compensated	236:12,14	concluded	30:10 243:7
20 184:8	232:16 233:4	272:13	96:16	consideration
186:2,5 187:12				35:7,18 65:19
188:7,9 189:18	compensation	complying	concludes	67:3,17,20
231:22 232:22,	178:6 181:17	31:12 42:20	24:7 121:22	69:10 79:14,23
23 233:6,8	competitive	236:1	179:11 236:15	89:16,24
234:7,22 235:9	47:13,17	component	260:9	198:1,6
236:13 248:6,	259:24	228:20 268:15	conclusion	
14 249:12			161:6 210:19	considerations
254:11	competitively	components	265:22	35:17
	58:2	141:6		
	ı	1	I	l .

		11	idex. Consider	reacontracts
considered	consumers	contract 8:4	18,21 147:9	72:15 74:19
34:22 35:11	81:11 212:19	12:10,15,18	154:11,16	78:24 81:10
101:22 247:6	213:16	13:4,9,12,21	155:1,13	83:7 86:5 93:4,
agnaigtant	achtactad	15:6 16:3 17:5,	156:18 164:25	17,22 102:22
consistent	contacted	12,17,18	165:16 169:5,8	103:11,14,15,
55:3,8,22	161:9,14	18:14,15,21	170:11 172:2,	17,18 105:3,8
58:18 75:21	contained	19:15,23 20:3,	5,9,11,13,14	106:1,13
82:21 91:10	116:6 131:3	10,12,15	173:15,19,22,	107:13,14,16,
110:15,16		21:19,24 22:6,	23 174:3	24 108:10
111:4 121:7	contemplated	20,23 23:5,22,	177:21 178:3,7	113:4,10
122:23 123:1	20:1 77:3	24 24:2,5	185:19 187:6	120:10 122:17,
126:14,19	81:13,15 119:1	27:18 29:1,3	188:20 189:8,	18,19 123:6
135:19,21	186:19	31:25 32:5,7,	14,15,18 191:1	124:23,24
137:6,21	contemplates	11,23 33:5,21	192:6,15 194:8	127:11,12
138:18 189:4	77:12	34:16,21 35:13	205:10 206:2	130:11 135:12
227:18 250:4	_ · · · · <u> </u>	36:21 37:12,	208:5,25	142:12 144:10,
263:13	contemplating	13,20,25 43:3,	210:22 211:19	11,12,13
construct	254:2	8 45:4 46:16	212:17 217:1,2	152:10,12
246:8	context 36:2,	48:25 49:21	225:14 228:18	154:24 155:3,
	17 38:8 64:5	51:9 52:24	229:12 232:3	4,6,8,15,20,22
constructed	74:2 136:24	53:4,18 54:20	233:3 240:5,6	157:9 164:16
127:10 133:11	164:3	62:7 64:20	241:13,24	165:13,17,18
142:20 152:16	104.5	66:1 67:9	242:4 255:1	169:4 171:15
153:25 154:6	contexts 74:1	69:24 71:17,22	256:12,13	178:24 190:15
155:7,20	continual	82:23 91:4	268:17,19	195:10 200:21
168:19 239:10	179:9	93:24 97:9	·	204:15 205:7,
253:17	179.9	99:1,14 100:2,	contracted	9,17,23 207:1,
constructing	continually	13,17 101:11,	239:25 240:1	24 213:17
239:5	105:8	13,15,17,23	243:14 244:20	214:21,24
	continuation	102:19,25	245:22	216:24 217:10,
construction	continuation 220:9	104:4,23	contracts	18 218:7,22
59:11 168:18	220.9	105:20 106:6,	10:24,25 11:1	219:8 220:1,3
210:15 212:11	continue 24:4	8,10,14	12:11,15,18	221:5,15,16,
239:10,14,15	28:22 58:22,24	108:14,22	13:7,8 14:9,10,	18,19 222:13,
240:7 250:9,18	59:2 61:4	109:5 117:1,16	12,16,21 15:4	22 223:2
267:21 269:7,	77:16 84:6	118:21 120:2,	16:5,9,11	224:2,7 225:1,
15	102:12 106:5	16,18,21 121:9	18:18,22 19:5,	4,5,7,9 226:8,
consultant	113:13 147:25	127:6 131:22,	18,20,21 20:8	18 228:8,10,
115:14	155:21 164:10	23 132:1,3	21:18 24:6	12,13 229:3,5,
110.14	172:2 198:11	133:5 134:3	25:25 26:20	6,8 231:23
consulting		135:2,4 139:7,	30:9,11,20	232:9,19,21
202:12	continues	18,19 141:19	33:5,8,19,20,	233:6,7,12
Consumer	105:5	142:8,10	24 34:2,6	234:3,20 239:8
8:21,22 176:15	continuing	144:20 145:23	41:25 62:8	251:7,12,21,
0.21,22 170.13	77:12	146:5,8,11,15,	65:9 68:20	22,24 252:2,8,
			33.3 33.23	
1				

9,12,13 253:1	copies 25:14	21 132:22	76:22 81:4	20 226:6,10,
255:18 265:20	CODY 27:7 24:0	136:14 140:18,	137:13 141:15	14,18 227:21
266:4	copy 27:7 31:8	19 141:12	171:13 209:4	241:23 243:2,7
contractual	75:15,16 273:25	142:10,21	265:24	251:3 252:3,4,
contractual	213.25	143:3,24 145:5	oooiana-	14,20 253:4
147:20	core 53:24,25	148:22 151:23	cosigner	255:19 256:16,
contractually		152:24 155:13	193:22	18 262:9,18
262:2	corollary 39:24	157:5 172:6,	cost 13:1,16,	267:9,14,17
	40:6 249:7	19,20 174:20	18,19 16:17,	and effective
contradict	corporation	180:16 181:6,	20,22,24,25	cost-effective
153:16 157:13	198:25 199:4	7,18,19 182:6,	17:4,6 35:8,18	70:14
contradicting		7 190:17,19,22	36:2,17 38:9,	Cost-
121:2	corporations	191:14 192:8,	18 39:7,8,13,	effectiveness
	58:7	19 193:2	18,19,24,25	197:3,7
contrary	correct 25:5,	194:12 195:24	40:6 41:20	
177:25	12,13 29:4,15	200:17 203:12	43:2,13 44:3,	costing 39:17
contrast 186:9	30:13 31:3	212:20 215:21,	19,20 45:3,5	costly 222:17
187:23 233:11	32:2,3 34:19,	22,25 216:3,6	49:6 50:20,21	
	24,25 35:21	217:11 218:2,	53:21 55:16	costs 14:19
contribute	38:6,10 39:17	4,23 221:15	72:19 73:10	22:2 35:10
41:25	43:5 45:15,16	238:4,5 241:5,	83:6 84:21	43:1,16 44:8,
contributed	46:13 47:2,9	14,19 242:2	85:1,2,3,4	10,14,15,17,
42:7	49:8,9,16	243:10,11,23	86:20 87:6,9	23,25 45:15
	50:15,16,17	245:4,6,14	89:15 93:4	46:21 50:13
contribution	51:15,16 52:6	246:8,13,16	111:17,19	51:14,24 52:21
42:4 117:21	53:10,24 55:24	247:9 250:10,	118:6,7,18	53:2,5,9 62:8
control 114:10	61:14 65:3,15	11 251:13,14,	119:11 148:7	73:6,7 88:22
206:12	70:15 71:21	22,23 253:24	153:4 170:4	89:20 93:3,7,
200.12	72:4 73:20	257:21 261:2,	179:6,10	10 100:14
convene 56:22	74:15 79:10,11	10,11,25 262:5	181:4,5 182:5,	120:19 140:14
convened	81:5 83:15,16	263:17,21	9,24 187:8,25	182:20 187:7
	85:2,13 86:5	264:10	188:8,15,21	188:1,3 194:9
15:12	87:4,9,11,15,		189:1,13	199:16 208:9
conversation	20,24 88:5,6,	correction	191:19 192:23	210:4 216:3
113:2 164:3	19 89:2 90:16,	89:6 202:23	193:3,4,9,11,	232:9 246:6
165:12	18 92:18,19	203:2	15 194:20,21	251:12 263:12
	93:5 99:14,15	corrections	195:7 196:20	264:15 267:16,
conversations	100:16,20	116:2 162:24	197:1 198:8	20,22
173:19	100.16,20	167:10 176:25	199:9,21,25	counsel 8:18
convince	101:10,21	177:1 184:16	200:11 201:2	9:18 37:2
170:16 173:14	104:24,25	202:21 203:12	206:6 207:2,3,	215:16 247:22
	104.24,25	230:19	13,15 208:8,13	213.10 241.22
cool 261:22	124:5,6,12,13		209:9,13	counsels 84:4
cooperative	127:10 128:13	correctly 13:4	213:15,25	counted
197:8	129:9 130:14,	43:4,20 57:24	220:1 222:15,	counted
107.0	123.3 130.14,	58:8 65:2	220.1222.10,	143:14 252:4

Index: counter..deadline

				iterdeadrine
counter 204:20	created	25 139:21,24	current 12:19	220:23 232:25
countering	115:22,23	166:3 179:18	15:21 22:3	233:10,14,21
_	131:2	180:13 223:5	31:20 49:7	234:1 251:11
235:22	arantos 220-2	236:16	50:13 51:14	ouotemers!
counterparties	creates 236:3		53:9 56:18	customers'
16:10	255:5	cross-	72:1 86:9	15:4
	creating 235:8	examination	87:13 88:24	cut 67:14 71:5,
counterparty		24:9,15,21,24	99:21 100:19	10
16:4	creature 87:1	40:19 42:10	102:19 109:3	
counties	credible 23:20	54:14 55:12	169:6,8 171:14	cuts 37:3 102:6
239:22	Cicabic 20.20	69:20 84:6,11	172:4,23 173:9	cycle 14:5 98:5
259.22	credit 20:3	91:19 92:6	181:5,21	220:5,6
counting	23:14 27:21	99:5 107:7	182:8,9,11	220.5,6
105:11	31:15 32:2,8,	108:1 110:1	189:13 191:9,	cycles 170:1
400.40	15 37:13,19	122:2,3 123:24	10 232:2	266:10
country 108:16	95:17 111:22	151:24 165:25	243:21 251:3,	
127:3 254:15,	193:10,13,19,	167:24 171:9	1	
22	22 194:6,19	179:15 180:3	15 253:4 258:16 260:1	U
County 239:11,	200:16,25	189:23 190:9		
12	201:3 209:2	196:9 211:4,14	267:14	daily 109:7
	261:14 266:16,	215:6,11	curve 18:24	dairy 153:21
couple 47:25	17,22 267:15	240:13,24		154:6
83:21,23 84:9		250:25 251:10	curves 226:15	104.0
92:14 117:5	credits 32:9	260:12,23	customer 47:9	damages 41:7
120:14 122:5	110:20 236:5		55:17 59:21	damn 87:3
150:15 200:9	oroditworthy	cross-examine	62:22,25 63:3,	uaiiii 07.3
224:25 227:6	creditworthy 135:15	121:25	8 82:15 94:15	data 59:13
265:1	135.15	cross-	111:18 232:5	124:8 143:2,13
	Creek 45:23	examined	235:4	152:9 155:8
court 108:2			233.4	182:11
273:24	crisis 208:3	159:14,17	customers	
cover 89:4	209:3,25	Crossborder	11:1 13:11,16	date 188:13
170:18 272:4	219:20 221:9	202:12	14:7 15:1	245:3 254:1,2
	criteria 197:10		17:19,23 18:15	273:20
covered 114:1	232:15	crossed	22:1 33:6	dates 227:13
214:14 259:12	202.10	157:23	42:25 43:18	Jule 227.10
covering 10:7	critical 14:7	crossing 80:18	45:14 46:22	day 53:5
covering 12:7	23:13 48:13		51:11 62:25	119:11 138:9
44:9	172:10 218:18	crux 51:2	63:6 72:12	231:21 243:3
covers 248:24	241:7	240:11	92:25 106:21	252:16 268:18,
		CCD 127.5	109:20,25	20 269:6
CPUC 222:15,	criticized	CSP 137:5	110:16 111:2	.1 05.0
24,25	121:2	cumulative	195:25 198:9	days 25:2
crash 228:22	cross 63:24	97:8 103:19	210:2,7	26:20
	68:13,17 75:12	106:24	· ·	deadline
create 117:11	84:15 136:21,		212:20,25	269:10
185:11 265:16	31.10 100.21,	curb 208:9	213:10,19,21	200.10

Index: deal..developer

deal 26:9 99:9	153:7,10,19	demand-side	153:21	13:9 40:23,25
168:5 209:17	160:1	86:12	describe 43:22	68:5 69:24
220:7,21	declining	demands	describe 40.22	81:11 98:25
221:11 249:2	208:15 266:4	85:23	describes	105:13 113:8
252:24	200.13 200.4	03.23	102:23,24	197:4,9 198:15
dealing 20:16	decrease	demonstrate	al a a suilaire su	252:21
dealing 39:16 133:17 142:12	263:12 264:1,2	58:16 65:14	describing	determines
165:8 192:23		125:11	136:14	determines
165.8 192.23	decreases		description	19:22 83:14
deals 57:15	104:10	demonstrated	227:10	determining
149:9	decreasing	86:9 131:15		89:23
	266:13	demonstrates	descriptions	
dealt 77:3		131:18	268:10	develop 58:3,
216:2	deep 165:9		designed	22 61:4 94:20
debt 128:17	Deer 45:23	deny 189:16,18	174:16 204:20	142:7,14
129:1,2,7		denying 61:16	208:2 232:11	155:12 156:18,
140:17 141:6,	deferrable	deligning of the		22 157:10
9,10 245:8	99:23 118:19	department	desirable 58:1	191:21 218:13
259:10 260:3	deferred 101:6	31:6 242:12	desire 67:8	239:2 254:14
255.10 200.5	deletted 101.6	depend 106.F	95:17 109:24	264:17 266:6
decades	defers 87:7	depend 136:5		developed
232:25		depending	172:18 201:6	61:13 126:7,8
December	deficiency	33:24 59:3	225:21	127:24 143:22
269:19 272:23	86:17 97:12	87:25 99:18	desires 273:16	144:20 147:8
	101:24	132:2 266:11		204:16 205:6,
273:19	define 39:13		desperately	10,16,18 206:5
decided 64:15		depends 46:14	218:11	207:16 208:23
181:16 207:13	degree 33:23	51:24 132:23	detail 70:2	209:1,6
222:11	deliberate	172:22 192:20		'
	273:10	deploy 50:18	details 45:25	210:13,17
decision 31:17		52:3,5,8	56:17 96:22	218:6 219:21,
36:15 42:1	deliver 172:25		108:18 109:21	25 226:20,21
47:3 48:11	249:9	depreciated	111:23 254:13	252:13 257:25
49:15 50:8,18	deliverability	133:19 134:20	determination	265:15 266:10,
52:3,5,8,14,15	80:6	142:9,21	50:4 97:5	21
53:8,12 73:17	00.0	depreciates	98:18 99:2	developer
108:2,11,15,21	delivered	132:21	30.10 33.2	50:7,11,18
110:18 181:13	178:11	102.21	determine	119:19,21
199:13,14	dolivering	depreciation	32:22 37:16	121:3,17,18
210:21 242:7	delivering	233:22	50:13 70:13	124:3 128:19
258:21	269:11,18	dorogulation	79:15,24	129:7 134:2
decisions	delivery 198:7	deregulation 229:13	110:25 113:21	142:13 146:7
85:11 186:18	268:21	223.13	118:18 197:21	181:9 195:8
233:16		deriving 228:9	234:4 271:24	243:15 248:1
	demand 15:18	Dammeta :	dotorminad	250:5 255:19
declaration	86:24,25 87:8	Deruyter	determined	
	1	1	1	

developers	difference	253:16 257:11	47:13 48:17	disposition
31:13 34:8	17:11 19:2	258:1	53:7 75:2	199:2
65:18 67:1	49:16 50:23	directing 43:11	84:17 109:22	dispute 127:6
118:6,22	52:23 74:10	directing 40.11	165:4,6 171:13	134:10 222:3
119:24 120:10	80:4,6 97:5,11	direction 18:3	186:16 252:18	134.10 222.3
121:13,15	103:9,13,16	19:11 178:25	259:8	disputed 30:22
193:6 194:18	193:24 262:9	238:9	diaguaga	-11-4141
195:6 210:24	-1:ff - w - w	1' 41 57 45	discusses	distinction
212:13 259:15	differences	directly 57:15	234:11	106:2,14 123:5
265:16 269:15	119:8	128:23 158:13	discussing	distinguishes
	differently	168:11 188:8	26:21 47:25	43:9
developing	105:23	216:2 223:25	227:7	
129:3 204:10		234:8 247:11		distinguishing
218:16 239:4	difficult 32:19	Director 10:17	discussion	43:7
241:6	61:15 91:2,5	Director 10.17	24:17 26:1	distribute 26:8
development	125:9 185:21	disagree 80:12	34:10 64:14	uistribute 20.8
58:12 61:12	190:16 235:2	227:9,12	66:3 107:9	distributed
63:16 68:2	256:16 259:5	diaglians 00:00	109:17 234:12	26:3
	267:19	disallow 96:20	252:17 269:14	
90:13,21 91:12	-1'66'16	disallowance	273:22	distribution
110:3,11,14	difficulty	62:7	50.4	26:11 132:3
118:15 119:2,	218:15		dislikes 56:1	137:11 152:22
6,25 126:15,	diligence	disallowed	dispatch 16:21	district 102:18
20,21,22 127:9	179:9	96:15	23:4 43:17	153:6 157:8
133:18 134:20,		disclose 60:23	45:3 97:4	165:7
21 137:17	diminished		45.5 57.4	100.7
144:2 177:18,	104:15	248:2	dispatchable	diverse 187:2
25 178:1	dira 010:10	disclosed	114:14 117:10	
185:14 186:25	dire 218:10	247:8,20	diamatal: s d	diversification
189:10 206:4	direct 10:10	,	dispatched	33:10 185:14
208:6 210:8	11:2,5,19,24	discourage	23:2 42:23	dividends
212:11 214:7	26:23 34:20	118:6 177:24	44:25 119:15	128:21
218:21 222:11	115:9,16,24	discouraging	179:2	120.21
232:4,8,11	116:11,16	235:14	displace 16:18	Division 8:14,
235:6,14,18	117:18 151:3	200.14	114:3,5	17,18 24:11,20
238:1 246:5	156:1 162:18	discovery	117.0,0	35:5 112:5
256:6 258:19	167:4 176:9,	214:21 247:19	displaced 89:1	114:25 115:14,
259:3 266:10	•		diaminaring	20 116:10,20,
268:13	19,22 177:11	discreet 82:4	displacement	25 117:19
200.10	182:1 183:25	discretion	88:4 114:2	118:25 119:4,
developments	184:13,24	253:3	234:19,25	17,23 120:8,
118:23 156:10	190:14 202:1,	200.0	236:13	15,24 121:11,
distates 50:40	14,17 203:19,	discuss 37:6	displaces 88:6	16 126:17
dictates 53:10	23 209:22	70:2 103:8,9	265:5	178:17 224:24
die 225:17	214:15 216:21	231:19	200.0	241:3
	230:7,17		displacing	241.3
differ 245:18	237:21 238:10	discussed		

Division's	68:18 69:12,21	115:16 116:16	225:22,25	14,17 107:18
120:13 121:6	71:1,3,6,14	143:13	226:23 236:18,	119:12,15
122:21,22	75:9,13 80:15,		19 240:15,16	170:10 186:4
123:7 126:13	20 81:25 83:5,	dramatic 29:25	260:14,15	210:8,14 214:7
161:5 270:23	17,18,23 84:7,	32:6	272:11,12	219:19 239:16
272:9	16 91:15,18,21	draw 172:14	,	244:6,25 267:8
	92:3,13 109:22		duty 186:22	
docket 8:6	112:13,14	drive 214:5	200:12	economical
13:1,2 22:11	122:6 123:21,	drives 234:20	dynamic	42:24 187:2
25:3,21,25	22,25 136:7,9,		188:16 262:18	economically
28:14,19 29:17	22 139:20,25	driving 169:15	264:4	13:17 96:9
31:17 64:11,16	150:10,11,12,	drop 17:9		179:2 244:10,
65:23 66:6	15,18,22,24	129:24 131:7		14 264:4,6,9
67:4,6,12 69:7	151:16 152:3	139:5 208:13	E	265:16 266:21
91:7 106:20	166:4,5 171:4,	219:11		
110:21 114:1	5 179:19,20		earlier 47:13	economics
115:25 118:2	190:2,3 211:7,	dropped 29:19	55:11 72:14	212:23 220:5
120:1 127:22	8 229:21,22	130:25 131:13	78:20 89:7	243:21
134:5 160:5	230:8,15,25	132:9 222:20	91:18 92:15	Edison 131:2
177:20 180:15	231:6 236:16	226:6	93:14 95:10	141:7 223:24
181:5 184:14	237:13,22	due 30:24 93:9	104:8 107:7	241:8
230:16 238:24	238:8,16,22	195:8 220:25	108:8 111:20	
258:1	240:12 247:5,	258:23 271:13	152:4 153:4	Edison's
dockets 12:24	10,18 248:5,		155:23 168:12 173:12 227:19	130:22 222:1,6
28:22 37:18	13,18 253:10	duly 10:8 115:7		edits 11:10
38:4 40:24	257:1,2,12,24	162:16 167:2	228:3 253:6	
97:24 252:18	258:7,13	176:7 183:23	early 27:13	effect 66:20
	260:11 268:4,5	201:24 230:5	98:3 204:24	101:11,12
document	269:25 270:2	237:19 257:9	220:23 253:16	145:19 146:14
26:11 28:2,3	272:15,16	duration 19:18	02:24	157:12 267:8
75:17 78:13	Dodge's 84:6	38:1 254:18	earn 93:21	effective 77:8
79:8 80:1,8,11	Douge's 64.6		94:3 95:21	111:17,19
82:9,16,17	dollar 14:18	Dutton 8:24	262:14	196:20 207:13
152:22 158:5, 14,18 159:15	dollars 72:17,	24:12 40:18,20	earning 94:9	
196:19 223:14,	18 195:17	42:8 112:9,10	233:2	effectively
15,17 226:1	210:11 233:19	123:16,17	parnings 60:11	17:6 49:5
10,17 220.1	259:3	165:24 166:1	earnings 62:11	185:20 264:3
documents	209.0	170:25 171:1	easier 182:15,	effectiveness
116:7	door 33:25	179:15,16	17	197:2
Dodge 9:7	78:23 112:16	183:14,16	oasily 10:0 10	afficiers
24:13 28:12	173:22	184:1,12,23	easily 19:9,10 73:22	efficiency
54:13,15 56:8	downplay	185:5 189:21,	13.22	164:13
57:1,8,10	119:8	22 200:6,8	economic	efficiency/
60:10 61:7,24		201:4,14,15	23:3,5,15 45:1	deficiency
63:21,25 66:12	DPU 15:13,15	211:5,6	88:15 96:13,	98:18
00.21,20 00.12				
	1	1	1	1

Index: efficient..entitled

			index: ellici	lententitled
efficient	17:24 22:14	encouragemen	152:23 153:3	ensuring 13:18
185:11 265:7,9	56:9	t 121:13 133:18	162:22 163:16	189:11 232:8
266:19	eliminated	oncouraging	167:8 174:1,24	enter 12:11
officiently	57:4	encouraging 63:15 110:14	183:16 184:5,	
efficiently 264:3	57. 4		23 185:10,12,	16:2,5,8,15
204:3	emissions	232:4,7	14,15 187:25	19:14,22 20:17
effort 58:16	187:12,13,19	end 27:19	191:2,11	27:24 54:2,5
120:16 205:20		31:21 32:1	192:7,11,17	70:17 159:2,
-551	emitting	34:12 54:9	194:18 196:16	12,13 169:5
efforts 56:24	235:12	65:24 76:5	202:12,13	184:24 192:6
259:3	emphasize	138:9 139:6	204:11 206:20	198:25 200:21
elaborating	119:7	145:25 146:5	207:18 209:25	217:9 224:11
93:8	-	178:10 209:1	210:11,15	255:21
	employ 250:9	249:21 255:9	212:5,8 214:5	entered 11:23
elect 53:18	employed	266:25 269:4,	216:25 217:8,	15:14 19:5
electric 39:7,8,	176:14	11	19 219:20	21:19 46:3
9 58:3 72:8	-		221:9 222:20	71:25 72:15
75:1 145:18	employee	ended 169:1	226:6 227:14	74:19 97:9
146:13 148:14	224:2	219:19 233:10	228:16,18,20	100:2,12,17
172:14 199:7	employees	ends 266:17,22	229:6,23	101:10,12
218:10,11,19	250:13		230:12 231:13	116:15 122:25
226:15		energy 8:25	235:24 236:3,	124:24 130:7,8
	employing	9:9,12,19	4,14 239:3,5	146:5 158:2
electrical 58:7	239:14	10:24 13:18	244:16,19	163:8 167:20
174:3 198:9,	employment	14:2 17:8	252:5,6 255:23	177:10 180:12
14,24 199:1,4	115:20	22:21 23:14	259:18 265:4	185:2 199:3
electricity		24:1 35:25	268:15 269:12,	221:5
15:9,23 16:3	enacted	36:7 39:9 41:6	18	ontoring 74:14
72:15 78:4,18	177:18 216:6	43:2 44:16,19,	engage 18:1	entering 74:14 103:3 158:6
79:16,25 80:3	encompass	25 45:5,10	engage 10.1	260:5
109:8 111:8,9	39:2,19	52:18,20 53:23	engages 86:21	200.5
123:6 173:6,8	,	58:2,3,5,6,22 61:11 76:6	engineering	enters 13:8
174:17 180:14	encourage		170:1	ontire 17:2
198:8 199:2,6	58:1,11 68:2	77:10 80:25	170.1	entire 17:3
220:24	91:12 110:3,11	86:9,25 87:7, 11 88:18,19,	enjoy 35:12	28:2,3 33:16 47:10 75:15
	126:15 127:9,	1	onioved 245:0	89:5 105:7,12
eleven 133:20	14 144:2	20,21,25 89:1, 9,13,20,24	enjoyed 245:9	114:5 136:23
eleven-year	177:18 186:24	93:9,16 102:9,	enjoys 233:1	159:12 221:13
142:8	189:10 206:4	16 110:20	angued 100:04	103.12 221.13
	208:5 222:11	111:17,19,22	ensued 108:24	entirety 158:7
eligibility	231:19 272:19	122:22 123:8,	ensure 185:23	ontitios 52:16
269:2,5	encouraged	17 124:4	189:2 264:4	entities 53:16, 18 54:6 61:15
eligible 269:7	235:20	127:18,20	anauras	10 04.0 01.15
		137:11 141:18	ensures	entitled 106:10
eliminate		142:7 149:1,3	188:22	
		174.1 173.1,3		
	1	1	1	l .

entity 128:24 136:14 157:4	170:6 245:9 247:4 259:9	evaluation 178:21 213:20	examined 10:9 115:8 162:17	exemption 110:8
165:10	262:12,13	events 227:11	167:3 176:8 183:24 201:25	exert 204:22
entity's 145:21	equity's 140:17	eventually	230:6 237:20	exhibit 75:9
entry 159:5		118:6 263:9	257:10	78:14 157:23
environment	error 182:23	evidence 23:21	examples	230:13 231:1,5 257:23
81:1,10 204:12	escalation	27:25 52:1	124:23 125:22	
241:22 266:16	268:17	80:14 90:12,	141:16 205:4	Exhibit-1 24:23
environmental	essential 227:9	20,25 124:19 125:3,20	exceed 13:19	28:24 63:24 68:13,17 153:1
23:9,11,14,16	essentially	126:3,20	103:24 109:8	160:9 184:11
111:25 112:1	9:21 118:24	127:1,14	excellent	185:4 223:5
118:13 149:1	137:8 147:17	128:5,8 134:18	108:19	
187:7,8 188:4 192:2 212:12	148:13 152:8	135:9,11 140:1	excerpt 57:22	Exhibit-2 75:12 84:11,15
233:13,14,20,	204:18 231:17	155:15 159:12	64:10	180:13 184:11
24 235:15	243:3 259:1	161:6 223:14,		185:4
246:1	261:18 262:8	15,18 224:14	excess 164:17,	Evhibit 2
environmentall	267:21	evidenced	25 199:7 243:8	Exhibit-3 136:21,25
y 187:3	establish	259:22	exclusive	139:21,24
-	108:10 158:2	evidentiary	164:4	·
EPA'S 235:7	established	48:23 224:13	excuse 128:3	Exhibit-a 11:6, 19 75:4,14,16
EPC 267:20	208:1 217:20	evolve 134:23	139:18 175:15	77:24 78:25
episodes	223:21		195:1 198:23	
225:11,12	establishes	exact 46:16	248:11	exhibits
equal 199:23	160:7	72:14 73:18 78:21 96:18	excused	184:14 202:14, 18 203:20,23
265:3,4,14	establishing	141:1 151:8	112:21	238:6,17,21
266:14	179:10 222:12	187:15	execute 20:10	258:8,12
agually 447,00		EXAMINATION	27:17 49:3	exist 40:9
equally 147:22 189:6	estimates 47:6 182:20	10:10 107:4	78:24 107:12,	134:25
		112:25 115:9	13	
equate 105:17	estimating	162:18 167:4	executed	existed 165:13
equates 19:3	213:14	174:12 176:9	12:15 14:20	existence
equipment	evaluate	183:25 200:7	24:6 30:6	209:14 263:24
267:21	113:16 213:12	202:1 224:21	31:25 82:25	existing 14:9,
	214:1 247:16	227:4 230:7 237:21 253:12	83:7 252:2	12,14,15 16:2
equity 128:16, 17 129:3,8	evaluated 13:7	257:11 268:8,	executes 17:4	41:25 47:16
134:14 139:15	80:24 213:2	25	executives	48:8 104:19
140:8,9,10,13,	evaluating	examine 177:2	56:4	147:17 148:3
15,21,24	261:3,4	220:16	Exelon 108:19	164:2,6,21 174:15
141:2,6,9,11		220.10	LACION 100.19	174.13

Index: exit..fell

_				
exit 264:7	262:23	111:16 204:20	23 169:16	57:16 58:14
expand 25:7	experienced	extend 66:23	172:3,5,15	62:18,22 81:21
70:6	117:4		174:5,16,24	86:8 90:14
		extended	175:1 212:8	111:1,2 155:14
expect 20:24	experiment	31:20	241:5 246:8	199:8 217:19
129:17 139:15	229:13	extension	fact 12:25	220:22 246:23
140:16 141:3,	expert 9:1	199:23	23:13 29:7	252:19 264:19
7,11 246:17	118:8 127:18,		39:5 48:17	fairly 88:16
265:7,14	22 241:4,6	extensive	56:20 73:24	105:17 213:2
266:6,7,19,23	249:15	16:14 19:25	77:16 82:10,13	223:11
expectation		20:2 57:13	95:8 101:3	4 11
139:14	expertise 76:4	234:4	121:18 122:20	fall 76:20 93:17
	experts 241:9	extent 37:8	124:8 126:10	familiar 26:14
expectations	_	120:21 135:9	129:5,22	28:19 45:22
219:15	expiration	188:12 227:25	133:19 135:14	47:24 102:21,
expected	104:23 139:8	233:23	148:12 149:18	25 103:1
14:19 135:25	255:24 266:25		164:16 170:2	143:10 154:13
203:8	expire 269:4	external 60:15	174:3 181:21	213:3,5 254:17
		267:7	187:25 192:18	
expects 121:21	expiring 27:20	extraordinary	194:1 200:10	farm 249:20
expenditure	32:1,8,16	117:4	214:4 232:15,	fashion 120:23
48:7	267:10		24 234:6,21	244:6
	explain 41:5	extremely	247:17 261:15	
expenditures	131:17 138:2	32:10 182:4	footow 45:4	faster 55:19
47:8 48:24	230:9	185:21	factor 15:4	favorable 81:1
49:12 51:22			169:16 235:1	170:14 232:17
expense 47:4	explained	F	267:7	
48:20,21 51:17	150:8		factored 148:6	federal 27:20
52:1	explore 69:14	face 9:22	footowo 04:44	32:2,8 35:25
	·	137:16	factors 21:14	36:7,24 38:5
expenses	exposed 13:12		198:14 199:24	39:1,24 40:10
46:25 48:1,5	18:15 19:15	faced 71:20	241:21 242:17,	56:18,24
51:19 188:4	22:1 259:19	118:4 125:6	18 249:19	110:8,9
expensive	exposes 13:11	facilities 8:5	facts 76:13	118:13,25
140:16 185:21	-	39:11 53:22	80:13 158:2,4	177:17 206:9
192:25 193:16	exposure 79:4	58:13 153:15		209:2 273:18
208:14	109:25	177:19 187:1	Factual 25:6	feed-in 138:15
	express	196:17 210:15	fail 64:1	
experience	273:16	222:2 246:20		feel 18:9 48:13
36:14 46:6			failed 118:9	64:7 220:8
59:1,4 61:3,8,	expressed	facility 10:23	failing 67:11	feels 272:13,
9,11 127:7	15:13 181:17	12:10 39:10		17,18
135:8 219:17	235:3	48:5,8 141:23	fair 31:18	
228:1 231:12	expressly	153:21 154:6	46:18 52:7,11,	fell 222:19
254:5,12	expicasiy	168:13,14,19,	16 56:2,3	226:5 227:13
L				

Index: felt..forecast

felt 169:18	267:15	128:5 129:6	147:8,9	fleet 147:17
FERC 37:10,15	financeable	131:4,6,15	152:12,14	148:3
54:22,23 55:21	66:2,5 128:11	132:10 134:1	154:11,16,25	flexibility 79:5
56:21 186:19	133:21 143:23	140:2,3,13	155:3,6,13,15,	_
220:13	144:24 191:5	141:1,5,9,11	20,22 156:18	flip 193:4
	192:13	142:3,15	165:15 225:5	197:15
Ferk's 180:22		145:21 146:8,	242:4 259:1	flow 137:10
field 147:5	financed 59:5	23 155:12	262:25	110W 137.10
11 CIU 147.3	67:23 90:22	156:23 157:9,	fixed 22:21	flows 137:18
file 66:19	127:10 130:17	10 170:14,17	44:23 54:7	fluetuete
103:25	133:4,12	174:22 188:21	70:9 73:6	fluctuate
filed 445:00 00	141:17 142:19	190:20 192:23	129:13 148:25	225:10
filed 115:22,23	143:22 146:2,	193:9,25	216:25 217:1,8	fluctuating
220:12 230:17	19,25 155:3	194:4,12,23,25	228:11,14,15,	212:8
238:11 258:1	165:18 171:15,	195:2,8,16,24	16 254:20	flacation (*)
files 103:21	17 174:21,25	200:17 206:1	262:19 268:18,	fluctuations
en 4445	253:18 261:11	211:20 241:4,7	202.19 200.10,	192:16 212:16
filing 14:15	262:25	242:12,13	20	225:16 264:14,
18:19 29:16,18	financial 76:40	247:16,17	fixed-capacity	15
66:23 234:22	financial 76:10	254:5,12,16	229:9	flux 235:16
filings 122:22	77:9,13 79:17	259:7 262:17	fived energy	
	80:2,5 81:6,7,	find 65:7 90:10	fixed-energy	focused 20:23
fill 265:19	14 93:19	find 65:7 80:10	229:9	120:18
266:8	122:18,25	139:17 170:17	fixed-price	fold 242:6
final 188:19	129:18 198:13	194:10 231:16	16:9 17:20,22	
228:4 257:2	financially	finding 65:21	18:13,16	follow 43:23
	192:5 256:17	173:18	19:13,16,17	149:13
finalize 273:21		fine 00:0	33:3,6,7,22	foolish 192:6
finally 186:11,	financier	fine 30:3	34:21 54:3,5,6,	10011311 132.0
12 209:5 210:8	192:11 195:18	257:22	9 71:16,22	footnote
235:5	financiers	finish 37:2	80:6 83:3	202:24,25
200.0	194:19 269:16	71:4 95:10	104:2,4,6,10	203:1,4
finance 68:7,9			106:21,22	Force 400:40
128:25 133:16	financing	fire 92:12	107:20 109:19,	Force 168:16
140:7,21 142:7	32:21 53:14	firm 41:6,7	25 111:3	169:8,13,19
145:1 170:7	59:3,19,23,24,	43:15 108:22	178:24 209:6	172:8,9,12,16
173:13 185:22	25 60:2,4,7,14,	169:9 202:12	210:1 231:23	174:2
190:16 191:6	15,22 61:16		249:8 251:11	forced 17:18
192:10 193:11,	64:25 65:18,22	fit 9:17 110:13	268:17	49:3 119:21
15 194:9	67:1,6 68:1	five-year 60:20		220:14
200:18 205:14	69:4,9 118:23	117:20,22	fixed-prices	f
241:9,10,13	119:18,19,22	124:4,12	221:10	forcing 88:20
242:8 249:15	120:5 124:3,	126:1,6 136:1	flavors 128:18	forecast 18:6
256:11 260:3	11,14,20	139:17 143:23		49:8,14 78:3,
261:3,8,9	125:3,4,13,20	144:6,9,20	flawed 228:5	17 89:14
	127:17,19,22	144.0,3,20		

				.iousiicai iiig
53:16 118:12	12 200:20	242:20	133:8,9 172:25	heard 117:12
148:14 149:12	209:17 211:16	grow 20:20	252:5,6,10	148:20 168:4
169:24 175:2	214:12 215:5,	grow 20.20	halt 256:6	169:18 194:22
204:15 206:5,	13,14 220:7	grows 33:3	Hall 200.0	248:13
13,15 207:4,7,	221:11 231:9		hand 57:11	hooring 0:2.12
23,24 208:11,	241:2 252:24	guarantee	64:5 75:9,14	hearing 8:2,13,
13,14 209:7,	253:14 256:9,	30:16 104:21	136:10 170:6	23 9:2,6,10,15,
16,20,21	10 260:25	194:11	236:11	20,23 10:3,6
210:1,3 216:13		guaranteed		11:21 24:10,
218:12 219:23	governing	72:2 138:25	handed 197:16	18,22 25:3,10,
220:2 232:23	65:16	194:15 249:8,	222:4	16,22 26:1,3,7,
233:8,12,22	governor	16,18 262:2,4	hang 210:20	12 27:1 28:1,6,
235:20 236:13	203:7			10,17 31:5
246:8,20		guarantees	Hans 257:3,8,	37:4 40:15,18
250:16	grant 224:10	37:19	16	42:9 48:23
	granted 113:6	guess 41:24	happen 146:6	54:13 56:13
generous	203:22 231:4	68:10 91:22	148:18,19	57:9 63:19,23
222:12	233:18 238:20	93:14 111:11	195:13 243:13	66:10 68:14
get-go 134:19	258:11	128:23 134:23	259:24	69:18 71:11
		139:9 146:22		75:11 80:17
give 67:16 90:9	great 70:2	147:25 156:17	happened 57:6	82:3 83:18,25
96:25 121:12	168:5 170:22	161:5 191:3	80:19 217:24	84:3,12,13
141:16 146:11	218:15 235:3	193:3 213:15	happy 64:9	91:16 92:1,5
173:17 194:19	239:23,24	225:17 227:14	83:24 131:17	98:14 99:3
252:14	greater 68:24	243:24 244:8,	150:18 159:14	102:11 107:2
goal 61:25	129:13 150:3	9,13 248:25	187:8 270:25	112:4,7,9,11,
111:11,14,16	191:9,11	263:9 266:10	272:8	13,15,18,20,23
139:12,16	192:4,7 206:11	267:4,12 271:1		114:19,22,24
144:2	·	272:20	hard 53:11	115:2,5
	green 138:16		124:19 125:3	116:12,13,14
gold 222:23	greenfield	guessed 50:20	126:24 172:13	122:1 123:11,
226:9	59:20 142:24	guideline 81:6	173:5 244:8,9	13,16,19,21
good 8:2,9,24	146:24 147:5		265:2	136:8 139:22
9:3 10:12,13		guidelines	Harris 90:10,19	150:11,13,17,
12:6 23:8	grew 29:18	75:6 76:21	237:14,15,18,	20,23 151:17,
42:13,15 54:2,	grid 87:14	77:4,20 78:1	23,25 238:10,	21 152:19
17,18 83:19	88:24 137:18	81:8 108:24	23 240:12	157:18,21,24 158:10,19
92:8,9,10,11	173:1	180:12,19	253:14 256:21	· · · · · · · · · · · · · · · · · · ·
115:11 116:24		guys 196:21		159:4,9,19
119:3 149:9,19	Griswold	3.72 .00.2	Hathaway 56:4	160:2,11,14, 19,23,25
150:14 152:1	120:2,11		57:3 94:10	161:3,8,23
170:17 171:11	gross 248:20	Н	heading 119:4	162:7,12 163:7
177:17 180:5,6		11 057 47		165:21,24
183:20 190:13	ground 113:25	H-a-n-s 257:17	hear 46:2	166:2,4,6,8,10,
194:19 196:11,	186:6 207:22	half 59:17,18	60:12	12,16,18,21
		,		12,10,10,21
	<u> </u>	I	I	I

Index: heart..hour

				· iicai ciioai
167:18 168:1	heating 168:17	270:10	highlights 29:7	123:10,12
170:24 171:2,		Himming	111:20	166:10,11
4,6,8 174:8,10	hedge 16:16	Higgins	h!	174:8,9 179:25
175:4,11,13,	17:15 22:19,22	158:23,25	highly 164:25	180:1,4 183:1
16,18,21,24	23:8 70:10,12,	229:24,25	247:25	196:8,10,12,
176:2,5 177:8	13 80:3,5	230:4,11 231:7	Hill 168:16	23,25 200:3
179:12,14,17,	186:13 255:5	236:16 237:11	169:8,12,18	215:10,12,15
19,21,23,25	hedged 78:4,5,	Higgins'	172:8,9,12,16	221:21,24
180:2 183:3,5,	7,18,19 107:22	180:22	174:2	223:3,9,20,21
8,11,14,18				224:15,17
185:1 189:20,	hedges 15:14,	high 125:11	Hills 96:11,16,	226:1 237:2,3
24 190:2,4,6,8	19 17:24 41:2,	136:4 139:12,	21	248:11,13
196:8,24 200:5	4,17,18 76:10,	14 192:18	Hills' 146:13	250:24 251:1
201:5,9,11,16,	15 79:16,17,25	193:3,4 217:20		253:7 268:1,2
19,22 203:21	80:1,23 81:6,7,	220:15 244:14	hinder 232:11	270:19 271:11,
211:5,7,9,11,	9 82:11,14	254:17 255:14	hindsight's	12,19
13 215:4,9	109:8,12	261:17	221:1,7	
221:23 223:6,	180:14 186:4	high-pressure	·	hold 131:3
19 224:8,16,19	232:24 246:7	168:21	historical	holding 117:10
225:20,23	247:14		227:11	137:9
226:24 227:2	hedging 13:24	high-priced	historically	
229:17,20,25	15:7,8,10,22	141:2	70:18 105:6	holiday 271:17
230:3 231:2	16:7,10 17:14	higher 44:3	113:5 205:5	holidays
236:17,20,22,	20:14 23:23	71:19 88:2		272:24 273:7
24 237:1,4,8,	70:24 74:13,	117:15 126:18	history 32:4	
10,15 238:18	16,17,21	129:17 133:15	165:10 205:17	honestly 63:11
240:14,17,19,	75:15,18,20,22	147:12,21	221:13	91:21
21,23 248:12,	76:6,9,24 77:4,	148:11 150:2,6	hit 34:12 62:1	Honor 157:20
22 249:1	21,25 78:6,8	191:13,24	267:1	158:12 160:13
250:24 253:9,	79:9 81:18,19	192:1,7,22	201.1	174:14 175:15,
11 256:22,25	82:9 83:2	193:14 194:7,9	hobby 231:20	23 221:22
257:4,7 258:9	84:11 107:17	199:21,25	Hoglo 9:0 10	223:3 248:11
260:13,16,18,	108:24,25	213:24 225:13	Hogle 8:9,10 10:1,11 11:4,	
20,22 267:25	109:15 122:7,	241:22 242:3,	10:1,11 11:4,	hook 46:22
268:3,6,24	10,14,16 123:6	5,6 243:2		hope 173:17
269:22,25	180:8,19	248:4 252:1	25:18 26:13,	_
270:3,6,15,22	186:3,5,9	256:16 258:23	16,23 28:8 37:1 40:12	hoping 31:13
271:2,11,25	207:17,20	261:24 267:9		horizon 15:8
272:6,10,15,25	232:14,19,21		56:7 60:8 61:6, 23 63:18 66:7,	18:4 85:9,10,
273:9,14,23	233:6 242:21	highlight 15:3	<u> </u>	24 88:5 105:7,
	254:24	highlighted	11 69:11 71:3,	12 107:17
heart 55:5		137:1,5,15	8 80:13 81:24	12 101.11
heat 16:23 17:1	held 15:11	138:4,5 139:4	82:1 95:7 98:8	hour 17:11
53:15 235:12,	130:24 131:12	153:11 222:8	107:2,5 112:3	18:23 19:1,2
19	helpful 30:2	226:3	114:22,23	43:14,16,19
	1.016101 00.2	220.0	122:2,4	

Index: hours..indicative

72:23 73:8	idea 131:25	impetus 144:7	inaccuracies	incorporated
87:15,24	142:24 148:2	implement	182:21	87:9
119:11 149:12	200:21	24:5 37:24	inaccuracy	incorporation
169:22 191:18	identified 11:3	92:22 110:13	15:18	184:5
234:24 244:24	19:23 20:18	186:22 187:17	13.10	104.5
249:9 251:4,8	21:3 22:25	200:12 231:15	inaccurate	incorrect 186:4
267:18	24:23 49:25	200.12 231.13	182:24	incorrectly
hours 18:21	50:25 63:24	implementatio	incentives	incorrectly 186:2
88:17 89:11,12	74:4 75:12	n 185:17 205:1	261:13	100.2
234:15	115:17 136:21	215:24 235:7	201.13	increase 27:16
234.13	153:1 166:25	implemented	incidental	29:25 31:23
house 193:8,	176:20 184:11	implemented	186:13	32:7 117:4
11,12	188:9,11	13:24 15:22		149:17 203:5,7
hh 40.05	202:15 230:14	70:23	incinerator	217:22
hub 18:25	238:7 257:23	implementing	172:8	
huge 245:1	230.7 257.23	108:8	inclination	increased
	identify 35:24		113:18	18:15 129:16
hundred 33:20	85:20 124:7	important 12:7		178:23
42:6 76:11	156:15	21:9 168:6	include 10:23	increases
106:4 140:7,		169:18 182:5	44:20 45:19	256:18
13,21	ignore 23:13	185:13 189:6	178:19 213:8	
hundreds	119:8	247:16	included 77:3	increasing
210:10 233:19	ignoring	importantly	99:19,22,23	263:12
	232:15	20:5 23:12	100:21 122:17	incredibly
hydro 106:4		180:11	163:24 175:1	219:19
hydroelectric	illiquidity		209:9,12	210.10
153:14 163:25	15:17	impose 52:16	213:11 224:5	incremental
	illustrate 15:3	impossible		39:7,8,25 40:1
hypothetical	71:24	118:22 190:16	including 73:6,	increments
126:1 132:6		205:13 218:13	9 77:14 117:15	86:7
149:13,19	illustrates	241:13	118:1 186:18	00.7
hypothetically	19:14 79:1	241.13	216:10 234:23	incur 13:20
266:15	imagine 242:6	improbable	income 32:2	207:3
200.13	250:19	164:25	137:10,19	inquering
	250.19	improvements	1	incurring
l I	immaterial	improvements	211:20,24,25	68:25
	172:5	47:21 164:12	inconsistency	independent
I-s-e-r-n 257:17	impost 44:40	imprudent	16:13 56:12	58:2,6,12
Idaha 20:04	impact 14:18	140:13,20,22	77:24 85:7	63:16 186:25
Idaho 36:21	62:10 82:15			216:16 239:2
37:6,9,11,14	93:15,19 94:7	in-house	inconsistent	
105:18,22	97:19 239:21	215:16	13:23 14:1	indication
106:11 108:7,	259:6	inability	15:6 16:10	167:19
11,12 151:1,5	impacts 99:1	200:16	20:12 23:23,25	indicative
163:23 205:4	198:12,13		74:25 77:22	87:12,18,22
210:21	, -		139:9	02,10,22

88:25 208:16,	48:9 52:4	intact 120:12	148:12	investigated
18,23 234:21	72:24 83:15	147:17		156:19
265:23	136:18 155:10	intograted 14:5	intermittent 114:14 117:8	invecting
indifference	157:13 159:23	integrated 14:5 19:24 94:25	193:20	investing 195:16
13:10,14,15,22	207:16 222:1	99:20 105:1	193.20	195.10
22:5 34:14,16,	240:4 247:25	157:2 178:21	internal 60:6,	investment
23 35:8,19	informed	188:7 207:16	14	27:20 31:14
36:1,16 37:24	161:17		international	94:4 132:11,
38:8,17 39:5		intend 259:17	222:19 226:5	14,18,21
40:5,9 41:12	infrastructure	intended 13:16	227:13	140:21 200:25
51:4 55:4	204:11 210:11	150:8		201:3 209:2
62:13 91:11	214:5		Internet 145:10	210:10 259:9
93:1 110:2,17	ing 127:14	intends 223:9	interpretation	261:24
121:2,7 178:13	initial 202:8	intent 56:11	57:14 273:17	investments
188:17,23,24	205:1 215:24	178:1 189:15	intonyonad	233:8
207:1 234:9	217:1 228:5	205:12 263:13	intervened 91:22	investor
indifferent		intention		129:12 132:19
13:17 62:6	initially 130:17	122:15 131:7	intervenor	139:15
94:11,18 95:5	218:3 229:8	174:17	118:8	
207:6 213:17,	inquire 20:16		intervenors	investor-
18 270:24	98:24,25	interconnectio	22:12 125:2	owned 146:16
individual	153:24 154:9	n 30:25 164:9,	161:22 162:2	investors
135:16	156:21	14 168:24		129:16 133:3,4
	inquiring 20.5	170:3,4 171:23 174:4	intimidating	134:15 135:17
indulge 150:16	inquiring 28:5	174.4	152:3	139:13 241:18
231:11	inquiry 25:1	interest 16:15	introduce	242:15 245:6,
industrial 11:1	inside 60:2	164:4,5 185:16	223:9	8,12 255:6
59:21		194:9 197:25	introduced	261:22
	insist 179:9	198:5 200:14	64:8 256:19	invite 75:24
industry 46:6	247:21	231:25		139:4
127:2 260:2 263:1	instances	interested	introduces	involved 59:19
	96:12 209:20	206:21	17:19 109:19	60:7 75:23
inept 232:14	instrument	interesting	introducing	81:20 129:3
inexperience	instrument 232:21	260:4	25:20	130:4 180:15
61:16			invest 134:16,	242:9,16
	instrumental	interests 63:5	18 139:13	247:15 249:11
inflate 249:22	216:9	94:15 148:23	258:25 269:16	258:24 261:4
influenced	instruments	164:5,6 232:5		268:14
196:22	77:9 80:2	235:4	investigate	involves 254:6
influencina	254:24	interfere	143:24 152:15	involves 254:6
influencing 185:13	in a	204:19	155:19,23	involving 35:8,
100.13	insurance	intermittency	156:24	19 58:6 108:19
information	195:21	intermittency		

Index: IPP..law

				uex. IPPIaw
IPP 257:19	102:1,3,6	115:10,18	jurisdictions	203:13 243:23
	111:20 112:2	116:9,18	36:20 38:5	254:11,13
111011 3.11	119:18 124:16	121:23 157:19	justification	knowledgeable
Iron 239:12	135:1 142:11	158:1,21	53:21	56:17 246:4
IRP 14:5 20:12,	143:11 144:24	159:1,4,7	JJ.Z I	
16,19,22,24	151:8 158:13	160:14,16	justified	kw 223:2
21:3,4,7,10,12,	159:11 161:10	161:3,4 162:5	138:12	
14,15 22:3,25	164:20 169:18	166:8,9 171:8,	justify 47:4	L
24:3 41:9,11	171:18 174:24	10 174:6 176:1	48:19,20 107:8	
42:1 47:10,12,	175:1 181:13,	179:13,23,24	40.19,20 107.0	lack 63:17
20 49:19,25	24,25 182:23	190:8,10,12	Justin 8:15	136:3
50:25 53:1	207:1 214:14	196:5,7	241:2	
74:3,12 84:17,	253:1 273:15	211:13,15		Lake 184:6
19,22 85:4,9,	issues 12:7	215:1 224:24	K	Lakeside
20 86:4,9,11,	25:24 36:10	236:24,25		16:17,19,20,
21 88:7,13	37:12,18 38:12	240:23,25	keeping 79:10	23,25 17:2,7,
99:21 105:12	39:22 64:20	241:2 247:11	neeping /8.10	10 72:21 73:7
113:3,10	69:8 84:9 99:5	248:3,25 249:3	Kennecott	87:1
118:18 164:23	111:25 113:22	250:22 260:22,	53:17	07.1
178:21 188:17	120:14 148:10	24 267:23,25	Kevin 229:24	language
234:4,7,9,11,	160:7 161:18	270:22,23	230:4,11	79:21 82:16
14	165:9 181:8	272:1,2	230.4,11	127:6 269:15
'7	182:23 187:9	Jim 48:1	key 23:21	large 10:25
IRPS 101:3	216:2 218:14		kicked 67:13	11:1 27:16
irrelevant	270:11 271:7	job 261:2	Kicked 67.13	31:23 48:7
118:19 145:8	273:17	jobs 239:19	kilowatt 102:24	59:5 61:4,11
248:20		258:20	244:24 249:9	66:24 103:9,14
240.20	ITC 31:14,19		Identification 100.4	106:15 144:15
Irritation 153:6	34:4 199:24	John 9:14	kilowatts 106:4	178:18,24
165:7	209:6 266:25	98:17 153:7,	172:1	239:1 261:14
Isern 90:11,19	267:7,10	10,19 158:15	kind 32:14	259.1 201.14
134:6 257:3,4,	269:2,8,9,13	161:14,15	46:20 134:14	largely 119:7
8,16,20,21,25	item 272:21	162:11,15,21	141:11 212:22	larger 103:11
258:14 260:11		163:6,9	249:7 259:4	144:22 223:2
268:10 269:23,	items 259:11	joining 9:14	272:23	252:8
24	iterative		kinda 205:45	202.0
4	188:15	JP 131:5	kinds 225:15	lastly 23:7 24:2
issue 12:23	100.10	judged 48:9	268:11	late 218:22
13:1 14:7		Juugeu 40.3	knew 155:16	221:2 273:6
19:13 26:2,22	J	Judicial 36:11	knowing 24:4	221.2213.0
29:4,6 30:25		June 254:3	knowing 34:4	launched
31:17 33:3	Jetter 8:15	Julie 204.3	146:1 245:15	229:13
37:14 51:1,2	24:19,20	jurisdiction	knowledge	Lavar 112:22
57:19 64:3	112:5,6	38:4 158:14	56:15 98:11	Lavar 112.22
66:6,18 98:16	114:24,25		158:4 180:7,9	law 37:23 55:7
			, ,	
	I	1	I	1

57:19 63:15	legislation	light 83:15	lives 233:23	182:19
91:11 93:2	110:16	159:23 235:11	load 14:13,16	long-term
144:16 181:21	legislature	limit 22:6 65:8	21:14 30:8	17:19 19:14,22
206:9	203:7	81:8 99:4	106:4 114:10	20:7,18 45:18,
laws 110:9	200.7	108:21 109:11,	163:17 169:23	21 49:13 50:24
118:14 177:17	lend 193:5	24 120:2	173:8 265:12	53:20 54:3,5
178:1	262:4,6,11	122:16 123:2	173.0 203.12	59:11 66:1,25
170.1			loading 261:18	
laying 98:24	lender 129:12	126:14 144:9,		69:9 70:17,20
	140:17	22 152:12,14	loads 85:23	71:20,22 72:14
leadership	lenders 129:16	177:20 218:3	208:10	73:24 74:14,
56:21	190:20 193:5	271:23 272:1,4	local 9:18	18,25 76:19
leading 55:16	212:3,5	273:19	108:21	77:1 80:22
leading 55.10	212.5,5	limitation	100.21	82:14,20 83:3
leads 261:18	length 55:14,	155:17	located 198:10	84:20,25 87:7,
loorn 70:7	15 64:17 130:3	100.17	239:11 255:10	10,11 89:23
learn 76:7	134:5 146:16	limited 15:19	legation -	107:12 109:19
learned 144:8	150:25 159:15	68:22 106:7,24	locations	117:9,10
227:20,23	177:21 178:4	108:3 109:7,14	203:6	134:15 135:14
	205:10 271:4,	144:17 246:11	lock 45:5 49:5	136:3 137:11,
learning	22		52:25 117:7	23 138:16,20
219:16		limiting 19:18	192:21	139:13 165:13
least-cost 47:8	lengthy 114:15	51:9 64:25	102.21	178:24 186:10
51:22 52:15	less-than-a-	69:4 120:5	locked 17:13	190:24 192:6
	year 86:14	209:4	21:21,25 22:3	194:4,24,25
86:12 188:9,11	year 60.14	limitless 111:2	43:2 53:5 61:1	195:1,3 196:3
219:22 234:8,9	lesser 120:20	119:2	135:11 192:13	198:12 200:17,
least-risk 47:9	I-44 50:04	119.2	244:24	19 207:10,14
51:22 52:15	letter 56:21	limits 135:2	1 1 470	212:23 218:21
53:1 95:14	level 46:16	218:5,8 234:12	locking 17:6	221:15,18
188:10,11	56:18,24,25	40.40	22:2	225:1 232:8,
	71:9 93:25	lines 43:12	locks 82:23	19,24 233:1,6,
leave 13:16	94:13,14 118:8	90:17		, , ,
92:24 203:18	·	links 136:13	long 9:18,21	7 234:18,23
258:21 270:19	Levelization		46:5 54:24	235:9,13,15
271:23	65:6	liquid 254:22	65:1 69:5	239:25 246:7
loft 70:7	lovelized 97:00	255:4,10	82:18 120:6	247:14,17
left 70:7	levelized 87:23	liquidated 44.7	125:25 131:12	259:13,15,19
130:14,15,18	97:16 251:7	liquidated 41:7	165:9 173:25	262:15
131:14 132:8,	leverage	listed 76:14	187:12 194:2	longer 18:4
9,18 206:22	140:24	li-1 55 40	259:18	65:10,13 66:9
legal 54:19		listen 55:18		68:24 71:17,19
108:13 270:14,	life 53:3 85:18	literally 218:18	long-	81:9,14 83:24
16 273:15,17	133:21,22	_	established	98:5,12 107:24
	134:7 138:13	litigious 48:22	232:7	109:14 120:16
legality 206:3	212:9 220:5,6	live 225:16	long-run	150:2 178:7
270:12	239:18	1110 220.10		130.2 170.7

208:5 229:8	137:18 139:13	54:19 58:16	141:15 164:12	marginal 43:13
233:10 255:1,		73:17 78:20	170:17 184:16	44:3,4,9,15,20,
19,20 258:23	Lowe 9:14	108:12 113:19	188:19 190:16	24 45:3 52:20
261:9	98:17,23	126:20,21	199:21 200:1	53:2,4 210:4
	153:7,10,19	168:24 174:4	202:3 205:13	263:12 266:4,
longest 255:15	158:15 161:14,		213:1 241:13	13
looked 64:17	15 162:11,12,	magic 131:21	251:24 262:8	
65:17 72:22	15,20,21	Magnesium		marginal-cost
88:12 89:18	163:6,9,11	53:17	makes 49:13	52:18
169:23	166:13 175:16	55.17	52:1 118:19	marked 64:5
103.23	Lowe's 159:5	magnitude	173:4 193:15	68:11,13,16,17
lost 146:13	LOWE 3 109.0	104:2,5 105:15	207:10,12	136:25 184:14
104 44.47 00.40	lower 43:1	106:23 191:23,	255:6 256:17	130.23 104.14
lot 14:17 32:18	71:18 103:14	24 192:2,3	malding 40.0	market 15:17
34:7 48:21	132:15 148:1	199:19	making 43:6 44:22 45:12	18:3 19:10
53:22 55:19	150:2 187:13	. 404.45	_	41:7,10 43:15,
109:21 117:12	191:13,23	main 164:4,5	47:3 48:21,23	18 60:5 70:8
132:23 136:2	210:6 213:24	240:3	53:7 65:21	71:18 79:3
164:2 191:16	243:7 246:16,	maintain	73:24 76:10	86:13,14,16,18
193:11 212:10	18,24 247:1	129:23 147:17	91:19 118:2	87:3 88:15
216:13 220:11,	249:21 250:2	148:3	128:20 132:23	113:19 149:2,
24 227:20,23	252:10 255:21		135:12 149:11	22 179:3
250:6 252:14	263:8 265:6	maintained	185:20 234:5	187:23 190:20
263:2,15,16		182:6	246:7 249:1	192:16 193:21
265:13 266:1	lower-cost	maintaining	manage 15:23	204:19 207:19,
272:3	87:2	62:13 159:5	19:17 109:6	25 209:3
lots 249:19	lowers 210:4	02.13 139.3	10.17 100.0	210:5,7 212:8,
1013 249.19	10WEIS 210.4	maintenance	management	15,24 213:23
low 33:12 34:8	lowest 34:7	172:3	79:15,23 86:13	214:6 216:13,
41:20 60:25	198:8 208:19		109:4,9 157:2,	15 218:1
90:3 118:5,7	lawast sast	major 15:4	4,8	219:18 220:3
132:2 135:17,	lowest-cost	18:25 47:15,	manager 220:1	225:8,10,12,
18 137:22	52:25 95:14	20,25 48:4,15	manager 238:1	
148:22 196:4	lucrative	49:16,23 51:19	manages	15,16,17 226:15 227:22
199:10 201:1	222:21 226:7	172:10 258:18	27:12	
225:10 245:24		majority 32:4		228:18,21,24
249:12 254:18	lunch 151:20	42:5 252:11	managing	232:22 243:3,
264:25			27:14	4,6,10,21
	M	make 34:21	mandates	244:5 251:16
low-cost		38:23 49:20,22	57:19	255:4,10
194:23 195:2,	made 19:16	72:16 74:1		259:18 262:19
23 259:7	23:21 29:9,16,	80:17 91:17	manner 45:1	263:15,20,22,
low-priced	18 34:17	92:3,23 116:3	62:22 97:3,24	24 264:22
179:3	38:15,17 42:17	118:10,22	99:7 110:13	265:7,24
173.5	48:10,13 49:15	129:8 131:1	140:25 187:3	266:3,19 267:5
low-risk	50:9 52:3,5,9	132:12 133:15	232:17	marketplace
	30.3 32.3,3,3			a. Kotpiaoo
1				

Index: markets..modification

236:4	MBTU 16:24	17 18:17	208:7 226:10	minor 202:23
markets	meaning 15:24	29:17,19,20	263:6	minute 15:5
141:11 192:12	38:1 71:16	30:6,7,24 33:4,	methodology	50:5 71:2
206:20 216:9	131:13 194:13	8,21,23 59:16,	83:9,11,14	85:19 125:1
254:14,22,25		18 78:23 97:8	106:11 120:19	126:25 150:16
255:8 259:24	means 16:1	103:18,23	181:6 209:14	
261:12	51:10 93:12	104:3,6,15	214:11 234:6	minutes 84:1
	134:14 141:5	105:17 106:3,	252:3,14,21	miscalculated
mass 147:14	209:15 233:4	23,24 114:7	253:5	249:20
mass-based	235:21	144:13 145:2		243.20
187:14 236:11	meant 92:3	148:5,17	metrics 73:18	mischaracteriz
107.14 230.11	illeant 92.5	149:12 154:19,	79:15,24	e 256:5
Massachusetts	measurable	20 163:18	microphono	miaaharaatarisi
261:17	23:12	168:7 171:24	microphone 202:3	mischaracterizi
motobos 100:7	macharia-	172:25 187:21	202.3	ng 124:9
matches 169:7	mechanism	234:25 251:25	mid 27:14	mismatch
material 74:9	132:10 185:13	252:1,7,24		22:1,4
80:4 105:16	188:1 189:2	Maghan 0:04	mid-columbia	,
	263:6 264:4	Meghan 8:24	18:25 19:6	misspoken
materially	mechanisms	member 63:6	middle 89:25	269:9
18:12	93:4 187:15	74:21 91:23,24	153:11	mitigate
math 100:10		153:12 157:1		117:13 118:12
248:21	media 135:23	165:6	midway 57:24	181:22
	meet 13:10,21		million 14:25	
matter 8:3	22:4 23:8	members	15:1,2 18:21	mitigating
13:5,6 17:22	86:24 111:21	153:5,6	49:1 132:13,	186:14
21:18 28:18	164:17 188:17,	mention 165:3	15,16,18	mitigation
33:2 73:23	24 215:18,19		169:12 170:5	181:1
82:22 116:21	218:18 242:3	mentioned	171:18 173:3	101.1
119:10 156:12	210.10 242.0	22:22 67:10	234:15	mixing 195:11
161:25 182:20	meeting 66:16	75:7 163:20	204.10	mixture 141:8
mattered	megawatt	197:1,13	millions	IIIIXture 141.0
173:24	_	215:23 253:6	195:17 210:11	MMBTU 17:9
173.2 4 	17:11 18:21,23 19:1,2 43:14,	263:5	233:19	
matters 9:24	16,19 72:22	met 111:16	mind 103:13	model 16:21,
	· ·	215:16	271:9	24 87:14 88:24
mature 164:10	73:8 85:21	210.10	271:9	89:17,22 97:4
maximum	86:1 87:15,24	meter 53:17	mine 45:23	213:25
12:10,15,18	144:14 149:12	mothere	57:23 158:22	modeled 179:7
55:9 113:6	153:14 168:19	methane		
117:1,16	171:20 191:18	153:21 154:6	minimizing	modeling
118:21 177:21	234:15,24	method 16:17	140:14	182:5
178:3 204:14	251:4,8 267:18	114:2,6 178:9	minimum	modern 210:15
231:23	megawatts	188:8,15,21,22	45:19 46:7,11,	111040111 210.10
	14:9,10,11,13,	189:1,7,13	14	modification
	,,,, .	, , -		8:4 12:14

Index: modified..nice

			1	1
117:19	7 211:11,12	235:23 238:3	municipalities'	46:5 93:16
modified 15:8	236:22,23	239:9 260:5	156:13	107:16,24
31:20	240:21,22	move 11:17	municipality	163:17 193:20
	260:20,21	18:3 27:4	142:15 145:17	nearer 15:24
modify 12:9	272:7,8	33:16 34:12	146:18	
moment 74:12	Moore's 26:17	46:18 69:20		necessarily
132:6 273:10		84:10 92:13	must-buy 56:1	33:16 143:12
	Morgan 131:5	96:24 99:13	121:13 216:10	249:6 262:1
monetize 35:2	morning 8:2,9,	116:10 139:20	must-purchase	264:11 265:23
money 19:7,9	24 9:3 10:12,	150:7,10	22:15,17 41:13	needed 12:21
48:11 60:13	13 12:6 42:13,	151:23 157:22	56:10 57:4	21:6,8,21 23:1,
73:19,22 82:12	15 54:17,18 [^]	159:21,25	110:7 205:20,	2 119:11,15
149:23 193:16	56:20 64:4,12	163:5 167:16	24 206:24	188:12 218:11
245:3 262:8	92:10,11	177:6 186:15	must tales 00.5	234:5
269:16	115:11 116:24	203:19 223:4	must-take 23:5	manding 400-0
	141:22	230:25 238:16		needing 103:3
monopoly	mortgogg	258:7 259:2	N	negative 89:12
204:20	mortgage 193:12	moved 19:10		90:21 91:1,2,5
Montana	193.12	21:13 93:12	nameplate	125:5,9
163:23	mortgages	21.10 90.12	18:18	naglasts
month 40.7	200:15	movement	Nathan 9:13	neglects 234:14
month 18:7	motion 28:1,7	267:20	102:8,15	234.14
months 15:20,	158:20 203:22	moves 29:20	156:25 161:14,	negotiate
24 19:18 29:2	224:11 231:3	184:24	17 163:20	209:19 227:25
82:19 87:20	238:19 249:1		166:20,24	negotiated
89:25 109:7,	258:10	moving 104:16	167:1,7,17,21	30:12 34:3
14,15 123:4		162:4 240:8		60:21 75:17
169:20,22	motion's	multi-year	natural 15:9,23	187:21 214:25
173:7 266:8,11	203:22 238:20	82:11 264:20	16:6,16 21:4	
Moore 8:20	258:11		33:11,17 52:21	negotiating
24:22,25	motive 156:14	multiple 37:11,	76:5,9,10,12,	10:23,24,25
25:14,22,23		17 59:8 247:12	14 78:3,6,17	negotiation
26:5,11,23	Mountain 8:3,	262:24 264:24	79:2,5,9 80:3,	27:15 78:13
27:1,6,24 28:3,	11 9:8 10:18	multiplied	22 81:3,11,13	181:17
23,25 36:22	51:10 91:6	216:17	82:17 107:15	
38:2 40:17	140:6 171:16,		109:7,10	negotiations
112:7,8	22 185:18	municipal	207:18 208:10	27:13 173:20
123:13,14	204:13,17	141:23 145:4	209:25 217:21	net 62:8 100:14
162:6 166:6,7	205:19 206:7,	147:6 168:14	218:17 222:16	
171:6,7 175:25	17,21 207:8	172:7	226:15 244:2, 11 245:19,20,	news 130:5
176:10,21	208:12,16,22	municipalities	23 250:17,21	nexus 235:20
177:6,13	209:8 210:6	142:3 156:11,	264:16	
179:12 183:3,	215:16 223:4	16,17,21	204.10	nice 215:18,19
4,12,13 190:6,	229:23 230:12		nature 44:21	257:21
1				
	ı	I	<u> </u>	l .

Index: night..OFFICER

night 89:25	noted 117:3	247:5	obtain 61:15	25 226:8
nominal-value	notice 28:13,	objection	65:18,22 67:24	offered 54:25
49:1	21 57:11 64:7	11:22 25:17,	69:9 118:23	216:24 217:10
10.1	21 07.11 04.7	18,19 26:9,14,	129:1 155:12,	219:1
non-pricing	notion 128:10	17 27:4 28:7,8	15 156:23	219.1
37:18	135:13 138:18	1	157:8,10 206:1	offering 140:9
	140:2 142:18	37:5 40:12	265:20	218:4 220:9
non-published	144:1 146:17	56:7 60:8 61:6,		242:15
106:6		23 63:18,20	obtained	
non-purpa	nuances 255:2	66:10,11 69:11	106:13	offers 209:7
14:2 24:1	nuclear 218:16	71:3 80:13	obvious	220:14
14.2 24.1		81:24 84:13	232:15	-ffi 0.40 00
non-qf 13:8	220:18,19	98:8,15 116:14	232.13	office 8:16,20,
16:11 19:21	number 8:6	158:1 159:5	occupation	22 15:13 24:12
	26:20 29:18	162:6,7 175:18	115:12 176:12	25:1 35:5
nondiscriminat	30:14 32:11,25	224:10		55:11 63:4
ory 189:4,12	78:1 86:1,22		occur 17:20	123:14 161:10
nondianatabab	104:8 108:9	objections	52:18,19 148:9	162:1,4 176:1,
nondispatchab	120:1 130:18	140:12 258:10	occurred 29:5	15 177:6,23
ie 17:8		objective		178:2,5,16
nonprofit	131:21 132:12	93:20	47:25 66:16	179:5 200:23
157:5 184:5	169:23 170:13	93.20	78:12 81:16	231:13 272:8
	181:5 188:13	objects 68:14	107:19	
nonprofits	199:24 200:22	116:13 139:22	occurrence	Office's 63:11
156:16,17	217:25 218:5,7	157:25 163:7	119:1	OFFICER 8:2,
nonronowahla	219:7,18 220:4	167:18 177:8	110.1	13,23 9:2,6,10,
nonrenewable	228:24 242:19	185:1 223:6	occurring	15,20,23 10:3,
94:23 144:3	253:23 262:19	231:2 238:19	16:13	6 11:21 24:10,
nonresponsive	265:10,15,22	258:9	20:10	
36:23	266:8	230.9	occurs 30:19	18,22 25:16,22
		obligated 63:4	48:25	26:3,7,12 27:1
normal 17:14	numbers	1.11. 41	OCS 28:24	28:1,6,10,17
North 205:4	52:12,14 72:17	obligation	180:7,17,18	37:4 40:15,18
261:13	73:11,14	22:15,17 41:13		42:9 54:13
201.13	153:8,9	56:1,10 57:4	OCS'S 180:11	56:13 57:9
Northeast	numeral	71:23 78:22	off-take 172:10	63:19,23 66:10
261:16	197:22	110:8 191:1	JII-Lake 1/2.10	68:14 69:18
No orthogon	101.22	205:21,24	off-taker	71:11 75:11
Northwest		206:11,23,24	172:22 173:18	80:17 82:3
18:25 163:22	0	216:10	190:24 191:4	83:18,25 84:3,
nostalgic		abliastis	194:13	12 91:16 92:1,
231:10	oath 84:5	obligations		5 98:14 99:3
201.10	151:22 215:10	23:9,11 206:8	offer 51:25	102:11 107:2
not-for-profit	248:24	232:25 233:9	54:24 55:8	112:4,7,9,11,
142:16		observed	217:18 219:1	13,15,18,20,23
	object 36:22	205:3	220:10 221:17,	114:19,22,24
note 218:20	140:8,12	200.0	18 222:12,22,	115:2,5 116:13
	203:21 223:8			
l				

122:1 123:11,	253:9,11	operate 17:10	32:9 93:6 94:5	39:20 64:11
13,16,19,21	256:22,25	94:21,23	96:13,14	65:6,20 66:2
136:8 139:22	257:4,7 258:9	154:25 155:2,	107:18 115:21	68:1,5 86:23
150:11,13,17,	260:13,16,18,	21 168:22,23	158:9 168:4	108:8 110:20
20,23 151:17,	20,22 267:25	187:16 239:3	197:23 204:6	136:17 151:1
21 152:19	268:3,6,24	107110 20010	243:19 270:21	155:12 164:17
157:18,21,24	269:22,25	operated 17:7	210.10 27 0.21	195:23 208:9
158:10,19	270:3,6,15,22	operates 36:20	oppose 63:1	242:3 254:25
159:4,9,19	271:2,11,25	operates 30.20	opposed 60:5	273:21
160:2,11,14,	271.2,11,23	operating 43:1	70:8 86:25	213.21
19,23,25	272:0,10,13,23	45:14,18 114:9		orders 39:21
1 ' '	273.9,14,23	153:15 154:19	93:13 106:1	92:22 121:8
161:3,8,23	official 111:12	155:5,18 205:9	118:2 120:15	• • • • • •
162:7,12 163:7		212:12 222:16	128:16 134:19	Oregon 96:2,
165:21,24	offset 261:15		142:20 151:11	15,20 151:7,9
166:2,4,6,8,10,	oil 207:18	operation	242:21	163:20,23
12,16,18,21	217:20,25	16:18 137:20	opposes 63:7	original 52:3
167:18 168:1	219:11 222:20	171:19 172:3	178:2,5 204:17	67:12 132:3
170:24 171:2,	226:6 228:22	250:19	170.2,0 207.17	144:7 168:25
4,6,8 174:8,10	220.0 220.22	operational	opposing	174:23 175:1
175:4,11,13,	on-peak 89:5	•	151:13	174.23 173.1
18,21,24	50.40	79:4		origination
176:2,5 177:8	one- 53:18	operations	opposite 19:11	257:18
179:12,14,17,	one-and-a-half	239:19 254:2	54:23 149:21	000 0400
19,21,23,25	153:14	269:6	opt 121:5	OSC 24:23
180:2 183:3,5,			· -	outcome 34:4
8,11,14,18	one-minute	opine 37:16	optimal 244:6	249:5
185:1 189:20,	96:25	265:2	optimizing	
24 190:2,4,6,8	one-year 86:7	opinion 13:3,6	243:21	output 146:13
196:8,24 200:5	229:6,12	31:18 33:2	240.21	244:7
201:5,9,11,16,	ZZ3.U, IZ	35:11 51:3	optimum	outstanding
19,22 203:21	ongoing 172:3	54:20 82:7,8	265:10	32:11 34:2
211:5,7,9,11,	233:13 250:12	94:14 111:1	onting 404:47	32.11 34.2
13 215:4,9	70:7		opting 121:17	overlap 25:5,6,
221:23 223:6,	open 70:7	118:3 155:7	option 23:3,5	7
19 224:8,16,19	79:3,10 169:1	231:22 245:17	51:22 66:23	
225:20,23	204:9,10	259:13 264:22	70:14 121:19	overlooks
226:24 227:2	210:19 233:10	266:3	129:6 218:18	234:6
229:17,20,25	240:5	opinions 57:13		overnight
230:3 231:2	open-ended	90:12,20,23,24	options 59:3	266:7
	172:11		70:5,8 84:21	
236:17,20,22,	114.11	opponents	142:4 197:10	oversight 49:2
24 237:1,4,8,	opened 216:12	118:9	210:24	overstated
10,15 238:18	oponing	opportunities	orongos 040:0	
240:14,17,19,	opening	opportunities 81:8	oranges 248:8	119:18
21,23 248:12,	214:15 216:9	01.0	order 24:14,15	oversupply
22 250:24	240:11	opportunity	27:19 32:1	208:3 219:12
		•		
	1	1	1	I

			TOCK OVELVIEW	-
overview 96:25	14:12 15:21	partial 114:1	195:22 201:6	255:24
overwhelming	76:4 154:20	partially 29:8	203:21 223:6	payments
25:25 32:4	256:4	114:3	224:10 225:21	14:19,23,24
r	oages 153:9		231:2 238:18	97:14,20 98:3
owned 214:17	160:1 272:3	participant	258:9 270:3	99:17 104:18
owner 145:17	100.1 272.0	75:25 180:7	273:16	106:10 117:21
Owner 145.17	oaid 90:5	participants	pass 25:15	118:1 164:24
ownership	97:14,16 99:17	75:6 129:20	pass 20.10	165:1 194:11
110:19 187:11,	100:13 101:13,	263:23	passage 205:2	217:5,11,13,20
22	19 121:3	203.23	paggad 106:22	252:5,6 254:7
	140:18 164:22	participate	passed 196:22	202.0,0 204.7
owning 222:16	178:11 195:18,	122:10 216:14	203:7 212:18,	PDRR 188:7
owns 93:23	21 217:7	41.1.4.1	19 246:6	
235:23 244:3	220:19 221:3,4	participated	passing 42:25	peak 86:2,3,16
	245:16 264:1	25:3,11 105:18	-	88:10
		122:20 181:4	past 12:24 29:6	peaking 99:17,
P r	oanel 32:20	participation	34:5 35:17	19,21 100:22,
	264:15	175:17	70:18 100:21	25
P-e-t-e-r-s-o-n	oaper 114:6	-	120:15 225:11	
115:13	•	parties 8:10	262:24	peek 86:24
p.m. 151:20	oaragraph	15:14 20:13	Paul 8:12 10:2,	pencils 50:14
215:8 273:13	26:24 27:11	22:11,14,18,22	7,16 11:3,25	-
	76:3,16 77:6	23:7,13,17		people 9:12
Pacific 145:18	79:12 80:22	26:4,8 37:14	pause 62:1,2	140:16 197:12
146:13	151:3 153:20	65:10 66:20,22	267:1	perceived
Pacificcorp	154:1,2 156:7	75:18 77:24	pay 15:2 46:12,	135:17
117:15 118:11	159:20 226:3	82:13 113:18	24 51:11 119:9	133.17
	oaragraphs	118:1 121:24	147:19,21	percent 42:6
120.1	137:1 159:23	158:8 245:17	149:14 172:23	76:11 78:6
Pacificcorp's	222:9 227:8	247:13 270:17	191:7 207:11	140:7,13,21
117:1	222.3 221.0	272:4 273:2,4	209:10 239:17	154:20 169:19
Pacificars F	parallel 172:14	parties' 65:7	ZUJ. 1U ZJJ. 1 <i>1</i>	201:1 203:6
Pacificorp 10:21 14:8	oart 15:16 30:1	67:8 178:5	payback	234:25 248:4,
64:21 68:20	48:2 66:6,24	07.0 170.5	170:12,18	6,14 252:8
79:13 93:24	76:24 79:8	parts 76:2	172:21 173:9	266:16,22
	80:11,24 82:4	139:4 254:15,	maying 01.01	noreantene
94:14,19	86:12 91:9	21	paying 21:21,	percentage
102:19 151:8	121:6 134:3		25 45:9 46:22	33:14 79:2,5
153:13,23	135:3 137:5,15	party 11:21	220:24 233:11	81:8 262:1,3
155:9,16,17	135:3 137:5,15	23:20 25:16	payment	percentages
165:9 169:3,15	164:22 168:18	28:10 68:14	21:22,25 41:1	123:3
170:2 172:1		84:12 116:13	98:6 102:3	
173:10 205:8	170:3 171:17,	139:22 152:23	120:25 121:4	perfectly
265:11	18 213:1	157:24 158:19	249:9 252:4,	263:14,19
Pacificorp's	217:15 220:24	163:7 167:18	16,20 254:19	performance
1	241:7 261:2	175:19 177:8	·	• • • • • • • • • • • • • • • • • • •
Į l				

Index: performed..portfolios

			idex. berrorme	
37:19	113:10,23	164:3 214:11	212:22 222:17	12,20 188:19
norformed	169:11 270:24	232:9 239:9	233:11,23	199:18 231:12
performed	porqueded	258:17	243:12,17,20	234:14 239:19
97:6	persuaded	places 04:44	244:2,4,15	248:21 256:8
performing	125:24	places 34:14	246:15 250:17,	264:8,9,12
38:11	persuasive	203:3	20,21	265:8,18
	249:5	placing 19:12		
performs		213:18 235:15	plants 16:16	pointed 130:22
19:25	Peterson 8:18		46:25 47:1	142:5
period 19:1,3	31:6 115:1,2,6,	plain 79:21	101:1,4,5	pointing
21:17 86:2,3,	11,13,17	82:16	107:15,22	154:24
19 88:10 98:6,	116:17,19	plan 14:5,6	137:11 218:13,	
7 99:22 100:23	121:24 122:5	19:24 20:22	16,17 220:18,	points 23:21
101:24 107:23	124:1 136:12	21:5,7,15 22:3,	19 221:7	165:4 235:22
108:10 129:24	140:2 147:10	8 24:3 47:12	222:18 235:7	policies 12:12
164:24 170:12,	150:25 151:22	49:19 50:1	play 42:4	14:2 16:2
18 172:21	152:1 157:23	85:7 94:25		75:20 119:1
173:15 182:13	158:12 159:14	99:20 105:2	plays 105:15	186:22 207:20
219:5 221:2	160:17 161:2,4	178:21 187:10,	192:11	100.22 201.20
	Deteroonle	16 188:7	nlunga 447.05	policy 15:7
227:11 229:2,	Peterson's		plunge 147:25	16:4,6,11
10 246:15	32:8 102:2	234:8,9 235:9,	point 10:22	17:14 20:14
249:11 264:20	116:11 159:10	21 236:1,2,12	15:5 19:19	23:23 35:6,17
265:23 266:9	160:6	planned 188:3,	20:11,13 24:13	58:11 70:23
periods 89:5	petition 65:10	4 234:13	30:1 35:1	74:13,16,17
179:3 191:2	-		36:14 37:10	75:5 77:21
254:19 259:18	phase 222:24	planning 14:5	39:15 41:19	91:12 109:4,23
	phrased 66:17	20:20 21:23	42:16 43:6,23	110:3,18 111:6
permanently	-	77:10 80:25	44:22 45:11	118:14 125:16
187:2	physical 77:9,	85:9,10,23	48:13,24 49:20	126:15 156:13
permission	13 80:5	88:5 105:7	50:1 52:22	185:12,20
67:15	122:19,24	113:3,11,23	54:2 62:19	186:24 189:10
	171:19	178:21 232:14	67:7 68:3,8	232:7,10
permitting	picked 87:4	235:16	69:23 70:1	
137:17	-	plans 94:19,22	72:14 73:21	popular 138:19
person 194:5	picture 224:4	105:2 207:16	76:2 78:20,21	portfolio
•	piece 52:25		80:7 81:17	33:10,11,14,17
personal 56:25	223:15	plant 16:19	92:3 94:22,24	100:19,21,24
272:21		21:4,11,13	95:4 98:23	111:11 129:23
personally	pieces 11:14	43:14,17 44:2,	101:12 102:7	134:3 135:3
13:3 62:4	140:1	3,8,12 46:12,	129:5 130:25	136:6 188:10,
87:19 88:12	place 31:16	23 48:1,15	133:2 134:11,	12 203:5
148:19	40:8 82:15	49:23,24 73:7	24 138:21	251:25
170.13	109:23 121:4	114:3,9 140:8	139:9 144:18,	
perspective		171:19,21	23 146:22,23	portfolios
50:5 53:6	133:13,24	207:10,13	159:7 161:9,	138:9
	1	1	1	1

Index: portion..presently

portion 28:2,4	210:9	210:6 215:17	74:25 77:2	prefer 161:16
93:7 96:23	potentially	216:9,16	84:20 85:8	preference
110:22 117:14	•	217:8,10	125:21 127:2	•
136:5 155:11	60:21 61:12	218:17 222:12,	128:10 130:3,	24:14
251:25	65:13 72:7	16 223:1,4	7,8 134:15	preferred
	129:24 133:6	232:9 233:4	135:14 137:20,	100:19,24
portions 38:25	148:11 161:21	234:1 235:7,	23 139:6,12	100.10,21
159:13,16	210:10 241:23	12,13,19,21,23	141:14,16	prefiled 38:3,
nocition 10:15	nounda 100.01	236:1,12	144:6 147:3,20	16 116:6 128:3
position 10:15	pounds 169:21	,		
28:11 35:16	power 8:4,11	239:2,8,9	148:5 152:13,	preliminary
37:22 57:3,5	10:18 16:16	251:19,20,22	15 179:6	9:24
58:20,24	47:7 49:24	252:1 253:18	199:21 220:25	premised
63:11,13 65:8	51:11,23 53:15	255:1,11,18	255:21 261:20	135:14
68:6,8 69:6,7,		259:16 260:5	262:25 263:2	135.14
15,16,17 80:9	58:12 62:8	Dowerla	prostical 20:10	premium
81:21 83:1	63:16 68:21	Power's	practical 28:18	138:11
92:24 106:16	69:1,5 70:20	185:18 204:17	practice 15:7,	
108:24 109:6	73:7 74:14	208:22 209:8	21 16:11,13	preparation
116:20 120:13	75:1 92:17,21	PPA 25:4 26:20	17:15 24:1	163:14
124:10,11	93:4 94:7,11,	30:15 55:1,9,	40:4 96:5	
160:7 165:20	12 95:6,15	14,16 58:17,21	105:4,5 266:2	prepare 11:5
1	102:18 104:22		·	162:20 167:6
184:2 196:3	105:11 110:4,	59:6,11 60:16,	272:17	185:6 202:17
213:16 273:17	11 111:24	20 77:14,15	practices	prepared 14:8
positions	117:2 119:9,10	81:23 95:18	13:24 14:2	18:19 38:15
15:23 109:19	120:6 138:16,	103:3 124:4	186:3,5 232:19	
162:2	20 140:6,8	125:4 127:8	233:6	116:19 162:20
102.2	147:18 153:13,	129:12,13	200.0	163:12 167:6
positive		131:16 132:7,	pre-approval	176:22 177:14
239:21	23 164:7	12 133:1,2	48:4,21 51:19	204:1 230:16
	168:7,25	134:5,7,19	76:18 246:11	preparing
possibilities	169:6,10,14,16	136:2 142:19		25:11 31:4
119:19 145:1,3	171:16,21,22	143:23 145:11,	precedent 38:7	
nessibility	172:10,15,22,	16,18,20,22	procinitously	33:1
possibility	23,25 173:4,8,	146:3,12,25	precipitously	presence
140:4 149:19	18 177:18,21,	151:1,9 177:22	222:21 226:7	186:21
173:16 200:10	25 178:18,25	<u>.</u>	precludes	
possibly 72:9,	179:3 186:25	178:3,8,9,15	77:21	present 12:9
10 128:20	187:9,16	181:1,10,21		84:4 117:22
10 120.20	194:24 195:3	221:15 234:18	predict 18:10	161:6 208:3
posted 234:21	196:3 204:13,	258:17,22,23	191:13,14	
notortial 44:40	15,20,23	259:22 261:15	244:9	presentation
potential 14:12	205:19,23	262:15 267:11		58:15
15:18 117:7	· ·	268:11,21	predictable	presented
118:4 147:15,	206:7,17,21	DDAC 00.5	137:10	52:13 135:11
21 156:21	207:4,8,19	PPAS 32:5	prediction	JZ.10 100.11
181:2,22 192:7	208:12,14,16,	60:17 64:4,17	18:12 118:7	presently
	19 209:10	70:17 71:25	10.12 110.1	

30:22 34:3	70:4,8,9 72:6,	207:1,15	267:10 268:18	47:24 62:10
presents 224:4	22 73:4 79:4	208:8,11,13,	primarily 27:16	98:1,10,11
-	80:23 81:10	16,18,20,23	31:24 44:16	105:19 106:12
president	82:23 83:9,11,	209:16 210:2,	82:17 86:16	152:24 164:20
257:18	14 109:20	5,7 212:8,18,	88:4,25	202:19 258:5
pressures	118:8 120:6	24 213:24,25	109:15,17	proceedings
233:24	147:23 148:6	214:6 216:25	168:15 234:18	48:3 49:11
255.24	149:17 150:3	217:2,4,6,8,12,	100.13 234.10	52:20
presume	190:21 191:4,	21,25 218:1	primary 10:22	32.20
243:5,11 256:2	20 192:22	219:11,17	32:6 86:15	process 19:21
	208:9 209:9,	220:15 222:20	103:16 104:2	20:6,9,10
presuming	12,24,25 210:4	225:10,13	106:20 171:20	47:11,13,17,18
245:23	212:7,16	226:6,11,14,15		48:16,22 49:22
presumption	213:18,20,23	227:14,21	principle 85:5	74:5 80:25
85:1	217:21,24	228:12,19,22	principles 75:5	82:20 85:9
	225:15 226:19,	229:7,9,10,12	76:17 77:7	95:2,3,17
pretend 126:1	21 228:9,14,	234:8 235:2	81:19 82:21	167:25 178:22
132:5,16	15,16 234:21,	243:22 251:3,	83:2 180:11,18	197:20,21
pretty 28:19	23 242:21,22	16 261:17		206:16 228:5
54:19 77:18	243:3,16	264:1,15,16	printed 223:23	234:4
105:15 160:6	244:11,13,21	265:4 266:4	private 142:4,	200.47
227:18 247:6	245:15,19,23,		13	procure 206:17
270:13	24 251:7	pricing 27:15		procured
270.10	255:21 259:16	35:8,19 36:2,	privately-held	209:21 214:22
prevent 185:25	263:6,8 264:6	18 38:9,18	140:23 141:8	
previous 56:14	266:13 268:19,	39:17,19 53:10	privileges	procurement
165:12	20	83:6 85:2 87:6,	45:19	76:6 77:10
100.12		9,12,18,22,23	40.10	80:25 95:16
previously	priced 228:18	88:25 89:13,	probability	188:6 206:12,
108:17 124:15	252:1	15,24 97:10	125:11	15
216:15	prices 17:9	99:8,19 101:11	problem 117:7	procuring
price 12:1 4	32:20 71:19,25	117:25 118:6,	168:8 194:1	227:23
price 13:1,4	84:21 97:1,2,7	18 120:18	100.0 134.1	
17:2,4,5,9,11,	98:25 117:9,	148:7 179:7	problems	produce 137:9
13,15 18:7,11,	11,15 129:14	188:8,14,15,	117:13 118:4	187:1 217:7
22,24 19:4,5	147:12,16,21,	21,22 189:7	nuo o e di inc	244:15
22:21 35:14	25 148:11,20	193:24 194:21	procedure	producer
37:12,21,25	149:21 150:1,6	199:21,25	76:25	239:2 245:21
38:13 39:20,23	178:25 179:10	207:17 208:17	procedures	203.2 240.21
41:20 45:7	182:9,15,25	209:13 213:4,	76:18	producers
47:7 49:6,7,14	186:19 191:11,	6,12 214:10		58:2,6 177:19,
50:15,20	17,22 192:1,7,	225:9 232:22	proceed 12:5	25 216:16
51:10,23 52:9	17 193:21	234:6,12,20	27:5 185:9	producina
54:8 60:25	196:4 199:10	254:19,20	proceeding	producing
61:1 65:1	200:11,25	258:22,23	23:22 26:19	53:23 222:22
66:25 69:5	200.11,20	259:14 263:6		226:8

Index: product..prove

product 86:19	128:16,20,25	projects 27:17	211:21 212:4,	95:2 102:2
product 66.19	129:8,9	29:21 30:5	10,15 214:18	117:20 119:5
production	131:19,20,23	32:12,15 41:21	219:18,23	121:6 126:13
16:21,25 32:15	132:1,20,25	51:17 53:14,15	220:5 221:13	185:18 205:19
58:13 63:16	140:5 141:12	59:3,8 61:5,12	223:2 226:19	207:12 231:22,
97:3 110:4,11		1		· ·
187:1 198:7	142:7,14,24	68:1,2 88:1	228:21,23,25	25 256:5
	144:2 145:10,	94:23,24 96:8	239:3,5,6,10,	proposals
products 53:23	22 146:24	103:23 106:3,	11,13,14,16,	80:22 178:5
77:9,13 114:8	153:24 154:3	5,9,23 113:9,	20,23 240:1,4,	270:12
professional	157:10 163:20,	17,18 114:4	6,10 241:5,7,	_
71:8	21 165:11	120:17,22	14 242:13,20	proposed
	169:17 170:1,	125:25 126:7,	247:3,16,17	14:10,14,15
profile 187:14	5,8,10,13,19	8,16 127:9,10,	250:9 252:15	99:13 118:3
profit 18:2	171:14 172:7,	18,20,23	253:15,21,23,	225:6 235:5
128:20 156:13	10,17,24	128:6,11	25 254:6,14	proposes
120.20 100.13	173:3,21,24	129:23 130:12	255:10,11	177:20
program 170:5	174:1,2,15,16	131:8 132:7	256:7,17	111.20
218:9 220:20	186:12 190:24	133:5,11	258:25 260:4	proposing
221:20 222:25	191:5,7	135:24 136:2	261:9,12	117:16 133:7
259:21 264:17	192:12,14,18,	138:9,11,13	262:11,13,24	209:13
266:6	24 193:15	142:19 143:1,	264:5,24	
	194:14,16	6,11,14,15,18,	265:9,15,17	proposition
programs	195:13,17	21 144:3,4,5,	266:9,13	38:22
207:20	212:6 237:25	15,19 145:1,4	267:17 269:18	proprietary
progressively	239:18 241:10	146:23 153:14	proliforation	247:7,25
208:14	242:9,14	155:1,12,18,20	proliferation 89:11	
	243:14 244:19,	156:12,22	89:11	prospectively
prohibit 77:15	25 249:12	163:16,19,22,	promote 178:1	113:5
prohibited	252:6 256:12	24,25 164:1,2,	400.04	protect 14:7
70:23 218:16	261:3,4,8	4,6,10,11,15,	prone 182:21	
70.23 210.10	262:17 264:10	18,21 165:5,	proof 91:7	protected
prohibits 16:4,	266:11 267:8,	10,12,16	125:16 126:18	188:23
6 74:13,17	16 269:10	168:10,11		protecting
project 27:40		185:20,23	proper 185:17	106:21 110:15
project 27:19	project's 96:3	186:3,6,9	258:17	164:5 187:5
30:16,23 31:24	project-by-	187:4,11,21	properly 179:7	232:5 235:4
50:6,8,12,14	project 113:17	188:20,24	property 175.7	232.3 233.4
53:21 59:5,10		192:10,24	property	protection
60:15 68:7	projected	193:5,25	239:17	111:18 186:15
72:21 87:25	14:24 15:1	194:3,20,23	proponente	187:24 210:2
88:7 89:18,19	85:22 87:7	195:23 200:24	proponents 119:5 125:15	
94:2,3 95:13,	projection 72:3	201:2 205:14,	118.5 125.15	protections
14,18,21 96:7,	projection 72.0	15,25 207:23,	proposal 20:6,	247:19
11 102:23,24	projections	24 208:17,24,	9 22:6 74:5	prove 51:21
103:1,5 104:13	191:9	25 210:10,16	91:10 93:18	91:1,2,3,5
114:3 124:4		20 2 10.10,10		

Index: proves..QF

				ex. provesQr
125:5 223:15	47:5	138:16,20	165:9 178:12	
nroves 244:45	nublic 0.6 17	164:7 169:1,6,	185:13,17,19,	Q
proves 244:15	public 8:6,17 12:12 35:24	14 172:15	25 186:23	
provide 10:19		177:21 191:1	189:5,9,15	Q2 234:22
12:3 40:21	36:6,24 40:10	194:24 195:3	193:16,17	Q3 86:16
41:2 57:13	64:3 98:2	196:3 200:19	200:12 204:16	Q3 00.10
62:5 90:19	105:18,22	204:15 205:23,	205:2,21	QF 12:11,15,23
114:8 125:3	115:15,20	25 207:4,6	206:3,8,10,19,	13:1,4,7,9,12,
128:9 134:14	116:21 140:22	208:20 220:14	23,24 207:1	19 14:10,12,
136:17 186:7,9	156:13 185:12	222:13 223:1	215:24 216:5,	16,21,23 15:3,
187:4,24	186:21 189:17	232:9 234:15	8,24 224:1	6 16:4,9,17
197:23 204:4	197:23,25	245:19 251:19,	229:1 231:11,	17:2,3,4,8,10,
205:3 210:14	198:5 204:25	20 252:2	15 234:3	13,17,18
231:7 236:8,9	208:19 215:20	253:18 255:18	270:13 273:18	18:15,18 19:4,
238:25 239:25	222:10 224:3		40.0	20 20:12,15
240:4 258:14	231:20,25	purchased	purpose 12:8	21:18,20,24
262:6,13,17,21	241:3 247:8	130:9 236:4,5	206:3	22:6,18,20,23
265:19	publicly 8:19	purchases	purposes	23:5,13 24:5
	247:20	13:20 14:3	269:5	25:25 27:14
provided 23:20		24:1 41:8,10		29:2,7,25 30:5
50:19 90:12,25	publicly-	54:5 80:3	pursuant	32:5,20 33:8,
111:16 124:23	available	86:17,18 88:15	111:15 233:15	19,20,24 34:22
131:5 136:12	158:14	94:11 95:25	pursue 119:20,	35:12 40:21
197:10 208:16	publicly-traded	107:11 149:22	22	41:14,21,25
214:21 216:25	137:8 141:7	179:3 187:24	1 40 4	43:3,8 45:4,6,8
261:14		232:23 234:17,	pursued 48:4	48:25 49:7,21
provider	published	19 243:4	pursuing	50:3,6,11,18
262:12	106:2	259:20	206:19	51:12 52:24
nuovidono	published-rate	purchasing		53:4,6,7 59:5
providers	105:25	13:19 244:24	purview 111:1	62:7,8,22
258:24 259:10	DUC 040.0	259:18	push 42:1	64:17,24 65:9,
providing	PUC 218:2	259.10		18 67:1 68:1
55:11 65:8	pull 53:8	PURPA 8:4	pushed 21:15	69:3 83:7
80:18 190:20		12:13,18 13:11	put 82:11,14	84:20 87:18
239:20	purchase 8:5	14:9 20:8 22:5	83:3 109:23	89:22 92:17,21
provision	16:3,6 17:8	38:25 39:2	139:16 168:23	93:3,10,22,24
provision 46:10,11	18:21 22:21	41:13,15,16,18	169:11 195:22	94:2,7,11 95:6
255:23 260:6	31:15 39:10,12	54:21 55:1,5,8,	220:13 225:17	97:9 99:16
200.20 200.0	41:6 43:16	21,22 56:1,23	254:16 260:3	100:2,12,17
provisions	59:2 68:21 69:1 70:20	57:4,13,14,16	nuto 100:40	101:10,12,17
46:8,15 110:10	74:14 75:1	62:2,21 78:21	puts 193:16 271:16	102:22 103:11,
216:11	92:17,21 94:7	91:3 93:2	2/1.10	14 104:22
prudence 52:1	95:6,15,22	108:4,8,10	putting 132:20	105:11 108:3
PIUUGIIUG JZ.1	117:2 131:4,9	110:10,13,16	139:11 224:14	110:24 111:21
prudent 28:20	117.2 131.4,3	111:4 121:14		113:9 114:4
	1	1	1	1

Index: QF'S..ratepayer

				5acepayer
117:2,4,16,21	41:1 42:5 49:5	206:4 222:2	263:4	22 263:8 264:7
118:22,23	53:13 58:22	241:4	guantiana	265:4
119:6,10	62:12,16,17	auglity 125,25	questions 11:13 24:21	auibble 227:45
120:5,9,17	66:2 68:21	quality 135:25 218:14		quibble 227:15
121:17,19	72:18 78:23	218:14	40:17 42:8	quick 145:9
125:24 133:18	93:1 94:16,20	quantifiable	54:12 84:18	_
142:12,14	103:9 104:3,	209:22	91:15 92:14	quo 118:3
143:11,15	11,19 105:2,8,	4:6: 1	98:9,24 102:6	quote 39:6
144:4,12,13,24	16,23,24	quantified	107:1 114:17,	108:2 120:3
148:14,20	106:13,15	35:22	18 116:5	
153:22 154:3	110:8 112:2	quantify 35:1,	121:23 123:14,	
156:10,12,22	113:3 117:14	15	18,20 150:16,	R
157:10 168:7	127:2,11 143:8		21 151:16	
178:7 179:6	144:17,22	quash 235:6	152:4 157:17	raise 147:15
181:1,16	147:13,15	quasi 36:13	160:17,21,24	158:1
186:1,3,6,12	152:5,9,11	_	163:2 166:9,	raised 63:12
187:4 188:6,20	154:15,19,20,	quasi-judicial	11,13,14	111:20 178:17
189:7,8,10,13	25 155:2	36:6	167:13 170:25	
200:21 205:9,	177:19,24	question 37:7	171:11 174:6,9	ramp 173:7
23 207:4,17,25	178:18 179:2	40:12 55:6,19	175:3,8,9	range 34:6,9,
208:13 209:21	186:3 188:13	60:9 62:3 67:2	177:3 179:20,	11 65:1 69:5
210:22 213:4,	189:4,12,17	70:6 71:9 82:4	22,24 183:7,10	72:17,23 73:1
6,12 214:24	204:16 205:6	90:7 95:8	184:19 189:25	87:15,24 120:6
217:7 219:12	207:15,22	98:13 102:14	190:1,3,5,7,11	149:23 259:5
220:20 221:15	208:3,6,21	111:5 113:15	194:17 196:6	261:21 266:10
222:11 223:2	209:5 214:23	127:15 128:23	200:3 201:7,10	
224:6 226:19,	216:25 218:6,	144:8 154:8	203:15 211:8,	rate 16:23 17:1
20,21 232:4,7,	12,19 219:21	155:6 158:22	10,12,16 215:2	52:19 93:5
11,19 233:4,6,	221:19 222:14	174:14 200:20	223:12,16	106:2 207:11
7,12 234:8,12,	227:25 228:11	211:1,19	224:11,17,25	213:15 220:25
18,20 235:6,	231:23 232:17	225:22 242:11	225:18 226:25	233:3,9,15,17,
20,23 239:8	235:10 236:8	244:9 247:2,6	227:1,6 229:16	20 240:2
242:13,20	263:16 264:21	249:2,4,6,7	236:19,21,23,	242:8,14
247:17 ^{256:7}	265:10,19,22	256:9 267:13	25 237:3,6,9	243:19 246:14,
259:14,21	266:23 267:2	268:23	240:16,18,20,	17,23 247:1,2,
263:6,15,20,22			22 241:1	15 249:16,17
264:6,17,24	qualify 196:20	questionable	250:23 251:2	261:24 262:10
265:4,5,15	264:21 269:12,	206:3	253:7,15	267:17
266:3,6,20	17	questioned	256:21,23	rate-based
267:1 269:5	qualifying 8:5	120:13	260:15,17,19,	236:2
	10:23 12:10	120.13	21,25 267:24	200.2
QF'S 177:21	39:10,11 58:12	questioning	268:2,3 269:21	ratepayer
178:15	111:8 174:16	27:3 98:13	270:14	13:10,13,15,22
QFS 14:20 15:2	177:19 186:25	108:4 109:1	queue 87:13	22:4 34:14,16,
23:8 32:17,18	196:17 199:6	110:5 225:2	188:14 208:17,	23 35:8,19
, ,			,	

Index: ratepayers..record

			Index: racep	ayersrecora
36:1,16 37:24	129:17 135:18	271:25	10 42:19 43:11	recess 83:25
38:8,16 39:4	189:3,11 194:9	1 450 7	51:6 98:22	84:2 102:10
40:5,9 41:12	217:15 218:3,	reads 156:7	99:6 102:7,15	151:18,20
51:3 55:4,17	21 219:1	ready 151:23	103:7,8	215:7,8
62:13 70:3	220:10 241:23	236:9	115:16,24	273:11,13
73:16 91:11	259:23 267:14		116:11,16	_
93:1 110:2,17		real 172:15	166:24 167:7,	recognize
121:2,7 147:11	rating 193:10,	real-world	21 176:19,22	62:25 67:11
148:23,24	13 200:16	21:10	177:11 238:10	119:23 160:3
149:8 178:12	reach 263:9		258:1	211:18
188:17,22,24	264:8,12	realistic 266:1		recognizing
207:1 234:9	265:8,22	reality 186:20	REC 102:9	126:10
243:15	266:20 269:6	leanty 100.20	153:1 160:9	
		reason 20:22	163:9,15	recollection
ratepayers	reaching	32:6 44:5 54:1,	166:24 167:21	110:23 122:7,
44:8,14 46:24	263:11	4 60:20,24	181:24 187:11	13,15
68:25 70:4,7	reaction 149:4,	86:15 88:11	recall 26:22	recommend
117:11,15	5,7 259:10	96:18 126:2	65:25 103:4	24:4 189:17
120:11,22	3,7 233.10	153:16 159:2	107:9 108:4,	24.4 103.17
121:9 147:16,	reactions	169:6 171:20	15,17 109:1	recommendati
21 148:12	220:9	174:17 190:19	110:5 122:8	on 104:18
149:6,14,17	read 28:2,4	222:3 240:3	181:12 217:23	272:9
178:10,23	43:4,20,23	259:25	101.12 217.20	recommendati
185:16,25	58:8 63:14	raaaanahla	receive 23:19	ons 92:23
186:10,14	65:2 68:10,19	reasonable	103:23 106:6	0118 92.23
187:4,5 189:3,	69:15 75:25	37:7 65:7 79:2	117:21 128:21	recommends
12,16 192:21		104:5,7	170:14 252:16	178:3
193:1 194:21	76:22 79:19,21 81:3,19 98:19	106:15,19	received 42:6	
195:14 200:14	· ·	124:2,11	62:7 223:23	reconsideratio
201:2 204:12	102:7,15 135:22 136:19	189:3,11 198:8	245:16	n 108:7,12
207:5,11		231:24 232:3	245.10	recontracted
209:8,17,22,23	137:6,13 138:6	272:2	receives	219:25
214:3 220:7	139:3 145:15	reasonablenes	131:19 265:6	
221:3,11	146:11 151:14	s 106:17	racely in a	record 10:15
224:25 225:6,	156:8 180:22		receiving	11:18 24:17
14 235:4	197:2,18 198:2	reasoning	269:12,19	28:13 64:8
239:24 240:2	222:8 223:10,	245:21	recent 13:25	68:12 91:17
245:2,10,13	12 226:2,4	reasons 13:23	42:1 64:2	102:12 115:12
246:7 251:15	227:8	60:22 110:23	87:18 98:1	116:12 127:1,2
252:12,22,25	readily 255:11	117:18 151:12	210:21	158:7 159:3,
253:5 259:17		200:22 260:2		11,16,18
265:20	reading 34:24		recently 19:5	176:12 180:12
rates 15:4	56:20 57:24	rebound 221:6	45:23 97:25	184:3,25 202:7
82:15 96:16,21	78:14 134:8	rebuttal 11:2,6,	108:7 154:15	203:19 223:5,
101:20 106:7	141:22 145:19	19,24 31:5,8,	170:2	12 227:9
101.20 100.7	197:12 198:17			248:15,17,23

Index: recoup..renewable

257:13 273:15,	reduced 12:18	140:2 165:11	reject 178:13	remains 22:17
22	31:21 45:14	referring 25:8	rejected 232:1	remedy 179:5
recoup 188:1,3	127:24 133:10,	47:22 51:25		
191:6	15 151:1 187:18 188:15	251:21 252:7	rejection 162:3	remember
recover 93:3,6	246:22 265:5	refers 202:25	related 76:5	66:8,13,14 91:21 102:25
recover 93.3,6		161613 202.23	113:9,23	103:2 134:8
recovered	reduces	reflect 182:9,	relation 254:18	145:19 157:12
132:14,21	211:19	13 208:10		225:2
recovers	reducing 54:20	248:23	relationship	
246:14	58:17 117:16	reflected	234:12	remove 58:5
	118:21,23	120:19	relative 15:17	158:24 253:3
recovery 62:9 233:8	119:24	reflection	18:7	removed 56:5
233.0	reduction	267:4	release 130:5	98:3 252:20
recross 112:4	35:13 121:8		release 130.3	removing
175:4,5 201:6	126:19 151:11	reflects 85:3	relevance 99:7	192:16 195:9
225:21,22	181:2 195:7	refresh 152:6	relevant 20:14	
RECROSS-	201:2 211:24		26:18 37:10	renew 105:8
EXAMINATION	212:3	refute 23:21	48:14 57:18	renewable 9:8,
225:24	reevaluate	235:25	65:19 67:3,17,	12,19 23:14
RECS 23:16	120:9	regard 48:7	20 68:4,5,7,9	53:13 58:22
110:23 181:9,		235:4	143:25 144:18,	59:9 61:5,11
16,18 187:20,	refer 38:24	regs 192:2	21 151:4	90:13 94:3,23
22 196:19	39:20 40:3		198:15 247:10,	95:11,20
209:19,21	55:10 103:7	regular 227:22	11	102:8,16
214:18,20,22,	155:25 164:8	regulate	reliability	110:20 111:9,
24 236:7,8,9	253:16	204:22	113:22 114:12	11,17,22
radirant 107:2	reference		148:10 198:13	118:12,14,16 119:2,14
redirect 107:3, 4 157:19	57:15,17 58:19	regulation	relies 47:5	120:17 121:13
160:15,16	69:6 128:12	36:15 55:20	232:13 234:7	124:4 125:24
174:10,12	129:22 141:14,	regulations	232.13 234.7	127:9,18,20,23
183:3,4 200:6,	17 145:9	39:1 54:24	relieve 205:20	128:6,11
7 224:20,21	146:22 203:1,4	55:7 108:9	rely 28:16	141:18 142:7
253:9 268:4	referenced	110:9 235:15	120:22	143:14 144:3
rodoc 164:14	40:24 59:12	regulators'		146:24 152:23
redos 164:14	64:4,12 77:5	219:15	remain 79:3	153:3 162:22
reduce 17:24	110:21 129:19	no and at a mar	178:4 258:17 267:11	163:16 167:8
89:14 117:1	143:1,2,18	regulatory 12:12 35:25	207.11	168:15 185:14
119:25 151:9	158:3	36:7,24 40:10	remaining	186:3 194:18
159:15 185:18	referencing	140:11 185:12	130:3,6 131:20	196:16 200:24
187:12 189:18	68:12 132:7		132:1,2,14,18	203:5 204:15 205:6,9,14
204:14 206:2	referred 55:11	rehashing	133:9,22 134:7	206:4,12,15
231:23	reletted 55.11	47:10 113:25	162:2 239:13	207:22 208:3,
				201.22 200.0,
	•	•	•	•

12 209:7	report 15:15	requesting	research	41:14 45:18
210:18,23	75:15 130:19	12:17 56:22	146:25 193:7	47:19 50:24
212:5 216:25		82:23		52:24 70:13
219:21,22	reported 155:9		reservations	71:18 85:22
220:1 221:18,	reporter	requests 27:15	114:10	86:10 87:3
19 228:11	273:24	29:1,3,7,17,19,	residential	91:13 94:6
229:23 230:12		20,22,25 30:11	63:5	95:11 100:13
235:11,18,24	represent 8:16	32:5,7,12,20,		114:15 117:9,
236:3,4,8,14	23:16 64:10	23 103:24	resisting	10 118:12,16,
239:3,5	75:17 129:20	152:9	134:12	17 119:3,7,13,
244:19,25	134:9 170:12	require 46:15	resolution	14 186:1,7
258:19 262:24	210:10 230:22	49:5 53:13	106:12,16	187:3,23
200.10 202.21	238:13 241:2	59:23 74:19	100.12,10	188:3,9,11
renewables	ronrocontativo	108:9 164:7,12	resource 14:1,	189:10 193:20
88:14	representative	198:21,24	5 19:24 20:7,	206:18 208:10
renewals	63:8 180:17	206:19	16 21:6,17,20,	210:18,24
	represented	200.19	24 22:19,23,24	214:3,11
106:10	155:17 227:10	required 13:10	23:2,25 42:2,	·
renewed		22:5 48:19,20	23 43:7 44:7,	221:10 227:23 228:6 232:16
101:17 178:10	representing	51:11 60:14	18,23 46:21	
	8:20,25 9:4	68:21 114:11	47:5,16 49:18,	235:19 242:21
renewing	62:4 148:23	133:12 173:19	19 50:2,3	247:14 249:13
105:3	149:6	205:23 222:13	71:21 72:20	262:19
renews 28:8	represents	233:15 245:8	73:19 84:21,23	respect 37:5
	18:13 64:23		85:4,11 86:12	98:11 109:4
repairs 164:13	69:2 88:4	requirement	95:6 97:11,12,	122:14 159:11
repeat 87:16	154:19	51:20 78:3,17	18,19 98:17	172:4,17 235:8
1 cpcal 0/.10	104.18	79:6 111:21	99:17,19,20,	269:2 273:17
repeated 228:1	reps 62:25	121:14 196:18	22,23 100:14,	
-	63:3	258:24	22,25 100.14,	respectfully
rephrase 36:3	Danubii	roquiromonto	18,20,24,25	163:5 167:16
87:17	Republican	requirements 15:19 78:7	105:2 114:6	respond 37:1
replace 206:10	56:21			98:23
<u>-</u>	request 20:6,9	79:3 109:10	118:14,19,20	90.23
replaced	59:13 71:6	142:17 181:2,	133:18,19	responded
165:15	74:5 87:18	22 186:23	148:25 164:23	87:19 152:10,
replacement	95:2 117:1	189:4,6 196:14	178:19,21	13
45:23 164:8	120:3 124:8	requires 57:13	179:1 186:18	
75.25 104.0	143:14 155:8	63:15 80:8	188:7,14	responding
replacements	161:25 178:3	81:22 82:24	197:10 207:16	56:25
164:13	179:8 197:19	96:2 110:17,18	213:13 219:19	response
ronloos	205:13 270:16		234:13 235:9,	26:17 64:13
replaces	200.10 270.10	requiring	15 243:1,2,4,8,	109:15,17,24
208:14	requested	131:19 247:3	9 250:1,3	124:8 143:3
replacing	99:18 105:20	rerun 52:12	263:8	155:9 158:11
114:13	233:18	IGIUII JZ. IZ	resources	175:6,19
				170.0,10

Index: responses..room

				esponses
222:24 223:20	140:9,10,16	161:14,17	17,21 187:6	3 179:17,18
233:23 271:1	141:3 242:8,14	166:20,21,24	190:21,23	189:25 190:1
	246:17,23,24	167:1,6,7,17,	191:10,11,16,	201:16,17
responses	247:1,3,4,15	21,23 168:3	21 192:3,16,22	202:2,16
22:13	248:6,14	175:15 210:18,	193:3,4,14	203:18,25
responsibilities	249:16,18,21,	23	194:7,11	211:3 223:8
10:23	22 261:24		195:9,12,16,	224:20,22
	262:10,14	Rich's 157:14	21,22 196:2,4	225:18 229:18,
responsible	·	163:21	198:12 211:20,	19 236:20,21
44:9,15	returns 233:2	rights 93:1	24 212:3,7,14,	240:17,18
rest 102:6	revenue 170:8	94:15	16,18,19,25	260:16,17
159:22 175:16	233:2 261:14,	01.10	213:8,9,18,20,	270:5,6,7
109.22 175.10	22 262:2	rigor 179:9	23 214:1,10	271:5,8,15
restrict 55:1	269:12,19	rigorous 19:20	225:9,15	
rectricted	203.12,13	20:6,9 48:16	233:21 241:18	rmcre 63:24
restricted	revenues	49:21 74:4	242:9,15	68:17 75:12
123:3	138:14,22	182:20	245:5,12,13	84:15 136:21
rests 114:23	169:14 261:19	102.20	246:2,11,16,	139:24 230:13
1, 45.40	262:15	rigorously	19,22 247:14	231:5 238:6,21
result 15:10,	******* 40.05	182:5	249:11,12,23	257:23 258:12
12,22 16:7	review 13:25	-!-!- 47.00.00	250:2,6 256:19	road 87:8
19:23 21:14	16:15 20:2,9	risk 17:20,22	261:4	112:1 119:5
32:5,12 70:24	31:5 38:11	18:13,16	201.4	112.1 119.5
84:8 108:25	48:12,16 49:3,	19:13,16,17	risk-mitigating	Rocky 8:3,11
147:12 198:7	22 52:22 56:22	33:3,6,7,22	187:19	9:8 10:18
207:5 221:15	74:4,18,20	54:6,10 66:25	riekier 207:0	51:10 91:6
resulted	76:1 82:20,25	68:24 69:4,9	riskier 207:9	140:6 171:16,
180:19	83:4,7 115:21	70:3,4,7,10,11	risks 13:11	22 185:18
	122:21 139:11	71:15,16,19,	63:12 64:25	204:13,17
results 85:10,	151:7	20,23 72:13	120:6,10 139:5	205:19 206:7,
18 180:21	reviewed	73:16 79:15,23	187:24 195:11,	17,21 207:8
retail 14:13,16	124:16 127:12	80:6 104:2,4,6,	15 212:6,10,	208:12,16,22
198:9 199:7	135:1 176:16	10,15 106:21,	11,12,13,14	209:8 210:6
220:22	184:8	22,25 109:3,20	213:1 224:25	215:16 223:4
220.22		111:3 117:11	225:7 233:13,	229:23 230:12
retained	revise 93:14	121:17 129:13,	25 258:24	235:23 238:3
181:16	RFP 20:6 47:18	16 132:20	259:13,19	239:9 260:5
retains 23:13	95:12,13,24	133:8,10,14,22	·	
1 ClaillS 23.13	96:7,11	135:17 136:4	risky 139:17,	role 42:4
retard 256:6		137:22 139:8,	18,19 207:9	105:16 165:8
rotiromont	RFPS 95:15	12 140:17	Ritchie 9:3,4	189:9 204:21
retirement	206:16	146:7,21	24:12 42:9,11,	Rolling 96:11,
33:10,13	rich 9:13	147:11 149:1,	12 54:11 107:7	15,21
return 93:21	102:8,15	25 150:3	112:11,12	,
94:4 95:21	141:22 156:25	178:23 181:1	123:19,20	room 9:17 63:1
135:15 139:14	171.22 100.20	186:14,15,16,	166:2,3 171:2,	122:6 247:21
	1	1	1	1

Index: rose..set 251:2 **safer** 185:11 **save** 271:3 semi 42:21 section 38:25 69:1 39:1 57:15,22 rose 106:22 **sale** 128:21 **saving** 43:18 65:5 76:19 169:9 172:16 149:23 seminars Roseville 159:23.24 199:2 236:10 193:7 186:12 198:21, 145:16 **savings** 42:25 **sales** 54:3 45:14 87:8 24 206:9 226:4 **send** 87:12 roughly 85:21 108:22 138:17 **senior** 257:18 scale 258:19 sections 55:10 191:6 199:1,7 round 86:22 88:9 271:20 259:16 scales 50:6 **secure** 64:24 **sense** 125:8 69:3 120:5 140:14 170:17 **Salt** 184:6 **rounds** 57:12 scenario 188:20 200:17 255:6 256:7 113:21,23 242:13 **route** 121:19 **Sanger** 9:11,21 125:10 173:10 sensitive 96:9 24:13 91:17 security 233:2 routinely 27:12 92:5.7 95:19 schedule 24:6, sentence 79:1 233:15 98:8,12,14,16, 7 96:24 97:1,2, **seek** 193:22 153:12,20 22 99:11 242:13 262:10 3,5,6,12,15 154:2 156:7,8 **RPG** 111:12 102:12,13 98:4 99:8 226:4 seeking 12:14 **RPS** 196:14 107:1 112:18, 103:18 104:9 254:5,12 221:19 sentences 19 113:3 106:1 161:20 26:25 27:11 151:23,25 172:24 173:1, **seeks** 232:10 rule 56:13 71:7 152:18,20,21 2,10,20 246:11 99:4 separate 28:22 153:2 157:16, 179:10,11 133:3 160:5 **sees** 110:13 ruling 64:3 20,22 158:10, 233:3 251:21 197:19 separately 12,24 159:10, 253:20,21,23, **select** 84:24 91:22 13,21 160:10, 25 270:8 272:2 88:7 **rulings** 37:11 12,13 161:9,13 September scheduled selected 86:11. run 46:15 97:4 162:8,10,19 254:4 158:16 16 187:13 222:18 163:5,10 **serve** 110:10 243:9,20 165:22,23 Schedules selects 95:13 244:2,5,10,14 166:18,19 12:16 served 232:24 **sell** 54:7,8 167:5,16,23 run-ups 210:2 scheduling 102:18 104:22 service 8:6 170:23 174:11, 161:18 113:18 128:19 35:25 36:6,24 running 208:25 13 175:3,6,15, 153:13 168:16 40:10 64:3 243:2,8 20,22,23 **school** 170:7 169:11 173:6 94:20 98:2 179:21,22 rush 32:17 **scope** 25:20 174:17 243:10 157:8 186:22 190:4,5 211:9, 222:23 226:9 56:7,9,14 255:11 189:17 204:16 10 240:19,20 98:10 122:7,14 205:14 212:24 260:18,19 **selling** 105:11 S 269:10,11,18 273:1,2 **search** 145:10 153:23 171:21, 25 172:1,8 services 8:21, Sarah 9:1 saddle 111:2 **season** 173:9 173:10 174:2, 22 10:18 183:17,22 seasonal 173:4 18 114:10 176:15 **safe** 180:20 184:4 **sells** 45:6 safeguard seated 24:16 set 13:4 31:21 **sat** 62:15

185:17

51:1 84:25

Index: setting..solar

97:1,2.7 108:14 117:18 118:14 133:3 134:20 184:20 207:2,15 213:25 228:5 265:15 269:4 setting 36:17 50:4 208:7 19:20 2254,14 setting 36:17 50:4 208:7 19:20 2254,14 sortage 85:22 218:19 66:4,16,18 seven-year 100:22 131:5 shareholders 94:17 95:5 shorter 60:16 84:8 12:24 sharing 93:9 short 140:3,5, 25 241:12,15 shorter 60:16 84:8 12:24 sharing 93:9 141:17 182:17 229:5 241:23, 252:56:15 252:11 163:72 shorter 140:24 sharing 93:9 141:17 182:17 229:5 241:23, 252:56:15 252:11 163:72 shorter 140:24 sharing 93:9 141:17 182:17 229:5 241:23, 252:56:15 252:11 163:72 shorter 140:24 sharing 93:9 141:17 182:17 229:5 241:23, 252:56:15 252:11 163:72 shorter 140:24 sharing 93:9 141:17 182:17 229:5 241:23, 252:56:15 252:11 163:72 shorter 140:24 sharing 93:9 141:17 182:17 229:5 241:23, 252:56:15 252:11 163:72 shorter 140:24 sharing 93:9 141:17 182:17 229:5 241:23, 252:56:15 252:11 163:72 shorter 140:24 sharing 93:9 140:25 50:18 119:72:16 94:1 241:17 182:17 110:22 25:11 110:17 228:12 242:3 250:2 24:3 250:2 242:3 250:2 242:3 250:2 242:3 250:2 24:14:14 26:3 27:16 94:1 241:7 182:17 110:22 241:7 129:12 241:7 129:2 241:17 122:12 241:17 182:17 110:10 94:1 252:11 163:17 110:21 17:22 110:10 10:10 10:10 10:10 12 110:31 110:31 1 25:25 114 25:25 118 25:25 118 25:29:13 266:4 17:20 13:5 110:10 17:10 12 110:31 110:31 1 121:18 143:7 122:18 133:4 17:18 252:11 163:17 121:18 143:7 132:10 93:14 24:13 29:12 24:17:18 24:17 18 23:17 19:20 25:11 110:17 122:11 110:17 122:11 110:17 122:11 110:17 122:11 110:17 122:11 110:17 122:11 110:17 122:11 110:17 122:11 110:17 122:11 110:17 122:11 11					
118:14 133:3		•			163:19 266:11
181-14 134-20 141-14 146-25 149-2 157-9 141-14 146-25 149-2 157-9 141-14 146-25 149-2 157-9 165-17 185-17 19-20 125-4 149-2 157-9 149-2 157-9 149-2 157-9 149-2 157-9 149-2 157-9 149-2 157-9 149-2 157-9 149-2 157-9 149-2 157-9 149-2 157-9 149-2 157-9 149-2 157-9 149-2 157-9 149-2 157-9 149-2 157-9 149-2 157-9 149-2 157-9 149-2 157-9 149-2 157-9 149-2 159-10 149-2 159-2 1	108:14 117:18	21 128:10	133:25 142:8	133:10,11	skin 64:22
141:14 146:25 207:215 213:25 228:5 265:15 269:4 186:18 195:10 198:12 199:14 250:7 207:17, 19.20 225:4,14 250:18,19 255:14 263:3 267:13 263:4 20:22 271:17 222:103:9; 141:7 162:2 271:17 222:12 271:17 228:12 271:17 228:12 271:17 228:12 271:17 228:12 271:17 228:12 271:17 228:12 271:17 228:12 271:18 271:18 271:19:17 271:14 27	118:14 133:3	134:19 139:12	146:4	191:9 217:22	_
2012/15/18	134:20 184:20	141:14 146:25	chut 242:4	242:3 250:2	191.22
249:14 260:9 260:9 260:17 260:17 260:17 260:17 260:17 260:17 260:17 260:17 260:17 260:20 260:17 260:20 260	207:2,15	149:2 157:9		252:9,12 256:6	slams 173:22
setting 36:17 50:4 208:7 198:12 199:14 205:7 207:17, 19,20 225:4,14 similar 22:18, 23:32:14 33:9 40:2 50:17 72:16 94:1 97:2,24 109:13 42:4 63:5 97:2,24 109:13 42:4 63:5 97:2,24 109:13 42:4 63:5 97:2,24 109:13 42:4 63:5 97:2,24 109:13 42:4 63:5 97:2,24 109:13 42:4 63:5 97:2,24 109:13 141:7 162:2 164:18 210:21 211:17 228:12 201:17 202:18 204:7, shortened 106:14 233:23 209:11 210:25 shortening 81:22 190:15, 25 241:12,15 shareholders 94:17 95:5 140:24 84:8 124:24 141:17 182:17 sharing 93:9 sheet 140:3,5, 25 256:15 2514:5 shorted 147:19 shorts 50:7 shorted 61:2,5 83:20 86:4 93:16 107:16 163:11 167:24 209:3 210:6 215:5 13 73:16 161:25 12:15:5 13 73:16 163:11 167:24 209:3 210:6 215:5 5 13:10 29:12 29:12 21:12 29:12 21:12 29:12 21:12 29:12 21:12 29:12 21:12 29:12 21:12 29:12 29:12 21:12 29:12 29:12 21:12 29:12 29:12 21:11 13:17 23:15 59:6 15:19 13:17 23:17:20 77:18 83:7 77:18 83:7 73:16 155:9:6 short-run 29:12 29:12 21:11 13:17 23:17:20 38:04:14 17:12 21:24 39:17:209 7 23:11 13:17 23:17:20 38:14 14:25 8hort-term 43:15 59:6 76:9 79:3 8:61:4 107:13 shows 49:25 10:22 26:6:15 200:24 205:15 200:24 205:15 200:24 205:15 200:24 205:15 200:24 205:15 200:24 205:15 200:24 205:15 200:24 205:15 200:24 205:15 200:24 205:15 200:24 205:15 200:24 205:15 200:24 205:15 200:24 205:15 200:24 205:15 200:24 205:15 200:24 205:15 200:24 205:15 200:24 205:15 207:20 21 similar 22:18, 30:23 32:14 33:9 40:2 50:17 72:16 94:1 30:23 32:14 42:4 63:5 77:22 4109:13 30:23 42:4 63:5 77:22 4109:13 30:23 42:4 63:5 77:22 4109:13 30:23 42:4 63:5 77:22 4109:13 30:23 42:4 63:5 70:22 103:9, 14:17 120:25 31:15 59:10:17 120:25 30:11 1	213:25 228:5	165:17,18	244:14	260:9	
setting 36:17 50:4 208:7 198:12 199:14 205:7 207:17, 19.20 225:4,14 73:19 168:17 193:4 246:5 23 23:14 33:9 40:2 50:17 72:16 94:1 72:16 94:1 97:224 103:2 18:19 93:13 109:14 33:9 40:2 50:17 72:16 94:1 97:2,24 109:13 424:63:5 70:22 103:9, 141:7 162:2 11:17 228:12 11:17 228:12 11:17 228:12 11:17 228:12 11:17 228:12 11:17 228:12 11:17 228:12 11:17 228:12 11:17 228:12 11:17 228:12 11:17 228:12 11:17 228:12 11:17 228:12 11:18 143:7 15:23 107:20 11:19:7 12:18 143:7 15:23 107:20 11:19:7 12:18 143:7 15:23 107:20 11:19:7 12:18 143:7 15:23 107:20 11:19:7 12:18 143:7 15:23 107:20 11:19:7 12:18 143:7 15:23 107:20 11:19:7 12:18 143:7 15:23 107:20 11:19:7 12:18 143:7 15:23 107:20 11:19:7 12:18 143:7 15:23 107:20 11:19:7 12:18 143:7 15:23 107:20 11:19:7 12:18 143:7 15:23 107:20 11:19:7 12:18 143:7 15:23 107:20 11:19:7 12:18 143:7 15:23 107:20 11:19:7 12:18 143:7 15:23 107:20 11:19:7 12:18 143:7 15:23 10:19:19:19:19:19:19:19:19:19:19:19:19:19:	265:15 269:4	186:18 195:10	side 72:13		
setting 36:17 205:7 207:17, 19,20 225:4,14 193:4 246:5 250:17 72:16 94:1 97:22 410:39 263:3 267:13 small 30:23 42:4 63:5 97:2,24 100:13 70:22 103:9, 14,17 105:2,8, 11,16,7,23 106:1,43,913, 106:1,3,913, 10		198:12 199:14		· ·	l .
50:4 208:7 19,20 225:4,14 250:18,19 40:250:17 small 30:23 42:4 63:5 70:22 103:9 42:4 63:5 70:22 2103:9 42:4 63:5 70:22 2103:9 42:4 63:5 70:22 2103:9 42:4 63:5 70:22 2103:9 42:4 63:5 70:22 2103:9 42:4 63:5 70:22 2103:9 42:4 63:5 70:22 2103:9 42:4 63:5 70:22 2103:9 42:4 63:5 70:22 2103:9 42:4 63:5 70:22 2103:9 42:4 63:5 70:22 2103:9 42:4 63:5 70:22 2103:9 42:13 201:17 22:4 103:13 42:4 63:5 70:22 2103:9 14,17 162:2 42:13 201:17 226:115 20:11 42:13 201:17 226:11 22:12 226:11 22:12 226:11 22:12 226:11 22:12 226:11 22:12 226:11 22:12 226:11 22:12 226:12 11:17 228:12 119:7 121:18 143:7 152:11 163:17 152:11 163:17 152:11 163:17 152:11 163:17 152:11 163:17 172:14 177:18 172:14 177:18 172:14 177:18 172:14 177:18 172:14 177:18 172:14 177:18 172:14 177:18 172:14 177:18 172:14 177:18 172:14 177:18 172:14 177:18 173:12 163:17 172:14 177:18 173:12 21:24 173:12 21:24 <td></td> <td>205:7 207:17,</td> <td></td> <td></td> <td>263:3 267:13</td>		205:7 207:17,			263:3 267:13
settled 66:22 settlement shortage 85:22 218:19 254:17,18 255:14 72:16 94:1 37:22 4109:13 141:7 162:2 103:9, 141:7 163:13 103:3 Shortened 8:70:20:11:7 202:18 204:7, 246:7 247:17 Similarities 119:7 119:7 121:18 143:7 15:23 107:20 110:3, 11 share 14:25 shareholders 94:17 95:5 140:24 sharing 93:9 shorter 60:16 84:8 124:24 24 229:5 241:23, 229:5 2	50:4 208:7	-			small 30:23
settlement 66:4,16,18 shorten 208:4 255:14 141:7 162:2 70:22 103:9, 14,17 105:2,8, 11,16,17,23 seven-year 100:22 131:5 shortened 210:22 20:18 204:7, 202:18 204:7, 202:18 204:7, 202:18 204:7, 202:18 204:7, 202:18 204:7, 202:18 204:7, 202:19 202:15 202:10.25 similarities 1106:14,3,9,13, 15,23 107:20 1103,11 121:18 143:7 1523 107:20 110:3,11 121:18 143:7 152:21 106:13,9,13, 15,23 107:20 152:23 107:20 110:3,11 121:18 143:7 152:31 107:20 110:3,11 121:18 143:7 152:31 107:20 110:3,11 121:18 143:7 152:31 107:20 110:3,11 121:18 143:7 152:21 1163:17 152:21 163:17 172:14 177:18,27	settled 66:22		,		
settlement 218:19 Sierra 9:4 141:7 162:2 14,17 105:2,8, 11,6,17,23 seven-year 210:22 shorten 208:4 Sierra 9:4 14:17 105:2,12 14,17 105:2,8, 11,6,17,23 severly 259:6 shortened shortened 200:18 204:7, 8,17 207:25 similarities 15,23 107:20 share 14:25 shortening 81:22 190:15, 25 241:12,15 sign 31:15 49:1 similarities 119:7 121:18 143:7 shareholders 94:17 95:5 shorter 60:16 84:8 124:24 203:8,10 210:20 253:1 simple 98:5 simpl		_	'	,	
66:4,16,18 shorten 208:4 210:22 Sterra 9:4 42:13 201:17 202:18 204:7, 202:18 204:7, 246:7 247:17 11,16,17,23 106:1,3,9,13, 15,23 107:20 severely 259:6 shortened 106:14 233:23 shortened 209:11 210:25 270:9,16,20 similarities 119:7 similarities 119:7 similarities 119:7 similarity 119:7 similarity 117:23 156:9, 100:10 170:12 172:14 177:18, 25 251:24 shorter 60:16 84:8 124:24 14:17 182:17 229:5 241:23, 25 256:15 261:15,20 signaling 200:10 170:12 173:9 236:12 173:9 236:12 173:9 236:12 simple 98:5 100:10 170:12 173:9 236:12 173:9 2	1	218:19			,
seven-year 210:22 42:13 201:17 202:18 204:7, 202:18 204:7, 202:18 204:7, 202:18 204:7, similarities 246:7 247:17 106:1,3,9,13, 15,23 107:20 share 14:25 shortening 185:7 shortening 81:22 190:15, 25 241:12,15 sign 31:15 49:1 62:7 142:9 203:8,10 similarities 117:23 156:9, 10 117:23 156:9, 10 15:23 107:20 shareholders 94:17 95:5 140:24 shorter 60:16 84:8 124:24 141:17 182:17 229:5 241:23, 209:5 241:23, 25:256:15 265:15 signaling 203:8,10 simple 98:5 100:10 170:12 173:9 236:12 1	66:4,16,18	shorten 208:4			1
Severely 259:6 Shortened 106:14 233:23 209:11 210:25 270:9,16,20 119:7 152:3107:20 110:3,11 121:18 143:7 125:61 140:24 141:17 182:17 229:5 241:23, sharing 93:9 25 241:23, sheet 140:3,5, 25 141:5 Shorte 61:15,20 Shorte 147:19 Shorte 61:25 Shor	SOVON-VOST				, , ,
severely 259:6 360rtened 106:14 233:23 81,7 207:25 270:9,16,20 similarities 119:7 110:3,11 121:18 143:7 share 14:25 185:7 shortening 81:22 190:15, 25 241:12,15 sign 31:15 49:1 62:7 142:9 203:8,10 203:8,10 203:8,10 203:8,10 203:8,10 203:8,10 203:8,10 203:8,10 203:8,10 203:8,10 203:8,10 203:8,10 203:8,10 203:8,10 203:8,10 203:8,10 203:8,10 203:8,10 203:25 241:23, signaling sheet 140:3,5, 25 256:15 261:15,20 short 61:25, 261:15,20 short 9:14 205:2 35:10 simply 22:16 51:10 94:15 205:16 208:2 35:10 simply 22:16 51:10 94:15 205:16 208:2 32:21 snapshot 29:13 shows 47:7 short 61:2,5 83:20 86:4 93:16 107:16 163:11 167:24 209:3 210:6 215:5 show 47:7 55:13 73:16 77:23 91:10 19:6 125:12 126:18 142:6 157:11 208:21 214:11 231:18 short-run 229:12 short-term 43:15 59:6 76:9 79:3 86:14 107:13 shows 49:25 shows 49:25 simple 10:3,11 10:3,11 121:18 143:7 144:3,17 152:11 163:17 144:3,17 152:11 163:17 144:3,17 152:11 163:17 142:3 156:9, 10 203:8,10 20:20 253:1 100:10 170:12 173:9 236:12 173:13 183:4 183:4 179:13 183:4 179:13 183:4 179:13 1		210.22	· ·	246:7 247:17	1
severely 259:6 106:14 233:23 209:11 210:25 270:9,16,20 119:7 121:18 143:7 share 14:25 185:7 shortening 81:22 190:15, 25 241:12,15 sign 31:15 49:1 62:7 142:9 203:8,10 203:8,10 203:8,10 203:8,10 203:8,10 203:8,10 203:8,10 210:20 253:1 268:20 similarly 17:23 156:9, 10 17:21 17:23 156:9, 10 25 25:124 15:11 163:17 17:14 177:18, 25 251:24 17:20 25:3:1 268:20 simple 98:5 100:10 170:12 173:9 236:12 173:9 236:12 173:9 236:12 smaller 30:10 33:22 102:22 103:15,17,18 106:25 191:23 smarter 185:11 33:22 102:22 103:15 110 94:15 205:16 208:2 232:21 smarter 185:11 106:25 191:23 smarter 185:11 113:17 13:1	100.22 131.3	shortened	8,17 207:25	similarities	1
share 14:25 shortening 270:9,16;20 similarly 144:3,17 shareholders 94:17 95:5 shorter 60:16 84:8 124:24 203:8,10 simple 98:5 100:10 170:12 smaller 30:10 33:22 102:22 103:15,17,18 25 251:24 sharing 93:9 shorter 60:16 84:8 124:24 141:17 182:17 229:5 241:23, signaling simple 98:5 smaller 30:10 33:22 102:22 103:15,17,18 25 251:24 sheet 140:3,5, 25 141:5 25 256:15 25 256:15 235:10 simply 92:16 106:25 191:23 smaller 30:10 33:22 102:22 103:15,17,18 25 251:24 smaller 30:10 33:22 102:22 103:15,17,18 25 251:24 smaller 30:10 33:22 102:22 103:15,17,18 25 251:24 106:25 191:23 smaller 30:10 33:22 102:22 103:15,17,18 25 251:24 106:25 191:23 smaller 30:10 33:22 102:22 103:15,17,18 25 251:24 106:25 191:23 106:25 191:23 106:25 191:23 smarter 185:11 25 25:16 205:16 208:2 232:21 smarter 185:11 318:4 30:19,13 31:18 32:11 33:7 32:13 32:13 <t< td=""><td>severely 259:6</td><td>106:14 233:23</td><td>209:11 210:25</td><td></td><td>1</td></t<>	severely 259:6	106:14 233:23	209:11 210:25		1
185:7 81:22 190:15, 25 241:12,15 sign 31:15 49:1 62:7 142:9 203:8,10 210:20 253:1 203:8,10 210:20 253:1 20:20 2	ahara 44:05	chartoning	270:9,16,20	113.1	
shareholders 25 241:12,15 62:7 142:9 117:23 156:9, 172:14 177:18, 25 251:24 94:17 95:5 shorter 60:16 84:8 124:24 210:20 253:1 simple 98:5 smaller 30:10 33:22 102:22 smaller 30:10 33:22 102:22 103:15,17,18 25 251:24 smaller 30:10 33:22 102:22 103:15,17,18 25 251:24 smaller 30:10 33:22 102:22 103:15,17,18 100:10 170:12 smaller 30:10 33:22 102:22 103:15,17,18 100:25 191:23 smaller 30:10 33:22 102:22 103:15,17,18 100:25 191:23 100:10 170:12	1	_	aim 24:45 40:4	similarly	'
shareholders 94:17 95:5 shorter 60:16 203:8,10 210:20 253:1 25 251:24 sharing 93:9 short 141:17 182:17 229:5 241:23, signaling simple 98:5 smaller 30:10 33:22 102:22 sheet 140:3,5, 25 141:5 25 256:15 235:10 simply 22:16 51:10 94:15 106:25 191:23 shine 147:19 shortly 9:14 205:2 shoulder 89:25 32:21:24 smarter 185:11 shoes 50:7 shoulder 89:25 34:6,9,10 sir 179:13 social 137:5 83:20 86:4 93:16 107:16 show 47:7 55:13 73:16 55:13 73:16 significant 32:11 33:7 site 59:20 222:1,5,6 223:24 269:17 37:9 89:11,18 42:5 50:6 88:1,3 37.9 89:11,18 94:2 103:5 105:23 106:5 1	185:7	•		117:23 156:9,	
94:17 95:5 140:24 shorter 60:16 84:8 124:24 141:17 182:17 229:5 241:23, sheet 140:3,5, 25 141:5 shortly 9:14 205:2 235:10 signed 14:22 173:9 236:12 simple 98:5 100:10 170:12 173:9 236:12 smaller 30:10 33:22 102:22 103:15,17,18 shores 50:7 shortly 9:14 205:2 shortly 9:14 205:2 signed 14:22 17:12 21:24 30:9,20 32:5 34:6,9,10 sir 179:13 58:23 251:18 252:9,13 266:4 smaller 30:10 33:22 102:22 103:15,17,18 smarter 185:11 smapshot 29:13 smapshot 29:13 smapshot 29:13 solar 32:18 42:5 50:6 88:1, 3,7,9 89:11,18 94:2 103:5 105:23 106:5 105:23 106:5 105:23 106:5 105:23 106:5 105:23 106:5 105:23 106:5 138:13 143:9, 15,19 145:10 146:12 148:5 200:24 205:15 200:24 205:15 situation 32:14 125:6 128:5 200:24 205:15 146:12 148:5 200:24 205:15 200:24 205:15 200:77 208:6, 17.20.21	shareholders	25 241:12,15		10	· ·
140:24 84:8 124:24 141:17 182:17 229:5 241:23, 268:20 simple 98:5 100:10 170:12 173:9 236:12 smaller 30:10 33:22 102:22 103:15,17,18 sheet 140:3,5, 25 141:5 25 256:15 261:15,20 235:10 simply 22:16 51:10 94:15 205:16 208:2 smarter 185:11 shore 50:7 short 61:2,5 83:20 86:4 93:16 107:16 163:11 167:24 209:3 210:6 show 47:7 55:13 73:16 77:23 91:10 29:12 significant 32:11 33:7 37:20 38:25 77:18 83:7 39:217 209:7 site 59:20 222:1,5,6 223:24 269:17 solar 32:18 42:5 50:6 88:1, 3,7,9 89:11,18 94:2 103:5 105:23 106:5 114:2,5,8 138:13 143:9, 15,19 145:10 short-term 43:15 59:6 76:9 79:3 86:14 107:13 shows 49:25 shows 49:25 shows 49:25 shows 49:25 shows 49:25 situation 32:14 125:6 128:5 236:6 146:12 148:5 200:24 205:15 short-term 43:15 59:6 76:9 79:3 86:14 107:13 shows 49:25 shows 49:25 shows 49:25	1	shorter 60:16	·		25 251:24
sharing 93:9 141:17 182:17 229:5 241:23, 229:5 241:23, 229:5 241:23, 225:10 signaling 33:22 102:22 103:15,17,18 106:25 191:23 sheet 140:3,5, 25 256:15 25 256:15 235:10 simply 22:16 208:2 205:16 208:2 205:16 208:2 205:16 208:2 205:16 208:2 203:21 smarter 185:11 shoes 50:7 shoulder 89:25 173:7 34:6,9,10 58:23 251:18 252:9,13 266:4 sir 179:13 183:4 Social 137:5 83:20 86:4 93:16 107:16 163:11 167:24 209:3 210:6 215:5 show 47:7 55:13 73:16 77:23 91:10 19:6 125:12 126:18 142:6 119:6 125:12 126:18 142:6 157:11 208:21 29:12 significant 32:11 33:7 37:20 38:25 77:18 83:7 105:23 106:5 105:23 106	1			· -	smaller 30:10
sharing 93:9 229:5 241:23, 25 256:15 signaling 173:9 236:12 103:15,17,18 sheet 140:3,5, 25 256:15 235:10 simply 22:16 106:25 191:23 shine 147:19 shortly 9:14 205:2 shoulder 89:25 34:6,9,10 sir 179:13 snapshot short 61:2,5 show 47:7 show 47:7 significant sit 34:1 solar 32:18 42:5 50:6 88:1, 32:11 33:7 significant 32:11 33:7 site 59:20 37,9 89:11,18 29:12 short-run 126:18 142:6 139:8 186:8,13 sites 136:13 14:2,5,8 short-term shown 113:17 239:17,20 situation 32:14 146:12 148:5 43:15 59:6 76:9 79:3 shows 49:25 26:122 267:20 26:122 267:20 236:6 20:24 205:15 86:14 107:13 shows 49:25 36:12 207:7 208:6, 17,20.21		141:17 182:17	268:20		
sheet 140:3,5, 25 141:5 25 256:15 261:15,20 235:10 simply 22:16 51:10 94:15 205:16 208:2 106:25 191:23 shine 147:19 shortly 9:14 205:2 30:9,20 32:5 34:6,9,10 30:9,20 32:5 sir 179:13 183:4 snapshot 29:13 short 61:2,5 83:20 86:4 93:16 107:16 163:11 167:24 209:3 210:6 215:5 show 47:7 55:13 73:16 77:23 91:10 19:6 125:12 126:18 142:6 157:11 208:21 214:11 231:18 significant 32:11 33:7 37:20 38:25 77:18 83:7 139:8 186:8,13 192:17 209:7 214:4 235:8 136:13 site 59:20 222:1,5,6 223:24 269:17 105:23 106:5 105:23 10	sharing 93:9		signaling	173:9 236:12	
25 141:5 261:15,20 signed 14:22 51:10 94:15 smarter 185:11 shine 147:19 shortly 9:14 205:2 30:9,20 32:5 32:21 snapshot short 61:2,5 shoulder 89:25 34:6,9,10 sir 179:13 solar 32:18 83:20 86:4 93:16 107:16 show 47:7 55:13 73:16 significant sit 34:1 solar 32:18 209:3 210:6 77:23 91:10 37:20 38:25 77:18 83:7 site 59:20 37,9 89:11,18 short-run 19:6 125:12 126:18 142:6 157:11 208:21 139:8 186:8,13 sites 136:13 142:25,8 short-term shown 113:17 239:17,20 situation 32:14 146:12 148:5 43:15 59:6 76:9 79:3 shows 49:25 261:22 267:20 236:6 200:24 205:15 86:14 107:13 shows 49:25 35:00 36:12 36:6 36:6 37:20.21	sheet 140:3.5	•		simply 22:16	1
shine 147:19 shortly 9:14 205:2 30:9,20 32:5 32:221 snapshot short 61:2,5 shoulder 89:25 34:6,9,10 sir 179:13 Social 137:5 83:20 86:4 93:16 107:16 show 47:7 55:13 73:16 32:11 33:7 sit 34:1 solar 32:18 209:3 210:6 215:5 119:6 125:12 77:23 91:10 37:20 38:25 77:18 83:7 sites 59:20 222:1,5,6 223:24 269:17 94:2 103:5 short-run 157:11 208:21 139:8 186:8,13 192:17 209:7 sitting 56:10 138:13 143:9, short-term 43:15 59:6 76:9 79:3 shows 49:25 49:25 200:24 205:15 200:24 205:15 207:7 208:6, 17.20.21 shows 49:25 shows 49:25 36:14 107:13 36:6 236:6 236:6 17.20.21	1 ' '				
shine 147:19 shortly 9:14 205:2 17:12 21:24 30:9,20 32:5 34:6,9,10 58:23 251:18 252:9,13 266:4 232:21 snapshot 29:13 short 61:2,5 83:20 86:4 93:16 107:16 16:3:11 167:24 209:3 210:6 215:5 show 47:7 55:13 73:16 77:23 91:10 119:6 125:12 126:18 142:6 157:11 208:21 214:11 231:18 significant 32:11 33:7 37:20 38:25 77:18 83:7 105:23 106:5 site 59:20 222:1,5,6 223:24 269:17 105:23 106:5 solar 32:18 42:5 50:6 88:1, 3,7,9 89:11,18 94:2 103:5 105:23 106:5 sites 136:13 14:2,5,8 138:13 143:9, 15,19 145:10 146:12 148:5 261:22 267:20 266:6 short-term 43:15 59:6 76:9 79:3 86:14 107:13 shows 49:25 shows 49:25 shows 49:25 shows 49:25 32:21:24 23:24 269:17 202:1,5,6 223:24 269:17 202:1,5,6 223:24 269:17 203:24 269:17 203:24 205:15 207:7 208:6, 17.20.21		·	. •		smarter 185:11
shoes 50:7 short 61:2,5 30:9,20 32:5 34:6,9,10 sir 179:13 29:13 83:20 86:4 93:16 107:16 show 47:7 58:23 251:18 252:9,13 266:4 sit 34:1 solar 32:18 409:3 210:6 55:13 73:16 77:23 91:10 32:11 33:7 37:20 38:25 37:18 83:7 37:20 38:25	shine 147:19	,			snanshot
short 61:2,5 shoulder 89:25 34:6,9,10 sir 179:13 83:20 86:4 93:16 107:16 58:23 251:18 183:4 Social 137:5 93:16 107:16 show 47:7 55:13 73:16 sit 34:1 solar 32:18 163:11 167:24 209:3 210:6 77:23 91:10 32:11 33:7 37:20 38:25 37:18 83:7 215:5 119:6 125:12 37:20 38:25 77:18 83:7 223:24 269:17 37:23 106:5 short-run 157:11 208:21 139:8 186:8,13 sites 136:13 114:2,5,8 29:12 214:11 231:18 shown 113:17 214:4 235:8 situation 32:14 15,19 145:10 43:15 59:6 134:17 147:2 252:3,16 252:3,16 200:24 205:15 76:9 79:3 26:14 107:13 26:122 267:20 236:6 207:7 208:6 86:14 107:13 34:6,9,10 34:6,9,10 34:6,9,10 34:6,9,10 34:6,9,10 34:6,9,10 34:6,9,10 34:6,9,10 34:6,9,10 34:6,9,10 34:6,9,10 34:1 36:14 36:14 36:14 36:14 36:14 36:14 36:14	shoes 50.7	205:2			-
short 61:2,5 83:20 86:4 173:7 58:23 251:18 183:4 social 137:5 83:20 86:4 93:16 107:16 show 47:7 sit 34:1 solar 32:18 163:11 167:24 55:13 73:16 32:11 33:7 37:20 38:25 37:20 38:25 37:18 83:7 222:1,5,6 223:24 269:17 94:2 103:5 19:6 125:12 126:18 142:6 157:11 208:21 139:8 186:8,13 192:17 209:7 138:13 143:9, 144:2,5,8 138:13 143:9, 155:19 145:10 157:19 145:10 146:12 148:5 252:3,16 252:3,16 252:3,16 252:3,16 252:3,16 252:3,16 252:6 128:5 200:24 205:15 207:7 208:6, 17.20.21	311063 30.7	shoulder 89:25			
83:20 86:4 93:16 107:16 163:11 167:24 209:3 210:6 215:5 short-run 229:12 short-term 43:15 59:6 76:9 79:3 86:14 107:13 252:9,13 266:4 sit 34:1 site 59:20 222:1,5,6 223:24 269:17 37:20 38:25 77:18 83:7 139:8 186:8,13 192:17 209:7 214:4 235:8 239:17,20 239:17,20 252:3,16 252:3,16 252:3,16 252:3,16 236:6 236:6 17.20.21	short 61:2,5			183:4	Social 137:5
93:16 107:16 show 47:7 significant 32:11 33:7 37:23 91:10 32:11 33:7 37:20 38:25 37:13 37:14 37:20 38:25 37:18 83:7 37:20 38:25 37:18 83:7 37:18 83:7 37:18 83:7 37:18 83:7 37:18 83:7 37:18 83:7 37:18 83:7 37:18 83:7 37:18 83:7 37:18 83:7 37:18 83:7 37:18 83:7 39:11,18 94:2 103:5 105:23 106:5 105:23 106:5 114:2,5,8 138:13 143:9 114:2,5,8 138:13 143:9 138:13 143:9 157:19 145:10 146:12 148:5 200:24 205:15 200:24 205:15 207:7 208:6 207:7 208:6 17.20.21	83:20 86:4	170.7	252:9,13 266:4	sit 34·1	solar 32:19
163:11 167:24 55:13 73:16 32:11 33:7 37:20 38:25 37:20 38:25 37:20 38:25 37:20 38:25 37:20 38:25 37:20 38:25 37:20 38:25 37:20 38:25 37:20 38:25 37:20 38:25 37:20 38:25 37:20 38:25 37:20 38:25 37:20 38:25 37:20 38:25 37:20 38:25 37:20 38:25 37:20 38:25 105:23 106:5 105:23 106:5 114:2,5,8 138:13 143:9, 15:10 138:13 143:9, 15:10 138:13 143:9, 15:10 146:12 148:5 157:10 145:10 146:12 148:5 125:6 128:5 200:24 205:15 200:24 205:15 207:7 208:6, 17:20.21	93:16 107:16	show 47:7	significant	JIL 07.1	
209:3 210:6 215:5 short-run 229:12 short-term 43:15 59:6 76:9 79:3 86:14 107:13 77:23 91:10 119:6 125:12 126:18 142:6 157:11 208:21 214:11 231:18 37:20 38:25 77:18 83:7 139:8 186:8,13 192:17 209:7 214:4 235:8 239:17,20 252:3,16 252:3,16 261:22 267:20 37:20 38:25 77:18 83:7 139:8 186:8,13 192:17 209:7 214:4 235:8 239:17,20 252:3,16 261:22 267:20 37:20 38:25 77:18 83:7 139:8 186:8,13 192:17 209:7 214:4 235:8 239:17,20 252:3,16 261:22 267:20 236:6 94:2 103:5 105:23 106:5 114:2,5,8 138:13 143:9, 15,19 145:10 146:12 148:5 200:24 205:15 207:7 208:6, 17.20.21	163:11 167:24	55:13 73:16	•	site 59:20	•
215:5 short-run 229:12 short-term 43:15 59:6 76:9 79:3 86:14 107:13 77:18 83:7 139:8 186:8,13 192:17 209:7 214:4 235:8 239:17 239:17 244:4 235:8 239:17,20 236:6 77:18 83:7 139:8 186:8,13 192:17 209:7 214:4 235:8 239:17,20 252:3,16 252:3,16 261:22 267:20 253:24 269:17 105:23 106:5 114:2,5,8 138:13 143:9, 15,19 145:10 146:12 148:5 200:24 205:15 207:7 208:6, 17.20.21	209:3 210:6	77:23 91:10		222:1,5,6	
short-run 126:18 142:6 139:8 186:8,13 sites 136:13 114:2,5,8 229:12 214:11 231:18 139:8 186:8,13 192:17 209:7 138:13 143:9, short-term 43:15 59:6 239:17,20 situation 32:14 146:12 148:5 76:9 79:3 252:3,16 252:3,16 252:3,16 252:6 128:5 200:24 205:15 86:14 107:13 38:14 107:13 239:17,20 252:3,16 <td< td=""><td>1</td><td>119:6 125:12</td><td></td><td>223:24 269:17</td><td></td></td<>	1	119:6 125:12		223:24 269:17	
229:12		126:18 142:6		oitos 100:10	
short-term shown 113:17 214:14 235:8 sitting 56:10 15,19 145:10 43:15 59:6 134:17 147:2 252:3,16 125:6 128:5 200:24 205:15 76:9 79:3 261:22 267:20 236:6 236:6 27:7 208:6, 86:14 107:13 17.20.21	1	157:11 208:21	· ·	Sites 130:13	
short-term shown 113:17 239:17,20 situation 32:14 146:12 148:5 43:15 59:6 134:17 147:2 252:3,16 125:6 128:5 200:24 205:15 86:14 107:13 shows 49:25 236:6 17.20.21	229:12	214:11 231:18		sitting 56:10	· ·
43:15 59:6 76:9 79:3 86:14 107:13 Shows 49:25 43:15 59:6 134:17 147:2 259:17,20	short-term	ahawa 440:47			•
76:9 79:3 86:14 107:13 shows 49:25 252.5,10 125.6 128:5 200.24 205.15 207:7 208:6, 17.20.21	1		,		
86:14 107:13 shows 49:25 201.22 207.20 236:6 207.7 208.6, 17.20.21	1	134:17 147:2	,		
17.20.21		shows 49:25	201.22 201.20	236:6	•
3.20 33.21 33.3	1		significantly	size 33:24 96:3	17,20,21
	110.1,10			33.2 7 00.0	
		<u> </u>			1

Index: sold..statement

209:15 210:9	speaking 59:9	50:8 64:2	17 39:5 40:5	256:14
241:6 243:14	78:12 121:7	168:5	41:12 51:4	state 10:14
250:2,3 252:15	159:19	anant 260.7	55:4 62:13	37:15 38:5
11.400.0	1 00 4	spent 269:7	65:8 91:11	
sold 132:8	speaks 39:4	spikes 209:24	93:1 110:2	42:22 51:7
135:16 174:18	133:23	210:1	121:3 127:3	58:11 84:13
sole 126:2	special 10:25	210.1	178:12 188:18,	93:2 104:21
	Special 10.25	splitting	· ·	110:9 111:7
233:3	specific 27:4	272:23	23,24 203:5	115:12 118:13
solely 126:19	32:25 76:2		217:18 219:1	119:1 126:15
COIDIY 120.10	87:23 107:18	spoke 25:24	220:10,14	165:4,14
solicitation		107:17	222:12,22,25	176:11 177:17
197:20,21	108:9 247:6		226:8 260:2,7	
ĺ	specifically	sponsor	263:1	182:4 184:2
solicited 80:24	11:18 12:17	128:16		185:20 186:24
			standard-offer	187:14 189:5,
solid 141:23	36:17,23 38:20	sponsoring	217:15 221:16	9,16 197:14,15
solo 27:17	39:4,16,18	129:4 134:2	228:8,10 229:3	198:10 202:6
3310 27.17	44:4 55:15	spower 257:19		206:11,13
solution 118:4	65:21 77:12	258:16	standards	210:12 214:8
l	124:6,13	258:16	35:20 40:9	216:23 218:11
some-odd	129:19 134:9	stability 136:3	260:8	
72:17,18	142:13 156:19,			219:20 228:2
a a m h i a ti a a ta al	24 157:11	stack 164:23	standpoint	231:13,14
sophisticated	182:2 255:3		52:17,18 94:9	235:16 236:1,3
241:9 250:5	102.2 200.0	stacked 101:4	96:9 114:12	239:21 240:10
sort 94:2	specifics 265:1	staff 151:7	270:9	257:13 259:3
106:14 258:21	-	204:25		261:14 273:18
272:17	spectators	204.23	stands 38:21	
212.11	8:10	stake 14:17	start 8:7 9:24	state's 218:18
sorts 254:6	ana audata		42:16 125:23	stated 15:15
	speculate	stakeholder		
sought 51:18	32:13,19 34:1	16:15 48:12	138:10 167:25	122:23 127:5
	41:22 53:11	74:18 82:25	168:1 173:7	statement
sound 149:11	73:5,12,15	109:24	174:18 198:17	31:18 56:2,3
source 13:17,	openilation		239:1 266:12	57:16 58:14
20 39:12 94:25	speculation	stakeholders	269:17 270:18	
194:15 219:22	59:7	13:25 19:16		71:2 81:21
	speculative	107:19 109:18	started 136:1	84:20 86:8
220:1 250:4,17	18:1,2 32:22,	140:24	204:24 215:23	121:22 137:24
sources 40:21			216:5 218:3,9	150:6,9 163:11
350.300 10.21	24	stand 160:6	219:2 221:19	167:25 168:2
58:3 120:1		1011000	1	171:12 177:14,
58:3 129:1	speech 67:16	161:16,19,22	269:15	111.12 111.14,
58:3 129:1 southern	speech 67:16	161:16,19,22 162:11 166:19		16 179:11
	speech 67:16 spell 10:14	162:11 166:19	starting 21:22	16 179:11
southern 222:1,6 223:23	-	162:11 166:19 standard		16 179:11 214:15 223:10,
southern 222:1,6 223:23 239:12,15,16	spell 10:14 176:11	162:11 166:19 standard 13:10,14,15,16	starting 21:22	16 179:11 214:15 223:10, 11,12 224:9
southern 222:1,6 223:23	spell 10:14	162:11 166:19 standard 13:10,14,15,16 22:5 34:14,17,	starting 21:22 42:21 100:15 159:24	16 179:11 214:15 223:10, 11,12 224:9 240:11 248:19,
southern 222:1,6 223:23 239:12,15,16	spell 10:14 176:11 spelled 257:16	162:11 166:19 standard 13:10,14,15,16	starting 21:22 42:21 100:15 159:24 starts 64:21	16 179:11 214:15 223:10, 11,12 224:9
southern 222:1,6 223:23 239:12,15,16 speak 32:10	spell 10:14 176:11	162:11 166:19 standard 13:10,14,15,16 22:5 34:14,17,	starting 21:22 42:21 100:15 159:24	16 179:11 214:15 223:10, 11,12 224:9 240:11 248:19,
southern 222:1,6 223:23 239:12,15,16 speak 32:10 67:5 134:11	spell 10:14 176:11 spelled 257:16	162:11 166:19 standard 13:10,14,15,16 22:5 34:14,17, 23 35:9 36:2,	starting 21:22 42:21 100:15 159:24 starts 64:21	16 179:11 214:15 223:10, 11,12 224:9 240:11 248:19,

Index: statements..support

				mentssupport
statements	step 206:2	strip 72:1,2,5,	success	128:4 182:4
224:12	-	8,18	259:25	185:6 204:1,4
	stepdown	,		231:8 236:15
states 31:13	209:2,6	strives 185:10	successful	238:23 258:14
110:9 126:15	stipulation	strongly	219:13,14	260:10 273:24
153:20 163:22	75:19	161:16	successfully	200.10 27 0.21
186:23 196:13	75.19	101.10	205:6,10,16	summer 86:2,3
206:14 210:17,	stock 33:10	struggled 33:1	208:23	88:10 89:5
23 261:12,16	ata alema a eleat	atualia = 00.40	200.23	169:20,22,25
ototio 265:12	stockmarket	studies 89:10	sufficiency	173:9
static 265:12	242:22	study 170:3	97:12 98:6,7	
statistic	stocks 33:11,		99:22 164:24	summertime
265:12	17	subject 27:3		86:16
	''	51:12 52:22	sufficient	sun 12:23
status 118:3	stood 228:6	53:2 103:18	127:8 146:18,	130:22 131:2
statute 57:23	ston 61:19 20	134:24 143:13	20	141:7 147:19
58:18,19 63:14	stop 61:18,20	207:19 227:6	suggest 22:14,	241:8
96:1 110:15	90:13,20	233:13	18,22 32:24	271.0
	271:25		· ·	Sunedison
111:4,15	stopping 78:22	submit 95:13	118:5 131:11	129:21 142:17
126:14 186:23	0	184:13 272:14	135:8 144:5	238:1 239:1
189:5,16	stops 256:14	submitted	150:13 272:20	247:3 251:18
196:22 197:14,	storage 80:23	25:10 153:3	suggested	252:9
15	81:10	157:1 158:15	23:7 76:20	
statute's 39:25		271:21 273:20	81:7 120:24	Sunedison's
	straight 218:10	271.21270.20		251:7,25
statutes 38:5	strain 119:5	subparagraph	suggesting	sunk 44:24
statutorily 63:4	Suam 119.5	57:25 58:10	117:19 140:25	
Statutorny 00.4	stream 211:20,	subsection	209:11	supplies 80:23
stay 110:24	25 254:6		suggests	221:6
148:1 181:9		197:3,8,11	131:21	supply 10:24
251:16 265:4	streams	subsequent	131.21	
-4 005-0 40	254:19 261:22	146:8 267:3	Suite 202:9	45:19,23 46:3,
stays 265:3,12,	Street 202:9			7 81:9 107:25
14		subsequently	summarization	147:18 185:15
steady 137:10,	strength	101:6 124:22	116:20	232:22 236:9
19 240:2	253:17,18	161:17 165:15	summarize	260:6 263:12
	stricken	265:5	165:20	264:1 265:12
steam 168:15,	248:15,17	subsidy 34:22		supply-and-
21 169:9,12,	240.13,17	35:2	summarizing	demand 236:6
19,22,25	strictly 121:7	00.2	177:14	
172:8,16	173:1	substantial	summary 12:2,	support 11:7
173:5,6 174:2	-1-11 040 40	117:8,14	6 23:20 24:7	12:8 66:2 67:7
steel 186:6	strike 248:19	oubotor#clls	34:17 42:17	69:25 91:24
207:22 242:20	strikes 110:14	substantially		118:14 128:10
201.22 242.20	235:10	118:16 149:15	43:7 47:14	135:3 142:18,
			49:5 73:20	24 144:1
	1	1	1	1

Index: supported..term

				ppor ccacci
146:17 148:13	suspension	88:18 136:1	tax 27:20 31:15	25 20:12
155:2 223:14	229:2,4	195:9 197:25	32:2,8,9,15	23:22,24 24:2,
273:3,5	sustain 63:19	198:5 246:1	128:17 200:25	5 33:5,21
supported	Sustain 03.18	266:21	201:3 209:2	34:16 35:13
supported 120:2	sustainable	4alls 40.00	248:7,20 259:9	37:13,25 46:5
120.2	138:20 187:2	talk 12:20	261:14 266:16,	51:9 54:20,25
supporting	400.40	13:13 14:18	17,22 267:15	55:22 59:22
63:9 155:11	swaps 122:18	15:5 17:21	10000 000.40	61:2,5 63:1
232:13	swear 10:4	21:9 46:20	taxes 239:18	64:3,20,23,24
	115:3 162:12	47:21 55:15,16	team 241:9	65:8 67:7,9
supportive	166:21 176:2	66:16 74:11		68:22,24 69:2,
120:16 180:20	183:18 201:19	76:25 85:19	technical	3,24 81:9,14,
supports 37:23	229:25 237:15	104:17 125:1,	56:22 79:14,22	23 82:18 89:2
81:20 116:25	257:4	14,22 126:25	115:14	90:13,22 91:4
180:18		128:9 139:5,8	technology	93:16 97:16
	sworn 10:8	194:22 195:12	143:12	99:1 101:23
suppose 212:2	25:12 115:7	206:25		104:20,23
262:21 265:11	162:16 167:2	talked 85:6	tells 85:13	105:20 106:8,
surprise 46:2,4	176:7 183:23	89:10 103:3	ten 14:20,24	14 107:16
72:25 73:2,3,	201:24 230:5,	137:3 191:16	18:20 19:6	108:3,14,22
13 74:24 75:3,	22 237:19		27:12 30:4	109:5,11,13
4,7 76:7 149:8	257:9	talking 14:17	34:20 66:8	111:12 113:6
251:6	system 113:22	48:16 49:11	84:1 106:3	117:1,16,20,22
201.0	148:14,15	51:18 59:12,14	120:11 124:15	118:21 119:24
surprised	149:15 154:21	60:4 73:10	132:4 134:25	120:2,4,25
63:11,13	186:7 205:8	78:8 79:1,9,17	139:7 145:13,	121:9 123:2
123:23	252:25	80:2,9 85:21	14,25 146:6	124:12,24
surrebuttal	202.20	86:24 88:1,3	163:18 203:4	126:1,4,6,14
11:2,7,20,24	system-wide	89:3 142:12	228:11,14,17,	127:24 130:3
90:8,17 99:6	14:19 30:14	149:25 154:3	22 248:4	131:5 132:3
115:16,24	178:20	193:24 195:5,	22 240.4	135:2 139:18,
116:11,16	cyctomo	15 217:16	ten-plus 70:18	19 144:25
	systems 148:14	218:5 246:19	ton woor 10:1 2	147:8 150:2
176:19,23 177:11 182:22	140.14	talks 55:13	ten-year 19:1,3 72:5 107:20	151:9 152:12
184:13,24		76:3,5 139:7	134:3 145:16,	154:16 164:25
190:14 191:15	T	70.5,5 155.7	·	165:16 172:5,9
230:17 238:11		tank 46:7,14	25 146:5,18	173:13 178:7,
	table 8:18	target 111:7,9	tend 40:15	8,10,14 182:9,
258:2	tobles 0:17	196:16	tomalon 407:00	17 185:19
surrounding	tables 9:17	130.10	tender 167:23	188:20 189:19
210:17	tail 65:24	tariff 97:7,8,10	tenor 139:7	190:15,25
auguan da d	4-k 00:40 04	103:19,20,21,	260:3	193:11 204:14
suspended	takes 89:16,24	22,25		206:2 208:5
218:22 219:4,	133:23 164:3	toriffo 107:00	term 8:4 12:10,	210:22 211:24
5,7,8,9 221:14	taking 72:12	tariffs 137:20	15,18 13:4,9,	217:2 229:5,8
223:1		138:15	21 15:6 17:18,	211.2 220.0,0

Index: terminated..time

r				
231:23 233:10	115:8 120:11	99:10 102:7,8,	269:3	thoughts 271:4
240:5,6,9	148:10 150:25	15,23 103:2,7,	Texas 108:20	thousand
241:13,15,24	157:7 158:13	8 104:16,24		33:22 85:21,25
242:4 255:1,	162:17 167:3	115:17,24	Thanksgiving	86:22 104:6
15,25 256:12,	176:8 183:24	116:6,11,17	271:9,10,13,	114:7
15 258:17	190:13 191:8	117:18 119:17	14,16	
261:15,20	199:16 201:25	124:2,10,20	that'll 214:12	threat 25:25
268:21	214:15,19	127:4,25	1114111 214.12	three- 125:25
terminated	228:3 230:6	128:3,4 134:4,	themes 22:12	126:6 262:25
30:24	237:20 241:12	8,17 136:12	theoretically	120.0 202.23
00.24	251:3,10	138:2 141:18,	theoretically 265:11	three-year 24:5
terms 20:3	257:10	21,22 142:5	200.11	55:9,22 58:21
22:7 24:14	testifies 64:21	147:11,13,14	theory 17:7	90:13,22 91:4
37:13,19,20,25	68:20 224:1	151:7 152:5,7,	129:18 133:16	99:1,13 100:17
38:18 53:19	00.20 224.1	8 153:4 155:11		101:11,13,22
61:13 63:15	testify 29:24	156:1 157:1,3,	thermal 97:19	104:20 105:20
65:11,13 99:14	158:17 161:21	14 158:16,23,	100:14 101:14,	173:22,23
101:11 106:6	247:23 248:13	25 159:6,10,12	18,20 234:13	174:22 189:15
113:12 120:16,	tootifying 70:0	160:4,6	236:13	205:16,23
21 124:3,7	testifying 78:9 230:10 231:17	162:21,25	thing 40:3	207:24 225:5
133:5 141:11,		163:6,9 165:20	52:16 119:3	240:6 242:4
17 150:3 151:1	237:24 238:1	166:24 167:7,	164:1 165:3	258:22 259:1
153:8 154:11,	240:3 257:15	10,21 168:5,12	173:4 214:12	11 40-40
24 155:13,18	testimony	170:20 173:12	229:11 271:8	throw 16:12
156:18 170:14	11:2,6,7,11,14,	176:19,23,25		tidbit 143:20
213:5 214:4	19,20,24 12:8	177:3,7,11,15	things 37:16,	
218:10 221:17	14:8 22:16	180:23 182:2	18 43:9 44:21	tied 71:16
222:21 226:7,	25:12 27:22	184:14,17,20,	47:6 67:12	72:19 188:8
17 227:21	28:13 29:23	25 185:7 186:2	78:12 89:7	234:8
228:20 232:3	30:2,4 31:4,5,	190:15 193:3	99:12 114:11	Tieton 153:6,
243:14 252:10	8,11,22 32:6,8	195:3 199:9	125:7 199:23	12 165:7
254:23 255:20	33:2 34:13,15,	202:14,17,22,	246:2 266:1	
258:22,23	20,24 37:3	24 203:9,12,	thinking 12:21	time 12:21
259:2,4 267:11	38:3,16,21	19,23 204:2	131:17 138:7	14:8,15 18:4,
268:12	42:18,19 43:11	205:4 214:16		18 19:1,3
10 mm: 10 mm	48:24 51:6	216:21 223:25	thinks 270:25	20:21 21:16
territory 94:20	57:12 58:16	224:5 227:19	third-party	23:1 27:13,18,
204:16 205:15	63:13 64:2,13	230:17,20,22,	53:14 59:24	25 29:14 31:25
212:25	65:25 66:19,20	23 231:8		34:11 39:2
Tessoro 53:17	67:4,5,7,10,18	238:10,11,13,	Thomas	41:23 48:10
1224 40.00	68:3 71:5	14,24 240:11	201:17,23	49:15 50:2
test 13:22	74:11 77:5	241:12 248:18	202:8,15	52:5,22 64:2,
228:7	80:18 83:4	253:16 256:4	203:20,24	16,18 65:17
testified 10:9	91:25 92:15	258:1,2,4,5,15	thought 34:7	67:8 68:4,6,8
66:24 90:15	93:15 98:19,22	261:6 263:25	198:20 256:10	69:23 70:1
	,		130.20 230.10	
			<u> </u>	<u> </u>
		· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	·

Index: timeframe..UCE

				ZIMCII AMCOCE
74:7 78:7	tipping 256:7	totality 61:3,8,	treatment	turns 52:14
83:15,19 86:19	today 8:12	11	105:14	twelve 43:10,
97:18 101:9	9:13,22 10:20	totalling 30:5	troubled 158:6	23 156:1,4,5
107:23 108:10	11:14 12:3,8			
117:9 120:8	15:24 18:10	touch 22:9,10	true 22:16	Twenty 244:23
121:16 129:24	21:6 27:22	touched 26:2	30:15,18 34:18	two- 22:7 47:11
130:7,19	33:12 34:1,17		35:4,20 46:24	50:1 85:6
131:14 150:14	49:19 52:12,14	touching 19:19	48:8 49:10	
161:20 162:24	57:6 70:25	62:24 70:3	50:7 52:2	two-megawatt
167:11 168:5,	72:5 73:20	tough 173:21	53:22 57:2	143:5
25 172:12	87:12,13 100:4	tough 1/3.21	71:2 84:20	two-year 21:16
182:13 208:25	115:12 116:5	touting 23:17	85:8 95:9	53:18 106:8
212:25 214:17	118:20 121:1	trook 227:22	135:8 149:21	33.10 100.0
215:5 217:20	137:5 148:20	track 227:22	180:18 182:19	type 143:12
218:8,17	158:16 161:6,	traded 133:21	203:12 220:12	188:10 206:16
219:6,10 221:2	17,19,22 163:2		241:9	207:15 250:1
222:17 223:3,	167:13 184:19	traders 17:24	trust 136:19	104:44
18 225:19	185:7 186:17	74:17 109:6	248:21	types 104:11
228:7 229:2,11	191:17 192:6	trades 15:9	Z40.Z1	126:16 164:15
231:15 235:6,	199:17 202:22		truth 10:4	195:11 196:2
14 244:8 249:2	203:15 204:2,	trading 18:2,25	115:3 158:17	206:17 207:14
251:18 254:19	7,8 219:22	186:5	162:13 166:22	typical 96:5
259:18 261:21	220:2 225:6,	traditional	176:3 183:19	133:16
262:14 265:17	10,13 228:12	129:1,18	201:20 230:1	
266:5,12,24	230:23 233:25	206:10,23	237:16 257:5	typically 44:18
271:3,21	234:20 238:14		T	46:5 47:11
timeframe		training 109:4	Tuesday 25:2	53:18 63:10
	240:3,8,11 242:20 244:21	transaction	26:1 31:23	96:1 103:22
169:8 219:6	=	20:1,18 49:2	turbine 168:20,	107:15,22
timelines	245:24 246:3	130:4,19	22 169:16	122:18 128:25
20:13	247:13 259:22	181:10	171:18,20	137:19 164:22
(l	267:16 269:3,	101.10	172:18	169:21 170:8
timely 96:13,14	17	transactions		171:25
120:23 179:8	Tom 9:5 204:5	20:2 58:5 86:2,	turn 9:25 27:9	
times 17:2		4,13,14 88:5,7,	31:10 34:13	U
40:13 48:21	tomorrow	8,13 89:2,4	42:18 43:10	
82:1,7 84:18	175:17	122:25 234:16	51:5 55:13	U.S. 53:17
89:8 96:8	tool 188:16	4	65:4 75:24	208:20
128:2 169:24		transportation	76:16 90:8	200.20
173:25 174:25	topic 231:18,	80:23	126:19 137:4	UAE 63:6
219:8 242:5	19	Travis 9:4	138:4 149:16	65:25 91:20,22
247:13	topics 83:21	42:12	153:18 182:1	194:22
	100103 00.21		216:20 229:20	IIDC 120:6
timing 79:16,	total 43:2 78:3,	treat 105:23	turned 95:15	UBS 139:6
24 96:9 97:21	17 154:20	treated 164:22		UCE 184:11,14
188:10 271:4	252:6	licated 107.22	221:8,10	,
L				

185:4	242:11 250:6	unlimited 16:8	Utah 8:16,17,	257:19
 Uh-huh 182:7	255:2 269:3		18,25 14:9,10,	
Un-nun 182:7	understanding	unnecessary 58:5 177:24	12,13,16 15:1	utilities 8:17, 19 31:6 48:8
ultimately	46:11 75:21	30.3 177.24	30:5,8,13,21	50:13 105:19,
66:22 212:18	84:19 96:19	unpack 36:3	36:6,23 37:17	22 115:15,20
246:6 265:21	108:6 110:7		40:10 57:15,	116:21 135:15
unanimaua	131:10 137:7,	unquantifiable 35:6,17	19,22 58:4,18	204:25 206:22
unanimous	21 147:7	33.0,17	63:15 64:2	207:3 215:20
166:17	152:11,25	unrecovered	76:18 91:11	216:14 218:15
unanticipated	157:6 172:19	93:11	96:2 98:2	222:10,13
187:7	180:10,11		110:15 111:4,	224:3 227:24
	195:5 214:16,	unrestrained	7,15,24	241:3
uncertain	23 226:13	119:2	118:11,24	241.3
179:1 181:24	249:15 263:13	unused 169:25	123:17 125:25	utility 8:8,21
uncertainties	249.15 203.13		126:14 127:7	9:25 12:12
20:20 137:16	understood	unusual 96:6	144:3,5 156:15	13:18,19 39:7,
	130:2,10 137:3	unwilling	163:21,23	8,11 41:2 50:6
uncertainty	143:7	190:21,23	183:16 184:5,	89:22 108:21
235:8 243:13	uneconomic	241:18 245:6,	7,23 185:10,14	130:8 140:20
unchanged	69:1	12	186:21,23	146:16 168:24
267:11	09.1		187:17 196:16	174:4 176:14
	uneconomical	unwise 235:10,	197:14,15	185:12,24
underlying	41:21	17	201:2 204:9,	198:9,14
138:11	unfavorable	update 21:12	11,12 205:5	204:18,21,22
undermines	232:18	203:9 208:9	206:11,20	205:20,22
185:19	232.10	226:14	208:1,4,6	206:10,12
	unfolds 188:2	1	209:17 210:9,	207:9,12 208:8
underpinned		updated 51:23	12,14,16 213:3	209:10,18
138:15	unfortunate	117:25 179:8	214:8,17,23	212:20,22
understand	210:21	182:6	226:11,13,18	214:17,20
36:8 55:18	uniformly	updating	228:12 231:13,	224:9 226:14
60:23 63:2,15	118:2	227:21	14 232:12	227:16 232:14
67:14 74:8,11	unintandad		233:18 234:7,	233:12,22
80:7 81:18 [°]	unintended 168:10	upgrades	20 235:6	249:15,24
91:6 125:2,7,	100.10	188:5 233:14,	236:1,11	258:18
15,17 128:15,	unique 53:13	20	239:5,6,12,15,	utility's 13:17
18,24 129:2,6,	82:4 86:19	upheld 108:11,	17,21,24	50:18 85:1
11 130:7 131:1	unit 23:4 45:3	20	240:10 241:3	164:23 205:13
132:5,11	uiiii 23.4 43.3		254:23 258:21	206:5 207:2,5
135:19 138:8	units 114:14	upper 109:9	259:18 263:5	220:8
139:10 141:21	unlevelized	148:22	Utah's 14:25	
143:5 150:5	97:17	upside 191:11	110:3 210:19	utility-owned
168:6 170:4,9	31.11	_	226:10	213:13 233:11
171:13 187:20	unlike 164:2	usual 260:3		234:2
235:3,18	179:1		Utah-based	
	•	•	•	•

Index: utilized..working

(!!! 1 77 40			1 40 40 44 40	0.44-0.040-00
utilized 77:10	vetted 107:18	w	12,13,14,18 272:22	241:6 249:20, 21 250:4
utilizes 16:21 20:5	viability 170:10 267:8		wooks 271:15	winter 169:20
20.0	201.0	wait 197:5	weeks 271:15,	173:6
	viable 188:20,	198:2,18	10	173.0
V	23 197:10 256:18 264:5,	waited 221:5	weigh 26:10	withdraw 80:15 249:4,6
V-a-s-t-a-g	6,9,17	walk 128:8	weight 160:4	
176:14			weighted	withdrawn
	vice 257:18	wanted 55:25	130:11 131:14	30:17,21
valid 220:10	view 74:16,25	73:16 92:14		witnessed 91:3
valuation	76:1 80:7 85:7	98:23,25 152:4	well-	
138:10	90:10 92:20	169:5 203:9	established	witnesses
	122:23 123:7	271:6	206:9	90:11 161:13
variability	126:12 129:12	warehouse	West 210:3,23	242:19 273:23
33:23 150:1	155:11 232:20	131:3,9,12	11631 210.0,20	wondering
193:21 241:17	259:25		Western	98:12
variable 17:1,3		Wasatch 157:1	208:20	30.12
44:21 52:21	viewed 134:14	163:21	White 112:21,	word 147:22
70:4,8 194:1	137:22 151:4	Washington		156:9
,	violate 54:21	143:2 144:4,8,	22 160:20,21	words 89:15
variation	108:4 178:12	9,16,22 147:3	166:13,14	
190:21 211:24	100.4 170.12	152:5,9,12	175:8,9 183:6,	132:19 141:1
262:8	violates 34:16	153:4,22	7 201:6,7	255:14
varies 249:25	violetien 04:00	154:4,10,15,19	226:24 227:1	work 56:19
valies 249.20	violation 34:22	155:16 163:23	237:5,6	97:22 111:24
vary 268:20	51:3	165:5,14	256:22,23	129:8,9 173:17
-	vital 138:8	100.0,14	268:24 269:1,	229:14 237:24
Vastag 8:21		waste 141:23	20	241:10 257:14
176:1,6,13,20	volatility 17:25	145:4 157:2,4,	wholesale	269:17 272:21
177:12 180:5	150:4 187:7	8 168:14 172:8	10:24 216:9	
183:12	voltage 114:10	174:1,24		worked 10:21
vehicle 131:3		·	widely 219:13	127:19 205:1
134:1	volume 26:21	waxing 231:10	willingness	215:20 255:3
	79:16,24	ways 186:20	145:21	workers
vehicles 32:21	107:21 218:7	206:9 259:14		239:15 250:9
verify 123:1	264:25		wind 32:15,17	
158:17	voluminous	web 136:13	42:5 94:2	working
	75:16	222:1,5,6	95:14,25 103:5	127:13,14
versed 88:11,		223:24	105:23 106:5	208:1 209:4
16	Voluntarily	Wednesday	108:19 114:2,	215:24 239:2,6
versus 62:12	76:18	273:18	4,7 138:13	252:25 259:22
66:5 120:3	volunteer		143:9,15,19	263:7 264:22,
00.0 120.0	231:18	weeds 109:16	147:18 205:15	23,25 265:24
vet 158:9	231.10	week 271:10,	207:7 208:6	266:3 267:5,6
		WCCR 271.10,	209:16 210:9	
	•	•	•	•

				ing-weiizone
working-well	163:23	100:3 101:1,8,	245:19,23	
263:15,20		14,15,18,19	249:10 251:12,	
works 46:11	Υ	102:4 108:9	16 254:7,23	
87:1 96:25		113:7 117:5,6,	255:8,9,17	
255:2	Yakima 153:6,	17,23,25	256:8 260:1,7	
200.2	12 165:7	120:3,11,25	262:24 264:13,	
workshops	12 103.7	121:4,5,17	24 265:1	
15:10,22 122:8	year 21:13	124:15 125:13	267:3,11	
anlal 404.44	86:4,5 88:9	127:8,13,25	yieldco 128:13,	
world 124:14	89:5 100:9	129:12,13	20,22,25	
239:3	103:22,24	130:4,6,10,13,	129:4,5,25	
worried 195:9	105:13 106:24	20,24 131:12,	130:25 131:8,	
	132:11 153:5	14,20 132:2,4,	13,18,22,25	
worry 244:20	169:13 191:25	8,9,13,17	132:10 133:2,3	
worth 103:23	218:25 226:20,	133:6,9,12,20	<u> </u>	
104:3 114:7	21,22 234:16	134:6,20	134:1,5,7,18	
169:12 173:5	262:23 264:13	135:1,4	135:2,17	
214:9	268:19 269:4	138:14,15,22,	136:14,16	
	voor to voor	23,24 139:1,7	138:9	
worthwhile	year-to-year 169:2 171:15	142:1,9,21,25	yieldco's	
214:2	195:10	144:17,22,25	134:22	
Wright 9:1	195.10	145:11,13,14,	violdosa	
183:17,22	years 10:22	25 146:6 149:3	yieldcos	
184:4 189:22	12:19,24	151:2 164:17	128:15,19	
190:13 196:6	14:20,24 15:25	165:8 169:4	129:21 134:13,	
201:12 211:17	16:22 17:3,6,	171:23 173:11	24 135:11,13,	
	14,16 18:11,20	174:5,19	16,20,22,23	
Wright's	19:6 20:19,23,	177:22 178:4	137:3,8,22	
184:24	25 21:2,7,8,11,	182:15,16	138:2,7,19	
writing 273:24	18 22:7 29:3,6,	185:19 189:8	139:5,10	
	23,24 30:7,10	192:16 194:2,	Yvonne 8:10	
written 34:15	34:6 35:4,17	12 200:1	215:15	
184:17,20	43:3 45:6,7	204:14,24		
185:6 196:19	47:25 49:6	205:11 210:12		
214:17	50:22 51:10,	212:9 217:1,25		
wrong 18:5,12	13,21 54:7,9,	219:18,24	zero-emitting	
19:13 38:7,10	20 55:1 58:17,	220:4 221:11,	235:19	
41:23 52:14	23 61:1,13	14 228:6,11,	200.18	
69:13 73:23	65:9 66:4,5,9	14,16,17,22,24	zone 106:17	
108:18 110:22	68:22 69:25	231:16,18,24		
198:2,3	70:17,19 71:25	239:7 240:9		
·	72:1 76:11	241:15,16,25		
wrote 151:3	82:24 85:14,16	243:13,15		
Wyoming	86:11,23 96:7	244:1,4,12,13,		
59:13 60:17	98:3 99:16	20,22,23		
			I	I