85

FILE

BEFORE
THE PUBLIC UTILITIES COMMISSION OF OHIO

In the Matter of the Application of Columbus Southern Power Company for Approval of its Electric Security Plan; an Amendment to its Corporate Separation Plan; and the Sale or Transfer of Certain Generation Assets.	))))))	Case No. 08-917-EL-SSO
In the Matter of the Application of Ohio Power Company for Approval of its Electric Security Plan; and an Amendment to its Corporate Separation Plan.	))))	Case No. 08-918-EL-SSO

RECEIVED-DOCKETING DIV
2011 JUL -8 PM 4:17
PUCO

NOTICE OF FILING DEPOSITION BY
THE OFFICE OF THE OHIO CONSUMERS' COUNSEL

Pursuant to Ohio Adm. Code 4901-1-21, The Office of the Ohio Consumers' Counsel gives notice of filing the deposition of Dr. Anil Makhija, which was taken on June 20, 2011.

Respectfully submitted,

JANINE L. MIGDEN-OSTRANDER
CONSUMERS' COUNSEL

Maureen R. Grady

Maureen R. Grady, Counsel of Record
Jeffrey L. Small
Terry L. Etter
Assistant Consumers' Counsel

Office of the Ohio Consumers' Counsel
10 West Broad Street, Suite 1800
Columbus, Ohio 43215-3485
(614) 466-8574 (Telephone)
grady@occ.state.oh.us
small@occ.state.oh.us
etter@occ.state.oh.us

CERTIFICATE OF SERVICE

I hereby certify that a true copy of the foregoing *Notice of Filing Deposition by the Office of the Ohio Consumers' Counsel* was provided to the persons listed below via electronic transmission this 8th day of July, 2011.

Maureen R. Grady
Assistant Consumers' Counsel

PERSONS SERVED

sbaron@jkenn.com
lkollen@jkenn.com
charlieking@snavely-king.com
mkurtz@bkllawfirm.com
dboehm@bkllawfirm.com
stnourse@aep.com
mjsatterwhite@aep.com
dconway@porterwright.com
jbentine@cwslaw.com
myurick@cwslaw.com
khiggins@energystrat.com
barthroyer@aol.com
gary.a.jeffries@dom.com
nmoser@theOEC.org
trent@theOEC.org
henryeckhart@aol.com
ned.ford@fuse.net
rstanfield@nrdc.org
dsullivan@nrdc.org
thomas.lindgren@puc.state.oh.us
werner.margard@puc.state.oh.us
john.jones@puc.state.oh.us
sam@mwncmh.com
joliker@mwncmh.com
fdarr@mwncmh.com
drinebolt@aol.com
cmooney2@columbus.rr.com
msmalz@oslsa.org
jmaskovyak@oslsa.org

Greta.See@puc.state.oh.us

ricks@ohanet.org
tobrien@bricker.com
todonnell@bricker.com
cvince@sonnenschein.com
preed@sonnenschein.com
ehand@sonnenschein.com
tommy.temple@ormet.com
steven.huhman@morganstanley.com
glawrence@mwe.com
gwung@mwe.com
stephen.chriss@wal-mart.com
lgearhardt@ofbf.org
cmiller@szd.com
gdunn@szd.com
agamarra@wrassoc.com
kschmidt@ohiomfg.com
sbloomfield@bricker.com
cynthia.a.fonner@constellation.com
david.fein@constellation.com
mhpetricoff@vssp.com
smhoward@vssp.com
cgoodman@energymarketers.com
lbell33@aol.com
haydenm@firstenergycorp.com
jlang@calfee.com
lmcbride@calfee.com
talexander@calfee.com
Dan.johnson@puc.state.oh.us
Timothy.Benedict@puc.state.oh.us
Rodney.Windle@puc.state.oh.us

BEFORE THE PUBLIC UTILITIES COMMISSION OF OHIO

\- - -

In the Matter of the Application of Columbus Southern Power Company for Approval of an Electric Security Plan; an Amendment to Its Corporate Separation Plan; and the Sale or Transfer of Certain Generating Assets. : Case No. 08-917-EL-SSO

In the Matter of the Application of Ohio Power Company for Approval of Its Electric Security Plan; and an Amendment to Its Corporate Separation Plan. : Case No. 08-918-EL-SSO

\- - -

TELEPHONE DEPOSITION

of Dr. Anil Makhija, taken before me, Karen Sue Gibson, a Notary Public in and for the State of Ohio, at the offices of Janine L. Migden-Ostrander, Ohio Consumers' Counsel, 10 West Broad Street, Suite 1800, Columbus, Ohio, on Monday, June 20, 2011, at 8:30 a.m.

\- - -

ARMSTRONG & OKEY, INC.
222 East Town Street, Second Floor
Columbus, Ohio 43215-5201
(614) 224-9481 - (800) 223-9481
FAX - (614) 224-5724

\- - -

APPEARANCES:

Janine L. Migden-Ostrander,
Ohio Consumers' Counsel
By Ms. Maureen R. Grady
Assistant Consumers' Counsel
10 West Broad Street, Suite 1800
Columbus, Ohio 43215-3485

On behalf of the Residential Customers of Columbus Southern Power Company and Ohio Power Company.

McNees, Wallace & Nurick, LLC
By Mr. Frank P. Darr
Fifth Third Center, Suite 1700
21 East State Street
Columbus, Ohio 43215-4228

On behalf of IEU-Ohio.

Ohio Partners for Affordable Energy
By Ms. Colleen Mooney (via telephone)
231 West Lima Street
Findlay, Ohio 45840

On behalf of the Ohio Partners for Affordable Energy.

Sonnenschen, Nath & Rosenthal LLP
By Ms. Emma Hand (via telephone)
1301 K Street NW
Suite 600 East Tower
Washington, D.C. 20005

On behalf of the Ormet Primary Aluminum Corporation.

Calfee, Halter & Griswold LLP
By Mr. N. Trevor Alexander(via telephone)
1100 Fifth Third Center
21 East State Street
Columbus, Ohio 43215

On behalf of FirstEnergy Solutions Corporation.

\- - -

INDEX

\- - -

\- - -

Monday Morning Session,

June 20, 2011.

- - -

MS. GRADY: At this time can we take appearances on the record, please. We'll start with the people that are present -- counsel that's present at OCC's offices starting with Mr. Darr.

MR. DARR: Frank Darr, McNees, Wallace & Nurick on behalf of Industrial Energy Users of Ohio.

MS. GRADY: And Maureen Grady on behalf of the residential customers of AEP Ohio, the office of Consumers' Counsel.

We can now take phone appearances.

MR. CONWAY: Daniel R. Conway, Porter, Wright, Morris & Arthur, appearing on behalf of AEP Ohio.

MS. HAND: This is Emma Hand with SNR appearing on behalf of Ormet Primary Aluminum Corporation.

MS. MOONEY: Colleen Mooney on behalf of Ohio Partners for Affordable Energy.

MR. ALEXANDER: Trevor Alexander from the law firm Calfee, Halter & Griswold, representing FirstEnergy Solutions Corporation.

MS. GRADY: Now, if we could have the --

was there another individual?

DR. MAKHIJA: This is Anil Makhija. I filed direct testimony, and otherwise I'm a professor at Ohio State.

MS. GRADY: Thank you. Can the court reporter swear the witness in, please.

- - -

DR. ANIL MAKHIJA

being by me first duly sworn, as hereinafter certified, deposes and says as follows:

EXAMINATION

By Ms. Grady:

Q. At this time I would like -- or good morning, Dr. Makhija. Or actually good evening.

A. Yes, good evening.

MS. GRADY: At this time I would like to mark as Deposition Exhibit No. 1 the Notice to take Deposition which was filed in this case on June 2, 2011.

(EXHIBIT MARKED FOR IDENTIFICATION.)

Q. And, Dr. Makhija, you are appearing, are you not, in response to the Notice of Deposition?

MR. CONWAY: Yes. I will just speak for him here, Maureen. Dr. Makhija is appearing in response to the notice; the time and place of which was subsequently agreed to by counsel. And Dr. Makhija is actually in Soul, Korea, at this point, and we've agreed with you to conduct his deposition by telephone.

Q. (By Ms. Grady) Now, Dr. Makhija, you were asked to produce at the time of your deposition a number of materials, and I am going to go through those materials and ask you what you've produced in response to that.

MR. CONWAY: Once again, Maureen, just to keep it --

MS. GRADY: Yes.

MR. CONWAY: -- simple I will respond on behalf of your inquiries regarding these topics.

MS. GRADY: Okay.

MR. CONWAY: And so go ahead.

Q. Under subsection A you were asked to bring documents supporting or underlying your testimony. And what did you produce?

MR. CONWAY: There -- and Dr. Makhija doesn't really have any workpapers, Maureen, underlying his testimony. He did -- he did review the -- you can ask him to confirm this, but he reviewed the initial remand merit filing and, of course, he provided an affidavit in connection with that filing and so there are no -- there are no other underlying workpapers other than really the affidavit.

MS. GRADY: Thank you, Mr. Conway.

With respect to subsection C Dr. Makhija was asked to produce at the time of the deposition documents that respond to intervenor discovery. And what did the company produce in terms of that request?

MR. CONWAY: Well, we have provided responses to OCC's discovery requests and there are several of them for which Dr. Makhija is responsible and they are indicated on the responses to the first and second set of discovery requests. And there were no other documents that either underlaid the discovery request responses or his testimony other than anything -- other than items he might have referred to in his testimony, and, of course, the study -- the testimony itself is an analysis and study as is the affidavit.

Q. (By Ms. Grady) With respect to subsection E you were asked, Dr. Makhija, to bring documents that you relied upon, that you examined, or that you produced that pertained to the impact of the POLR obligations on electric utilities' cost of equity compared to the cost of equity of a similar electric utility that does not have that obligation. And what documents were produced with respect to that?

MR. CONWAY: And once again, Maureen, I think that this -- the gist of this request is also -- I think it's contained in one or more of your discovery requests, and the response that we provided thereto to you, I believe, was that Dr. Makhija's expert opinions are based on his extensive experience in the area of finance and frankly logic that he applied to his experience and the circumstances of the POLR obligation, et cetera.

MS. GRADY: Mr. Con -- or, Dan, are you saying that there are no documents that satisfy that request?

MR. CONWAY: Well, I mean, I think the response we provided -- you can inquire of Dr. Makhija, he's being offered as an expert, and if you want to test his expertise in the area, you are welcome to, but his expertise in the area of finance and his opinions -- and his opinions for this case flow from that expertise, the circumstances of the POLR obligation that the companies face, and his conclusions based on his expertise and logic regarding those circumstances. So there's no other documents that we are providing in response to that element of the duces tecum.

Q. Let's move on to subsection F. Subsection F of the notice asked that you produce documents that were relied upon, examined, or produced that pertain to the loss to shareholders of the equivalent of the benefit given to customers through the POLR provision. And what documents did you produce in response to that?

MR. CONWAY: And the answer to that one, although you can inquire of it with Dr. Makhija, Ms. Grady, is the same as the answer I just gave you to the preceding question regarding the earlier duces tecum provision.

Q. With respect to subsection G, Dr. Makhija, you were asked to produce documents relied upon, examined, or produced by you that pertain to the ability of AEP Ohio to buy hedges and the cost of hedges. And what documents were produced with respect to that duces tecum?

MR. CONWAY: There are no documents that were produced in response to that -- to that provision. You are free -- you are free to examine him about the topic that underlies the request for such documents.

Q. Under subsection H you were asked to produce documents from which the information contained in the AEP Ohio initial merit filing on remand were derived. And what documents were produced with respect to that duces tecum?

MR. CONWAY: Well, the -- the provision refers to the initial merit filing and, of course, Dr. Makhija prepared an affidavit which we submitted along with the initial merit filing and so that document is -- is already in your possession. That's it.

MS. GRADY: Thank you, Mr. Conway.

Q. Dr. Makhija, let's talk for a moment about your role or your responsibility related to the companies' initial merit filing. When I say initial merit filing, do you know what I am referring to?

A. Yes, please.

Q. And can you tell me what your responsibility or role was in the preparation of that initial merit filing?

A. My role was merely to provide my opinion on the cost of the POLR provider and its OC additions.

Q. Now, are you familiar with the phrase that is used in the pleading "out-of-pocket costs"?

A. Yes, since I have read the Supreme Court statement I have a sense of that out-of-pocket costs idea.

Q. Did the Supreme Court use the term "out-of-pocket cost," if you know?

A. To my opinion at one point I think they did, although I would be hard pressed to remember the exact line and page.

Q. Now, with respect to the phrase "out-of-pocket cost" that was used in the initial merit filing, do you know who came up with that phrase?

A. No, I don't.

Q. Okay. What -- what does it -- what does out-of-pocket cost, how it was used in the initial merit filing, what does that mean to you?

A. To me out-of-pocket cost means something that can be shown on books, something that is actually spent, in that sense.

Q. Are you talking about a cash expenditure?

A. All equivalent.

Q. Now, when you use that phrase in your testimony on page 4, line 5, how do you define it there?

MR. CONWAY: Just a second. Could you

hold on a second while I -- while I turn to that reference, Ms. Grady.

MS. GRADY: Yes. That would be page 4, line 5.

MR. CONWAY: Okay. Dr. Makhija, once you have had an opportunity to turn to that page of your testimony, feel free to review the reference and whatever other preceding or succeeding parts of the testimony you would like to before answering.

A. Did we say page 4, line 5?

Q. Yes, the question posed on line 5.

A. Somehow it's not matching with the direct testimony that I have with me. Are we referring to the direct testimony or to the affidavit?

Q. Oh, I'm sorry, I am referring to the direct testimony filed on June 6, 2011.

MR. CONWAY: And what you're referring to, Ms. Grady, is a question that states "but, what if the utility did not incur any out-of-pocket costs," et cetera; is that right?

MS. GRADY: That's correct.

A. Okay. I found it. I use the expression "out-of-pocket costs" here. I see it in the same sense as I mentioned earlier which is potentially a cash or equivalent expenditure or something that would appear in the books as spent.

Q. When you say "potentially," what do you mean by that?

A. Meaning -- I meant potential in the sense of equivalent ways of spending, not as yes or no but. So let me refer to it again as an expenditure that was made perhaps in the form of cash or in any other form.

Q. What other form would you be referring to, if you will?

A. Well, I mean, it could be an expenditure that was promised to be paid subsequently or not -- well, it will ultimately become cash.

Q. Are you talking about a deferred -- deferred expenditure?

A. Yes.

Q. Okay. Dr. Makhija, have you identified any out-of-pocket costs to providing POLR service?

A. The argument that I have made does not depend on out-of-pocket costs, and I have not examined it.

Q. Have you performed any quantitative analysis of the cost to the companies to provide POLR service?

A. No, I have not.

Q. Let's go now to your testimony on page 3, lines 1 to 2. Do you have that reference?

A. Yes, I do.

Q. Now, there you testify that the obligation of the companies to be the POLR provider imposes substantial risks on the company and those risks in turn create real and significant costs for the companies. Do you see that reference?

A. Yes, I do.

Q. Can an empirical study to test whether this statement is true -- can any empirical study test whether this statement is true or not?

A. Well, I don't know about all potential studies. I did not conduct one, but yet on the basis of the nature of this risk, I can still make the case that it was a substantial risk and consequently potential significant costs -- and significant costs for the company.

Q. So -- so that statement could be tested by an empirical study, would that be your opinion?

A. Well, your question was "could it be." I don't know of all potential studies. I believe the nature of the POLR obligation in Ohio may be so unique that it may not be easy to form a large sample to -- to separate out the effect in this one case.

So I have not conducted an empirical study. On the other hand, as I suggested in my direct testimony, the value of these risks -- or rather the POLR obligation may be inferred to the optionality.

Q. Are you aware of any empirical study that has been done to test that statement -- the statement that you make that the obligations of the companies to be the POLR will impose a substantial risk on the companies which in turn creates real and significant costs?

A. May I just ask for a clarification? Are you asking me if I'm aware of a study that has examined Ohio's POLR obligations and the empirical consequences of that?

Q. Yes.

A. No, because I -- I imagine that it would be hard to have done since it's kind of unique to Ohio.

Q. Now, let's -- let's move on to page 3, line 6 through 18. And in that section of your testimony you compare two companies, do you not? You compare utility A which has a POLR obligation and utility B which has no POLR obligation; is that correct?

MR. CONWAY: Ms. Grady, excuse me for

interrupting. Are you -- could you give me the reference to where you are now in the testimony? Is it just the next Q and A, or is it somewhere else?

MS. GRADY: It's the next Q and A. It's the question beginning on line 6 and carrying through to page -- to line 18, the hypothetical.

MR. CONWAY: Gotcha. All on page 3?

MS. GRADY: Yes.

MR. CONWAY: Okay. Thank you.

Q. So, Dr. Makhija, you are comparing two companies in your hypothetical, are you not?

A. Yes.

Q. You are comparing one -- one utility A that has a POLR obligation and one utility B that does not have a POLR obligation, correct?

A. Correct.

Q. And the purpose of your comparison is essentially to demonstrate the cost impact of being the POLR; is that correct?

A. Of the POLR liability, yes.

Q. Would I be correct in assuming you could -- you could demonstrate the impact of being the POLR provider by structuring example -- an example where you use the same company with a POLR obligation and without a POLR obligation?

A. That would be another hypothetical. Shall we follow that through?

Q. I am not asking you to follow it through right now, but I'm just asking you if that would be another way of demonstrating the impact of being a POLR.

A. I would have to think through that, but it could be possible, I presume.

Q. Now, on page 3, lines 10 through 11, you testify that -- that the option that customers have to shop and depart and to return are valuable to the customers of utility A. Do you see that reference?

A. This is line 10 through?

Q. 11 with the sentence that says "clearly, these options are valuable to customers of utility A."

A. Right. I see it.

Q. And you are talking about the option to shop and depart and the option to return, correct?

A. Yes.

Q. Now, you are assuming optionality is valuable to the customers of utility A, correct?

A. I'm also offering some reason in that as to why that optionality is valuable.

Q. And I guess that's what I -- that's what

I'm asking. On what basis do you make the assumption that that optionality is valuable to the customers of utility A?

A. In my direct testimony I suggest that when the standard offer price is higher than the market price, then obviously customers have an economic benefit to migrate to the cheaper option so obviously that would be a migration risk, and it's valuable to the customer. One could similarly explain the return risk as well.

Q. So you were assuming that the -- the SSO price is higher than the market, that there is a value to customers because the customers then have the ability to shop; is that the basis of your assumption?

MR. CONWAY: He didn't -- just a second. Objection. He didn't say that. He said the option is valuable to customers. He didn't say it was only a valuable option -- only had value or benefit at the point in time when the market price is lower than the standard service offer price, so I object to the question because it misstates the premise.

MS. GRADY: Can I have the answer reread that Dr. Makhija gave to my question, please.

(Answer read.)

Q. Is that the sole basis for your assumption that the optionality is valuable to customers?

A. Well, that does present an economic benefit that could arise depending on how prices evolve and consequently it then gives customers potential benefit.

Q. Have you made the assumption that the optionality is valuable to customers of AEP Ohio?

A. Since they would have a similar setting they would be of benefit to them as well.

Q. Is -- is the value only when the SSO is higher than the market?

A. No. As I mentioned, that the possibility that that may be and similarly the return component as well where if the SSO price happens to be lower than the market price, then they may want to return so this gives them these options, and consequently it could constitute some benefit that they draw because of the POLR provider -- POLR obligation.

Q. Now, Dr. Makhija, if a customer of utility A cannot shop, would you agree that the customer does not have the option and, therefore, there is no option value being provided to that customer?

A. If you are taking away the option, then there is no option to value, right?

Q. My question is simply if the customer of utility A cannot shop, would you agree that the customer does not have an option and, therefore, there is no option value being provided to that customer?

A. In that hypothetical.

Q. Are you agreeing that under that hypothetical there is no option value being provided?

A. If there is no -- if the customer is somehow prevented from -- or doesn't have the opportunity, those would be cases in which the option would not mean much in that hypothetical, but I don't think that is the situation we are facing.

Q. Okay. Let me give you a hypothetical, Dr. Makhija. A customer of utility A signs a contract with utility A under which utility A is to be the exclusive provider of service to the customer for a 10-year period of time. During that time the customer gives up the right to shop. Would you agree with me under that hypothetical for that customer there is no option value being provided?

A. I would imagine when such a customer signed the contract, given that they would have otherwise had this option, they would have incorporated it in the pricing in the contract, so it's not obvious that the -- that the POLR obligation did not find its way somehow into that contract.

Q. If a customer of utility A cannot shop and you've agreed that they -- they would then, therefore, not have an option and, therefore, there would be no option value being provided to the customer, in your opinion should those customers have to pay a POLR charge?

MR. CONWAY: Could I have the question reread. Excuse me.

(Question read.)

A. You are going to have to explain a little more to me about how we blocked their shopping rights.

Q. Let's assume, for instance, that a customer by Commission rule cannot shop.

A. So that POLR rider is not available to just this particular customer; is that --

Q. No. I guess what we are going to assume is we are going to assume there is a Commission rule that prohibits certain customers from not shopping. My question is should those customers in your opinion have to pay a POLR charge?

MR. CONWAY: Just excuse me, Maureen, for interrupting again. You used the word "not" in your question, and I'm not sure you meant to include the "not" in there.

Q. Let me try to rephrase it. If a customer of a utility cannot shop by Commission rule or regulation, should those customers in your opinion have to pay a POLR charge?

A. If the EDU does not have to provide a particular benefit, then it should not be compensated for. So in that sense if these customers are for whatever reason blocked from shopping, they are not being given an optionality and, therefore, there is no cost to the utility, but I think the presumption here is that there is no POLR obligation anyways.

Q. Dr. Makhija, just to focus on what you said, you said in that instance where a customer cannot shop, there is no cost to the utility A, correct?

A. If that's the situation. Now, remember, we were just discussing hypotheticals.

Q. Understood. And there's no cost to utility A under your theory that the value to the customer equals the cost to the company?

A. Well, as long as the company does not have to hand out an optionality, it does not incur a cost.

Q. And in the hypothetical we went through, the company does not have to hand out an optionality to customers who cannot shop, correct?

A. Yeah, yes.

Q. Now, on page 3, lines 11 through 12, you state that it is reasonable to assume that customers are likely to depart from utility A's SSO and gain by it when market prices are less than the regulated SSO price. Do you see that reference?

A. Yes, I do.

Q. Does this still apply to all different types of customers of utility A?

A. It applies to any customer that has the ability to benefit from the price differential.

Q. Do the customers of utility A respond to anything else besides price when they are determining whether to depart from the utility A's SSO?

A. It may be responding to other things, but from the point of the view of the utility this creates an economic incentive on which customers could act and, therefore, creates a potential for their shopping behavior.

Q. Now, you indicate in your response the customers may be responding to other things. Can you tell me what other things the customers of utility A may be responding to to determine whether or not they will depart utility A's SSO?

A. No. I think you suggested they may be for whatever reason not responding, and I am suggesting that the economic incentive exists for them to respond to the price differential.

Q. When you said "for whatever reason," what -- what are you referring to there besides price?

A. I was referring to your statement. I hope I correctly did that because as I'm suggesting, as long as there is an economic differential such that they can benefit by shopping, it's reasonable that they ought to, they might consider doing that, but at least it creates the potential for the EDU.

Q. Is there -- is this a price differential between the market and utility's A price that must be met before customers are likely to depart from utility A's SSO?

A. So you're talking about when the market price falls below the SSO price?

Q. Yes. Is there -- is there a definitive price difference that must be met in order for customers to be likely to depart from utility A's SSO?

A. Well, I have not provided any quantitative amount of that differential, although I would imagine the greater the difference the greater the potential benefit.

MS. GRADY: May I have that answer reread, please.

(Answer read.)

Q. Dr. Makhija, would you agree that if there is a price differential between the market and utility A's price of one cent, that the utility -- that the customers are likely to depart from the utility's A standard service offer?

MR. CONWAY: Just for -- just for clarification, Ms. Grady, when you say one cent, are you referring to per kilowatt hour?

MS. GRADY: Megawatt hour.

A. Well, the incentive still exists on account of even shall I say in an iota differential but whether the customer acts on every differential that's an empirical issue. From the point of the utility it still creates a potential liability whether or not customers act on it.

Q. But the potential liability is less to the customer -- less to the company if the differential is smaller, wouldn't you agree?

A. Yes. If -- but, of course, these are unknown at this point in time because we don't know how prices will evolve. Should they evolve such that the differential is very small, then the subsequent liability will turn out to be small, but we don't know that. As of now, we have to consider the entire possibility of -- possibilities which depend on the nature of their ability or market price.

Q. Do you know whether the optionality model presented by the company for purposes of this case assumes that -- do you know what assumptions -- let me strike that.

Do you know what assumptions the optionality model presented by the company makes with respect to when customers will shop related to any price differentials between SSO and market?

A. So I'm not dealing with any of the details of how they are measuring the value of the optionality, so is that the question whether -- when you want to talk about the details of how they implement the value of the option?

Q. Dr. Makhija, will all customers of utility A shop under the scenario that you present?

A. They have the opportunity to and, therefore, the potential liability for the firm. Whether they do so or not is a secondary issue then.

Q. Don't -- the secondary issues that you mention, don't they impact upon the risk profile that the company faces?

A. Well, we are distinguishing here what I would call ex ante and what is exposed in the sense when this optionality is provided, the ex ante would suggest what they might do. What they actually do is exposed but, of course, at this point the liability is created by the ex ante behaviors.

Q. Dr. Makhija, on page 3, lines 13 through 14, you state that it's reasonable to assume that customers will return to utility A and its regulated standard service offer and gain by it when utility A's SSO price is below market. Do you see that?

A. Yes, I do.

Q. Does this statement apply to all different customers of utility A?

A. All whom that have the opportunity to gain by that would reasonably be covered by that.

Q. Do customers respond to anything else besides price when determining whether to return to utility A's standard service offer?

A. Whether or not they do from the point of view of the utility, this kind of a price differential creates a potential behavior which is the liability that we are worried about so whether customers actually do or not that does not alter the potential liability created by this price differential.

Q. Is it your opinion that customers do respond to other things besides price when determining whether to return to the utility A's standard service offer?

A. I'm suggesting those other factors are not that material from the point of view of the utility because the EDU has put itself in a position where if customers wanted to, they could act and, therefore, whatever those secondary factors might be it does not alter the liability created on the EDU.

Q. But the secondary factors again would be something that would affect the risk profile and the risk faced by the company, would they not?

A. Again, it would not alter the risk profile in the sense that the potential liability still exists.

Q. Now, on -- in your testimony you refer to potential benefits that utility A has given its customers. Do you see that reference?

MR. CONWAY: Do you have a page and line reference, Maureen?

MS. GRADY: Yes. That would be page 3, line 15.

Q. Do you see that reference, Dr. Makhija?

A. And I believe -- you are referring to which part of that statement?

Q. The term potential benefits that utility A has provided its customers, potential benefits that utility B has not given to its customers. Do you see that?

A. Yes, line 16, yes.

Q. Yes. Can you explain why you characterize these as potential benefits?

A. Because we do not know what will turn out to be the price differential of whether the SSO price will be above or below so depending on how it evolves, such potential benefits could emerge.

Q. And, conversely, such potential benefits could not emerge, correct, if the price differential is not created?

A. And, again, that's the difference of interpretation between ex ante versus exposed. It may turn out to be that, but in an ex ante sense the potential exists and, therefore, the liability.

Q. So would you agree with me there is a possibility that the benefits, the potential benefits, that utility A has provided to its customers will not be realized?

A. After the fact, that is a possibility.

Q. And how would that happen?

A. If, for example, the SSO price always remained blow the market price, then migration risk may not be experienced in actuality but, of course, the -- sitting here and today, that would be highly presumptuous that's how the future will evolve.

Q. Can you tell me, are there any other conditions under which the potential benefits to the customers would not be realized?

A. I'm sorry. That's the -- could you rephrase that question because if you are providing some kind of open-ended set of possibility, then I am not sure.

Q. Yeah. Dr. Makhija, I was just trying -- you said that there is a possibility that benefits will not be realized and you gave me a scenario where there was -- where the SSO price stayed blow market price and you said under that fact you could determine on an after-the-fact basis that the benefits would not be realized; is that a fair characterization of your testimony?

A. Yeah. And as I said, I'm basically focusing on the price differential here and if that differential is not beneficial to customers, they will obviously not act --

Q. Are there -- I'm sorry. I didn't mean to interrupt you. Are you finished?

A. Yes.

Q. So my question is are there any other conditions beyond what you mentioned where the potential benefits to customers would not be realized?

A. So I'm thinking about what other circumstances where even though the benefit exists for whatever reason but I'm not quite sure.

Q. Okay.

A. At this point I can't think of some other good examples to give you.

Q. Okay. Now, on page 3, line 16 through 18, you state that the benefits to the customers constitute a potential liability to utility A. Do you see that reference?

A. Yes, I do.

Q. Can you define "liability" there as you use it?

A. So the liability is -- just a moment. As explained earlier in this answer to the question, when the price differentials will emerge in the manner we just discussed, then there will be migration and potentially also return risk so those -- both of those, the migration risk and the return risk, both constitute a form of liability that the utility may have to cover in the future, so I'm referring to that potential liability.

Q. Okay. And the migration risk you are talking about is when customers leave the utility because the market price is lower than the standard service offer price?

A. Correct.

Q. Okay. Can you explain why you characterize this as "a potential liability"?

A. Yeah. The word "potential" here again refers to we don't know what the pattern of future market prices will -- will be, and consequently we don't know whether, you know -- what kind of, you know, price differentials will emerge and how much of migration we will see.

MS. GRADY: Can I have a moment, please?

A. Pardon?

MR. CONWAY: Hold on, Dr. Makhija. She is taking a short break.

(Discussion off the record.)

MS. GRADY: Thank you. We are back on.

Can the court reporter read back Dr. Makhija's answer to the last question, please.

(Answer read.)

MS. GRADY: Can you read back the answer to the previous question, I'm sorry. Thank you.

(Answer read.)

Q. Now, when you -- when you mentioned, Dr. Makhija, that the migration and return risk create a -- create a potential liability that the utility may have to cover, can you explain to me by -- what you mean by covering and how a utility would cover for that liability?

A. So, for example, if the market price drops below the SSO price and customers migrate, now, the utility may have generation which they may have to dispose of at a lower price than the SSO price so, therefore, they face a potential cost in the future. That represents potential liability looking out today and it is the result of having provided that optionality.

Q. So are you talking about the lost

opportunity or lost revenues?

A. Well, in that particular example it's lost revenue because they would have to sell that generation at the market prices which are lower than the SSO prices.

Q. Is that -- the re -- you mentioned that the utility would have to sell that generation or dispose of that generation at lower prices. Is that on the wholesale level or the retail level?

A. I'm having difficulty answering that because the hypothetical is regarding I don't know what level of customer we are assuming here, and so I would assume that perhaps it is -- it depends on the quantities that -- so it's hard to answer which method they would choose.

Q. Dr. Makhija, is there -- is there a possibility that the liability -- going back to the utility having liability, that the liability will not be realized?

A. It's possible but, remember, that's an ex post so here and now when we look forward, we see the potential of price differential and, therefore, the liability exists, whether it will be realized or not and the extent to which it might be realized, so you are emphasizing where the liability may turn out to be small but, again, you should also recognize that liability could turn out to be very large, so ex post or after the fact what transpires is not equivalent to what we are talking on at this point in time.

MS. GRADY: Can I have his last answer reread, please.

(Answer read.)

Q. So when you refer to the ex ante, are you talking about the forward period that's left in the ESP? Is that what you are referring to?

A. So whatever option is provided for the period and if it is part of the ESP and is limited by that, then that would be covered as the potential period ahead of us, the future period ahead of us.

Q. What about, Dr. -- Dr. Makhija, what about the period behind us? We already know what occurred and we know the -- we know the benefit that occurred, and we know the liability that occurred from the first ESP period. Could we not do an ex post factor review of that?

A. We certainly could review that, but I would alert us that we are looking at the possibility that might happen in the future. That is not necessarily captured by occurrences that occurred in a given past period. It's -- the idea is kind of comparable to insurance where if you did not have an accident in the last six months does not mean there is no potential for an accident coming forward.

In fact, I think in the case of Ohio, there's -- rather in the case of AEP, if I understand correctly, the amount of migration has already been changing and some other utilities in Ohio have had a lot more migration, so the potential for large migration exists irrespective of whatever may have transpired in the recent past.

Q. Now, Dr. Makhija, if there are no customers departing from utility A's standard service offer and gain by it when the market prices are less, for that portion of the POLR risk there would be no cost to utility A; is that correct?

A. Are you suggesting that the price differential exists and the customers are not moving?

Q. Yes.

A. Well, if a utility would turn out to be lucky in that respect, however, they would still be carrying the obligation because these individuals had the right to do so and so the utility takes on the liability and if the liability that we are worried about, whether or not customers exploit it in the future, we, of course, expect they would act economically and actually act on it and that's what creates the potential liability.

Q. To the extent that a customer does not exploit or act on the -- act on the price differential, would you agree that they are placing no value on -- on that optionality?

A. If the economic benefit exists, rationally we expect them to behave on it or choose to behave on it on the other circumstances, so maybe they didn't act on it in a different instance, and I don't know why they wouldn't act on it, but they have the opportunity to do so. And so from the point of view of the firm to presume that they would not act in their own self-interest, that might be a very strong assumption.

Q. Perhaps we are not -- we're not communicating. My question really is from the customer's prospective if the customer is not departing from the utility A's SSO and gaining by it when the market prices are less, then would you agree with me that -- that customer is not valuing the optionality, giving the optionality any value?

A. I would have an easier time giving you a clear answer if I knew whether you were saying that this was -- this is what you anticipate or this is what has transpired. Which scenario is this?

Q. Well, we can deal with both scenarios. Let's do one where it's transpired where customers did not depart when the utility A's --

A. Well, in that -- in that case the utility may turn out to be lucky, but when we look again from the anticipation point of view, we have to take the rational potential behavior of the customer into account and, therefore, the utility faces a liability since economically we expect customers to behave in this self-interest.

Q. Would you agree with me, Dr. Makhija, if there are only limited customers who are exercising their optionality rights, that would mean customers do not place a great value on their optionality rights?

A. Again, that probably refers to the actual past experience perhaps but if you refer to the potential behavior and the liability that that creates, you come to a different conclusion which is that the optionality has a real cost to the EDU.

Q. Again, I am asking you from the customer's prospective, not the EDU's prospective. From a customer's prospective would you agree if there are only limited customers exercising their optionality rights, that means that those customers do not place great value on these optionality rights?

MR. CONWAY: I will object to the question. He's -- I believe to the best of his ability, he answered it already, and then, secondly, it's objectionable because it's vague.

Q. You may answer, Dr. Makhija.

A. The answer would be the same which is whatever is the benefit that the customer may or may not derive from it, it does not alter the liability and cost to the EDU that has to presume that when the economic benefit exists for the customer, they may act on it.

Q. Dr. Makhija, you are a professor of finance; is that correct?

A. Yes.

Q. Can you tell me how financial theories are vetted within the academic community?

A. Could you please repeat that?

Q. Can you tell me how financial theories are vetted within the academic community?

A. Theories are propounded and hypotheses are drawn and appropriate methodology is developed based on that and data are collected and theories are tested and subsequently revised.

Q. With respect to the financial theories that you present in your testimony, did you vet these within the academic community as you suggest?

A. As I mentioned early on, I have applied the principles of finance here, but I have not conducted an empirical study.

Q. So you have not vetted the financial theories within the academic community?

A. The theory itself unless -- no, I have not done an empirical test but that does not alter the standing theories that I have used. The presumption of those theories are not applicable in this particular circumstance may be a stretch.

Q. When you mentioned theories, can you tell me what theories you are talking about?

A. Yes. Several concepts have been applied here. One is as we were discussing the question of liability. When you provide someone with an optionality, you automatically undertake a liability. That's a financial concept. And elsewhere I have also mentioned that when you add additional risks, that creates additional required rate of return, an additional risk premium, which raises the cost of capital.

Q. Is there any -- I'm sorry.

A. And ultimately could lead to a diminution of economic equality value.

Q. Are there any other theories that you present?

A. I'm thinking about it. To my mind I think those are the main financial concepts that I have utilized which are standing concepts in finance, and perhaps as I think more to it, if something else -- I am reminded of something else, I will share it with you.

Q. Thank you, Dr. Makhija. On page 3, line 20, you state that since the benefits of the POLR obligation represents costs that the utility bears, the value of the options given to customers equals the POLR cost to the utility. Do you see that reference?

A. Yes, I do.

Q. Can you tell me what you mean by the term "cost" in that sentence?

A. Let me just reread this. Yes, what I am referring to here is that the -- that the utility incurs potential loss if it is not recovered through some recovery process, and consequently, therefore, it's a cost to the utility.

Q. Are those costs financing costs?

A. Those are potential value diminution for equity.

Q. So when you refer to the cost in that particular sentence, you are talking about the shareholder diminution?

A. Yes, and under the presumption that there was no recovery provided.

Q. And recovery for the diminution in value?

A. I'm referring here to the POLR obligation, if there is no recovery provided in exchange for that -- taking on the POLR obligation, then it will translate into diminution of equity value.

Q. And those were -- those are the costs that you refer to on page 3, line 20?

A. Yes.

Q. Are there any other costs that -- that the POLR obligation represents?

A. Well, if the utility chose not to -- if the utility had chosen to potentially buy hedges, some of that cost would have been expended in that other form as well, so depending on how the POLR obligation is taken on, the cost could show up in diminution of equity value. It could show up as amounts paid to obtain hedges, or if you could get some other supplier to pick up supplies, then they might appropriately charge prices that include the -- you know, if it's a full requirements contract, then they may pick up some of the POLR costs in the pricing. So there are various ways in which these costs could show up.

Q. Okay. So I just want to understand, when you use the term "costs," I want to understand exactly what costs you are referring to. You indicated the costs are the diminution in equity value; that's the first thing, correct?

A. That's the one way it could show up, yes.

Q. You indicated a second way that costs could equal the hedging that the -- a utility might do in order to -- to account for the POLR risk; is that right?

A. That's another potential way where the cost could be recognized.

Q. And the third cost is a cost that a supplier could incur to pick up the POLR responsibilities; is that -- that correct?

A. Yeah, and that would happen if you had a full requirements contract where the supplier provides, you know, electricity and picks up the, you know, POLR obligation as well. In which case you expect that the supplier would pick up, you know, appropriately the same price if the utility had itself picked up that obligation.

Q. Are there any other costs that the --

A. Well, I could think of three ways in which it could show up. Remember, again, I am dealing with the liability here, and I am not dealing with the ex post items at all.

Q. Are there any other costs that relate to the benefit of the POLR obligation that the utility bears?

A. Well, if I think of others, I'll share them with you, but at this point I can think of these three in which the cost might appear.

Q. Are there any ex post costs that the utility would bear associated with providing POLR?

A. Well, one -- one example would be if they had to get rid of their generation at a disadvantageous price.

Q. Are there any other ex post costs that you can think of that would relate to the benefits of POLR obligation that the utility bears?

A. I think the price differential between the SSO and market price depending on migration or return to me -- to my mind are the major ex post costs, but if I think of others, I'll share them with you.

Q. Dr. Makhija, you just talked -- we just talked about ex post costs and we -- you mentioned getting rid of generation. Is that what we referred to earlier as lost revenues?

A. Yes.

Q. Thank you. Are there new actual out-of-pocket costs associated with the utility providing the benefits of POLR?

A. To customers?

MR. CONWAY: Do you mean other than administrative costs like conducting depositions of witnesses in a case like this?

Q. If you could answer the question, Dr. Makhija.

A. So you're asking me that besides the revenue lost, what other kinds of out-of-pocket costs might be generated or created?

Q. Correct.

A. Is that the question?

Q. Yes, that's the question.

A. Well, reconnecting the customers, various accounting issues might rise as customers come and go, and you can imagine there may be various costs of servicing a customer that had left and has returned, those kinds of costs.

MS. GRADY: If it's all right, can we take a 5-minute break here?

MR. CONWAY: Yes.

MS. GRADY: Appreciate it. Thank you.

(Recess taken.)

Q. Back on the record. Mr. Makhija, let's turn to page 4, line 7, of your testimony and there you use the term "the added liability." Do you see that?

A. Page 4, line?

Q. Line 7.

A. Sorry. Did you say line 7?

Q. Yes. And my question is can you explain why you use the term added?

A. I am trying to locate did you say page 4?

Q. Yes, line 7.

MR. CONWAY: The answer -- it's the first line of an answer, Dr. Makhija. It's --

A. Oh, I found it. It's line 8 on my document.

MR. CONWAY: Okay. It starts with the phrase -- or with the sentence "no" and then it says -- the second sentence says "the utility with the POLR obligation still bears the added liability of that obligation." Do you see that?

THE WITNESS: Yes.

A. "Added" in this sense was because we are comparing A versus B so relative to B, A has this extra obligation. That's the added part.

Q. On page 4, lines 8 through 9, which is following that sentence we just spoke of, you state that costs recovery -- that if cost recovery is not provided for the POLR obligation, utility A's shareholders will see a diminution in their equity value. Do you see that?

A. Yes, I do.

Q. If cost recovery is provided for the POLR obligation, then shareholders will not see a diminution in their equity value; is that correct?

A. Provided if it's of sufficient amount, yes.

Q. Now, in determining the costs of POLR, should we look at factors that mitigate the cost or allow some cost recovery for the POLR obligation?

A. Please explain that.

Q. Well, you just told me that if cost recovery is provided for the POLR obligation, that shareholders will not see a diminution in their equity value and, therefore, that cost, the cost to shareholders, will not be realized; isn't that what your testimony was?

A. Yes. If the POLR obligation is appropriately provided recovery for, then shareholders will not see a diminution, correct.

Q. Okay. And so, therefore, in costing out the POLR, shouldn't we look at factors that could mitigate the cost or that allow some cost recovery for the POLR obligation?

A. Whatever would reduce the nature of the POLR obligation would automatically reduce the potential diminution and the equity value, correct.

Q. And so we should -- it would be your recommendation that in costing out POLR, if we are going to look at the cost to shareholders, that we should look at other factors that could mitigate the cost or allow cost recovery of that POLR.

A. I'm not suggesting any other aspects of this issue. All I'm suggesting here is to the extent that there is a POLR obligation and it's not -- and recovery is not provided for it, that will amount to an equity diminution. There is nothing more being said here than that.

Q. And the equity diminution would be

affected by whether or not there are other factors that mitigate the cost or allow for some cost recovery of the POLR obligation, correct?

A. And perhaps you can tell me what other factors you have in mind.

Q. I think we'll get to that but not quite yet.

A. Okay.

MR. CONWAY: Not quite yet today or?

MS. GRADY: Well, not quite yet in my questioning.

MR. CONWAY: Okay.

Q. On page 4, lines 20 through 22, you -- and it carries over to page 5, you discuss the option pricing model used by Witness Thomas. Do you see that reference, Dr. Makhija?

A. Please, the page you are talking about, page 4, line 18 onwards?

Q. Well, it's probably about 20 through 22.

A. Okay. Let me just look at that. 20, yes, okay, I see that.

Q. And it carries over to the next page where you say the potential for future shopping is what is important to valuing the cost to the utility of providing the optionality. Do you see that?

A. Yes, I do.

MR. CONWAY: Just a moment, Maureen. Just to be clear for the record's purpose what you are inquiring about is -- is his answer to the last question on page 4; is that right?

MS. GRADY: That's correct.

MR. CONWAY: And it carries over to the top of page 5 on the copy you and I both have, right?

MS. GRADY: That's correct.

MR. CONWAY: Okay. Go ahead.

A. Okay. I've identified those lines.

Q. Okay. So, Dr. Makhija, the potential for shopping is what is valued in the optionality model presented and not the actual cost of shopping; is that correct?

A. Yes.

Q. Okay. Would you agree with me that the actual cost of shopping would be important if the Commission was determining POLR on a cost basis?

A. Well, again, it's returning us to the question of the obligation versus what might transpire, and the two are not the same as I suggested before.

Q. Was that in the nature of your ex post versus ex ante discussion?

A. Yes, exactly.

Q. Okay. So if the Commission was doing an ex post review of POLR, the actual cost of shopping would be important to determine the cost?

MR. CONWAY: I am going to object at this point. You're mischaracterizing his testimony. Your use of the word actual as if it only applies to the ex post situation is a mischaracterization of his testimony.

Q. You can go ahead and answer, Mr. Makhija.

A. As I have suggested, the obligation through the utility is unchanged by what might actually transpire, so as far as taking on a POLR obligation is concerned, that concept is forward looking and what may actually transpire to be the cost does not order the obligation that falls on the EDU and, therefore, the potential -- and, therefore, the diminution on equity value that may occur on taking on that obligation.

Q. Now, on page 5 I am going to refer you to line 10, you indicate there and I am going to quote the sentence instead, "AEP Ohio retained the liability for future costs arising out of customers exercising their options." Do you see that?

A. I'm looking for it. You said on page 5.

Q. Yes, line 10, carries over through 11.

MR. CONWAY: It's -- just a second, Maureen. I think his copy of the testimony printed out with different line numbers than you have, but I think what you are referring to is the last sentence in the first answer on page 5 which states "instead AEP Ohio retained the liabilities for future costs arising out of customers exercising their options," correct?

MS. GRADY: Yes.

A. Yeah, I found it, lines 8 and 9 for me.

Q. Yes, that's correct.

A. Yes, I found it.

Q. Can you tell me -- can you define "future" there as you use it?

A. Yes. So this would be the period covered by the POLR obligation given by the EDU.

Q. And what is your understanding of the period covered by the POLR obligation given by the EDU for AEP Ohio in this case?

A. I would -- my understanding is, and I could be corrected on this, it would be for the ESP.

Q. For the term of the ESP which would be to the end of 2011?

A. It -- if we had been valuing the options when valuing the liability at the time it was provided which was going back to 2009, it would go to the end of this EDU for ESP which would be 2011, yes.

Of course, the presumption there is at the end of the ESP one would reexamine whether or not -- whether the POLR obligation is to be continued. My presumption is it would be an ongoing rider and that POLR is here to stay, so in that sense the liability might exist going forward as well.

Q. Dr. Makhija, do you understand that the POLR is a distribution rider or generation rider?

MR. CONWAY: Just a second. I'm going to object to the form of the question, you know, first the use of the word "rider." What do you mean by that? And then, second, what is the meaning of being a distribution rider as opposed to being a generation rider?

Q. I guess, Dr. Makhija, you use the term "rider." What do you mean by the term "rider" when you use it?

A. I've used it as having the obligation, the POLR obligation.

Q. Why are you using the term "rider"? What do you mean when you use the term "rider"?

A. Well, I think you also felt comfortable with it, I presume, meaning that when this clause or this feature appeared, so I called it rider in that sense.

Q. Do you understand "rider" to be a term of how the -- how the revenues are collected; is that?

A. I was using it very loosely for, literally, what I mean is just that the POLR obligation is included.

Q. Do you understand that the POLR -- that the revenues generated by the POLR provider, would you characterize those as generation revenues or as distribution-related revenues?

A. Well, since AEP Ohio has both distribution and generation. I'm thinking about how to separate them out. I presume that typically it is -- it is a distribution rider.

Q. And why do you presume it's a distribution rider?

A. Because I'm thinking about FirstEnergy and FirstEnergy might be getting its supply through contracts but those contracts would be full requirements contracts and, therefore -- therefore, customers are still provided with the -- this optionality arguably, and FirstEnergy I don't think has the generation in that case, so I'm inferring from that but please tell me what would be the difference in either case.

Q. I was just asking you the question, Dr. Makhija.

A. Oh, sorry, okay.

Q. Now, let's go to your testimony on page 4, line 18, you indicate there that -- or you refer there to the Black model. Do you see that reference?

A. I found the reference to the Black model.

Q. Yes. Are you -- as a professor of finance, are you familiar with the Black model?

A. Somewhat, yes.

Q. Would you agree with me there is a need to keep inputs into the Black model internally consistent with respect to time?

A. Time expiration is one of the variables in the model, yes.

Q. For example, if we were to enter an annual interest rate into the model, would it be your opinion that the typical practice would be to enter other annualized values as well like volatility and other inputs?

A. That's right.

Q. For purposes of the remand proceeding, what review, if any, did you do of the optionality models?

A. I have not reviewed the implementation of the optionality model. The only thing that I have done is that I consider that is an appropriate approach to take and that's the extent of it.

Q. So you did not review the inputs into the optionality model; is that correct?

A. No. I have not reviewed the numbers that have gone in or how the model was implemented but -- and I believe that under the circumstances such a model appropriately applied would, in fact, capture the value of optionality.

Q. And with respect to your review we mentioned the Black model. Did you do any review of the -- the model that was utilized by Mr. Baker in the 08-917 case?

A. No, I did not.

Q. So your testimony strictly relates to the approach of the optionality model; is that correct?

A. Yes.

Q. Okay. Are you familiar, Dr. Makhija, with -- that the companies' valuation determined POLR based on a European put option calculation?

A. I have not examined their implementation, but it's quite possible that they may have done a

European option on customers could come and go multiple times and perhaps the American option might be appropriate, but I don't know which they have used.

MS. GRADY: May I have a moment, please?

Q. I'm back. Dr. Makhija, are you familiar with the fact that the companies used their SSO rate as the strike price in their estimated competitive market benchmark price as the stock price?

MR. CONWAY: Could I have that question reread, please.

(Question read.)

MR. CONWAY: I don't -- I object. I think it's confusing. I don't understand it.

MS. GRADY: Okay. I can break it down into two parts for you, Dan.

MR. CONWAY: Thank you.

Q. Dr. Makhija, are you aware of the fact that the companies used their standard service offer rate as the strike price in the optionality model?

A. I have not examined how they have implemented it, but I would imagine that using it as a strike price, as the exercise price, would seem appropriate to me.

Q. Okay. And also, Dr. Makhija, are you

aware that the companies used their estimated competitive benchmark -- I'm sorry. Let me strike that.

Dr. Makhija, are you aware that the companies used their estimated competitive market benchmark price as the stock price?

A. Again, without examining their implementation, it does seem appropriate to use the market price as the, you know, changing price in the model, the variable.

Q. Okay. I want you to assume, Dr. Makhija, a case in which the market price or the stock price is higher than the SSO rate.

MR. CONWAY: Just a second. You keep referring to the stock price. Is that -- does that have some import?

MS. GRADY: That's -- that's -- the import is what we just discussed.

MR. CONWAY: He just said it was appropriate to use the market price as the variable moving target in the model.

MS. GRADY: I don't think he said that at all. He answered my question.

MR. CONWAY: That's what he said. He did not say anything about a stock price as far as I can recall. At any rate you can explain yourself, Dr. Makhija, but I think that the question does not accurately capture the answer you gave to the preceding question.

Q. It's a hypothetical. Dr. Makhija, I let's start with the hypothetical. Please assume --

A. Okay.

Q. -- a case in which the market price is higher than the SSO rate. Are you following me, Dr. Makhija?

A. Yes, I'm okay. So you're saying that the market price is higher than the SSO price, yes, please?

Q. That's correct. Now, given that assumption would you agree that holding all other inputs to the optionality model constant, that increasing the strike price, the SSO rate, would increase the put value calculated by the model?

A. Okay. Just give me a moment to think through all the pieces.

Q. That's fine.

A. So you -- so you have a prevailing market price which is higher than the SSO price.

Q. Yes.

A. Okay? And -- and what you want to do is you want to find a put on it which would be so this is a hedge that the company would want to buy the put; is that where you are going?

Q. We're using the option model to price the put.

A. Okay. Because normally this Black Scholes is used to value, first of all, a call option so I am, therefore, trying to understand where you want to introduce the put. The Black Scholes formula is the valuation of a call option, not a put option.

Q. Does the Black Scholes model calculate the put and call at the same time, if you know?

A. Well, you can appropriately do manipulation to get to the other side, but the formular itself is a call option price.

Q. Do you know if the company did the manipulation in this case to calculate both put and call at the same time?

A. Again, I have not examined their implementation, so I'm afraid I can't answer that.

Q. Thank you. Are you familiar, Dr. Makhija, with the companies' standard service offer rate structure? And specifically I am going to refer to the actual adjustment clause.

A. I would imagine that there is a fact

built into the SSO, yes.

Q. And do you have an understanding of AEP Ohio's fuel adjustment clause?

A. Specifically which aspect of it?

Q. Do you know how it works and what costs are passed through the FAC?

A. Again, broadly speaking if actual costs go up, that they would be worked into -- appropriately into the SSO.

Q. And if -- when you said fuel costs, do you understand fuel costs to mean fuel plus purchased power costs?

A. Okay. I am not sure about this, so I would have to check that. I'm not sure about that.

Q. Okay. Very good and I accept that. Let's assume that the companies have an actual adjustment clause rider. And let's also assume that the companies' rider allows them to pass through to customers the cost of fuel and the cost of purchased power. You accept that hypothetical so far? Are you following me?

A. Yes, so far.

Q. Okay. Would the fact that the cus -- that the companies had a rider that allows them to collect from customers fuel and purchased power costs affect the companies' POLR risk?

MR. CONWAY: I am going to object to the question. I think there's virtually no foundation for it, and he's already -- he's already explained that his -- his understanding familiarity is -- is not extensive with regard to the FAC. So I think he's already explained the limitations of his understanding, and I think he's -- I think the premise to your question is -- is not established.

MS. GRADY: It's a hypothetical, and I am asking his opinion on a hypothetical.

MR. CONWAY: I know it's a hypothetical, but it's a hypothetical for which the premise is not laid out. You haven't established what the premise is. Your question is if you have an FAC and if it includes recovery for fuel and purchased power, would you agree that that affects -- affects the POLR -- you know, POLR cost recovery or the cost of some such.

And what I am saying is I object to the question because I don't think there is nearly the foundation laid to get to the ultimate question you asked, and so I object to it.

Q. Dr. Makhija, you can answer, please.

THE WITNESS: Dan, should I proceed to

answer?

MR. CONWAY: If you can. I think you have already explained your understanding of the fuel adjustment clause is limited, and I also explained that I object to the question because I think it doesn't lay out what is being assumed that must be there in order to lead to a conclusion on the question which is how does it affect the POLR cost recovery or how does it affect the POLR obligation.

So, I mean, if you can -- if you can see through the, you know, the haze and the opaqueness of the question and read her mind and answer it, go ahead, but if you can't, don't, decline.

A. I would like to pass on that question, please.

Q. Let me give you some background. You know, you were asking me earlier for linkage, and I am trying to give you linkage. And, now, you are shying away from the linkage. Do you recall our earlier discussion, Dr. Makhija, where we talked about the fact that -- that the potential for cost recovery of the companies' POLR obligation, and you had testified that the cost re -- if -- if cost recovery is not provided for the POLR obligation, the utility A shareholders would see a diminution in their equity value. Do you recall that testimony?

A. Yes, I do.

Q. And then do you recall the -- the questioning where I asked you if cost recovery is provided for the POLR obligation, then shareholders would not see a diminution in their equity value. Do you recall that line of questioning?

A. Yes, I do.

Q. And then do you recall the line of questioning where we talked about whether in determining the cost of POLR as measured by a diminution in the equity value of shareholders whether we should look at factors that mitigate the costs of POLR or allow some cost recovery for the POLR obligation. Do you recall that testimony and that discussion?

A. And you will recall in that particular circumstance I did say that the obligation might exist and that some of these factors may or may not necessarily be mitigating.

Q. So, now, I am asking you about the mitigating factors that you were asking me before listing what they are and we are talking now about the mitigating factor which would be a fuel adjustment clause. And I am asking you if the company hypothetically had a fuel adjustment clause that allowed them to pass through the cost of fuel and purchased power, would that affect the -- the diminution in shareholders' equity value associated with POLR obligation?

MR. CONWAY: And I'll object again, Maureen. He's already said his familiarity once again is limited about the fuel adjustment clause, and if your hypothetical is assume for me, Dr. Makhija, that within the fuel clause there is already in effect a POLR charge included, would you agree that the revenues recovered by such an implicit or -- or explicit POLR charge in the fuel clause recovers costs of the POLR obligation and thus mitigates the need to recover those same costs somewhere else, well, you know, I'll stipulate to that. But to have him assume the conclusion is part of your hypothetical, I don't think it advances the ball, and so I object to it.

MS. GRADY: I didn't follow anything of -- I followed very little about what you said so I'm not sure I can even respond to your objection but.

MR. CONWAY: Have the court reporter read it back then.

MS. GRADY: I don't think that will help.
MR. CONWAY: I think that was a pretty good synopsis.
Q. Dr. Makhija, can you answer my question?
A. Okay. So here is my attempt despite some limitations in fully comprehending the hypothetical and that is that if there is a mechanism that provides for recovery of the POLR in some form or the other, then obviously the POLR obligation is addressed, and the diminution of shareholders' equity would, of course, be limited.
Q. Thank you. Now, Dr. Makhija, do you have an understanding of whether or not CRES suppliers make capacity payments to AEP?
A. You mean the payment that CRES suppliers -- please repeat the question.
Q. Do you have an understanding of whether or not CRES suppliers make capacity payments to AEP?
A. And to the extent that the capacity payments are probably worked into the SSO, I think that's where the capacity effects would show up, so I don't think that the CRES suppliers are paying for capacity. I think -- I don't think so. I'm not sure, and I could be corrected on that.
Q. If the -- if the CRES suppliers are

paying -- making capacity payments to AEP --

A. But --

MR. CONWAY: Just a second. I am going to object. He just -- he just said, Ms. Grady, that he wasn't sure what the mechanism was and, now, you are asking him to assume that there is a mechanism and it operates this particular way and it doesn't advance the discussion. He's already explained that he's not familiar with that -- with the topic and so, you know, you can ask the question one more time and I will very quickly advise him and instruct him and instruct you, to him not to answer the question and you to stop asking questions, that he's already said he couldn't know the answer to.

I understand you have your list of subjects you want to cover, and but I think when you get to the point where a particular witness says I'm not familiar with that topic, then you move on and don't ask him to assume some -- some set of circumstances so you can get an answer that has in the end no value because he doesn't have the -- he doesn't have the foundation and familiarity to truly assist you in your inquiry.

Q. Dr. Makhija, when you were looking at the diminution in shareholder equity value associated with your analysis, did you factor -- did you factor into that analysis potential payments made by CRES suppliers for capacity to AEP?

A. No, I did not and the reason for my line of logic was that I was more interested in the -- not the capacity aspects but on the -- with regard to the migration which -- and that obligation -- or rather that potential risk is irrespective of this other aspect.

Q. Are there ways, Dr. Makhija, in which the companies could hedge their POLR risk?

A. Yes, they could potentially buy hedges. To my understanding there isn't a market for hedging just POLR risk by itself.

Q. Could the companies go out and solicit bilateral bids to cover POLR?

A. For supply or for POLR?

Q. For POLR risk.

A. So, again, you mean are there providers of hedges just for POLR risk? Is that the question?

Q. The question is could the company issue a solicitation for providers to take on the POLR risk?

A. It would certainly seek that, but I don't believe there is an active market for that.

Q. Now, on page 5, let me refer you to line

8, you indicate there that -- and I understand your lines might be off, you say that you have -- a sentence that says it would simply have transferred the liability to a third party, and you're talking about POLR.

A. Yes.

Q. Do you see that?

A. This is lines 4 through 6?

Q. Yeah, on my copy it's line 8 but.

MR. CONWAY: What is the sentence or the phrase, Ms. Grady?

MS. GRADY: It would simply have transferred the liability to a third party.

A. Yeah. This is if it would have found such a third party that would buy -- that would take on this risk.

Q. The question I have is why would a company choose to retain the POLR risk if it could lay it off or transfer it for an equivalent cost?

A. It's a choice that management could make. They could believe that they can bear this risk more economically themselves. There are transaction costs in dealing with a hedge, and the hedging party would value the same risk in a similar way but there may be some transaction costs, and the firm may have chosen to avoid those costs.

Q. Is that the only reason?

A. Well, that's certainly a potential reason. I don't know what other reasons AEP Ohio may have considered.

Q. When -- did AEP Ohio retain its POLR risk, if you know?

A. To my understanding they did because I don't believe that they bought hedges against it.

Q. And they retained the POLR risk, and it was transferred to customers; is that right?

A. The -- transferred to customers or transferred to shareholders?

Q. Oh, transferred to shareholders if the shareholders -- if your theory about the equity premium holds true.

A. Yes.

Q. Okay. Are there alternatives to the optionality model that you've talked about in your testimony for quantifying the POLR cost or the POLR value?

A. This is the approach that I have sponsored here. I'm sure other -- there could be other ways of trying to estimate this risk, but I have not considered them here.

Q. Can you tell me what they would be?
A. Well, one possibility that comes to mind is that if the supply was provided under a full requirements contract, then potentially that price would be higher than the price that would exist without the POLR obligation but, again, implementation of that is something I have not considered.
Q. Are there any other alternatives that you know of or you are aware of for quantifying --
A. Yes, please.
Q. -- for quantifying the POLR cost? Are there any other ones that you are aware of?
A. So that if the options approach, I just mentioned the price differential approach, one could potentially simulate these things, but, again, I have not thought through that carefully.
Q. Are you talking about a Monte Carlo approach?
A. Yeah, that could be a possibility but, again, how to set it up and those details I have not thought through.
Q. Could you -- could you quantify the cost of POLR on a retrospective basis?
A. Again, the concept itself is forward

looking so what would be retrospective so I did not think of any retrospective because I don't think it applies in this case.

Q. But could you -- could you calculate the cost on the basis of retrospective looking back at the actual costs incurred?

A. The diminution of equity value would have occurred already when the POLR obligation was taken out without recovery, so in that sense retrospectively as well, there is -- there may have been a cost but how much was the actual experience differential between market and SSO price and, therefore, the realized effects, that might be something different, and I don't know if that would be called a retrospective cost, however.

Q. Dr. Makhija, are you aware of any quantitative evidence that shareholders are demanding a premium because of AEP's POLR risk?

A. I have not done such a study, and it's also difficult to do a study such as that because the sample would be very limited. You would have to compare firms that have Ohio type of -- a number of them that have Ohio type of POLR obligation to find out how such an obligation gets priced.

Q. Well, within the -- within Ohio are you aware of any evidence that shareholders are demanding a premium because of AEP's POLR risk?

A. Well, the theory certainly tells us they should expect it because it's easy to demonstrate in principle that POLR is risky, but whether that has translated into diminution and equity I do not have empirical evidence.

Q. And are you aware of any empirical evidence that shareholders in Ohio generally, let's even go beyond AEP, are demanding a premium because of POLR obligations imposed on the Ohio EDUs?

A. I am not aware of any empirical evidence to that effect.

Q. Are you aware of any empirical evidence that pertains to the -- specifically to the loss to shareholders of the benefit given to customers through the POLR provisions?

A. I think the answer would be the same, that I'm not aware of an empirical evidence to that effect.

MS. GRADY: Thank you, Dr. Makhija. That is all the questions I have. I appreciate your time this evening.

THE WITNESS: Thank you.

MR. DARR: Mr. Conway, do you want to

proceed directly, or do you want to take a break?

MR. CONWAY: I'm ready to keep going as long as Dr. Makhija is. At this point, Dr. Makhija, Mr. Frank Darr as -- will be asking some questions. Mr. Darr is a lawyer for the IEU, the Industrial Energy Users, and he works in the same firm with Mr. Randazzo who I think you've met before in other -- other cases. So that's -- so if you are ready to go forward, Dr. Makhija --

THE WITNESS: Yes, I am.

MR. CONWAY: -- the rest of us are. And I would say, Mr. Darr, in light of that response go ahead.

MR. DARR: Thank you.

- - -

EXAMINATION

By Mr. Darr:

Q. If at any time you have any questions or concerns about the way I phrase something, please let me know, Dr. Makhija.

A. Thank you.

Q. If the company purchased -- and, now, I am speaking specifically of AEP. If AEP had purchased hedges on, say, January 1, 2009, would that have been a way to ex ante estimate the cost of the

POLR obligation you have described here today?

A. That would have been one mechanism to assess potentially some of the cost, yes.

Q. The option that you have described for us, is that an attempt to measure the cost of covering that obligation, or does it measure something else?

A. It provides an assessment of the liability that is created by the POLR obligation.

Q. And, again, I'm -- I know Ms. Grady asked you questions about your meaning of liability. I need to understand more carefully or more deeply what you mean by the word "liability" when you use that term.

A. It -- it is comparable to the liability that an insurance company takes on. You know, when they insure your home, they have created a liability for themselves, and in exchange for that you pay them a particular premium.

Q. Typically when an insurance company calculates a premium, it's measuring the risk of probability times the potential magnitude of the loss, correct?

A. Yes.

Q. And so what you're saying here is that you are measuring the probability of all customers moving and what that loss would represent; is that an accurate description of what you believe the POLR calculation is measuring?

A. Yes. It's measuring the potential movement, migration risk, and, of course, also the return risk.

Q. The migration risk if the price moves below, that is based on the probability or volatility of the market to strike? The model that you use assumes a probability of migration of one, does it not?

MR. CONWAY: Mr. Darr, if you could just -- under the circumstances particularly if you could make sure that the witness has had an opportunity to fully answer whatever the pending question is before you --

MR. DARR: I didn't think I had stepped on his answer.

MR. CONWAY: -- before you turn to your next question, please.

Q. If I stepped on an answer, I apologize. I certainly did not mean to. Was there part of an answer that you had not given yet, sir?

A. No. Go ahead, please.

Q. In the case where -- let me go back to my last question then. The model that you have endorsed, the Black model -- and I believe you are endorsing it; is that an accurate statement?

A. I am endorsing the Black Scholes optionality as an approach, yes.

Q. And under the Black Scholes approach the option is assumed to be exercised if the market price goes below the strike price; is that also correct?

Are you still with us, Dr. Makhija?

A. Yeah, I'm with you. The answer was that if the market price happens to fall below the SSO price, the expectation is that the option would be exercised.

Q. The answer to that is yes?

A. Yes.

Q. Thank you.

MR. CONWAY: Answer to what is yes?

MR. DARR: The answer to my question.

MR. CONWAY: He gave you an answer. And if the question is is the answer he gave one that he abides by, the answer is yes, but I think it's -- I think it's confusing to then ask him, particularly over the telephone like this, whether the answer is yes when you are referring to some other question that preceded it.

MR. DARR: I don't think there was any confusion but to eliminate any question about this, let's do it again.

Q. If the market price goes below the strike price in the Black model, am I correct in my belief that the option will be -- is assumed to be exercised at that point?

A. And, again, you are presuming that this is all happening at the expiration and in a European style option and that when you see the option, the strike price is above meaning the SSO price is above the market price, then in terms of migration risk, customers will want to exercise the option, and to that the answer is yes.

Q. Thank you. I thought we understood each other, and apparently we did. Your calculation or -- I have just misspoken. Your statement that the value was the option equals -- is equal to the cost of the company, if I were to attempt to find some support other than your testimony for that statement, where would I look?

A. So the -- just so I understand your question, are you asking me for support that what is given is equal to the loss to the company?

Q. Yes, sir.
A. So this is without using formal language, first, let me state that what this means is that if a firm takes on a liability so the recipient gets the benefit and the firm gets the cost and if you wanted a more formal expression of that, that is the equivalent of what is called the law of conservation of value which means that between the two parties what one gives up the other receives.
Q. With regard to this calculation, the calculation assumes a fixed volatility throughout the period of optionality; is that correct?
A. That's an assumption of the Black & Scholes model, the approach which I am sponsoring, but I'm not -- I have not done the implementation, so I can only answer as to the nature of the model itself.
Q. And the model itself also assumes a fixed strike price throughout that period as well, does it not?
A. Sorry. The last part of your voice trailed off.
Q. My apologies.
A. I could not hear.
Q. Sure. Let me give you the question

again.

A. Yes.

Q. The assumption of the Black model also -- an assumption of the Black model is also that this is a fixed strike price throughout that period as well; is that correct?

A. Yeah, yes.

Q. Your definition of migration, does that include changes that might occur due to a customer, for example, closing a plant?

A. Sorry, and that would constitute a normal part of business where, you know, businesses arise and die out, et cetera, and that's a normal risk that an EDU suffers, but the POLR risk is one that is generated by the differences in SSO and market price, so it's a distinctly different kind of a risk.

Q. Is the risk of plant closure -- never mind. I think you just answered my question.

One other thing with regard to the model, all other things being equal whereas my finance friends used to say I think ceteris paribus?

A. Ceteris paribus.

Q. Yes. Less volatility in the calculation, what -- if the volatility of the calculation was moved from, say, .5 to .3, what effect all other things being equal would that have on the ultimate price?

A. So the greater the volatility the greater is the call value, call option value.

Q. What about the put value?

A. Well, the put works -- again, the value of even the put goes up because the nature of options is that the greater the volatility the greater the possibility created; and, therefore, options in general take on greater value.

MR. DARR: That's all the questions I have, Mr. Conway.

MS. GRADY: Does anybody else have questions to pose to Dr. Makhija?

Hearing no response we are ready to conclude.

MR. DARR: Thank you very much, sir.

MS. GRADY: Thank you.

(Thereupon, the deposition was concluded at 10:46 a.m.)

- - -

State of Ohio :
: SS:
County of ____________________ :

I, Dr. Anil Makhija, do hereby certify that I have read the foregoing transcript of my deposition given on Monday, June 20, 2011; that together with the correction page attached hereto noting changes in form or substance, if any, it is true and correct.

____
Dr. Anil Makhija

I do hereby certify that the foregoing transcript of the deposition of Dr. Anil Makhija was submitted to the witness for reading and signing; that after he had stated to the undersigned Notary Public that he had read and examined his deposition, he signed the same in my presence on the ________ day of _______________________, 2011.

____
Notary Public

My commission expires __________________, ________.

\- - -

CERTIFICATE

State of Ohio :
: SS:
County of Franklin :

I, Karen Sue Gibson, Notary Public in and for the State of Ohio, duly commissioned and qualified, certify that the within named Dr. Anil Makhija was by me duly sworn to testify to the whole truth in the cause aforesaid; that the testimony was taken down by me in stenotypy in the presence of said witness, afterwards transcribed upon a computer; that the foregoing is a true and correct transcript of the testimony given by said witness taken at the time and place in the foregoing caption specified and completed without adjournment.

I certify that I am not a relative, employee, or attorney of any of the parties hereto, or of any attorney or counsel employed by the parties, or financially interested in the action.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my seal of office at Columbus, Ohio, on this 20th day of June, 2011.

Karen Sue Gibson, Registered Merit Reporter and Notary Public in and for the State of Ohio.

My commission expires August 14, 2015.

(KSG-5375)

\- - -