ILLINOIS POLLUTION CONTROL BOARD

August 15th, 2006

IN THE MATTER OF:	)	
	)	
PROPOSED NEW 35 ILL. ADM. CODE 225 CONTROL OF EMISSIONS FROM LARGE COMBUSTION SOURCES (MERCURY),	)	R06-25 (Rulemaking-Air)

TRANSCRIPT OF PROCEEDINGS held in the above-entitled cause before Hearing Officer Marie E. Tipsord, called by the Illinois Pollution Control Board, pursuant to notice, taken before Denise A. Andras, CSR, a notary public within and for the County of Cook and State of Illinois, at the James R. Thompson Center, 100 West Randolph, Assembly Hall, Chicago, Illinois, on the 15th day of August, A.D., 2006, commencing at 1:15 p.m.

A P P E A R A N C E S:

ILLINOIS POLLUTION CONTROL BOARD:

Ms. Marie Tipsord, Hearing Officer
Ms. Andrea S. Moore, Board Member
Mr. G. Tanner Girard, Acting Chairman, IPCB
Mr. Anand Rao, Senior Environmental Scientist
Mr. Nicholas J. Melas, Board Member
Mr. Thomas Fox, Board Member
Mr. Thomas Johnson, Board Member

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY:

Mr. John J. Kim
Mr. Charles E. Matoesian
Mr. Jim Ross
Mr. Christopher Romaine

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BY: MS. KATHLEEN C. BASSI
MR. STEPHEN J. BONEBRAKE
MR. SHELDON A. ZABEL

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(312) 849-8100
BY: MR. DAVID L. RIESER

ALSO PRESENT:

Ms. Mary L. Frontczak, Peabody Energy

Ms. Dianna Tickner, P.E., Peabody Energy

Anne E. Smith, Ph.D., CRA International

HEARING OFFICER TIPSORD: Back on the record. I believe we are ready for question No. 61, and everyone has been sworn in, so we'll go from there.

MR. ROSS: Please compare Ameren's SO2 and NOx emission rates to the SO2 and NOx emission rates that would be applicable to other companies after applying the percentage reductions to each of the other five or six, depending upon where EEI is calculated, companies' base rates?

A comparison shows that other companies' required emission rates would be lower than Ameren, but again, the percent reduction they are required to achieve would also be lower than Ameren's. We discussed that in some detail yesterday.

HEARING OFFICER TIPSORD: And does anyone have follow-up?

MR. ZABEL: That would include Southern Illinois Power Co-op; is that correct?

MR. ROSS: Yes. We don't have the actual emission rate numbers for Southern Illinois Power Co-op, and if I take out the 1, 2, 3 unit, so I can't speak for Southern Illinois Power

Co-op.

MR. ZABEL: Do you consider the two units at Southern Illinois Power Co-op well controlled?

MR. ROSS: Yes, I believe they are well controlled.

HEARING OFFICER TIPSORD: Ms. Bassi?

MS. BASSI: Mr. Ross, I think you just said -- please confirm or deny -- that the rates for the other companies would be lower but the percent reductions would also be lower?

MR. ROSS: They are required to reduce a lower percentage. We went over that in some detail yesterday. For example, Ameren would be required to reduce SO2 emissions 76.3% by 2015, whereas the rule gives an option that you comply with either 0.25 pounds per million BTU's or a percent reduction, whichever is more stringent.

MS. BASSI: Are you saying then that the lower rates for the other companies are more stringent than the percentage or are you saying that the percentage results in the lower rate?

MR. ROSS: That the percentage results in a lower rate. So whereas, again, Ameren would

be reducing SO2 76.3%, other companies would only be required to reduce SO2 emissions by 70%.

(62) It appears that the structure of the baseline and required reductions for SO2 under the MPS merely brings Ameren's emissions into alignment with what everyone else's emissions are already; is that correct?

No, that is not correct. It's really not even close, and we discussed that yesterday as well. The required reduction sets their emission rates well below that of other companies. In fact, Ameren's final emission rate of 0.25 pounds is less than half the emission rate than any other company, their current emission rate.

MR. ZABEL: That's applying the MPS to Ameren and no one else?

MR. ROSS: That's correct.

MR. ZABEL: You are comparing the MPS to before the requirement?

MR. ROSS: That's correct.

MS. BASSI: I'm going back to the SIPC is well controlled. Does that mean they can be in the MPS or not?

MR. ROSS: I believe the MPS is open to all systems. So, yes, they could conceivably utilize it. When I say that, I have to -- that was off my current recollection. I believe on one unit they have a scrubber SER and ESP that is considered a well controlled system. On their other unit they have a fluidized boiler, a baghouse that is generally considered good control. I'd have to look at their actual emission rates from that unit. So I'd have to look at that in a little bit more detail before I would make that assessment.

HEARING OFFICER TIPSORD: I have a point of clarification. SIPC is Southern Illinois Power Cooperative, and I believe we have established that they have, one of their units is a new unit under the MPS. So I believe the answer was earlier that they would not be able to take advantage of the MPS because they have a system wide had a new unit. That was my understanding. That basically because of that new unit, that was something you were going to look at as a new problem. But just as a point of clarification, earlier testimony was that based on the way the

rule is written now, they might not be able to take advantage of the MPS.

MR. ROSS: It appears to exclude them, but, again, that wasn't necessarily the intent.

HEARING OFFICER TIPSORD: Thank you. I just wanted to clarify that.

MR. ROSS: (A) The MPS requires a further ratchet downward from those companies who are already low emitters. Does Ameren and the Agency realize this?

The answer is no. The question needs to define the term "low emitters. Low emitters of what? I assume we are talking Mercury, SO2 and NOx. There are, of course, other pollutants, but Ameren as we've discussed in detail, does emit somewhat more SO2 at this time in large part because it burns more Illinois coal as opposed to Western coal. We've been through our position on that in detail.

(B) Doesn't this approach penalize historically low emitters?

We don't believe so. They need a lower percent reduction. Again, as we have gone over in detail.

MR. ZABEL: Just so we're clear, when you say lower percent reduction, are you talking about rate or tonnage?

MR. ROSS: We are talking about SO2 reduced as explained several times. The MPS has an option, you either meet the emission rate or a percent reduction, whichever is more stringent. For the other companies than Ameren we believe the percent reduction would be the more stringent, but when you compare what Ameren has to meet in terms of that percent reduction, they are actually reducing a higher percent of SO2 than what the other companies would need to reduce.

For instance, Ameren would be required to reduce 76%, greater than 76% of their SO2, whereas other companies in the MPS would only be required to reduce 70% of their SO2.

MR. ZABEL: And Ameren ends up with a higher rate?

MR. ROSS: Ameren ends up at a higher rate because their starting point is again higher.

MR. ZABEL: So they've been polluting more in the past by using low sulfur coal and now they will end up with a higher rate?

MR. RIESER: I'm going to object to that characterization.

MR. ZABEL: I apologize. Well, they've been emitting more sulfur than the others and will end up at a higher rate than the others?

MR. ROSS: I'd say that is a fair statement, yes. That's correct.

HEARING OFFICER TIPSORD: Question 63.

MR. ROSS: Why must the MPS be based upon the more stringent of the percent reduction from the baseline rate or the rate that happens to equate to that percentage reduction of Ameren's existing emissions?

Based on how we analyzed what was the appropriate level of control for other systems, we made that decision. And we've been over several times how we did that. We looked over each system where it has good controls and where it doesn't, and, again, decided that the use of subbituminous coal alone to reduce SO2 does not equal the needed level of SO2 control in Illinois.

HEARING OFFICER TIPSORD: And I believe Mr. Martin answered vaguely.

MR. MATOESIAN: Right, he did.

HEARING OFFICER TIPSORD: Question No. 64.

MR. ROSS: In previous rules where a not-to-be-exceeded emission rate was necessary to demonstrate attainment with a National Ambient Air Quality Standard, the Board did not attempt to inhibit trading. Why is trading inhibited and even precluded as a prerequisite for participation in the MPS?

The Illinois EPA wants to insure that real emission reductions occur in Illinois. Trading would not insure that reduction in emissions that are needed to meet the National Ambient Air Quality Standard will occur in Illinois.

MS. BASSI: If there is a not-to-be-exceeded emission rate, how does that not insure that there would be actual emission reduction in Illinois?

MR. ROSS: Well, if you can trade to meet that rate.

MS. BASSI: Well, a not-to-be-exceeded emission rate means that you cannot exceed that, and that means reduction has to occur at the

Illinois units. And my question is, what does that have to do with trading? Why is that not enough?

MR. ROSS: Well, we want to insure that the emission reductions that occur as a result of meeting that not-to-be-exceeded emission rate are not somehow entered back into a trading program where they show up in other states. When you retire or surrender those reductions, they are guaranteed to occur.

MS. BASSI: Have you done any kind of an analysis that demonstrates that allowances or that emissions -- no, allowances -- that are traded would necessarily impact Illinois?

MR. ROSS: We've discussed it. We also did some CAIR modeling which indicates that under a trading program scenario where we would retire 30% of our CAIR allowance, that Illinois can see very little in the way of emission reductions in that context.

But to build on that a little, we do intend and we have discussed with our modelers, we do intend to model this Rule, and we expect that the reductions we see will be more

significant than modeling with trading, some level of trading.

MS. BASSI: Do you intend to provide that technical support of the impact of this rule to the Board?

MR. ROSS: I believe we are providing it to some extent here in this testimony.

MS. BASSI: But not in the modeling.

MR. ROSS: Pardon?

MS. BASSI: Not this modeling or results of it because you haven't done it yet.

MR. ROSS: Well, modeling is usually not something that's provided to the Board. In the context of a state implementation plan, there's kind of two parts to the plan. There's the emission standard, the emission rates which are in the form of rules, which obviously as we're here today talking about emission rates and standards, those do go in front of the Board. The modeling component of the state implementation plan is not something that goes in front of the Board. That is something that's still in the state implementation plan that's in the total package that is submitted to the U.S. EPA. And

our plan is to bring our two major non-attainment areas into attainment. So modeling, again, is not something that typically is presented to the Board. That's my understanding.

MS. BASSI: I'm really trying not to stray too far afield from the scope of this Mercury hearing. However, is it not the case, Mr. Ross, that when the Agency presents a rule to the Board and is supporting that rule to the Board, that it usually says that the modeling has shown, rather than we believe the modeling will show?

MR. ROSS: Well, this is a Mercury Rule, and we have presented that modeling for Mercury.

MS. BASSI: But haven't you introduced SO2 and NOx into the scope now? And that's what we are talking about? You are talking about inhibiting trading for SO2 and NOx in order to achieve an environmental goal that you haven't demonstrated; is that not the case?

MR. ROSS: I think this goes back to what we discussed earlier, and we are still evaluating and contemplating what context we will be presenting the Multi-Pollutant Standard, how we

will utilize it for our attainment demonstration and whatnot. We went over that in some detail this morning.

HEARING OFFICER TIPSORD: And just as a further point of clarification, I believe that Mr. Kelly pointed out yesterday that Ameren has presented this language and they have agreed to the language, but it was their feeling that Ameren would be the presenters. So when you say you introduced, I think technically speaking they made that point yesterday. I'm just trying to make the record clear.

MS. BASSI: Just one statement then that I have to make. Ameren has deferred to the Agency to answer a bunch of questions on the Rule that Ameren has presented because Ameren wasn't able to answer them. Therefore, the Agency, the questions are posed to the Agency --

HEARING OFFICER TIPSORD: And the Agency is answering the questions.

MS. BASSI: Not all of them.

HEARING OFFICER TIPSORD: I disagree. You may not be hearing the answers you want to hear, but I think they are attempting to answer

the questions as best they can. Whether or not they are sufficient is a discussion to be had at another time.

Mr. Zabel?

MR. ZABEL: Mr. Ross, I heard you answer earlier a question that Ms. Bassi asked, that it was the Agency's intent to preclude the trading of the allowances of these trading into other states? I may not have phrased it quite the way you did, but that was what I thought I heard you say.

MR. ROSS: That's correct.

MR. ZABEL: That would be true for mercury allowances that would be available if the state followed the CAMR Rule instead of the proposed rule?

MR. MATOESIAN: I'm sorry, could you clarify that?

MR. ZABEL: I'm going to go down all three pollutants. Under CAMR there's trading, is there not?

MR. ROSS: Yes.

MR. ZABEL: You would preclude that by having this alternate rule not follow CAMR?

MR. ROSS: Absolutely. Not trading.

MR. ZABEL: Even though you could impose the Mercury emission levels without precluding federal trading because it would be sold to other states?

MR. ROSS: We could.

MR. ZABEL: Well, that is what happens under this rule.

MR. ROSS: Only the overcompliance would be traded.

MR. ZABEL: I'm talking about mercury for the moment.

MR. ROSS: Mercury, there's no trading of.

MR. ZABEL: But you could get the same emission limit on sources in the state by simply adopting the emission; you are also precluding by this rule trading under the Federal CAMR Rule?

MR. RIESER: I'm sorry, I don't understand. By this rule, you mean the MPS?

MR. ZABEL: The entire rule that's before us.

MR. RIESER: The entire rule?

MR. ZABEL: Right. I don't think the

MPS makes a difference in that.

MR. RIESER: Correct.

MR. ZABEL: Let me pose it to you differently. If you simply impose the emission limits that are proposed in this rule, the basic rule for --

MR. MATOESIAN: For mercury?

MR. ZABEL: -- for mercury, but did nothing further and allowed the CAMR Rule to come into effect, there would be trading as a result of the overcompliance with the Illinois Rule; is that correct?

MR. ROSS: I believe that's correct.

MR. ZABEL: Whether it's your intent or not, your result of the Mercury Rule will be to preclude interstate trading of mercury allowances by Illinois sources; is that true?

MR. ROSS: Yes, I believe so.

MR. ZABEL: You also intend to preclude the interstate trading of SO2 allowances that are generated for compliance under the MPS; is that correct?

MR. ROSS: That is correct.

MR. ZABEL: And the same for NOx

allowances under the MPS?

MR. ROSS: That is correct.

MR. ZABEL: It's the state's intent to preclude interstate trading of those allowances; is that correct?

MR. ROSS: That is correct.

MR. ZABEL: Thank you.

HEARING OFFICER TIPSORD: Question No. 67.

MR. ROSS: Is there anything that prevents the Agency from re-selling allowances surrendered to it?

It is our intent to retire the surrendered allowances, and doing otherwise is contrary to our air quality and emission reduction goals. We will look into this further, but we believe if the allowances are surrendered to U.S. EPA, that the U.S. EPA cannot re-sell them.

HEARING OFFICER TIPSORD: Ms. Bassi?

MS. BASSI: Will there be something in the rule or something enforceable that says Illinois will actually retire them?

MR. ROSS: I don't believe there's anything currently in the rule, but there is

something in the testimony that it is not our intent to do so, and that would be contrary to our air quality goals. So we certainly have no intention of doing that.

HEARING OFFICER TIPSORD: Mr. Zabel?

MR. ZABEL: Just for clarity then, it's your intent that those allowances will be taken out of circulation completely and never used to offset pollution?

MR. ROSS: That's correct.

MR. ZABEL: In other words, it would reduce the size of the market and try to establish some kind control of SO2 allowances; is that correct?

MR. ROSS: I believe so.

MR. ZABEL: Thank you.

HEARING OFFICER TIPSORD: 72.

MR. ROSS: In reaching the MPS agreement with Ameren, did the Agency conclude that postponing the effective date of the mercury standard from July 2009 until January 2015 was acceptable for the control of mercury from a public health perspective?

And the answer to that is no. The

premise of the question is somewhat confusing. We still require that mercury control is able to achieve 90% reduction in mercury emissions to be installed by the end of 2009 on 94% of Ameren's capacity. We simply concluded, as others have, that a broad multi-pollutant standard has far more reaching benefits to public health and the environment by insuring significant reductions in mercury, SO2 and NOx.

HEARING OFFICER TIPSORD: Question 73.

MR. ROSS: Isn't it true that if each of the generators in Illinois elected to take advantage of the MPS, the mandatory mercury standard, 90% reduction or 0.0080 pounds of mercury per gigawatt hour would not take effect in Illinois until 2015?

The answer to that is, yes, and we've been over that in some detail.

HEARING OFFICER TIPSORD: Before we go on to the next question, did you get a copy of the questions?

(Discussion off the record, after which the following proceedings were had:)

HEARING OFFICER TIPSORD: The follow-up to question 73, question 74.

MR. ROSS: The MPS does not impose the mandatory 90% reduction or 0.0080 pounds of mercury per gigawatt standard on electric generating units that are less than 90 megawatts?

And that is true, but it does require them to install mercury controls by the end of 2012.

HEARING OFFICER TIPSORD: Question No. 76.

MR. ROSS: Isn't it true that by postponing controlling emissions of SO2 until late in or after the years used to determine the base rate, a company would be allowed to emit more SO2 in the future than if it had controlled SO2 during the years used to determine the base rate?

And I believe that is true.

HEARING OFFICER TIPSORD: Question 77.

MR. ROSS: Isn't it true that a company that had reduced emissions of SO2 during the years used to determine the base rate, would be more likely to have a more stringent SO2 emission rate limit under the MPS than a company

that did not reduce SO2 emissions during those years?

I believe that is true.

(A) Isn't it true that the provision of the MPS that imposes a percent reduction of the SO2 base rate would generally grant a higher future emission rate to a company if it did not control SO2 emissions during the years used to determine the base rate?

I believe that statement is also true.

(B) Isn't it true that the provision of the MPS that imposes a percent reduction of the SO2 base rate rewards companies with high emissions of SO2 during the years used to determine the base rate relative to companies with low emissions of SO2 during that period?

MR. MATOESIAN: I'm just going to object to the characterization that it rewards them.

MR. ROSS: Right. And that's part of my answer. I'm not sure that it necessarily rewards them. I'm not sure in the context of how the term rewards is used, but it is true that such

companies would have to meet a lower emission rate. But it is also true that they need to reduce emissions at a lower percentage as we have gone over in some detail.

(C) Isn't it true that the provision of the MPS that imposes a percent reduction of the SO2 base rate would impose a lower future emission rate on a company that did not control SO2 emissions during the years used to determine the base rate?

And the answer is maybe or maybe not. It depends on what a company's starting point for SO2 emission rates is. Assuming for purposes of the question that the company did control SO2 and had a lower base emission rate, then they would likely need to meet a lower emission rate than a company that did not control SO2. But, again, they would need to reduce emissions at a lower percentage as has been explained.

(D) Would you agree that the provision of the MPS that imposes a percentage reduction of the SO2 base rate punishes companies with low emissions of SO2 during the years used to

determine the base rate relative to companies with high emissions of SO2 during that period?

MR. MATOESIAN: Again, I'm going to object to the characterization of punishing them.

MR. ROSS: And the answer is, no, I'm not sure in what sense that they are being punished. Are they being punished because they need to reduce emissions to a lower percentage and therefore possibly reduce less or are they being punished assuming in the sense that they would need to meet a lower emission rate?

Does that conclude our portion?

HEARING OFFICER TIPSORD: I'm checking with the rules. This is Erin Connelley with the Board. I'm going to let Erin go ahead and propose a couple questions. You do not necessarily have to answer them now. You can certainly save them for final comments. She has had a chance to look at the rule's language.

MS. CONNELLEY: First of all, I'd like to say, everyone has a lot of declarative questions for me, so thank you. Just real quickly.

MS. BASSI: Madam Hearing Officer, who

is answering these questions, the Agency or Ameren?

HEARING OFFICER TIPSORD: It's a joint question, so like I said I don't expect an answer now. They can look at them and answer them in comments later.

MS. CONNELLEY: I'm looking at in C3(D), just one of the issues that we frequently get when we use the word "may," in regulatory matters, the Illinois operator may operate the objection rate or rates. If there's some way we could have clarified language for that, that would specify a little more clearly instead of the word "may" has the option of something, that could make it a little more clear. We will get the question when may they not. That happens at a couple of places. Especially when it's preceded by so many "shalls". And actually I'm going to leave that one right now. A lot of the other questions have already been addressed. So thank you very much.

HEARING OFFICER TIPSORD: Thank you.

MR. RIESER: Thank you.

HEARING OFFICER TIPSORD: Are there any additional questions for the Agency at this

point? Then I believe we'll move on to Dr. Smith. And her testimony has been entered as Exhibit 77.

Midwest Generation and Dynergy are the only ones who have proposed questions for Dr. Smith at this time so we'll proceed.

MR. ZABEL: I believe I saw questions from Prairie State.

HEARING OFFICER TIPSORD: My apologies. They are actually in the back. Did you want to give a brief summary, Dr. Smith?

DR. SMITH: Yes, I do.

My name is Anne Smith. I'm vice president of CRA International, an economic consulting firm. I have been asked by Ameren to testify on how the provision called the Multi-Pollutant Standard or MPS effects environmental --

HEARING OFFICER TIPSORD: Doctor, let's move the microphone. It will amplify it a little bit without garbling.

DR. SMITH: I'll go back.

I've been asked by Ameren to testify on how the Multi-Pollutant Standard effects environmental and financial outcomes as

compared to those that would occur under the Illinois Rule for mercury without the MPS provision.

In my analysis I find that if Ameren were to make use of the MPS provision, annual SO2 emissions would be tens of thousands of tons lower per year than under the Illinois Mercury Rule, and annual NOx emissions would be one to three thousand tons lower than under the Illinois Mercury Rule.

Reductions in these pollutants would make real contributions to the efforts that Illinois will need to undertake to achieve attainment with both fine particles and NAAQS, Ambient Air Quality Standards. The trade-off that is made environmentally is a small delay in meeting the full reduction of mercury that would be required under the Illinois Rule without the MPS provision. This brief delay does not impose any attainment issues in the state in the way that SO2 and NOx emissions do.

From Ameren's corporate perspective, the rate increase and capital payments would be dramatically reduced on the MPS

compared to the Illinois Rule without the MPS. This could be valuable to the company in terms of enhanced financial stability. It also indicates a more reasonable construction schedule which will improve the company's ability to effectively manage many complex retrofit projects. That in turn suggests greater prospects for avoiding project missteps and cost overrides as well as enhanced prospects for system reliability.

In sum, I consider the MPS provision to be a beneficial addition to the Illinois Rule as originally proposed without it.

HEARING OFFICER TIPSORD: Thank you, Dr. Smith. You know what, since Prairie State Generating Company has just the one question, why don't we do their question and then go to -- or did you have something else?

MR. RIESER: I think there are actually three questions, and I think they are pretty much answered by the answers to the Dynergy questions. So if we can just proceed, that's okay, why don't we proceed that way.

HEARING OFFICER TIPSORD: That's fine. We'll do that.

DR. SMITH: Question 1. Did anyone assist you with the preparation of your written testimony on behalf of Ameren or the responses to these questions?

(A) If so, who?

I read the testimony myself. A CRA associate principle Scott Bloomberg assisted me in performing the analysis that I described in my testimony and in checking the accuracy of the draft. I've been consulting with Ameren and Ameren's legal team in terms of the scope of my testimony and the scope of my questions.

(B) Did you receive any guidance from or have any conversation with the Illinois Environmental Protection Agency concerning your testimony or responses to these questions?

No.

(C) Were you instructed by anyone to include or exclude any analyses or discussion from your testimony or responses to these questions due to input by or concerns of the Agency, any other state agency or employee, or any environmental group?

No.

(D) Did the Agency or any other state agency or employee, or any environmental group, review a draft or provide comments on your testimony or the responses to these questions?

Not to my knowledge, no.

(E) If so, who?

Not applicable.

(F) Did you perform any analyses or studies for Ameren in connection with this proceeding not discussed or referred to in your testimony?

I was retained by Ameren to advise them on a broader set of issues than I've been asked to testify on. I've done other analyses related to Ameren's business planning, but these are not the subject of my testimony on this rule.

(G) If so, please describe all such analyses or studies.

I estimated the costs of the Rule and the potential effects of the TTBS.

2. At page three of your testimony you state that "to simulate the Illinois Rule with the MCS -- I'll say MPS. I used the term MCS showing that I didn't even know what it

was called. That shows how much in the loop I was -- "I assumed that only Ameren would make use of the MPS provision, and that I did not attempt to evaluate whether other companies would also find the MPS provision to be a preferred alternative." Does this mean that:

You are not offering testimony concerning whether MPS would be a beneficial alternative?

I am not offering any testimony regarding any other company other than Ameren.

Does this mean that all of your comparisons of costs and emission levels associated with the proposed Mercury Rule with or without the MPS assume that only Ameren participates in the MPS?

Yes.

Does this mean that other companies may in fact find that the MPS creates disadvantages for them because, for instance, they have lower NOx or SO2 emissions during the baseline period and the MPS, if adopted, would require them to reduce baseline emissions by specified percentages?

I did not analyze this issue, and I have no testimony to offer on it.

3. On page 3 of your testimony you describe three simulations you performed using NEEM.

MR. RIESER: NEEM, N-E-E-M.

DR. SMITH: The first of these was CAIR/CAMR, C-A-I-R/C-A-M-R. Did that include co-benefits Ameren would obtain from CAIR for complying with CAMR?

Yes, it did.

Did the first simulation include co-benefits that other Illinois generators would realize under the CAIR/CAMR program?

Yes, all three simulations included the same input assumptions regarding possible co-benefits.

(B) You describe your second simulation as "the effects of Illinois imposing the IEPA's mercury rule" while the rest of the country implements CAIR/CAMR. Did the cost to Illinois generators for CAIR compliance increase in this simulation?

It's not possible to separate the

cost for CAIR compliance to the cost of any mercury rule, whether it's the CAIR Rule or the Illinois Rule, and this is because of the co-benefits that simultaneously provide mercury, SO2 and NOx reductions. My estimate of the total costs to Illinois generators of the IEPA Rule plus CAIR is higher than that for meeting CAMR plus CAIR alone.

If so, why?

The cost rises because the IEPA mercury rule requires greater amount of emission control actions by Illinois generators than would be cost-effective for them to undertake under CAMR.

MR. ZABEL: Is the timing of controls under CAIR impacted in that cost analysis as well?

DR. SMITH: The timing of the controls required under which one?

MR. ZABEL: Your analyses here. We are talking about the Illinois Rule and CAIR.

DR. SMITH: Under the Illinois Rule the timing of compliance that might occur because of CAIR might be moved up in time because it will provide the mercury reductions, and that will

increase the costs, if later compliance actions end up being sped up in time because of the mercury provisions.

MR. ZABEL: So they would be accelerated to obtain the co-benefits?

DR. SMITH: That's right, if they are accelerated to obtain the co-benefits, then that raises the costs.

MR. ZABEL: Did your analysis of various facilities in Illinois conclude as to units that would accelerate their CAIR compliance for that reason?

DR. SMITH: It was certainly a possibility, and there were not that many, but I believe there were one or two plants that would accelerate SGT installations up to as early as 2009 in the acceleration.

MR. ZABEL: Did the analyses then include those that didn't accelerate CAIR compliance some duplicative or wasteful costs because they had to comply with mercury before they got the CAIR benefits?

DR. SMITH: In the model run there was nothing to prevent them from speeding up controls.

Now, if a sufficient number of the controls would be sped up so early in time in the model that you would say that this is not viable in the real world, that cost, that lack of viability would not be picked up. That's something that a modeler has to look at after the fact. We did not see too much of that, other than the bigger effect in terms of speeding things up was the quantity of baghouses that would have to be added by 2009 to meet the Illinois Rule. Rather than speeding up with FGDs, there just wasn't as much of that as we might have expected. And in part that is because there weren't that many FGDs in the plan for CAIR alone, CAIR/CAMR alone.

MR. ZABEL: Your analyses then concluded that the use of baghouses required in the Illinois Rule?

DR. SMITH: Yes.

MR. ZABEL: I believe that's consistent with Mr. Menne's testimony on the MPS?

DR. SMITH: Yes.

MR. ZABEL: Your analysis did not assume as the Agency did, that the ACI installation would be sufficient to meet the 90%.

DR. SMITH: It depends on the unit and configuration of the unit whether it would reach 90% with ACI alone. The units we are actually using sulfur trioxide, flu gas conditioning, we did not assume they could achieve 90% without baghouses.

HEARING OFFICER TIPSORD: I believe we were on (B)3.

DR. SMITH: Did you quantify those increased costs?

It would help if you could explain what it meant by "those increased costs" just to clarify the specific costs that you are asking about.

MR. ZABEL: I think going back to the earlier part of the question, it's the difference in the cost between CAIR/CAMR and Illinois CAIR.

DR. SMITH: Yes, I did do that. So I estimated that the Illinois Rule without the MPS provision would cost Illinois generators about $1.13 billion dollars more than CAIR/CAMR. And this cost --

MS. BASSI: Is that million or billion?

DR. SMITH: Billion. $1.13 billion. This cost is the present value to all the costs of the generators between 2006 and 2020.

Was your third simulation the same as the second except that you included the MPS with only Ameren utilizing the MPS?

Yes.

What was the cost difference between this simulation and the second simulation?

The cost difference to Illinois generators between the third and second simulation was $220 million present value.

MR. ZABEL: Is that an increase or decrease?

DR. SMITH: The MPS would cost more than the Illinois Rule with or without the MPS.

MR. ZABEL: So the total cost to generators is going $1.35 billion?

DR. SMITH: Yes, that's the next question.

MR. ZABEL: I'm sorry. I anticipated myself.

DR. SMITH: Good math.

What were the causes of this

difference?

The total investment, higher operating costs that Ameren would undertake by the year 2020 if it were to take the MPS instead of not taking the MPS provision.

What was the cost difference to Illinois generators between the first and third simulations?

$1.35 billion dollars present value.

What were the causes of this difference?

This is just a combination of my answers to B and C above.

You indicated for Ameren that you included the multi-pollutant controls for meeting the MPS requirements. Did you do any analysis of the increase to other Illinois generators for meeting beyond CAIR SO2 and NOx requirements if Ameren does not have to meet such requirements?

No.

4. You state that you assumed only Ameren would make use of the MPS provision. What are the reasons or basis for that assumption?

The reason is that I'm only representing Ameren in this proceeding.

Did you have any inputs from or discussions with anyone from Ameren concerning this assumption?

When I was asked to prepare the analysis of the MPS provision by Ameren, I asked should the analysis be limited to Ameren's use of the MPS or assume that generally it would be employed, and I was told to limit my assumptions to just the use of the MPS by Ameren only.

The question is with whom and when?

I took my instructions from Ameren's legal team.

(C) please describe the nature and content of these inputs or discussions.

Well, throughout the course of the engagement there they were both informal telephone conversations and more formal meetings in person or as conference calls with Ameren's legal team and Ameren to clarify the scope and specifics of the assignment.

(D) Did you have any inputs from

or discussions with anyone from the Agency concerning that assumption?

No, I did not.

(E) Is not applicable.

(F) To your knowledge did Ameren have any inputs from or discussion with anyone from the Agency concerning that assumption?

No, not to my knowledge.

(G) If so, please describe.

That's not applicable.

5. On page 6 of your testimony you state the regional haze will be improved by the proposed MPS.

(A) What is the basis for this assertion?

On page 6 I'm referring to the SO2 reductions and how they will be reduced. The basis for this is just that sulfur dioxide converts in the atmosphere to sulfate particles. Sulfate particles block the emission of light through the air. That blocking of light is the cause of regional haze.

(B) Did you perform or have you reviewed any haze modeling that both includes or

excludes the MPS?

No.

(C) Have you ever performed haze modeling?

Yes. I developed the Integrated Assessment Models for the Grand Canyon Visibility Transport Commission which was developed to estimate the regional hazing packs in southwestern parks which are effected as a result from alternative, generic control policies. That of course is not applicable to Illinois.

6. On page 6 of your testimony you state that SO2 emissions are a precursor to ambient concentrations of fine particulate matter and that the additional reductions of Illinois SO2 emissions would be helpful to Illinois in achieving attainment with the PM2.5 National Ambient Air Quality Standard.

(A) Will the Agency require reductions of SO2 beyond the SO2 reductions by Ameren under the MPS, if adopted, and CAIR to achieve attainment with the PM2.5 NAAQS?

I don't know this. I did not perform an attainment analyses as I said.

(B) Has the Agency identified electric generating units as a source of such additional SO2 reductions?

Honestly, I don't know. I haven't followed it.

(C) Is Ameren exempt from any such additional SO2 reductions if the MPS were to be adopted and Ameren opted into the MPS?

I don't know the answer to that.

(D) To determine what additional SO2 reductions are needed to achieve attainment with the MP2.5 NAAQS, do you need to know what reductions in Illinois would occur as a result of the state's adoption of rules to implement CAIR?

Yes, one would need to know this if one were to perform an analysis on attainment which I have not done.

(E) At this point Illinois has not adopted any CAIR implementation rule; is that correct?

That is correct.

(F) Is CAIR implementation the subject of an entirely different rulemaking?

Yes, it is.

7. On page 6 of your testimony you state that "five of the FGD projects assumed under the MPS scenario would cost between $3,600 a ton and $4,800 a ton SO2 removed, which is four to five times higher than the range of SO2 allowance prices that is projected by EPA and others."

(A) In what document or documents does EPA project such allowance prices?

EPA estimates of allowance prices come from IMP. The output files of three sets of sensitivity from CAIR and CAMR Rules are posted on EPA's website, and I'll give you the website name. It's http://www.EPA.gov/airmarket/MP. And these three sets of outputs can be found as items No. 12, 19 and 25 on that web page.

HEARING OFFICER TIPSORD: Dr. Smith, just as a point of clarification, when you refer to the EPA, you are referring to the United States Environmental Protection Agency?

DR. SMITH: Yes, I am.

(B) Who are the others?

I and my colleagues at CRA routinely use allowance prices at NEEM models which we used in this particular proceeding, the

analysis for this proceeding. We have done this for many clients and many alternative input assumptions, sensitivity analyses. For my statement for the specific four to five times increase, I relied on a range of price estimates from the specific NEEM runs that were done for this proceeding combined with the estimates reported by IEPA. There are other consulting firms that also produce such price estimates. I have familiarity with their estimates but I cannot rely on them because my access to them has been on a confidential basis. I can say certainly they are in the range of the numbers that I have.

MR. BONEBRAKE: When you say you relied on a range of price estimates, did you use an average of a range?

DR. SMITH: No, I used a high and low and divided them into the numbers. The price range is basically from $600,000 dollars a ton to a $1000 a ton across all the estimates I relied on.

MR. BONEBRAKE: How does that compare to U.S. EPA price range?

DR. SMITH: That includes the EPA's

price range. And those are numbers between, values estimated for the years between 2010 and about 2020.

(C) Does this statement mean that the proposed Illinois Rule with the MPS is significantly less cost-effective than CAIR in reducing SO2 emissions?

I believe I answered that earlier but under one of Mr. Menne's questions. I can go over it again if you wish.

(D) Do you agree that the projected SO2 reduction costs under the MPS are not cost-effective as compared to the SO2 reductions required by CAIR?

My answer to C applies to this question as well, that I do not agree to using the concept of cost-effectiveness to compare them.

(E) Does this mean that Ameren's --

MR. ZABEL: Excuse me. When you say no to D, are you referring to Ameren's perspective or generally?

DR. SMITH: Generally. The concern here is that the targets are different under CAIR

and CAMR than they are under the Illinois Rule, the objectives that you are trying to obtain. So it is more costly to obtain a stringent target as one has with the Illinois Rule with or without the MPS provision. That doesn't make them less cost-effective just because they are more costly. They can still be extremely cost-effective.

MR. BONEBRAKE: Can you then define for us how you use the term cost-effective? That will help us understand your answer.

DR. SMITH: Yes. Cost-effective is defined as what is the cheapest way to achieve your environmental target. If you have a limit on an emissions of a cap of 9 million tons a year, the cost-effective approach would be the one that achieves 9 million tons a year at the lowest cost possible. Any other approach for achieving controls that would get to 9 million tons, if it costs more is less cost-effective. But under the Illinois Rule you are comparing the tighter limit on emissions, in this case mercury emissions, than under the CAIR and CAMR Rules. And the same is true for the SO2 and NOx when you add the MPS into it.

MR. BONEBRAKE: So would it be correct that for answers of C and D we are asking for a comparison of apples to oranges and that's really inappropriate?

DR. SMITH: That's right.

(E) Does this mean that Ameren's customers and/or stockholders will be subject to costs for SO2 controls that are four to five times higher than Ameren might otherwise have incurred?

The answer is no. A higher SO2 price does not imply a higher electricity price. So you can draw no such conclusion for customers. Similarly a high cost per ton removed at one or two specific generating units does not imply the total corporate financial costs will be that much higher, nor does it imply that the financial outcome of the company will be worse at all. Financial outcomes for the company could be actually better, if other financial concerns are eased by that choice of making that more expensive control in a few units. And that is the case as I see it in choosing to adopt the MPS provision if Ameren were to be able to do so. Thus no such conclusion can be drawn for the stockholder's role

either.

HEARING OFFICER TIPSORD: Mr. Zabel?

MR. ZABEL: Your answer to that question is dependent, is it not, on the other benefits you think Ameren will obtain from the MPS?

DR. SMITH: That is right.

HEARING OFFICER TIPSORD: Mr. Bonebrake?

MR. BONEBRAKE: You mentioned that you did modeling of SO2 pricing. I was curious if your modeling included a scenario where some allowances would not be available, that is allowances that would be allocated to Ameren as a result of the trading prohibition included in the MPS?

DR. SMITH: I did not analyze such a scenario. I will say that I did estimate the change in what the emissions cap would be, and it's very small, less, about 1% of change in the cap as a result of any reduction in Ameren's emissions.

MR. BONEBRAKE: Can you clarify for us what you mean by cap in that CAIR?

DR. SMITH: The national cap for CAIR for SO2.

8. On page 7-8 of your testimony you state that the "two SCR projects at Newton assumed under the MPS scenario would cost between $20,000 ton to $26,000 ton removed, which is about ten times higher than the range of NOx allowance prices that is projected by EPA and others."

The next set of questions A through E follow up on that and the previous set of questions and my answers are identical.

9. On page 6 of your testimony you indicate that the SO2 reduction resulting from Ameren's compliance with the MPS would be unlikely to occur under CAIR/CAMR or CAIR/CAMR with the Illinois Mercury Rule in place.

(A) How much of this reduction would occur if Ameren simply reduced its existing average SO2 emission rate to the existing average of the other coal-fired electric generators in Illinois?

I haven't done that analysis.

(B) Did you analyze what level of SO2 emission reductions would be required in

Illinois beyond CAIR?

No, I did not perform an attainment analysis.

(C) Would these reductions be greater than just the reductions from Ameren under the MPS?

I don't know because I have not done an attainment analysis.

(D) Wouldn't these greater reductions result in a line ultimately lower than either of those shown in Figure 1 of your testimony?

I don't know if greater reductions would be required or not.

(E) Wouldn't these greater reductions have to be achieved by sources in Illinois other than Ameren because Ameren would not be required to make any reductions beyond those in the MPS?

I believe this question has made a presumption, and I don't know if it's true or not, so I cannot answer it.

10. On page 7 of your testimony you indicate that the NOx reductions resulting

from Ameren's compliance with the MPS would be unlikely to occur under CAIR/CAMR alone or CAIR/CAMR with the Illinois Rule in place.

Did you analyze what level of NOx emission reductions would be required beyond CAIR?

No, I did not perform an attainment analysis.

I believe B, C and D are identical to my answers to question 9.

11. Regarding Figure 3 at page 9 of your testimony.

(A) Is it correct that this figure shows that in 2009, mercury emissions from existing coal-fired power plants in Illinois would be about 500 pounds higher under the proposed Illinois Mercury Rule with the MPS as compared to the proposed Illinois Rule without the MPS?

I estimated the small and temporary delay in the reduction levels under the Illinois Rule would be offset by greater and earlier reductions in SO2 and NOx. Those are the pollutants that present a real quality air concern in Illinois.

HEARING OFFICER TIPSORD: Excuse me.

Mr. Bonebrake?

MR. BONEBRAKE: Dr. Smith, I don't think you answered the question. The question was specifically, does Figure 3 show that mercury emissions would be about 500 pounds higher in the one scenario versus the other as described in the question?

DR. SMITH: It does in 2009 and the gap declines continuously until they become the same by 2015. So that's the sense in which I was describing it as a small and temporary delay.

MR. BONEBRAKE: And would you anticipate, Dr. Smith, that if other companies were to opt into the MPS, that the 500 pounds would increase higher than as shown in Figure 3 where you are just looking at Ameren?

DR. SMITH: Yes, it would, not necessarily in the same proportion. It would depend on how many of the other companies' units have similar issues with sulfur trioxide which is the real reason why there is a real difference at all in 2009.

(B) Please explain why mercury emissions are projected to be higher in 2009 under

the MPS scenario?

This occurs because under the MPS Ameren will employ ACI at its noncurrent units, and that the Ameren units that inject SO3 will not be in compliance with the 90% removal or the units with 8 pounds per gigawatt hour of emission rate with ACI alone.

HEARING OFFICER TIPSORD: Mr. Bonebrake?

MR. BONEBRAKE: Just to follow-up so I understand the answer to that question, your assumption regarding not achieving 90%, was it limited to units using SO3?

DR. SMITH: Yes, it was.

MR. BONEBRAKE: What was the basis of that assumption?

DR. SMITH: It came from the judgment of Mr. Ed Conowitz. His testimony that was submitted will support that point.

HEARING OFFICER TIPSORD: Mr. Zabel?

MR. ZABEL: Again, Dr. Smith, do you know how many of Ameren's units use SO3 injection?

DR. SMITH: I could look it up. I can't tell you off the top of my head exactly.

It's maybe about half the units. I don't know about the gigawatt of capacity.

MR. ZABEL: I'm not going to ask you to look it up.

DR. SMITH: Sorry.

MR. ZABEL: I just wondered if you knew off the top of your head.

DR. SMITH: I just don't remember the number.

HEARING OFFICER TIPSORD: Proceed.

DR. SMITH: (C) To generate the results shown on this figure, what company or companies did you assume would opt into the MPS?

Only Ameren.

If this figure assumes that only Ameren would opt into the MPS, does that mean that the higher mercury emissions in 2009 under the MPS scenario are attributable solely to lesser reductions of mercury emissions by Ameren?

Yes.

Does this mean that if other companies were to opt into the MPS, then the difference between the projected mercury emissions levels in 2009 would be even greater?

Yes.

HEARING OFFICER TIPSORD: Mr. Zabel?

MR. ZABEL: A follow-up question to my earlier one in the calculation of the table that we were just looking at. Was it your assumption that the non-SO3 units would meet 90%?

DR. SMITH: Sorry? Was it my assumption that the non-SO3 units would make --

MR. ZABEL: Would meet the 90%?

DR. SMITH: I believe so. I'm trying to think. If the unit did ACI and had no SO3, we assumed it would make 90%.

MR. ZABEL: That excludes the units below 90 megawatts?

DR. SMITH: If a unit were to put on ACI at a small unit, it would achieve, if it did not have SO3 as well it would achieve 90%. But you are right that those units less than 90 megawatts did not receive ACI in 2009 at all in the simulation that I ran.

MR. ZABEL: So your simulation would not have assumed 90% removal for the SO3 units and the small units?

DR. SMITH: That's right. The small

units would get zero percent until the date they were put on ACI, and the units that put on ACI but had SO3 conditioner would receive 50% removal.

(E) Do you have an understanding as to whether the higher level of mercury emissions under the MPS scenario is acceptable to the Agency?

I have no such understanding at all, therefore the remaining questions are not applicable.

(F) In projecting mercury emissions under the MPS scenario, what mercury controls did you assume would be installed at each unit subject to the MPS?

Okay. In answering this question I need to clarify that I worked from assumptions that were provided to me from the company, by Ameren that is. My analysis of these assumptions does not imply that these actual controls are the ones that will take place, but it was an attempt to estimate the kind of actions that would be necessary to achieve the requirements of the MPS provision.

That being said, I assumed that

Duck Creek, it currently has a wet FGD and an SCR and the wet FGD would be upgraded by 2009. I also assumed that both caulking units would have a scrubber by 2010. The units of these two plants would achieve 90% of the mercury control by 2010. I assumed that all units at ED Edwards, Joppa and Newton would have ACI in place by 2009, and then between 2009 and 2015 either scrubbers plus SCR or fabric filters would be installed at ED Edwards, Newton and four of the six Joppa units bringing those up to 90% removal of level of mercury during that time frame.

I assumed that Meredosia III, the largest unit at the Meredosia plant would have ACI by 2009, and the Hutsonville units and Meredosia I and II would have ACI by 2015. What level of mercury reduction --

HEARING OFFICER TIPSORD: Excuse me. David has a follow-up question.

MR. ZABEL: I'm curious why four of six at Joppa?

DR. SMITH: Why four of the six? This is what was necessary to basically come down to the SO2 and NOx emission rate limits.

MR. ZABEL: Was that given to you by Ameren?

DR. SMITH: These were worked up by Ameren.

MR. ZABEL: What I'm curious about is whether the physical layout at Joppa created a problem of doing any of the units?

DR. SMITH: I don't know of any issue such as that. It was my belief that it was to do what was necessary to get the SO2 and NOx units up to compliance, but there was no discussion that I was involved in that would say that that was a reason.

MR. ZABEL: Did they tell you possibly which of the four units?

DR. SMITH: Sorry?

MR. ZABEL: Did they tell you which of the four units?

DR. SMITH: No.

MR. ZABEL: Did they tell you which of the six?

DR. SMITH: I could check. They are all similar enough that it wouldn't make a difference in the analysis.

MR. BONEBRAKE: For Duck Creek I heard you mention an FGD upgrade by 2009, unless I missed it, were you assuming installation of ACI at Duck Creek?

DR. SMITH: No, we are assuming that it would achieve 90% with the FGD and the SCR.

MR. ZABEL: With an ESP?

DR. SMITH: It has an ESP.

HEARING OFFICER TIPSORD: Next.

DR. SMITH: What level of mercury reduction did you assume for each unit?

I assumed that a combination of scrubber and SCR would achieve 90% control if you are burning bituminous coal. I also assumed that if the plant has a fabric filter that it would achieve 90% control regardless of the range of the coal being burned. This 90% control assumption applies to the dry scrubbers suction as well as, assuming non-dry scrubber installation would include a fabric filter.

I assumed that at present if a plant applies ACI, it will achieve 90% removal if it does not inject SO3. And it would achieve 50% control if it does inject SO3.

I also assumed that by 2015 sorbent technology will have advanced that it could achieve 90% reduction at all plant types without the fabric filters. That's an assumption about technological improvement between now and ten years from now.

MR. ZABEL: Both kinds of coal, bituminous and sub-bituminous?

DR. SMITH: Yes, both types of coal. Thus by 2015 90% removal would be achieved at all the Ameren units including the two Joppa units, Meredosia and Edwards would have achieved ACI by the end of that time period.

What is the basis for these assumptions?

The assumptions were taken from the testimony of Mr. Conowitz. I believe the assumptions about the technological improvements may not have been. I don't know that's in his testimony. That is an assumption that was built into our own analysis.

Do you agree that ACI without a baghouse would not achieve a 90% emission reduction level in some of or all of Ameren's

units?

This is really not my area of expertise so I should not speak to whether I believe it or not. I have relied on the people who understand these issues to provide these assumptions.

MR. BONEBRAKE: Just so it is clear then, you are relying on Mr. Conowitz for any assumptions regarding mercury removal?

DR. SMITH: For the percent reductions, yes.

(H) If you believe that ACI without a baghouse will not achieve 90% reduction at some units, which ones and why?

H and I are also questions about my beliefs on the technology which I also would prefer to defer to the experts.

12. Regarding page 8 of your testimony where you state that "The Illinois mercury emissions with the MPS provision still achieve, will achieve -- sorry, I'm having trouble with the quote. Let me try it again -- "Illinois mercury emissions with the MPS provisions still achieve 83% of the reduction that would occur

under the Illinois Rule without the MPS in 2009, rising to 87 percent of the Illinois Rule's reduction in 2010, and 94% by 2013."

(A) Please explain how you calculated 83%, 87% and 94% figures.

I will start with the 83%. 83% in 2009 in the analysis is a reduction of mercury that I estimated would occur if Ameren were to use the MPS and it is stated a fraction of the amount of reduction in mercury that I projected would have to occur under the Illinois Rule if the MPS provision were not available as a part of that rule. The 94% and 87% are the same computations but using the estimated mercury reductions in 2010 and 2013 respectively.

(B) Do the percentages in this statement refer to reductions only from Ameren units or do they refer to reductions from other units that would also be subject to the proposed Illinois rule if adopted?

These percentages refer to all Mercury emissions from all electricity generators in Illinois.

(C) Does your statement assume

that the proposed Illinois mercury rule without the MPS would achieve a 90% reduction in mercury emissions in Illinois from units subject to the Mercury proposal?

No, without the MPS I assume that each generating unit in Illinois will achieve either 90% or .0008 pounds per gigawatt per hour, whichever is less expensive.

(D) Is each of the percentages listed in this sentence a percentage of 90%, e.g. 83% of 90%?

No, each of the percentages listed in that sentence is a percentage of the amount of reduction that would be achieved under the Illinois Rule without the MPS, and for the reason I just stated in my responses to the previous questions, I do not estimate that emissions in Illinois would fall to a full 90% even without the MPS.

(E) If so, then does this statement mean that if the MPS were adopted in 2009 Mercury emissions from units subject to the proposed Illinois Mercury Rule would be reduced by about 75%?

This is not so for the reason I stated in my previous answer. However, the difference in mercury emission is quite small relative to the reduction that would occur without Ameren using the MPS and that difference also declines rapidly after 2009 and is eliminated within just a few years.

HEARING OFFICER TIPSORD: Mr. Bonebrake?

MR. BONEBRAKE: Just a follow-up question just to make sure I understood your series of answers to these questions.

Is it correct then as of 2009 that under the MPS scenario versus the non-MPS scenario -- let me try to put it another way.

As of 2009 are the non -- let's start over again.

Under the MPS scenario, mercury emissions would be 17% higher as you modeled them in Illinois as a result of Ameren's opting into the MPS; is that right?

DR. SMITH: That's not quite right, but you are on the right track. The math does not work quite that way. Yes, they are a

little bit higher. Not 17% higher. The difference is you get 83% of the way to where they would get under the Illinois Rule. The only error in the question is that it's not 83% of 90%. It's 83% of a different number. That other number is -- I estimate that the Illinois Rule would reduce, relative to 2006 estimated emissions would reduce emissions by 84% in 2009. The reduction from '06 to '09 would be 84% without the MPS provision. So then we get 83% of that 84%.

HEARING OFFICER TIPSORD: Ms. Bassi?

MS. BASSI: Now, I apologize if I really screwed this up but --

MR. BONEBRAKE: I didn't.

MS. BASSI: -- I don't apologize for him. On question 11(A), I believe you said that the mercury emissions from existing coal-fire power plants will be about 500 pounds higher if someone were opting into the MPS; is that correct?

DR. SMITH: If Ameren opted into the MPS.

MS. BASSI: If Ameren opts into the MPS and mercury emissions in Illinois are therefore approximately 500 pounds higher in 2009,

how does that relate to this 83%? Is that what the difference is?

DR. SMITH: The difference of 500 pounds is the last 17%. 83% of full reduction without the MPS occurs and then there's the remaining 17% of the base to what you would achieve otherwise is the 500 pounds.

HEARING OFFICER TIPSORD: Mr. Zabel?

MR. ZABEL: Is the projection of 84% reduction over 2006 and 2009 under the Illinois Rule?

DR. SMITH: 2009 versus my estimate of 2006.

MR. ZABEL: The differential between 84 and 90 is in some instances 000.80?

DR. SMITH: Yes, it is.

MR. ZABEL: And the 83%, the 83% would go up to 84%?

A. DR. SMITH: Yes, it is.

MR. ZABEL: What would the reduction in mercury with the MPS in 2009 be compared to 2006?

DR. SMITH: 70%.

HEARING OFFICER TIPSORD: We are on

question F.

DR. SMITH: Are these calculations based on the assumption that only Ameren opts into the MPS?

Yes.

(G) Would the percentages be lower if others opted in?

I didn't look into this question, but to the extent that they would have and do have units using SO3, the same assumptions would apply that ACI only in those plants would not get them to the 90% removal level.

(H) Do these percentages consider any units complying with the TTBS?

No. This analysis was done without the TTBS for the comparison.

(I) Do you understand that this level of mercury emission reduction is satisfactory to the Agency?

I have no such understanding.

(J) At page 10 of your testimony you state that the lesser level of mercury emission reductions under the proposed Illinois Rule with MPS is not meaningful. What is the

basis for this statement?

Okay. In the sentence I state that the lesser level of mercury reduction is not meaningful in comparison, that goes with the sentence, in comparison to the additional reductions in SO2 and NOx. So the statement is strictly a comparative one, and the basis for my judgment is founded in the fact that Illinois faces real non-attainment issues for air quality concerns that are known to be exacerbated by regional SO2 and NOx emissions.

(K) Have you had any discussions with or are you otherwise aware of whether the Agency agrees with that statement?

I have not had any discussion at all with any Agency staff, and I'm unaware of any Agency opinions on that statement.

13. At page 10 of your testimony you state that modeling may suggest that Illinois is better off (has lower costs) when its generators are harmed competitively by regulation. Please explain what is meant by the quoted phrase.

Okay. These cost models of electricity markets determine the least cost ways

to meet the electricity demands in each of the electrical marketing regions. These markets usually contain more than one state, and also the electricity demands in these regions can be met by transmission from out of the region into the set of states that are officially part of the region. So the measure of cost gets minimized in these cost models. It's the total cost from all of these possible resources both in region and out of region. So if one state's generation is reduced because it becomes relatively more expensive, for instance because of a state specific law, then it may lose some of its generation. It will lose market share because it can't compete as effectively. Now, when it loses market share, then generation falls. That's the same thing. And when generation falls in that state, costs fall. So the model could give the impression that costs have fallen when in fact what's really happened is generation has fallen and that revenues to generators have fallen. So all this means is that when you see a cost fall for that reason in certain states within the model, it may only mean there has been competitive damage to the

generators in that state.

14. On page 10 of your testimony you indicate that a state could seriously mislead itself by relying on standard cost output models such as IPM without additional calculation. Has the Agency in the TSD seriously misled itself?

I have no idea how or if the Agency is a relying or interpreting those IPM results.

MR. ZABEL: Madam Hearing Officer?

HEARING OFFICER TIPSORD: Yes.

MR. ZABEL: Does the IPM model suffer from the problem you described in answer to question 13?

DR. SMITH: Yes, it does.

15. Regarding Figure 4 at page 12 of your testimony, does this figure show that the cost of complying with the proposed Illinois Mercury Rule with or without the MPS is substantially more than the cost of complying with both CAIR and CAMR?

Figure 4 shows only the capital costs of the various policy scenarios, and it's only showing the costs for Ameren. So it's not a

statement about the total costs of any rules and it's a not a statement of the total costs to Ameren either. Figure 4 does show that Ameren would face higher annual capital charges under the Illinois Rule with or without the MPS than it would under CAMR and CAIR alone. And it also shows that the Illinois Rule with the MPS has a much more manageable rate of increase in capital payments than the Illinois Rule without the MPS, and that's the critical point in that chart.

(B) Are there costs associated with being unable to trade NOx and SO2 allowances under the MPS?

I do not know. I did not analyze this element of the MPS rule.

(C) I don't know what the costs are.

(D) Are they reflected in the Figure 4?

No.

(E) Will Illinois power companies that are subject to the proposed Illinois Mercury Rule assuming that is adopted be at a competitive disadvantage if neighboring states such as

Missouri, Iowa and Indiana adopt CAMR?

In a relative sense. That is relative to if Illinois also were to adopt the CAMR, yes.

16. Figure 5 on page 13 of your testimony is labeled "Overnight Capital Expense for Ameren Projected Using NEEM under CAIR/CAMR alone, the Illinois Rule and the Illinois Rule with Ameren using the MPS." What is meant by the phrase "overnight capital expense"?

First, I should have labeled it "Overnight Capital Costs." This is the total amount of capital that has to be raised for the retrofits that would come on line in that year to which then -- so the year that the plant would retrofit would come on line and be a functioning piece of control equipment, all of the capital costs associated with that project, that retrofit project would be assigned to that year, that's the overall capital cost of that project. It's like saying if you have a homeowner who wishes to buy a $300,000 home, that homeowner has to find a lender that's willing to allow him to raise that amount of capital at the time the home would be

purchased. So it's not the actual money or expenditure of cash to the firm. The actual cash flow for the payments associated with the overnight capital costs are spread over time, just as the payments of a home mortgage are spread over time, and it's those capital payments per year that are shown in Figure 5.

HEARING OFFICER TIPSORD: Mr. Bonebrake?

MR. BONEBRAKE: I think you said Figure 4. Did you mean Figure 5?

DR. SMITH: No. Figure 5 is the overnight capital costs and the annualized payments for those overnight cap costs. Those are the expenditures per year and those are in Figure 4.

MR. BONEBRAKE: And with respect to Figure 5, does this Figure 5 show then that under the Illinois Rule without the MPS that Ameren would be required to expend capital of over $600 million dollars in 2009?

DR. SMITH: Without the MPS, yes.

HEARING OFFICER TIPSORD: 17.

DR. SMITH: 17. On page 13 of your

testimony, you indicate the MPS is "a good environmental deal" for Illinois. Doesn't that deal include higher mercury emissions in the short term at least compared to the Illinois mercury rule without the MPS and no greater mercury reductions in the long-run?

The reason that I consider this to be a better approach is stated in my testimony. Illinois faces air quality issues of many types, and many of these issues are contributed by multiple pollutants that come from the same sources. Additionally, many of those pollutants would be controlled by the same control projects. So the MPS would give companies greater flexibility in actions to three specific pollutants SO2, NOx and mercury.

My assessment of how Ameren might make use of the MPS is that the state would gain again because, two reasons, the SO2 and NOx that are present well-known federal air quality management attainment concerns for Illinois would be lower, and in return that would be achieved by a temporary and relatively small delay in meeting the mercury targets that the state of Illinois has

elected to take on its own. That temporary difference in mercury emissions would not contrast and undermine Illinois' ability to comply with any air quality requirements.

Additionally, by accepting this type of trade-off, Illinois would be improving the prospects of the financial stability of one of the major sectors contributing to the commerce growth and the reliability of a system. That is also a worthy concern if there's no net loss to the environment when considered from a broad perspective. So the extra SO2 and NOx emissions production reduction therefore provides more potential savings to the state than the delay in mercury reductions.

HEARING OFFICER TIPSORD: Mr. Zabel?

MR. ZABEL: Is the answer to the question yes, Dr. Smith?

DR. SMITH: I have to read the question again.

Doesn't that deal include higher mercury emissions in the short term -- the answer is yes, and the trade-off is a wise one.

(B) If reductions of NOx and SO2

beyond those obtained under CAIR are required in Illinois, doesn't that deal mean that those additional reductions will be borne disproportionately by Ameren's competitors?

I do not know that because I did not analyze this question.

18. On page 13 of your testimony you indicate for several reasons the MPS is a prudent trade-off for Ameren. Are you aware of any other reasons this was a prudent trade-off or a good deal for Ameren?

I consider the MPS to present a prudent trade-of for Ameren even when considering all of the reasons I described in my written testimony.

(B) Would being exempt from any beyond CAIR SO2 and NOx requirements be a good deal for Ameren?

Same answer as A.

(C) Are you aware of anything else Ameren received or would receive from the Agency and/or the state administration for agreeing to the MPS?

No, I am not aware of any such

thing.

HEARING OFFICER TIPSORD: Ms. Bassi?

MS. BASSI: In going back to question 18(B) about the beyond CAIR, the delay in applying the CAIR requirements to Ameren if it opts into the MPS and beyond CAIR, and accepting that beyond CAIR requirements would be for the purposes of ozone and MP2.5 attainment issues or requirements which you have alluded to a number of times, if a company is not required to make those beyond CAIR reductions at least as quickly as other companies might be, is that still a prudent trade-off in terms of the environmental results?

DR. SMITH: Ameren is making beyond CAIR reductions already if they adopt the MPS. So they are not delaying them. They are actually, if anything, accelerating them.

MS. BASSI: According to the joint statement, it states that there could be additional beyond CAIR requirements that Ameren would not be first in line to have to do, and in that context is it still a prudent trade-off environmentally.

DR. SMITH: Again, the reason they are

saying in this joint statement that they would not be subject to any beyond CAIR, additional beyond CAIR controls is the presumption that these controls, these extra controls that are being agreed to now are their share or at least a good part of their share.

MS. BASSI: Is it a prudent trade-off?

DR. SMITH: The prudence comes from the fact that they are able to trade off the mercury control so they can coordinate those additional controls. They know that these are coming, and they can plan to achieve the mercury reductions simultaneously when these volunteered, if you will, additional reductions of SO2 and NOx under the MPS, and that's prudent because of the way it manages the rate of increase. It's prudent for Ameren because of the way it manages their rate of increase in their capital payments which is a serious issue for a company.

HEARING OFFICER TIPSORD: Mr. Zabel?

MR. ZABEL: What do you mean by a good part of their share.

DR. SMITH: Well, I do not know what that line means in the joint statement first of

all. I had no hand in writing it so I should not be interpreting it too much. But my understanding from what's been said so far over the last day and a half has been that -- seems like three -- my understanding of it is that there's no guarantee that more won't be needed eventually. It's just a statement that they are taking their action and then first the state would look to others as the next step. But that doesn't mean as far as I know that they won't come back.

MR. ZABEL: So it's prudent because they might not have to comply had the proceedings gone with SO2 or NOx in this and some beyond CAIR statewide requirements was laid on them, they would not have to meet that more stringent, that increment that would be applied?

DR. SMITH: I do not know what they would have to do later in time. I really do not know what that sentence says. But I do not see that there's any guarantee from anything I've seen written that there would not later have to be additional controls. Maybe sometime if the attainment analysis determination that those are really the most cost-effective controls for

Illinois to be undertaking to achieve attainment. The other thing that's difficult to understand here is we don't even know what the MP2.5 standard is going to be. It could be tighter so we may be working from assumptions about the needed reductions that are incorrect at this point in time. Ten years from now it may be a very different story.

HEARING OFFICER TIPSORD: Do you have any additional questions? Do you feel your questions were addressed by Dr. Smith?

MS. CONNOLLY: I think we should be fine.

HEARING OFFICER TIPSORD: Thank you very much. Let's take a break.

(At which point a brief recess was taken, after which the following proceedings were had:)

HEARING OFFICER TIPSORD: Let's go back on the record. And I believe next in our order is Diane Tickner with Prairie State Generating Company.

(WITNESS SWORN.)

HEARING OFFICER TIPSORD: And if

there's no objection, I will enter Ms. Tickner's pre-file testimony as Exhibit No. 80. I understand you have a short summary?

MS. TICKNER: My name is Dianna Tickner. I'm vice president of Generation and BTU Development for Peabody Energy and vice president of Prairie State Generating Company, LLC, in charge of air permitting and financing. I have a BS in mining engineering from the University of Missouri-Raleigh and an MBA from the University of Montana. I also completed the executive program at the Darden School at the University of Virginia, and I am a registered professional engineer.

Since 2001 I have been heavily involved in the development and permitting of three coal-fired power plants, Prairie State Generating Station here in Illinois, Thoroughbred Generating Station in Kentucky and the Mustang Generating Station in New Mexico and several other coal conversion projects, including the Cardinal Generation Station in Illinois.

During the course of those years I have attended numerous conferences and symposia

where mercury in its control from power plants was one of the primary topics. I have had in-depth discussions with vendors about the capabilities of the various technologies available to reduce mercury emissions from power plants and the guarantees that are available from those vendors.

I'm here to today to testify about the impact the rule as currently proposed will have on Prairie State Generating Station, a proposed 1500 megawatt EGU designed to burn high sulfur Illinois coal. I'm not here as an expert but as a stakeholder who is directly impacted by the proposed rule.

HEARING OFFICER TIPSORD: Ms. Tickner, could we have you move the microphone a little bit towards you.

MS. TICKNER: As indicated in my pre-file testimony and will be discussed in detail by the experts who will testify later, Prairie State has significant reservations about the capabilities of the control technologies to achieve over the long-term IEPA's proposed standards, particularly for high sulfur coals. Dr. Stoudt has even acknowledged that high sulfur

coals will be difficult. Vendors are not willing to offer a guarantee on a several billion dollar plan at the level required by IEPA. The guarantees offered by the activated carbon vendors do not begin to cover the actual losses a facility would experience if it could not comply with the standards. Those reservations are what lead us to request that IEPA include a technology based exception in our March 13, 2006 comments provided as attachment 1 to my pre-file testimony. We are pleased that IEPA has proposed a technology based standard, the TTBS, but as indicated in my pre-file testimony and comments submitted to the IEPA on June 1, 2006 Prairie State has some general questions and concerns about the proposed TTBS.

One of our primary concerns with the TTBS is the one-size fits all approach with respect to the quantity of halogenated activated carbon required. While the proposal includes the opportunity for a different quantity to be used for existing units. The proposal for these new units lacks that provision. Prairie State would like to see the rule amended to make it easier to

do a case by case determination. One approach is what IEPA included in the Prairie State permit for determining the optimum amount of sorbent injection.

In addition, Prairie State is concerned IEPA's provision of specific monitoring conclusions in addition to IEPA's requirements. If IEPA or if EPA changes its monitoring requirements, there is the potential for inconsistencies between the EPA and IEPA requirements that could make it difficult for facilities in Illinois to obtain monitors that comply with IEPA's requirements. This concern is what lead us to comment that IEPA should just adopt the CAMR monitoring requirements.

HEARING OFFICER TIPSORD: Thank you, Ms. Tickner, would you prefer -- would you prefer to do Dynergy or the Agency first?

MS. TICKNER: How about if I do IEPA first, and it might cover some of the others.

HEARING OFFICER TIPSORD: Follow the same format. If you'll read the question and answer.

MS. TICKNER: Question No. 1. In your

March 13, 2006 letter attached to your testimony, attachment to page 4 and 5, are you suggesting that compliance be determined on a monthly basis?

I assume the question is referring to attachment 1, not 2. No, I am suggesting that compliance be determined on a monthly basis.

(A) If yes, isn't it true that the rule does in fact term in compliance on the entire 12 months of data?

It's kind of not applicable but, yes, the rule does require that.

Question No. 2. On page 6 of that same letter, do you suggest that the definition of the rolling 12 month basis would cause problems when units operate only a few days during a given month?

Yes.

If yes, isn't it true that no such problem would occur because the equations in the proposed Illinois Rule address the entire past year, not just a single month?

Yes, the equations do help to smooth out the data by summing the quantity of mercury emitted each month for the past 12 months

and then dividing by the sum of the gigawatt hours for the same 12 months. The definition does not really appear to reflect that. So that's our issue. The definition, not the equation. It just could be a little clearer.

Question No. 3, in the same letter, attachment 3, page 5, do you suggest that the monitoring requirements of the proposed Illinois Rule are inconsistent with CAMR? What are the supposed inconsistencies?

Prairie State points out that EPA's monitoring provision in CAMR are being challenged which may lead to their being revised and recommended that IEPA simply reference CAMR to avoid future inconsistencies instead of referencing some provisions, including some specific monitoring requirements.

MS. ROSS-PORTER: Gina Ross-Porter with the Illinois EPA, a follow-up. Which of the comments made in the attachments to your testimony were not addressed by the Illinois EPA at the June hearing?

MS. TICKNER: That one specifically. I mean, in the context of the difference. I

couldn't go by point by point and tell you. Some of them were. The ones related obviously to what was included in our permit, and how the permitting process were addressed.

HEARING OFFICER TIPSORD: Question No. 4?

MS. TICKNER: No. 4. Isn't it true that if this rule is submitted to U.S. EPA as part of the state implementation plan and once approved will indeed be federally enforceable like all such rules that go through this process?

Before responding to this question, let me note that I'm not a lawyer and that my response is based on various discussions I have with legal counsel.

I presume this question results from a statement in Prairie State's March 2000 comments that Illinois' new source standard is not federally enforceable. I still believe this to be the case. Under section 111(B), EPA established new source limits for mercury emissions from coal-fired power plants. Illinois' proposed standards that are more stringent than EPA. While Illinois has authority to impose more stringent

standards than EPA under Section 116 of the Clean Air Act, those more stringent limits are state enforceable, not federally enforceable. The state implementation plan that Illinois will permit to EPA to meet it's Section 111(B) obligation applies to existing units and EPA's acceptance of the plan has no effect of the federal enforceability for new units.

HEARING OFFICER TIPSORD: Question No. 5.

MS. TICKNER: No. 5. On page 7 of the same letter do you object to having to certify monitoring within 90 days? Isn't it true that you are requesting Illinois to incorporate by reference the monitoring requirements of CAMR? So why are you asking that the Illinois Rule deviate from part 75 now?

After further discussions and intervening developments of mercury CEMS, I think Prairie State is no longer concerned with this issue. We still have serious doubts that the monitoring will be capable of measuring at the level required to demonstrate EPA's very low standards, and I believe Mr. McRanie provides

testimony on that later.

The suggestion to incorporate the CAMR monitoring requirement by reference is just to preclude these inconsistencies that could occur, especially if EPA modifies its monitoring requirements in response to the litigation that's pending.

No. 6. Also on page 7 of that letter you suggest that Illinois should not be allowed 120 days to review monitoring certification. Once again, why are you asking the Illinois Rule deviate from Part 75?

Prairie State is no longer concerned about this issue, especially given the provisional approval during that 120 days.

Has your company made an assessment of what level of mercury control the control configuration at the proposed Prairie State facilities would achieve?

Yes.

(B) If yes, what were the results of that assessment?

Prairie State is reasonably comfortable that it can meet the new source

standard of CAMR based on the technology that would be installed, and that includes SCR, ESP, wet FGD, wet ESP and sorbent injection which would most likely be activated carbon or halogenated activated carbon.

Even with this technology, Prairie State is skeptical that 90% removal could be achieved on a consistent basis.

(C) Who conducted this assessment and what measures did they utilize to reach their conclusion?

This evaluation was conducted by Prairie State in consultation with its EPC contractor, engineering consultant and vendors, and those vendors included at Time Wheel Abator (sic), which has now become Siemens, Hitachi and Babcock Power were the final bidders. We did go out to all the major pollution control vendors, and in this case we don't consider ACI providers major pollution control vendors. We are doing a multi-pollutant installation here of about somewhere between 500 and 700 million dollars so it needs to be a total solution, not just ACI.

HEARING OFFICER TIPSORD: Question No.

8?

MS. TICKNER: I just had a little bit more. When you require a standard of 90%, that does not mean that you design the plant to just achieve 90%. It is the first principle of engineering design that you include a margin of safety. The testing today indicates that there is no margin of safety with a 90% standard. Additionally, all existing testing has been conducted under ideal conditions for short time frames. For example, like the mileage sticker on a car, you rarely achieve what the sticker says and then only under ideal conditions.

MS. FRONTCZAK: We have an exhibit that will help demonstrate what she is saying. If we can have that marked and admitted?

HEARING OFFICER TIPSORD: Sure. Could you identify yourself for the court reporter.

MS. FRONTCZAK: For the reporter, I'm Mary Frontczak.

HEARING OFFICER TIPSORD: And Mr. Harrow is not here. I have been handed a document that's titled short tests, are not long term percentages. I will mark this as Exhibit 81,

if there's no objection.

MR. BONEBRAKE: Have you marked her testimony already?

HEARING OFFICER TIPSORD: Yes. It's Exhibit 80. Seeing no objection, we'll mark this Exhibit 81.

MS. TICKNER: This is a slide put together by Larry Monroe who is the head pollution control person at Southern Company, and he provided it to me and I thought it was pretty good.

Basically the point it's trying to make is that all of these tests were done under somewhat artificial conditions, under the best conditions that were available, not changing load, not changing operations and really didn't have time to evaluate balance of plant types of issues that you would only see over a longer term, say six months to a year. The other thing is that the mileage may vary. Everybody gets their sticker and they are so excited about their 22 miles per gallon, and in the end they don't really ever get that because there's wind on the highway or they don't drive 60 miles an hour. And the same thing

may be true for ACI. So all of these perfect tests were done and just kind of demonstrates that as you change load, as conditions change, as your coal quality varies, that there's opportunity for quite a bit of variability. And at the very, very low levels of emissions that we're talking about here, there are certainly opportunities to not be in compliance if you are not at somewhere around 92, 93% removal efficiency to make sure that you take into account those variabilities.

No. 8. Has your company evaluated whether compliance would be achieved with the rule by utilizing either the 90% reduction option, the .0008 per gigawatt per hour option or the temporary technology based standard?

And, yes, we have.

(A) If yes, what were the results of this evaluation?

As indicated in the comments we submitted to IEPA, Prairie State believes that the TTBS is necessary to insure that it will be able to comply with the proposed rule. There is great uncertainty regarding the capabilities of mercury control which others with more knowledge will be

testifying about. Particularly, there is very little data available with respect to high to mercury control on high sulfur coals. The preliminary information we have seen from the Conesville study indicates that 90% is not achievable.

Conesville did not even achieve 50% removal. There is no track record for mercury removal to achieve a high degree of confidence that the propose rule is achievable.

HEARING OFFICER TIPSORD: Excuse me. Ms. Bassi?

MS. BASSI: Ms. Tickner, I have to confess I haven't read the new source text section of the TTBS in great detail, or if I did, I don't remember. Is that section limited to 25% of capacity for new sources just as it is for existing sources?

MS. TICKNER: I believe it is available to all sources. There's not a limitation that I recall any way.

MS. BASSI: Would the Agency confirm that?

MR. MATOESIAN: That is correct.

However another criteria to be eligible for that TTBS is that the unit be equipped with best available control technology.

MS. BASSI: Wouldn't your unit be equipped with that any way?

MR. MATOESIAN: We are just making it clear that this is required.

MS. TICKNER: (B) Who conducted this evaluation and what measures did they use?

The evaluation was conducted by Prairie State in consultation with its EPC contractor, engineering consultants an vendors.

No. 9. Has your company assessed what additional control equipment measures and/or costs other than those currently planned for installation in accordance with your construction permit, if any, would be required to comply with the proposed mercury rule?

Our permit already contemplates and we plan to install activated carbon injection systems. We are not aware of any additional viable control equipment. Although, we have added or appears that we will be adding an additional layer of catalyst to the SCR, which is selective

catalytic reduction. We have assessed the cost of halogenated activated carbon using the TTBS.

(A) If yes, what were the results of this assessment?

Under the TTBS assessment it would cost over $25 million dollars a year just for the halogenated activated carbon alone. Even with the additional layer of catalysts compliance with the proposed standard is not assured and vendors have still been unwilling to step up to guarantee it. To add the additional layer of catalyst to the SCR would require an additional $7.5 million capital investment.

(B) Who conducted this assessment and what measures did they utilize to reach their conclusion?

Our assessments were done by our engineering consultants Berns & McDonald which were Steve Bjorklun and Carl Weilert. For the TTBS evaluation he looked at the cost of the activated carbon that would be required under the TTBS, and based on Mr. Nelson's testimony at the first set of hearings, assumed that the halogenated activated carbon would cost

approximately a dollar per pound.

Question 10. Under the federal CAMR, do you expect your plant will achieve enough mercury emission reductions such that it will be able to sell and/or bank mercury allowances?

Prairie State has a new unit, and this question cannot be answered without making numerous assumptions. IEPA has not indicated what the new source set aside would be assuming it would be participate in a trading program. Obviously since it's not participating, it has not made an assessment. So we really have no basis to do that computation.

Question 11. Do you have any formal training in engineering?

Yes, I have a BS in engineering. I'm a registered professional engineer.

12. Do you have any formal training in economics.

Yes, I have an MBA.

Question 13. Do you have any experience with mercury controlled technology?

Yes, I have attended numerous seminars on mercury control, air pollution vendor

demonstrations and participated in numerous discussions with vendors bidding on numerous projects.

HEARING OFFICER TIPSORD: Please keep your voice up.

MS. TICKNER: I'm sorry.

14. What experience have you had with pollution control technology?

I have been working with the details of design of pollution control equipment for major power plants and industrial facilities for Peabody Projects since 2001.

Question 15?

HEARING OFFICER TIPSORD: I think you've answered 15.

MS. TICKNER: Question 16. Would you provide or explain your previous work experience?

I have been working with permitting, plant design and development for various power plant projects in several states since 2001. I had sales and training roles for the prior five years and 11 years with Montana Power and subsidiaries and various engineering and environmental sales prior to Peabody Energy.

Question 17. Would you explain your current job responsibilities?

I am president of Thoroughbred Generating Company developing 1500 megawatt power plant in Kentucky; responsible for permitting and financing for Prairie State; development of a 330 megawatt project in New Mexico. Several major coal to synthetic nature gas projects in Illinois and Kentucky, and coal to liquids and synthetic natural gas in some early feasibility stages in the states of Montana and Kentucky.

18. In attachment 1 to your testimony it states corrected July 28, 2006.

(A) Who made those corrections?

Prairie State in conjunction with our legal counsel.

(B) Are all corrections noted?

Changes from the March 13, 2000 version of the letter are noted. In making the corrections we inadvertently omitted the attachments to the original letter that was sent to Mr. Kroack. One is a letter from Steve Bjorklun to Martin Kelly dated March 13, 2006. The other is a dated press release. We would like

to offer the letter to Ms. Kroack with the attachments as an exhibit.

HEARING OFFICER TIPSORD: I've been handed a March 13, 2006 letter to Ms. Kroack from Prairie State Generating Company. And if there's no objection, I will mark this as Exhibit 82. Seeing none, we'll mark this as Exhibit 82.

MS. TICKNER: In considering our response to these questions, we also discovered that some of the concerns we had previously identified based on our earlier drafts of the proposed rule had been corrected by IEPA. This may or may not be all inclusive of the changes IEPA made to the regulation, but the ones we identified.

No. 19. Attachment 1 to your testimony is signed by Collin M. Kelly.

(A) Is he the sole author?

No.

(B) If not, who else participated in the creation of the document?

In addition to Collin, myself, engineering consultants, legal counsel, partners and staff participated in the creation of the

document.

(C) What are their, including Mr. Kelly's, educational and work experience?

We have resumes for Mr. Kelly and all of our, or at least three of our engineering consultants who were the primary people provided.

MR. FRONTCZAK: We'd like to admit those as exhibits.

HEARING OFFICER TIPSORD: You want them marked.

MS. FRONTCZAK: One exhibit is fine.

HEARING OFFICER TIPSORD: Okay. The first page then is a resume of Collin M. Kelly. We also have Stephen Bjorklun and Carl Weilert and Clark W. Collier. A resume for all of them we will mark that as one exhibit, Exhibit No. 83, if there's no objection. Seeing none, those are exhibit 83.

(D) Did you participate in the creation of the document?

Yes.

20. You identify a study at Conesville, unit 6.

(A) Have you reviewed the complete

study?

To my knowledge the field testing was conducted in March 2006, but the study has not yet been completed. Based on Mr. Nelson's identification of Conesville as a site where mercury removal on high sulfur coal was being tested. I went out on the Internet to find out what information about that study was available. I found the presentation dated June 23, 2006. That is attachment 3 to my testimony. I believe that was Mr. Nelson's testimony from June 22.

(B) Has that study been published or is it available for public review?

Not to my knowledge. Just the preliminary information that DOE summarized at the AWA conference was available.

(C) Would it be possible for you to provide that study for the record?

I've provided what is publicly available on this study.

21. You state that Prairie State to date has been unable to obtain a guarantee for 90% mercury removal on its high sulfur coal.

(A) What companies has Prairie

State contacted?

Prairie State through consultants and contractors have contacted all the major pollution control equipment vendors, and I think I mentioned most of the ones that are out there of substantial size. I think Babcock and Wilcox is the only one I did not mention earlier. Our vendors did talk to them. Due to the time frame of when our construction is going to occur, they selected not to participate.

What mercury control technology have these companies been unable to guarantee?

The combination of SCR, wet scrubber, wet ESP and carbon injection all operating together as a multi-pollutant stream.

Would you provide or explain the reason each of the other companies was unable to provide a guarantee for 90% mercury removal?

90% is outside the comfort level of all of those vendors. They basically said they were not willing to bet their company they could make the guaranteed level. Basically they were willing to guarantee something in the mid-80s. And, I guess, maybe just to clarify, when we are

talking about guarantees on a new power plant, it's a make-hold guarantee up to the value of the entire plant, and we are talking about a 2-1/2 billion dollar facility. So it's not a million dollars or we'll give you some additional activated carbon. It's they really want to be sure they can make it, and compliance is very important to us too. We're not interested in building a plant that will not comply with the regulations that we have to achieve.

(B) Is it the practice of activated carbon injection companies to guarantee a plant or unit without field testing?

First, let me explain. Not all vendors are equal as I mentioned. What we're really looking for is an EPC contract to guarantee the project, and a project of this size there's only two or three of those in the U.S. EPC contractors can just not get comfortable with guarantees from carbon vendors. Just to give you an example. The two EPC contractors that we've narrowed it down to are Fluor and Bectile (sic), which are huge companies. I think Fluor is publically held. Their market caps is about $8

billion dollar. ADA-ES is probably one of the largest vendors of activated carbon. I think their market cap is somewhere around $80 million. So by contrast somebody that's only worth about $80 million isn't going to be able to stand behind a $2-1/2 billion facility.

HEARING OFFICER TIPSORD: Ms. Bassi?

MS. BASSI: Do you get such guarantees from the vendors of these other pollution control equipment devices, I guess I'd say from those other pollution control equipment vendors for whatever it is that they, that the equipment is designed to reduce? For example, from a SCR vendor, do you get a guarantee at what some rate of NOx removal?

MS. TICKNER: Yes, on all the other criteria pollutants, the EPC vendor has guaranteed all the other pollutants in the air permit on a make-hold guarantee. So, for example, we have a requirement to remove 98% of the SO2 regardless of the SO2 coming to the plant. That vendor, that EPC contractor is comfortable enough with the vendor that they are willing to make that guarantee because there is a track record.

HEARING OFFICER TIPSORD: That completes the Agency's questions, and we'll go to Dynergy's questions.

MS. TICKNER: Question No. 1. What is the basis for Prairie State's general concerns with the feasibility of a 90% reduction in mercury emissions -- and hopefully this is not exactly duplicative of the Agency's questions.

But we will be burning a high sulfur coal up to about 5.3% sulfur with a mean of about 3.8%. Limited testing on high sulfur units indicates that 90% has been very hard to achieve, if achievable at all. The testing has been limited to the short-term test and there's little or no information on the effect of activated carbon on the balance of a plant with that much equipment. EPC contractors as I mentioned are unwilling to provide those kind of guarantees.

Question 2. Why is it important that vendors provide guarantees for 90% removal of mercury?

Guarantees are essential for obtaining financing. Banks are reluctant to lend billions of dollars for projects that may not be

capable of meeting emission limits.

Question 3. What is the typical sulfur content of the coal that Prairie State plans to burn?

I think I mentioned it's about 3.8%. It can be as high as 9.1 pounds per million BTUs.

Question 4. Has there been any testing to your knowledge at units burning coal with a sulfur content higher than that at Conesville power plant?

Not that I am aware of.

Question 5. Do you intend for your specific comments on the proposed rulemaking that are included in the attachments to your testimony to be considered by the Board as testimony as opposed to comments?

I'm not sure really in this proceeding what difference it makes, but I guess, yes, we did intend them to be testimony.

Question 6. Were any of your comments addressed by the way of alterations to the proposed mercury rule before it was submitted to the Board or since then?

Yes. As indicated in the corrections and the inclusion of the TTBS.

Question 7. Is Prairie State subject to the federal acid rain program?

Yes.

(A) If so, is Prairie State allocated allowances under Title IV?

No, not as a new unit, we are not allocated any credits.

(B) If Prairie State is not allocated allowanced under Title V, will Prairie State be required to purchase allowances?

Yes.

(C) If Prairie State must purchase allowances for the acid rain program, would it be the same for CAIR?

Yes. It's my understanding that CAIR will have the same, that we still won't have any credits for CAIR for SO2.

I'm sorry, on B I meant Title IV instead of Title V. That there still won't be any credits for SO2.

(D) If all of the eligible EGU's in Illinois opted into the MPS, would this have

any effect on Prairie State's ability to obtain sufficient SO2 allowances to operate?

It certainly causes us great concern in that that would be a very, very significant number of credits potentially retired. I guess the state did say they were going to get the credits back. So maybe it's possible that they could sell some of those retired credits to new units, but all new units in the state, which I think there are four or five in this state, will be forced to go out on the open market to buy credits. So there are going to have to be credits somewhere. So there will be an addition of new generators in the State of Illinois.

HEARING OFFICER TIPSORD: Are there any other questions? Thank you.

MEMBER GIRARD: Going back to the vendors who guarantee 90% removal, you mentioned that they might be more comfortable in the mid-80s. Did they give you any specific point they would be willing to write up a contract?

MS. TICKNER: Basically they gave us a guarantee for the CAMR limits, which on our worst case goal works out to be about 84% I think.

HEARING OFFICER TIPSORD: Anything else? Thank you very much.

Next is Mr. Cichanowicz.

We're going to do some rearranging. I think we are going to move this table over here or we can move you guys, you guys can move up and we'll move that table.

(WITNESS SWORN.)

HEARING OFFICER TIPSORD: If there's no objection, we will admit Mr. Cichanowicz's testimony as Exhibit No. 84.

MR. ZABEL: Thank you, Madam Chairman. Before we start with our case -- I'm sorry.

HEARING OFFICER TIPSORD: Go ahead.

MR. ZABEL: -- I just want to make something clear for the record. We asked the Board in a motion to strike testimony of Dr. Keeler, which the Board denied. I understand that the rules of evidence are fairly relaxed in these proceedings. My concern was a piece of that order suggested that our introduction of information on the Stubenville Study supported the EMISSION of Dr. Keeler's discussion of it. That was used purely for rebuttal and cross-examination. During

the course of presentation of our witnesses there will be further on that subject. But I believe despite the Board's flexible and relaxed rules of evidence, that when a witness testifies, I have evidence that proves X and it's in my pocket and I won't show it to you, we believe the Board should have struck that evidence. So I just want it clear that when we refer further to the Stubenville studies, we are not waiving our rights to the objection to the Stubensville Study. I wanted to get that on the record before we started with our case.

Now we'll turn to Mr. Cichanowicz.

MR. KIM: Just before, just so it's clear from the Agency's perspective, the questions from Mr. Cichanowicz will primarily be coming from Mr. Ayres. To a much more limited extent, Mr. Stoudt may ask the really technical questions that nobody else other than Mr. Cichanowicz will understand, and I will probably just sit quietly with a few exceptions.

MR. ZABEL: Now you committed to a very few questions, Mr. Kim. Now, can we hold you to sitting quietly?

MR. KIM: I didn't write any.
MR. ZABEL: Then you lived up to it.
HEARING OFFICER TIPSORD: Did you want to give a summary?
MR. ZABEL: No, I didn't plan on it.
If you can't hear me or Mr. Cichanowicz, that goes for you or the reporter, we will try and speak louder, but I am trying desperately to avoid using this microphone.
MEMBER MOORE: I don't believe it shuts off, so if you feel the need, use the George Bush whisper in the ear.
HEARING OFFICER TIPSORD: Let's go ahead with question No. 1.
MR. CICHANOWICZ: Question No. 1. Do you consider yourself an expert on utility mercury controls? If so, please describe your background particularly with regard to experience in the area of power plant mercury emissions control --
HEARING OFFICER TIPSORD: You are going to have to speak up quite a bit or plug in the microphone.
MR. CICHANOWICZ: Last part of the question.

Describe any specific training, clients or contracts.

I consider myself an expert. My most recent assignments as a consultant have been for TXU Electric, evaluating the capabilities of environmental control equipment for mercury control --

HEARING OFFICER TIPSORD: You need to slow way down.

MR. CICHANOWICZ: My most recent assignments as a consultant have been for TXU Electric, evaluating the capabilities of environmental control equipment for mercury control for a new lignite-fired power station. This included providing a detailed third-party review of field test studies and pilot plant work that was conducted for them by organizations such as the University of North Dakota and URS Corporation.

Before that, I assisted an investment bank in evaluating the risks of mercury control for a new power station which included reviewing the designs provided by the plant supplier.

Before that I assisted First Energy Corporation in quantifying the mercury removal they could derive from a newly retrofit SCR process to an existing plant as dependent on the types of catalyst purchased. I evaluated the cost of deriving mercury removal in this manner compared to installing activated carbon injection on other fabric-filter equipped units at the station. Before that, I evaluated for Olgethorpe Power mercury control options for Wansley and Scherer Stations, including soliciting bugetary equipment bids from fabric filter suppliers to use with estimates of activated carbon removal.

Question 2.

MR. KIM: Can I ask one follow-up on question 1? When you were describing clients, could you just make it clear who you are representing in your testimony today?

MR. CICHANOWICZ: Today I am representing Midwest Gen, Dynergy, Dimunion/Kincaid and the Southern Illinois Power Co-operative.

MR. KIM: Thank you.

MR. CICHANOWICZ: Question No. 2.

Please provide a list of your publications in the field of power plant mercury control.

I have not published control technology papers in mercury.

MR. AYRES: Could I interject for a moment. Have you ever acted as an onus engineer or prepared a specification for design or construction of a mercury specific program, Mr. Cichanowicz, sorbent or otherwise?

MR. CICHANOWICZ: I have assisted some of my clients in preparing draft specifications. I am not an onus engineer, but I do provide the process engineering expertise. That was one of my deliverables for Oglethorpe Power, and in fact for First Energy -- I'm going to talk a little bit about NOx, but we know NOx and mercury are related, I helped them in the design of an SCR process. And we specifically solicited bids from catalyst suppliers for varying levels of mercury removal. So that was part of a procurement in which we were able to review responses from suppliers in terms of the types of catalysts. So I've done that to a limited degree.

HEARING OFFICER TIPSORD: Question No.

3.

MR. CICHANOWICZ: Do you consider yourself an expert on electrostatic precipitators? If so, please describe your background particularly with regard to experience in the area of power plant electrostatic precipitator design? Describe any specific training, clients or contracts.

I have a working knowledge of electrostatic precipitators. Based on three decades of experience with field tests and diagnosing the interactions of ESPs with controls for NOx and SO2. I do not consider myself an expert in the context of someone who has devoted their entire life to exclusively working on electrostatic precipitators.

MR. AYRES: I'll ask the same question I did before. Have you ever acted as an onus engineer or prepared a specification for design or construction of an ESP?

MR. CICHANOWICZ: No, I have not.

MR. AYRES: Related question. Do you consider yourself an expert on statistical process control?

MR. CICHANOWICZ: No, I do not.

Not MR. AYRES: Okay, that's fine. Thank you.

HEARING OFFICER TIPSORD: Question No. 4.

MR. CICHANOWICZ: Please provide a list of your publications in the field of power plant electrostatic precipitation.

I have not published in the field of power plant electrostatic precipitation.

HEARING OFFICER TIPSORD: Question No. 5.

MR. CICHANOWICZ: Have you ever been an employee of a company that designs or constructs power plant air pollution control equipment, particularly electrostatic precipitators or mercury emissions control?

No, I have intentionally not worked for such suppliers to maintain the independence to conduct a third-party assessment of various suppliers' technologies and capabilities.

HEARING OFFICER TIPSORD: Question No. 6.

MR. CICHANOWICZ: Are you an expert on mercury measurements or mercury CEMS? If so, please describe your background particularly with regard to training and experience in the area of measure measurements or mercury CEMS. Describe any specific training, clients or contracts.

No, I'm not an expert on mercury CEMS.

HEARING OFFICER TIPSORD: Could you for the record explain what CEMS is?

MR. CICHANOWICZ: Thank you. CEMS is one of those many acronyms we use, Continuous Emission Monitoring Systems.

HEARING OFFICER TIPSORD: Thank you. Question No. 7.

MR. CICHANOWICZ: Are you being paid to testify today?

Yes.

MR. ZABEL: 7(A) I believe has been answered.

HEARING OFFICER TIPSORD: It has.

MR. CICHANOWICZ: 7(B). What percentage of your clients are utilities versus

the public sector?

All clients are utilities with occasionally a manufacturer or producer of chemicals or reagents.

HEARING OFFICER TIPSORD: I lost that. I'm sorry. Could you repeat the last sentence?

MR. CICHANOWICZ: All clients are utilities with occasionally a manufacturer or producer of chemicals or reagents.

MR. AYRES: Mr. Cichanowicz, roughly how many times since starting your business have you appeared on behalf of utility clients, including UR and other similar groups or provided testimony or provided comments for the purposes of supporting their arguments regarding air pollution control regulations would you say?

MR. CICHANOWICZ: Well, in terms of testifying this might be the third time in a quasi-judicial or judicial setting. In terms of preparing white papers, I have probably prepared 20 or 25 over the last ten years.

HEARING OFFICER TIPSORD: And for the record, a white paper is?

MR. CICHANOWICZ: A white paper is a

topical report or topical review evaluating the feasibility and cost of a technology that is basically submitted into the public domain, primarily to the Environmental Protection Agency.

MR. AYRES: You did mention comments prepared for clients to be used with governmental agencies.

MR. CICHANOWICZ: That would be -- those are the white papers that have been prepared under the sponsorship of the Utility Air Regulatory Group. I don't recall ever doing that for a utility to the best of my knowledge.

HEARING OFFICER TIPSORD: Question No. 8.

MR. CICHANOWICZ: On page 2 of your testimony you state that "the targeted outlet content of mercury, in many cases less than 1 microgram per cubic meter, is too low to be accurately monitored for compliance.

Are you in any way qualified to verify Mr. McRanie's testimony that you by reference include in yours?

I'm not an expert in mercury control measures. I accept Mr. McRanie to be so.

MR. AYRES: So the statement that you make is based on just Mr. McRanie's testimony; is that correct?

MR. CICHANOWICZ: The statements regarding?

MR. AYRES: The statement that we have quoted here, that's a quote in the question.

MR. CICHANOWICZ: Yes, that particular statement is based on discussions with Mr. McRanie.

MR. AYRES: Okay, thank you.

HEARING OFFICER TIPSORD: Question No. 9.

MR. CICHANOWICZ: You subsequently state that "In this testimony, I will accept, without verification or other validation, that such measurements can be made to within a reasonable degree of accuracy, precision and bias." And later add, "Section 2.42 and 2.4.3 describe why I believe the cumulative effect of measurement uncertainty, variability in coal composition, and variability in process operation require a design mercury removal target of at least 93-95% to consistently deliver 90%." Are

these inconsistent statements? If yes, which statement is correct?

I believe these statements are consistent. I assumed that reasonable accuracy, precision and bias are achievable, and that a total of 20% measurement error could result from these variations, which is reasonable in my opinion. Combined with the variability in coal composition, this level of uncertainty may require a 93% to 95% design target will be necessary to account for such variations.

MR. AYRES: Does that represent accepting that such measurements can be made within a reasonable degree of accuracy, precision and bias? It seems inconsistent.

MR. CICHANOWICZ: Well, I guess it all depends on what your definition of reasonable is, but when I look at the literature and the number of citations I had in my testimony, measurement errors of plus or minus 20% were not uncommon. And I believe -- again, I'm not an expert in mercury CEMS -- but I believe one of the yardsticks for success for the CEMS measurements is a RATA test. And my understanding is that if

the RATA test is met to within 20%, the unit, the particular instrument is assumed to have past that test and those are criteria according to my understanding defined by the EPA.

HEARING OFFICER TIPSORD: Excuse me, RATA test?

MR. ZABEL: What does RATA stand for?

MR. CICHANOWICZ: It's a Relative Accuracy Test.

MR. AYRES: I think later on we will get into some questions about the assumptions about accuracy and bias and maybe we'll get to those further down.

HEARING OFFICER TIPSORD: Question No. 10.

MR. CICHANOWICZ: On page 3 of your testimony you state, "First, as noted in Section 3, the history of environmental control evolution has taught us long-term experience, on the order of one year, is required before commercialization. Operating trials of a 30-day duration, although an impressive and a necessary first step, are inadequate." Would one-year programs be much more expensive than 30-day programs?

Perhaps, depending on the scope of the demonstration test and manpower needs. For activated carbon injection an additional 11 month supply of sorbent will be necessary. If mercury CEMS are employed, there will likely be a need for additional instrumentation and technical staff to calibrate and maintain the process instrumentation. Depending on the operations and maintenance needs of the sorbent injection equipment, additional operator attention may be necessary, at least for sorbent receiving.

MR. AYRES: Mr. Cichanowicz, are you familiar with the DOE budget for its mercury control program and what's happened to it in the last couple of years?

MR. CICHANOWICZ: I'm somewhat familiar with it. I've read what some of the investment numbers are.

MR. AYRES: Do you know that it's been cut significantly in 2005 and 2006?

MR. CICHANOWICZ: I'm sorry, I missed that, please.

MR. AYRES: Did you know that the budget has been cut significantly in 2005 and

2006?

MR. CICHANOWICZ: I didn't know that.

MR. AYRES: Doesn't that mean that fewer tests can be performed if that's true, since many of them are paid for with federal money?

MR. CICHANOWICZ: Perhaps. Again, I haven't really followed the DOE budgetary process. A lot of these tests are co-funded by the industry, but certainly a cut in DOE funding might restrict the testing.

MR. AYRES: Again, if the budget is cut, the number of tests are reduced, won't that delay the date when the technology reaches a level that you would be willing to accept?

MR. ZABEL: I know these are open hearings, and I don't want to make a lot of objections, but the DOE budget seems pretty irrelevant to Mr. Cichanowicz's testimony.

MR. AYRES: I happen to think the contrary. It's very relevant because he is urging that we have a lot of additional tests before we move forward to control mercury. If the money is not there to do the tests, I think it's quite relevant.

MR. ZABEL: You are making assumptions, Mr. Ayres. The money may not be there from the DOE. That doesn't mean that the money isn't there from private or other sources, and that's not what he is testifying about.

HEARING OFFICER TIPSORD: I think we are also running into the problem that we don't know what the DOE budget is. So we are building assumption upon assumption.

MR. AYRES: Let me ask one more question. Is it your opinion that environmental technology cannot be successfully reduced in the electric industry without one year demonstrations?

MR. CICHANOWICZ: I believe a one year demonstration is preferred. When you look at what other plant components are, when you talk to boiler suppliers and they talk about introducing perhaps a new condenser or new water heater or new burner, they talk about first of a kind applications, and what they tell me is that what they try to do is find a willing participant so to speak that will work with them on this first of a kind demonstration. And the rule of thumb is to operate these components for one year before they

offer the technology to other clients. So, therefore, all I'm saying is that environmental controls ought to be on the same order as other plant components. That is the risk in my opinion should be commensurate with other actions that the utility takes.

HEARING OFFICER TIPSORD: Question No. 11.

MR. CICHANOWICZ: On page 3 of your testimony you state, "The use of ACI with existing ESPs could endure the same fate as hot-side ESPs, the accumulation of carbon could assert detrimental effects on particulate matter removal or reliability, similar to the way the yearlong accumulation of sodium on emitting electrodes compromised the hot-side ESP."

First, I misspoke on a minor point regarding the role of sodium on hot-side EPS performance. The shortcomings related to hot-side ESPs was due to the depletion and not accumulation of sodium in a fly ash layer that was adhered to an electrode.

Question 11(A). Doesn't fly ash from many boilers contain significant levels of

carbon?

Yes, but the nature of the carbon is different. Residual carbon generated as a residue from combustion can be integral with a matrix of coal inorganic constituents. Carbon intended as sorbent is a separate fine particle, averaging about 20 microns in size, and features low density and electrical resistivity. The differences in these physical features compared to residual carbon can make the carbon behave differently than the ESP.

HEARING OFFICER TIPSORD: Go ahead, B.

MR. CICHANOWICZ: You describe later in your testimony that there was high LOI, loss on ignition, at Yates 1. Do you recall what that level was?

MR. CICHANOWICZ: The Yates station can typically generate flash ash with between 6 and 13% LOI with occasional spikes higher.

MR. AYRES: I'm going to ask you to explain LOI or define it. Let me ask a follow-up question. Have you ever observed fly ash from a power plant having 10% or more carbon?

MR. CICHANOWICZ: Occasionally.

MR. AYRES: You would consider that to be high I think?

MR. CICHANOWICZ: I would consider it to be high under normal circumstances. The situation with Yates is that those units were retrofit with low NOx burners. I don't know when. I think in the early 90's. And the way we control NOx in a low NOx burner is to delay, stage-out, put off the combustion process so you can make a whole bunch of reactions happen in the flame that only Dr. Stoudt and I care about, and I won't bore you with it, but the point is by delaying all the mixing, you inherently have problems with carbon burnout. Yates is having a bit more of a problem with this, and it is I believe -- well, it may be due to the fact that it's a furnace that is just relatively small and doesn't allow you to achieve the burnout within the design of the unit.

MR. AYRES: If the company switched coal, used a different coal with significantly higher ash loadings, would that potentially impact the ESP performance?

MR. CICHANOWICZ: Yes.

HEARING OFFICER TIPSORD: Question No.

12.

MR. CICHANOWICZ: On page 3 of your testimony you state concerns about triggering NSR due to increased PM emissions. Does not the Illinois Rule, particularly the TTBE, specifically address the risk of PM emissions?

HEARING OFFICER TIPSORD: Excuse me. For the record, is that TTBS?

MR. AYRES: Yes. Wherever you see that, it's an S. That's code.

MR. CICHANOWICZ: The flexibility to select a sorbent injection rate that does not induce operating problems will mitigate the risks of consequential damages. It is possible that the TTBS, depending on the ultimate mode of adoption, interpretation and enforcement by IEPA, could provide such flexibility. However, there are many details on the TTBS that must be addressed, and also there are many sources for which the TTBS as structured at present may not be available.

MR. AYRES: A follow-up on the NSR point for a moment, Mr. Cichanowicz. Are you an attorney or otherwise qualified to do legal interpretation?

MR. CICHANOWICZ: No.

HEARING OFFICER TIPSORD: Question 13.

MR. CICHANOWICZ: On page 3 of your testimony you state, "Notwithstanding the belief by the Presque Isle project team that 90% mercury removal is certain, to date there is no data defining such results for more than brief periods." Do you believe that they are wrong or their beliefs are unfounded? If so, why?

The Presque Isle demonstration is based on encouraging results at Gaston, and numerous small-scale test sorbent screening facilities, and is well-founded. However, commercial feasibility of achieving 90% mercury removal at large-scale, on the basis of 24 x 7 operation, and without operating problems that may compromise reliability, has yet to be proven.

MR. AYRES: Mr. Cichanowicz, on page 3 you say even for this approach, 90% mercury removal is not commercially proven. Results from the one-year trial completed in 2004 at Gaston, another power plant, did not document 90% removal, but suggested such outcome may be possible. I'd like to draw your attention to a report that was

prepared by three people from the Southern Company, Mark McCreer (sic), Dick Bourbon -- four people -- Larry Monroe and Ramsey Chang, which I believe is in evidence. It's called, "Field Test Program For Long-term Operation of a COHPAC" -- that's C-O-H-P-A-C -- "System for Removing Mercury From Coal-Fired Flue Gas." It's document No. 42 in the record in the TSD.

HEARING OFFICER TIPSORD: All right. So it's part of the TSD.

MR. AYRES: Have you had a chance to look at it?

MR. CICHANOWICZ: Was there a specific item you wanted me to look at?

MR. AYRES: Yes, several. Do you know any of the four people who are the authors?

MR. CICHANOWICZ: I know three of the four.

MR. AYERS: Do you believe that they are qualified to reach conclusions regarding the test results at the site?

MR. CICHANOWICZ: Yes.

MR. AYRES: If you would take a look at page 15 of the document, where the conclusions

are stated. They state "At the time this paper was written, all but the last couple of weeks of testing was finished. The primary conclusions include." Could you read what the bullet points there beginning with the word "TOXECON"?

MR. CICHANOWICZ: "TOXECON units designed at lower air-to-cloth ratios than COHPAC units are capable of high, 90% mercury removal. For TOXECON baghouses, it is recommended that the maximum design gross air-to-cloth ratio be 6.0 feet per minute."

MR. AYRES: And the next bullet I believe is beginning with "Activated carbon."

MR. CICHANOWICZ: "Activated carbon injection systems are simple, reliable, and commercially available. The control programs can be easily adapted to varying operating requirements."

MR. AYRES: Do these two statements state that 90% reduction is achievable with a baghouse design and proper air-to-cloth ratio?

MR. CICHANOWICZ: And I believe that's what my document suggests or states.

MR. AYRES: I'm not sure I read it

that way. If you'd like to point to something.

MR. CICHANOWICZ: Just give me a minute, please. I will read my words.

HEARING OFFICER TIPSORD: Could you clarify what page.

MR. ZABEL: Page 3.

MR. CICHANOWICZ: Page 3.

(Reading:)"Even for this approach, 90% mercury removal is not commercially proven. Results from the one-year trial completed in 2004 at Gaston did not document 90% removal but suggests such that the outcome may be possible."

What I'm referring to is that the one-year test showed about 86% mercury removal with a low sulfur bituminous coal, and that was the conclusion of the 12-month testing program. Once that work was done, the test looked at a different air-to-cloth ratio for shorter periods of time and did indeed derive 90% removal, and that I think is basically consistent with what I wrote because I had that in mind when I wrote that sentence because I know that work. So I was saying that such an outcome may be possible, meaning that the shorter period of testing at 90%

removal do indeed suggest you could get those kinds of numbers. But the 12-month data was for 85.6%.

MR. AYRES: Would you say "suggest" is the same concept of "are capable of"? Those are the words used in the conclusion.

MR. CICHANOWICZ: Are capable of for five days. You know, my command of the language and nuances of the words perhaps aren't as deep as yours. To me what I was thinking was that basically 90% removal was shown for shorter periods of time, not for 12 months, and that's why I think it's possible.

MR. AYRES: Let me qualify your statement about the length of time. It says are capable of high, 90% mercury removal. That's the statement of the authors of the study. It doesn't say for five day periods.

MR. ZABEL: I would point, Mr. Ayres, it doesn't say anything about time, one day, one year, five years. It speaks for itself.

HEARING OFFICER TIPSORD: I think the point he is making is there's two different terms used. Do you agree with the conclusions?

MR. CICHANOWICZ: I agree with my conclusions, and I read the conclusions in this paper to be consistent with my statement. Mr. Ayres and I just have a different way we use words, and I'm sorry, I'm an engineer.

MR. AYRES: You would agree that activated carbon injection systems are simple, reliable, and commercially available, wouldn't you?

MR. CICHANOWICZ: Yes, I agree that activated carbon injection systems are simple, reliable, and commercially available. But, again, it's a general statement. It doesn't say what type of performance or application. It's a general statement.

MR. AYRES: Do you know if the Gaston baghouse was originally designed and constructed with the intent of putting a TOXECON System on it to capture the additional particulate from the TOXECON System?

MR. CICHANOWICZ: No, it was not designed initially for mercury removal.

MR. AYRES: It was just a plant that happened to have a baghouse, wasn't it?

MR. CICHANOWICZ: It was a plant that had a mal-performing hot-side ESP that it purchased in the late 70's. When it didn't meet the performance requirements, they had, like many people, to retrofit the technology, and they chose this type of baghouse.

MR. AYRES: So you agree with the conclusions of the authors of that piece that the baghouse was originally designed to capture the small amount of particulate matter that made it past the ESP, not designed to be a control system for an ACI system?

MR. ZABEL: Is there a specific place you want him to look at, Mr. Ayres?

MR. AYRES: I don't have it.

MR. ZABEL: You are characterizing the entire document. It's hard for him to answer the question without specific reference.

MR. AYRES: Pass that question.

One last question. I'm sorry. If the Gaston baghouse had been designed for the purpose of being a TOXECON System, and within the specifications determined by the long-term test program, do you have any doubt whether the 90%

removal rate would have been demonstrated?

MR. CICHANOWICZ: I think there is a very good chance it would have been demonstrated, but as a person who spent 25 years going from pilot to small scale to commercial, you know, you don't know until you do it. But I think it would be, yes, very highly likely.

MR. AYRES: But I think the point is the unit was not designed to be a TOXECON System in the beginning, and had it been, that would have made the difference?

MR. CICHANOWICZ: I think that would have made a big difference, that is true. Please keep in mind if there were any uncertainty, perhaps the Presque Isle Station would not have been funded. At some point somebody in the Department of Energy thought it was a good idea to take the process conditions and run it for a year. We know it was run on PRD coal, and we know coal type is very important in everything we do here, but I think the fact that the Department of Energy funded Presque Isle is in itself a statement that they feel there's some certainties to be ironed out.

HEARING OFFICER TIPSORD: Mr. Cichanowicz, the 5:00 o'clock hour has approached us today. We went zipping by. So I think we're going to conclude for the day.

Before we do conclude, there's a couple housekeeping matters that I want to bring up. First of all, we discussed this morning a schedule for a motion concerning additional hearings, et cetera. I'm going to do a Hearing Officer Order. I will try to get that done and ready to be distributed by tomorrow. I am not guaranteeing that I can because we also have a Board meeting coming up.

MR. ZABEL: We have the schedule. It's on the record.

HEARING OFFICER TIPSORD: Right, but I want to immortalize it for anybody who isn't physically here.

The other issue is, it tickled my memory with Ms. Tickner's testimony, Mr. Nelson filed written responses to his remaining questions. Most of those were for Ameren. If anyone has any follow-ups to those written responses to those questions, we can either enter

them on the record or try and get them provided some other way. And I understand, Mr. Kim, there's no guarantee if there are follow-up that Mr. Nelson will respond to them, but at least we can get them on the record and try.

MR. KIM: Let's get everything on the record.

HEARING OFFICER TIPSORD: Ladies and gentlemen, we'll see you at 9:00 o'clock tomorrow morning. Thank you very much.

(The hearing was continued to August 16, 2005 at 9:00 a.m.)

STATE OF ILLINOIS.)
) SS.
COUNTY OF COOK)

I, DENISE A. ANDRAS, CSR, and Notary Public in and for the County of Cook and State of Illinois, do hereby certify that on the 15th day of August, 2006, at 1:00 p.m., at the JR Thompson Center, Chicago, Illinois, this hearing of the POLLUTION CONTROL COMMISSION was had.

I further testify that the said hearing was by me reported and witnesses were sworn to testify and that the foregoing is a true record of the testimony given on that day.

I further certify that I am not counsel for nor related to any of the parties herein, nor am I interested in the outcome hereof. In witness hereof, I have hereunto set my hand and seal of office this 18th day of August, 2006.

_____

Notary Public

CSR No. 084-00343