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Commission's transition to performance based rates. The order in this case should act as a reminder that tracking mechanisms are a privilege, not a right, and the Commission can and will ensure that these mechanisms, if approved, are creating the proper incentives for utilities. Thank you.

JUDGE BONFRISCO: Thank you, Mr. Callaghan. Public Counsel, if you could proceed with your opening statement.

MR. O'NEILL: Thank you, Your Honor. When the legislature passed the Climate Commitment Act it included in its findings sections, which is now codified as 70A.65.005(2), that the legislature with the Act -- the legislature updated the State's greenhouse gas emissions limits that are set to be achieved by 2030, 2040, and 2050, based on current science and emission trends to support local and global efforts to avoid the most significant impacts from climate change.

Meeting these limits will require a coordinated, comprehensive, and multi sectorial implementation of policies, programs, and laws as other enacted policies are insufficient to meet the limits.

The legislature, through this statutory language, clearly indicated that the CCA was intended to be a part of a suite of regulatory and statutory efforts to address

and thank you Commissioners. The legislature passed the Climate Commitment Act or CCA to make sure the State plays its role in addressing climate crisis. The CCA sets the state's emissions cap and increases over time and uses financial incentives for regulated entities,

and uses financial incentives for regulated entities including gas utilities, to reduce their emissions.

Despite this, PSE's 2023 IRP indicates that it does not plan to immediately reduce emissions. Its planned carbon emission trajectory shows that PSE's natural gas operations will only account for 82 percent of Washington state's total carbon emission target by 2050.

The company will primary seek to comply with the CCA by buying emissions allowances until at least mid century. PSE 2023 IRP reproduced in Exhibit 5 of Mr. Gehrke's cross answering testimony shows that PSE's net allowance purchases will more than double by 2030 and continue to remain through 2050.

PSE wants to treat the cost of those purchases as a passthrough directly to customers, even though these ongoing purchases are the result of the company's choice not to reduce emissions. PSE says that customers are ultimately responsible for their emissions, but that ignores the fact that it is the regulated entity, that it has an arsenal of resources to meaningfully work towards reducing emissions.

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climate change.

In the context of this proceeding, this means that the Utility Commission has its full panoply of regulatory tools, and it should direct them to accomplish the goals the legislature set out, which is to reduce greenhouse gas emissions to meet the limits set in various statutes that have passed since.

Puget Sound Energy is incorrect, and in the testimony you will hear they do have control over how they purchase allowances, which allowances they purchase, when they purchase them, on what market they purchase, and how they plan for purchasing them. That is what the incentive mechanism must be aimed at, incentivizing Puget Sound Energy to be prudent, and making it pure passthrough costs removes that incentive and is against the public interest. Thank you.

JUDGE BONFRISCO: Thank you. I would like to turn now to Joint Environmental Advocates, and Ms. Gravotta, if you could just pronounce your name for the record.

MS. GRAVOTTA: Noelia Gravotta. You were saying it perfectly.

JUDGE BONFRISCO: Perfect. Thank you. Please continue.

MS. GRAVOTTA: Thank you, Your Honor,

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It is a dual fuel utility with multimillion dollar operating budget, and capable technical staff and strategists, and it can add or remove generation and transmission infrastructure, and construction rates and customer incentive to promote or disperse the adoption of efficiency and electrification measures.

Customers do not have even a remotely similar ability to modify their energy system to reduce emissions. In the order to PSE in docket UG-230470 the Commission stated, quote, The CCA is meant to serve as a price signal to both utilities and their customers encouraging both to modify their behavior to reduce carbon emissions. Their mechanism should share risks such that all parties are encouraged to reduce their emissions and in turn the costs required for CCA compliance, unquote.

JEA's proposed risk sharing mechanism does just that. The mechanism disincentivizes the purchase of allowances priced near or at the price field and is the highest cost of GAA compliance. This forces PSE to consider alternate pathways and to consider not just short term compliance costs, but costs that accrue over the median and long term if it chooses to continue growing its emissions as opposed to decarbonizing its operations, as well as the company can be incentivized

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to, quote, modify its behavior to reduce carbon emissions, unquote, by investing in the future of its business and the wellbeing of its customers in a climate change world.

So what does the evidence in the docket show so far? I want to highlight three key points. First, it's clear that the Commission is correct that PSE must experience price signals from the CCA to encourage it to reduce emissions. JEA's witness Ms. McCloy provided testimony about the intent and structure of the CCA. To further support the fact that PSE must partake in CCA compliance risks and cannot treat these costs as a passthrough. PSE continues to resist the Commission's order by insisting that it should bear no risk of compliance under the CCA.

Second, it's evident that both PSE and Staff's risk-sharing mechanisms fail to achieve the objectives put forth in the Commission's order. PSE's witness Mr. Mickelson laid out a proposal that establishes sharing bands, wherein PSE would share ten percent in the first band, twenty percent in the second band, but notably only where the company earned about its authorized rates of return.

PSE's mechanism appears designed to passthrough all costs as Staff's witness Mr. McGuire noted. Our witness, Mr. Gehrke, explained why PSE's mechanism is unlikely to

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We proposed relatively conservative model that seeks to balance customer interest with company concerns about investments and financial performance. PSE can reduce its risk exposure by decarbonizing its system and not relying on additional purchases as its central compliance method in the median and long term.

Our model has been critiqued by Public Counsel's witness as insufficient and incentivizes PSE. We certainly have no objection to modifying our proposal to be a strong incentive to decarbonize.

In the interest of helping the Commission find points of agreement between parties focused on consumer advocacy and environmental advocacy, we agree that our model can be modified to incorporate some of Public Counsel's concerns. One option is removing the earnings test. Another is to adjust the statistical analysis to better represent the distribution of allowance prices.

That said, there are key points of difference between our model and Public Counsel's proposal. As you will have an opportunity to hear today, Public Counsel's approach is optimized to push PSE towards a lower cost option in the short term. We agree that this is one important consideration, but it should not be the primary driver. Our proposal focuses on longer term abatement risks so that PSE is incentivized to reduce emissions to

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be triggered, including the use of average and local compliance price compared to prices on the secondary market, PSE's regulatory expertise, and PSE's ability to access new cost allowances and price ceiling reserve eptions.

PSE's witnesses did not refute that PSE's model is unlikely to result in risk sharing but rather focused on why the company should not bear risks.

Staff witness Mr. McConnell proposed a risk-sharing mechanism that adopts PSE sharing bands but modifies the earning test to become a sharing cap.

Mr. Gehrke critiqued his focus on various risks.

And also the Public Counsel's witness Mr. Earle explained how Staff's proposal would virtually never be triggered, making it a risk-sharing mechanism in name only.

Given the evidence in front of this Commission, it is clear that PSE and Staff approaches do not achieve the goals set out in this docket.

And now to my third point. The Commission has in front of it a workable risk-sharing mechanism that does set out to meet the goals of this docket and of the CCA, and it is our proposal. Mr. Gehrke has outlined a risk-sharing proposal that focuses on dissuading high cost allowance purchases and drives PSE to consider alternatives.

meet the goals of the CCA. We think that investing in decarbonization is a more prudent, and ultimately more equitable use of PSE funds than using customer money for the next 30 years. It's important to start making decisions and begin applying incentives to PSE. Waiting for further development in this policy docket simply delays what is sorely needed, a price signal from PSE to

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In summary, the evidence before the Commission highlights the need for clear direction to PSE. You have already told them that they share the responsibility for reducing climate forcing emissions. It doesn't seem like they heard that message. We think it's time for you to impose clear direction on their responsibilities under the CCA, and we urge you to give our proposal careful consideration. Thank you, very much.

act rather than to offload responsibility onto customers.

JUDGE BONFRISCO: Thank you, Ms.
Gravotta. I just want to check, does AWEC have -- I
don't believe they are presenting any testimony, correct?
MS. MOSER: That is correct, Your

Honor.

JUDGE BONFRISCO: Ms. Barnett, it's my understanding PSE doesn't plan to conduct any cross; is that correct?

MS. BARNETT: That's correct.

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** potentially missing
"than paying to pollute"

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be surprised.

And as an analogy, if you consider fuel costs, we look at fuel costs to go out one or two years and we know they are going to be off. Sometimes we are surprised about how much they are off. This is why the utilities when it comes to power forecasts say we will look at going two years forward, but the year before as late as we can we want to update, and still those forecasts are off

Well, here we are talking about things that are natural gas prices and we are talking about looking out five to six years, which nobody with a straight face would suggest we do that with fuel costs.

- Q So I want to -- in terms of what is possible today, is it your opinion -- what is your opinion about whether it is possible to forecast costs that are accurately enough for it to be productive to put them into rates?
- A I don't think it's possible at all.

MR. O'NEILL: Nothing further.

JUDGE BONFRISCO: I just want to take a quick poll. I know that Joint Environmental Advocates also reserved 20 minutes to examine Mr. Earle, and it looks like we do have two other witnesses after that, so do we want to proceed or -- I kind of want to get a pulse from the room as far as where we are for time.

prudent purchase and sale of allowances. Could you please briefly summarize your response to that question?

A Sure. So the issue with that proposed RSM in their interim primary or in their secondary recommendation, which is an adaptation of PSE's own proposal, the problem is that if you take average prices over time it would take incredibly almost unbelievably egregious behavior for the proposed limits of 75 percent and 97.5 percent to have an effect.

And to show this, I did the Monte Carlo simulation where basically for just the year 2003, picked a number of random trading days with some equal to PSE and said okay, this is a blindfolded moneys throwing a dart at a dart board, and in this instance you would expect some of the outcomes to be very bad, well above the price, the average market price, and you would expect other of the options to be much lower than market price, and the distribution of that follows along distribution.

It turns out that while given the market prices and given the number of times they are trading on random days, only .3 percent of the time is the 75 percentile exceeded, and none of the time is it exceeded -- does it exceed the 97.5 percent.

So in other words, they only kick in if PSE's purchase of allowances is worse than 99.7 percent of

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COMMISSIONER RENDAHL: I would appreciate a short break, if possible.

JUDGE BONFRISCO: Okay. So we will take like a quick five-minute break and then we will start back up and have Joint Environmental Advocates continue with this witness and then we will proceed from there. Thank you.

(Recess 11:50 a.m. to 11:57 a.m.)

JUDGE BONFRISCO: We are back on the record. Mr. Earle, thank you. You may proceed with your examination of Mr. Earle.

CROSS-EXAMINATION

BY MS. GRAVOTTA:

- Q Good morning, Dr. Earle.
- A Good morning, Ms. Gravotta.
- Q I have some questions for you about your testimony on risk-sharing models. The first topic is your analysis using a Monte Carlo simulation. Could you turn to your testimony at Page 17?
- A I'm there.
- Q So you say the Staff's proposed risk-sharing mechanism does not provide reasonable incentives to the company for

blindfolded monkeys. And I think a reasonable standard would say, you know, they should be better than a lot of the monkeys rather than better than almost none of them. So that's the point, if that answers your question.

- Q Thank you. Just one quick clarification. I think you said in the year 2003, did you mean the year 2023?
- A Yes. Thank you.
- Q So you mentioned a Monte Carlo analysis. Can you explain what a Monte Carlo simulation is?
- A Sure. The idea is very simple. You have a hypothesis and you test it by choosing random cases. And this technique is widely used, and the hypothesis being tested here is well, are the 75th and 97.5 percentiles of the market an effective incentive for PSE?

Well, I don't know how PSE is going to trade, but I say if we trade at random, how much of the time do we violate the 75 percent and 97.5 percent? Presumably, PSE is not going to trade at random, but if we do something worse than PSE would ever do, how would it turn out? Well it turns out that basically we wouldn't expect PSE to violate the 75 percent or 97.5 percent at all.

- Q So do you know whether PSE's proposed risk-sharing model uses the same percentile threshold to trigger risk sharing as that proposal?
- A My understanding is that that proposal -- that Staff

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2.2

- basically adopt PSE's proposal with a new earnings cap.
 And in the case of the primary proposal they say let's
 use PSE's theme just for two years to the next rate case.
 - Q Does that mean you can apply the same Monte Carlo analysis to PSE's risk-sharing mechanism?
 - A Absolutely. Absolutely. And the fact is that as you -if you look at what's likely to happen in a whole
 compliance period, so the compliance period plus the ten
 months of true up, you are going to have more trading.
 And so the percentages go down even more than in this one
 year 2023 calculation I did.
 - Q So based on your analysis using the Monte Carlo simulation for 2023, and now based on what you said about the average over the four-year compliance period, do you expect PSE to bear risk under Staff's or PSE's sharing mechanism?
- A I don't expect they would bear any risk at all.
 - Q Okay. Thank you. So I move on to our second topic, which is how you distribute allowance price data to establish sharing bands. If you could please refer to your technical note on the use of normal distribution, and I believe it's RLE-4C.
 - A Yes, I'm there.

Q If you could turn to Page 2. Actually, before you turn to Page 2, could you just summarize your testimony

Q Thank you, So on Page 2, Footnote 3, you referenced the Shapiro Wealth and D'Agostino Pearson test for normality,

can you give a brief description of these tests?
 A Sure. So the normal distribution is basically and I think I described it in Footnote 4, is completely determined by its mean or average and variance. Then you

plug those into the formula.

So the Shapiro Wealth says well, if it's a normal distribution then the skew of the distribution should be zero. That is, if you look at the graph on Page 1 it's completely symmetrical. Skew just means something to the

So what the Shapiro Wealth test does is it looks at the skew units of it and it says is it reasonable that from the samples we have a skew of this amount and it still be normal distribution. And conclusion in this case is no, you reject the hypothesis that it's a normal distribution.

The D'Agostino Pearson test for normality is a little bit different. Rather than looking at skewness it looks at the fatness of the tail. So the tails on normal distribution are not really fat and they are not really thin, just right. And the pretiosus of a normal distribution is three, and so essentially you go through a similar procedure with D'Agostino Pearson, and you say

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contained in this exhibit?

A Sure. It's a technical point, but PSE's proposed, Staff adopted this as well, to use the model allowance prices within normal distribution. And basically this is given allowance prices so far and it appears to be in error, and given the way allowance prices are likely to evolve given what we know about commodity prices, that's also an error.

And so the point of the this is to say well, if you adopt one of these themes they need to corrected from use of the normal distribution to model the allowance prices, instead what they need to do is — a better approach is to use the actual empirical percentiles from what actually happened in the market.

And I think that maybe the easiest way to get this, and I did other statistical tests as well, is you -- confidential figure on Page 2, but it turns out that if you calculate the bands using the empirical percentile you get something very different from if you assume a normal distribution, which I think in one case I think it was a 97.5 percent, if you use the -- if it exceeds any of the prices that actually occurred in the market, so it's a technical error.

If one of the proposals is adopted then -- against my recommendation, then it needs to be corrected.

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- okay, what is the pretiosus of the normal distribution, and it's three, and you say well, what is the pretiosus of this other sample and is it reasonably different from thee to get the hypothesis for normal. In this case, it fails the test. Again, Figure 2 on Page 2 you can eyeball it and see that it doesn't, but I did the formal test as well.
- Q Okay. Thank you. So just to clarify, you are saying you ran the Shapiro test and the D'Agostino Pearson test and a visual test on the distribution of allowance price data, correct?
- A That's correct. And all of that is in my work papers.
- Q So based on the analysis you conducted in this testimony did you find evidence, any evidence that the allowance data was normally distributed?
- A I did not.
- Q So should normal be used if there is insufficient
 evidence that the distribution of the underlying data is
 normal?
- A No, because that will result in a distortion of the calculation of whatever percentile levels you want to use.
 - Q So now I will turn your attention to Public Counsel's -or rather your responses to JEA's data requests. And I will direct you first to the response of data request

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1	number two.	1	admitted. That was partially why I did the follow-up to
2	A I'm there.	2	file that from a prior correspondence yesterday.
3	Q So if allowance data has an	3	MS. GRAVOTTA: Thank you, very much.
		4	Q (By Ms. Gravotta) So, Dr. Earle, turning to our third
4	JUDGE BONFRISCO: What exhibit number	5	and final topic on the role of a risk-sharing mechanism
5	is this?	6	in this docket, so I will ask you to turn back to your
6	MS. GRAVOTTA: Sorry about that. The		
7	way I see it titled is PCDR-23.	7	testimony to Page 6.
8	MR. O'NEILL: I believe it's RLE-9X.	8	A I'm there.
9	MS. GRAVOTTA: Oh, I apologize.	9	Q So please tell me the purpose of Public Counsel's
10	Q (By Ms. Gravotta) So did you prepare the responses to	10	suggested approach to a risk-sharing mechanism.
11	that data request?	11	A The purpose of Public Counsel's approach is to protect
12	A I did.	12	consumers, or to put it another way, to gave PSE the
13	Q So I was asking if allowance data has a nonnormal	13	ability to to give Puget Sound Energy the incentive to
14	distribution, would it be more accurate to use the direct	14	purchase in trade allowances in a prudent manner, one
15	calculation of percentiles embedded in normal Riscores to	15	that is beneficial to the consumers.
16	calculate the percentiles of its nonnormal distribution?	16	Q Would preventing PSE from acquiring high ceiling units
17	A Yes.	17	affect how much PSE spends overall in purchasing
18	Q And then if I can return you to your response to data	18	allowances?
19	request three, which is contained in the same exhibit.	19	A It might. It's an interesting question. I mean, I'm an
20	A I'm there.	20	economist on the one hand, on the other hand, on the
21	Q I'm sorry. It's not the same exhibit, it's RLE-9X, my	21	third hand. If all things being equal and they acquired
22	apologies. And I apologize if you hear background noise	22	allowances more cheaply than pricing ceiling units that
23	there's sirens going off.	23	would be beneficial.
24	So you were asked about replacing the 95.6 97.5	24	There may be a larger question here. And as I tried
25	percentile calculation in JEA's Exhibit WD-3 with the	25	to frame it with Mr. Callaghan, there's a P issue, a
	percentile calculation in our 3 Exhibit WD 3 With the		
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1	calculations that you used. Given the evidence of the	1	price issue, and a Q issue, a quantity issue. And what
2	record on the nonnormal distribution of allowance data	2	Public Counsel is focused on is price. What we would
3	would that approach be more appropriate?	3	like to see in the average price paying for allowances to
4	A It would.	4	be within the zone of reasonableness, where above that
5	Q And why is that?	5	zone there would be penalties and below that zone PSE
6	A For the same reasons I have stated. The data shows a	6	would get some incentives.
7	very nonnormal distribution. Using the empirical	7	And this is something that I believe Mr. Kuzma
8	percentiles has a different result from using the normal	8	agrees that is under the control of PSE. PSE can't
9	Exercises. And this is important because you will end up	9	control what market prices will be, but PSE can control
10	having cutoffs that are inaccurate in the sense of you	10	its trading, what it's average price looks like compared
11	won't actually be matching.	11	to the market.
12	Another way to think about this is the normal if	12	The true question on the other hand, I think, is a
13	the allowance prices were normally distributed the	13	difference issue, and that is how much how many
14	percentiles that you took empirically should be close to	14	allowances are they actually out buying.
15	normal D scores, but they are not. So that's sort of	15	Q Can you elaborate on how PSE would purchase these
16	another piece of evidence we are not really dealing with	16	different quantities of allowances depending on whether
17	with normally distributed data.	17	it was purchasing them at a price ceiling unit or at a
18.	MS. GRAVOTTA: Thank you very much.	18	lower that price ceiling unit?
19	Before I proceed with the last topic of questioning, I	19	A So the quantity they need is going to depend on
20	have a procedural question for the ALJ.	20	consumption. And, you know, that's going to depend on a
21	JUDGE BONFRISCO: Yes.	21	number of factors, including weather, and including what
0.0	MO ODAYOTTA: Lasference d the	2.2	thou do to address the consumption itself

they do to address the consumption itself.

gas, correct?

Q So just to recap, the way that Q would be affected in

this scenario is based on PSE's consumption of natural

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MS. GRAVOTTA: I referenced the

JUDGE BONFRISCO: They are already

cross-examination exhibits, do I need to formally admit these into the record or are they already admitted?

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		1	JUDGE BONFRISCO: Thank you, Mr.
1	and you find that they are the highest short term cost	2	Gehrke. Does the Staff have any redirect?
2	method of complying with the CCA, if you use a price a	3	MR. CALLAGHAN: No, this is Joint
3	unit cost approach you can specifically target those	4	Environmental Advocates' witness.
4	allowances costs.	5	JUDGE BONFRISCO: I'm sorry. I'm
5	If you use an average cost, the price ceiling units	6	sorry. Does Joint Environmental Advocates have any
6	are averaged out in the calculation when assessing risks in the models.	7	redirect? My apologies.
7	Q When is PSE projected to be having to purchase ceiling	8	MS. GRAVOTTA: Yes, just one question.
8 9	units?	9	.,
10	A That wasn't the exact time wasn't detailed in the	10	REDIRECT EXAMINATION
11	analysis. I think there's a lot of factors in there.	11	BYMS. GRAVOTTA: price colling
12	The time that PSE would have to acquire price ceiling	12	Q You spoke about how pricing units, the first opportunity
13	units basically depends on economy wide conditions.	13	to purchase them would occur in 2027. And you also spoke
14	PSE's natural gas operations is not the only covered	14	about the importance of providing incentives ahead of
15	entity, and there's at a lot of dynamics on that exact	15	time. So given these two pieces of your testimony, do
16	point.	16	you think is it your opinion that by providing notice
17	Q How many ceiling units has PSE purchased so far?	17	to PSE ahead of time that it cannot it should not be
18	A They haven't purchased any ceiling units, to my	18	relying on price ceiling units but begin providing
19	knowledge.	19	incentives now?
20	Q I guess, do you know when the price control proposal that	20	A Yes. I think what it does is it provides PSE an
21	you proposed like, when you would expect it to begin	21	incentive to address the quantity of emissions that it
22	to kick in?	22	has. I think my model addresses primarily the quantity
23	A It's a forward looking approach. Price ceiling unit	23	of allowances that PSE plans on purchasing in the future,
24	purchases can only be conducted after the compliance	24	and how they are going to address the Climate Commitment
25	period is over, so it's impossible for PSE to have	25	Act.
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	_	1	I think other models have expressed the price and
1	purchased price ceiling units at this time. You have to	1 2	how that interacts and what is the cost customers pay.
2	have the compliance period be finished. PSE would have	3	Q And one more thing. You noted that the price of
3	to demonstrate that they cannot comply. They don't have	4	allowances depends on a variety of factors, including
4	enough allowances to meet their obligations, so to answer the question on when, I haven't seen an exact time when	5	economy wide conditions. Does PSE's purchasing behavior
5 6	they are going to do it.	6	and need for certain amounts of allowances depend solely
7	I think one of the core things that the utility	7	on economy wide factors?
8	regulatory frame was, is you provide incentives to the	8	A No. It also depends on the quantity of emissions that
9	utility ahead of time, and you give them notice on what	9	PSE has, and it also I would add that as another
10	they are going to do in the future. And I think putting	10	factor besides just the economy wide factors. And it
11	it on now early in the compliance period while they are	11	also and I think the extension of that is what
12	being subject to CCAs sends a clear signal to PSE that if	12	decarbonization measures PSE takes in response to the
13	they rely on price ceiling units there's going to be	13	CCA, and how that the quantity of allowances that PSE
14	risk-sharing consequences for shareholders on that.	14	will need in the future.
15	Q But the first compliance period ends in 2027, correct?	15	MS. GRAVOTTA: Thank you. I have not
16	A Yes.	16	further redirect.
17	Q So the first time you can purchase ceiling units is going	17	JUDGE BONFRISCO: Thank you. And
18	to be in 2027?	18 19	questions from any of the other parties? Okay. Questions from the bench?
19	A Yes.	20	CHAIR DANNER: I have a question. I
20	Q In the interim between then and now, does your proposal	21	just want to make sure I understand. What happens if the
21	create any incentive for PSE to keep its allowance	22	company buys allowances above the option celling price on
22 23	purchase prices low?	23	the secondary market? Under your proposal, it looks like
24	A No. MR. O'NEILL: All right. Thank you.	24	there wouldn't be a penalty.
	With Continue to the state of t	1	
25	That's all the questions I have.	25	Wouldn't this incentivize the company to buy more