ILLINOIS POLLUTION CONTROL BOARD

August 14th, 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 Julia A. Bauer, CSR, RPR, 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 14th day of August, A.D., 2006, commencing at 1:03 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

SCHIFF, HARDIN, LLP,
6600 Sears Tower
Chicago, Illinois 60606
(312) 258-5646
BY: MS. KATHLEEN C. BASSI
MR. STEPHEN J. BONEBRAKE
MR. SHELDON A. ZABEL

McGUIRE, WOODS,
77 West Wacker Drive
Suite 4100
Chicago, Illinois 60601-1815
(312) 849-8100
BY: MR. DAVID L. RIESER

ENVIRONMENTAL LAW & POLICY CENTER,
35 East Wacker Drive,
Suite 1300
Chicago, Illinois 60601-2110
(312) 795-3708
BY: MS. FAITH E. BUGEL

A P P E A R A N C E S: (Continued)

ENVIRONMENTAL LAW PROGRAM, CHICAGO LEGAL CLINIC
205 West Monroe Street
Fourth Floor
Chicago, Illinois 60606
(312) 726-2938
BY: MR. KEITH I. HARLEY

ALSO PRESENT:

Ms. Mary L. Frontczak, Peabody Energy

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

Mr. Larry Kuennen, Engineer III, Fuel and Environmental Excellence Group

Michael W. Murray, Ph.D., Staff Scientist, National Wildlife Federation

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

Mr. Michael Menne, Vice President, Ameren Corporation

Ms. Connie Newman

Ms. Kathleen Crowley

Ms. Deirdre K. Hirner

HEARING OFFICER: Good afternoon. My name is Marie Tipsord, and I've been appointed by the Board to serve as hearing officer in this proceeding entitled In The Matter Of Proposed New 35 Ill. Adm. Code 225 Control Of Emissions From Large Combustion Sources (Mercury). The Docket Number is R06-25.

To my left is Dr. Tanner Girard, and to my right is Andrea Moore, the two Board members assigned to this matter. Also present at the far end on my right is Board Member Nicholas J. Melas, and the far left is Board Member Thomas Johnson. In addition, to Andrea Moore's right, Tim Fox, her attorney assistant is here, and also to Dr. Girard's left is Anand Rao from our technical staff. Also present today is Connie Newman; and, in addition, we have Kathleen Crowley, who is our senior attorney. And also a bunch of thanks to Don Brown for his assistance today.

Today's hearing is the first day of several during which the Board will hear from witnesses concerning the proposal filed

with the Board by the Illinois Environmental Protection Agency, EPA. We will proceed day-to-day until all the prefiled testimony has been heard through Friday, August 25th, if necessary. We will adjust the schedule if as necessary, and may, in fact, finish before that date as the hearing progresses. Starting tomorrow we will begin at 9:00 a.m. and proceed until close at 5:00 p.m. Some days it will be a little shorter, some days a little longer. Practically speaking, at this point, we have to be out of this building by 6:00, so we're not going to go much later than 5:30. Now, if it becomes necessary to go late next week, there are steps we can take if we have to do that. Thursday, August 17th is a Board Meeting. On that day, we'll meet at 9:00 a.m., we'll recess around 10:30 until after lunch. Again, this schedule is subject to change based on how we are proceeding. As to when we will start next Monday, I think we will revisit that later in the week once we see how fast we are moving.

During breaks, I am available to answer any procedural questions. You may also direct any procedural questions to Mr. Fox and Mr. Rao. Any members of the press should speak to Connie Newman. I want to emphasize that the Board and staff cannot discuss the substance of the proposal off the record, nor can we discuss any substantive issue. Substantive items should be raised during the hearing. If you're not sure whether your issue is a substantive issue, please ask me, and we can always place your issue on the record.

Also this rulemaking is subject to Section 27(b) of the Environmental Protection Act. Section 27(b) of the Act requires the Board to request the Department of Commerce and Economic Opportunity to conduct an economic impact study on certain proposed rules prior to adoption of those rules. If DCEO chooses to conduct the economic impact study, DCEO has 30 to 45 days after such request to produce a study of the economic impact of the proposed rules. The Board must

then make the economic impact study, or DCEO's explanation for not conducting the study, and make that available to the public at least 20 days before a public hearing on the economic impact of the proposed rules.

In accordance with Section 27(b) of the Act, the Board requested, by letters dated March 16th, 2006, and May 10th, 2006, that DCEO conduct an economic impact study for the above-referenced rulemakings. On June 26th, 2006, the Board received DCEO response. DCEO indicated that it does not have the resources to perform economic impact studies on this rulemaking. The Board received the second response letter on June 29th, 2006, which also indicated that DCEO would not be performing an economic impact study. Copies of both those letters are available at the top of the stairs.

Before we start, I have a couple of housekeeping matters to discuss. First, Ms. Bassi, on August 7th, you sent an e-mail adding references to the testimony of Krish Vijayarakhavan. Do you want to add

those now? (Inaudible.)

THE REPORTER: When you turn your head like that, I cannot hear you at all.

HEARING OFFICER: Oh, I'm sorry.

MS. BASSI: I don't have those additional references with me physically at this moment. So if we may just wait until he comes. It will be next week.

HEARING OFFICER: That's fine. I know the e-mail comes to everybody, but you can actually file in the clerk's office. Also you sent a request to substitute the first page of questions for Michael Murray, and I will grant that request. Also, Mr. Kim, you filed a motion to file your questions in Instanter.

MR. KIM: Yes.

HEARING OFFICER: That motion is moot as the Board received the questions electronically.

MR. KIM: Thank you very much.

HEARING OFFICER: I think that's all of the housekeeping matters at this point.

This is the second set of hearings

to be held in this proceeding. The purpose of these hearings is to hear prefiled testimony and allow anyone who wishes to ask questions. The prefiled testimony will be taken as if read and entered as an exhibit. I do understand that some witnesses wish to briefly summarize their testimony, and I will allow that, but I reserve the right to speed things along if I feel the summary has gotten too long. After the witness has finished the summary, we will proceed with questions. We will start with prefiled questions, but I will allow follow-up to the questions by anyone.

Anyone that asks a question, however, I do ask that you raise your hand and wait for me to acknowledge you. After I've acknowledged you, please state your name and whom you represent before you begin your questions. Please speak one at a time. If you speak over each other, the court reporter will not be able to get your questions on the record.

We held a prehearing conference

and established the order of witnesses; however, since then, I received some requests for change. First, Ms. Bassi asked to reorder the witnesses being offered by Midwest Generation and Dynegy. Second, Mr. Forecade asked that the witnesses for Dominion Kincaid be presented next week. Therefore, my current order of witnesses, which is subject to change at any request, is Michael Murray. It will follow with Ameren's Joint Statement, then we will have Michael Menne and Anne Smith, Dianne Tickner, J.E. Cichanowicz.

MS. BASSI: Cichanowicz.

HEARING OFFICER: Cichanowicz, Ishwar Prasad Murarka, William DePriest, James Marchetti.

MS. BASSI: Marchetti.

HEARING OFFICER: Marchetti. And then during the second week, we'll start with Krish --

MS. BASSI: Vijayaraghavan.

HEARING OFFICER: I'll spell it, V-I-J-A-Y-A-R-A-G-H-A-V-A-N, and I am going

to try very hard to get these right. Please forgive me in advance. Gail Charnley, Peter Chapman, Richard McRanie, C.J. Saladino, and Andy Yaros.

MS. BASSI: The only, I guess, reservation we would have about this order is that Peter Chapman is available Tuesday morning, and we are sure he can be done Tuesday morning, but we may --

HEARING OFFICER: That's fine.

MS. BASSI: -- need to adjust.

HEARING OFFICER: That's fine.

MS. BASSI: Thank you.

HEARING OFFICER: Please note that any questions asked by a Board member or staff are intended to help build a complete record for the Board's decision and not to express any preconceived notion or bias.

At the back of the room are sign-up sheets for the notice and service list. If you wish to be on the service list, you will receive all pleadings and prefiled testimony in this proceeding. In addition, you must serve all of your filings on the

persons on the service list. As I noted in my March 16th, 2006 hearing officer order, with the advent of COOL, if you are filing a public comment and not on the service list, you need not serve that comment on the service list.

If you wish to be on the notice list, you will receive all Board and Hearing Officer orders in the rulemaking. If you have any questions about which list you wish to be on, please see me at a break. As I said, you may also sign up on the COOL list.

Dr. Girard, is there anything you'd like to add?

DR. GIRARD: Yes. Good afternoon. On behalf of the Board, I welcome everyone. Can you hear okay up there?

On behalf of the Board, I welcome everyone to the second round of hearings on the governor's proposal to reduce mercury emissions from coal-fired electrical plants in Illinois. The Board thanks all the participants who are working very hard to make the extensive record in this proceeding.

Your efforts are greatly appreciated. We look forward to the testimony and questions over the next two weeks. Thank you.

HEARING OFFICER: Ms. Moore, do you have anything you'd like to add?

MS. MOORE: No, thank you.

HEARING OFFICER: With that, I think we're ready to begin with Mr. Murray. Ms. Bugel, do you have something you want to add?

MS. BUGEL: Yeah, I just have one comment for the record. In Mr. Murray's testimony, there are two incorrect citations. There is one citation to a document that was not used at all, and then there is one incorrect citation. Unfortunately, we did not bring with us those exact corrections, and I just wanted to advise the Board that we would be filing, you know, a memo or a note to correct those items.

HEARING OFFICER: Those items cited, are those included in the reference documents we received?

DR. MURRAY: The one that was not

correctly cited was the 2003 is included in that -- should be in that packet, and the other one that -- there was one that was cited that wasn't referenced in the testimony, and so you don't need that.

HEARING OFFICER: Thank you. Then would you like to make any comment before we swear in Mr. Murray?

MS. BUGEL: I don't think we are going to do an introductory summary of Mr. Murray's testimony today.

HEARING OFFICER: Then let's have Mr. Murray sworn in.

(Witness sworn.)

HEARING OFFICER: Do you have a clean copy of Mr. Murray's testimony?

MS. BUGEL: I have one copy of it.

HEARING OFFICER: That's fine. If someone doesn't have a copy, we'll make copies. If there's no objection, we'll enter Mr. Murray's prefiled testimony as Exhibit No. 74. Seeing none, that's marked as Exhibit No. 74.

MS. BUGEL: Ms. Tipsord, I'm sorry. I

think I just gave you the wrong --

HEARING OFFICER: Oh, you gave me questions.

MS. BUGEL: I gave you questions.

HEARING OFFICER: Mr. Murray, are you going to summarize your testimony, or do you want to just go right to --

DR. MURRAY: We can just go straight to questions.

HEARING OFFICER: I think it works out quite well if we have you read the questions, and then answer it, and then we'll have follow-up.

MR. ZABEL: Has the witness been sworn?

HEARING OFFICER: Yes.

DR. MURRAY: Okay. The first question is, did you have a role in the September 2003 workshop organized by the Society of Environmental Toxicology and Chemistry (SETAC)? If so, what was your role?

Yes, I have served on the Steering Committee for the meeting and follow-up work, including finalization of the book resulting

from the meeting. The book's title is Ecosystem Responses to Mercury Contamination: Indicators of Change, that's the tentative title, but most likely will be the final title. Editors are Harris R., Krabbenhoft, D.P., Mason, R.F., Murray, M.W., Reash, R.J., and Saltman, T., published by Society of Environmental Toxicology and Chemistry in Pensacola, Florida, as well as Taylor & Francis in New York, and the book is in press now. In addition, an article of which I was a co-author, based on the results of the meeting, was published in 2005, and that's Mason, R.F., Abbott, M.L., Bodaly, R.A., Bullock, O.R., Driscoll, C.T., Evers, D., Lindberg, S.E., Murray, M., Swain, E.B., 2005. The title is Monitoring the Response to Changing Mercury Deposition in Environmental Science and Technology, Line 39, Number 1, Pages 16A to 22A.

The purpose of the meeting was to identify and recommend indicators of mercury contamination in the environment and how they might be utilized in the development of

national mercury monitoring network. Most of the work at the meeting, and subsequently, involved deliberations and drafting in four areas involving environmental mercury: Airsheds and watersheds; sediments and water; aquatic biota; and wildlife. I was involved with the wildlife group.

Activities by the Steering Committee members included identifying potential candidate participants taking part in the meeting and working with co-authors and SETAC in finalizing manuscripts, including editing, and with editing, included aiming for consistent use of terms in the various chapters. I worked closely with the lead author of the wildlife chapter, Dr. Marti Wolfe, and co-authors in finalizing that chapter, but also contributed technical reviews and editing consistency reviews to each of the other chapters, and there were also peer reviews of all chapters, external peer reviews.

Okay. Part B of that question is, what is the relationship between a mercury

monitoring network and identifying indicators of mercury contamination in wildlife?

Any monitoring network will involve measuring parameters, so it is important to clearly identify the parameters of interest, the factors that can affect them, and the overall goals of the monitoring program. Monitoring for mercury in wildlife is not a routine matter, given the number of potential matrices to sample, such as blood, feathers, eggs or fetus/young, fur, feathers, or internal organs, as well as the multiple factors, such as sex, age, seasonal factors, body conditions, as well as level of the mercury and methylmercury in prey that can influence mercury exposure in wildlife. In addition, one might expect different biotic responses to changes in mercury loadings in different regions, due to factors such as surface water pH, organic carbon content, sulfate levels or other factors that can influence mercury methylation, and thus greater biomagnification potential in aquatic food webs. So development of the network

should consider these factors as well as the sensitivity to methylmercury among different wildlife species across taxa. In particular, those groups that have been studied most extensively and are thought to be most at risk from methylmercury exposure --

HEARING OFFICER: Mr. Murray, could you slow down just a little bit.

DR. MURRAY: I'm sorry.

THE WITNESS: So I'll restate the last sentence. So development of the network should consider these factors as well as sensitivity to methylmercury among different wildlife species across taxa. In particular, those groups that have been studied most extensively and are thought to be most at risk from methylmercury exposure, including fish-eating mammals and birds. And that's question one.

HEARING OFFICER: Mr. Bonebrake, before you do that, I do want to note that these are prefiled questions from Dynegy and Midwest Generation. Go ahead.

MR. BONEBRAKE: My name is Steve

Bonebrake, and I'm with the law firm Schiff, Hardin. I just have a couple of follow-up questions. Dr. Murray, the monitoring network that you just referred to, is that an existing network?

DR. MURRAY: No, this is -- the purpose of the meeting was to develop basically a framework for a new national, or potentially even continental scale, monitoring network in the U.S. There's currently no existing mercury monitoring network really anywhere that measures all of the parameters of interest in terms of how the environment will respond to changes in mercury releases. So there's a mercury deposition network for web deposition, but there's no national network that monitors biota or wildlife fish atmospheric mercury deposition, all of these kind of integrated, and so that was the purpose. This meeting was to put together -- identify indicators of mercury contamination of the environment, and what would go into a framework for a national network, basically, recommendations to

agencies, federal agencies, for how it would be constructed.

MR. BONEBRAKE: And if I understood you correctly in your answer, you also referred to a number of factors that affect the rate of methylation; is that correct?

DR. MURRAY: Correct.

MR. BONEBRAKE: Are you aware, Dr. Murray, of any studies in Illinois waters regarding the presence of the various factors that you mentioned and the methylation rates in Illinois waters?

DR. MURRAY: No, I'm not. There have been a number of the studies in the literature for a number of years now, for a couple of decades at least, on the factors such as -- that I mentioned, such as pH and organic carbon, even things like that percentage of wetlands in the watershed of a water body that can affect methylmercury production.

To my knowledge, most of those studies have taken place in temperate lakes a little bit farther north, Wisconsin,

Minnesota, parts of New England, Canada, Ontario and in Europe and other countries, but I'm not aware of studies that have investigated in detail those factors and the influence on methylmercury's production in Illinois waters.

HEARING OFFICER: Question number two.

DR. MURRAY: Generally in your testimony, when you say mercury, do you mean methylmercury; or do you mean methylmercury only when you specifically use that word?

It depends. In discussion of sources and general environmental cycling, I'm generally referring to mercury alone, mainly inorganic mercury, which in this context would include elemental mercury in the atmosphere. In discussions of the exposure effects in wildlife, I am generally referring to methylmercury, as that was the form either utilized in laboratory studies or measured or assumed to dominate in the tissues and field studies given that methylmercury is in the from that biomagnifies in aquatic food webs.

Concerning the brief discussion on seed dressings, some seeds were treated with mercury-containing preservatives, which may have been methylmercury compounds, other alkylmercury compounds, or arylmercury compounds, such as phenylmercuric acetate. Such applications have been phased out in many countries, including the U.S. and countries of the European Union.

HEARING OFFICER: Question number three.

DR. MURRAY: Is the form of mercury taken up by non-piscivorous birds, such as by ring-necked pheasants, methylmercury?

It varies. The reference in my testimony to the die-offs in earlier decades was in the context of avian exposure to mercury via consumption of mercury-containing seed dressings. In the case of the Swedish contamination cases, involving ring-necked pheasants and rooks, the seed dressings were alkylmercury compounds, not methylmercury compounds, other alkylmercury compounds besides methylmercury, but both of these can

be toxic to wildlife. As I mentioned, a number of the countries, including the U.S., phased out the use of the mercury-containing seed dressings, according to the United Nations Environment Programme --

THE REPORTER: What was the end of that sentence?

DR. MURRAY: According to the United Nations Environment Programme, Global Mercury Assessment. Avian exposure to organic mercury via this route is likely much lower in those regions today that have phased out use of mercury seed dressings. In the case of recent research into exposures of insectivorous birds to mercury referenced in my testimony, such as Bicknell's thrush, studied in the paper published by Rimmer, et al, in 2005, it is presumed that the form of mercury in their diets is mostly methylmercury.

And Part A of the question, if not, why not? I dealt with that question.

B, what form is it? I dealt with that above previously.

C, if so, what is the source of that methylmercury? Again, I dealt with that previously.

HEARING OFFICER: Ms. Bass, do you have a follow-up?

MS. BASS: (Nonverbal response.)

HEARING OFFICER: Go ahead.

DR. MURRAY: And then, D, if the form of the mercury is not methylmercury, are there any risks to humans who consume such birds?

The greater risks to humans consuming game birds, such as pheasants, would be for birds containing elevated levels of organic mercury, whether methylmercury or other organic forms, the latter potentially being the case in any areas where alkyl or arylmercury compounds either left contaminated legacy sites or are still in use, such as in other countries. Because use of mercury-containing seed dressings ended in the U.S., it is unlikely that this source of organic mercury would lead to elevated exposures in either insectivorous birds or

humans consuming them.

However, agency staff in at least one state, namely Utah, have measured elevated levels of mercury above EPA's methylmercury water criterion of 0.3 milligrams per kilogram in tissue, in two duck species consumed by humans -- northern shovelers and common goldeneyes -- and established a consumption advisory based on these findings. These ducks were feeding on contaminated prey in marshes along the Great Salt Lake, and these prey levels are presumably significantly higher than one would find in aquatic insects in Illinois. However, I am not aware of assessments of mercury levels in game birds in Illinois to confirm that levels across all species are indeed below levels of concern.

HEARING OFFICER: Ms. Bassi.

MS. BASSI: I now have three questions. The first one is, I believe you said that the insectivorous birds, those that are eating insects, are probably uptaking methylmercury; is that correct? Is that what

you said?

DR. MURRAY: Well, we know that they would presumably be taking up some methylmercury. There are not a lot of data on methylmercury levels in insects. Most of the data are from aquatic insects from systems in Canada and Ontario, in particular, and in particular, in reservoirs, and there they found different levels of methylmercury, but in some cases methylmercury is the dominant form of mercury in the insects. There's much less information on insects in certain habitats.

MS. BASSI: So if these are the aquatic insects, is it reasonable to presume or to assume that the methylmercury is coming from -- because they are eating things that are in the water that is already methylated.

DR. MURRAY: Right, right. So it would be, typically, methylmercury that's in their prey. In some cases, they could take it up directly from the water, but more likely, it's of the other prey.

MS. BASSI: My second question is, I

believe you said that the danger -- there is some danger or level of exposure to humans who eat birds, who have eaten seed dressings that contain various species of mercury, including methylmercury and those other ones that I'm not going to attempt to pronounce.

What is the danger to humans from eating birds containing mercury levels that are levels other than methylmercury? And this is based on my understanding that the form of mercury that was dangerous, if you will, to humans is methylmercury form as opposed to other forms.

DR. MURRAY: A key issue is the -- how mercury behaves in the body, and methylmercury is taken up quite effectively in the intestine of humans and mammals in general; and so that's the form of particular concern. There's been much less work, to my knowledge, on other organic mercury compounds, such as ethylmercury, the form of mercury in vaccines. That's a whole separate issue. There have been a number of studies on potential health risks, in particular to

children, with that issue, but that form is definitely a concern. There really aren't any, to my knowledge, toxilogical or biological reasons that we would not concern with ethylmercury, given that we have concerns with methylmercury. They're very same similar structurally, the content.

And it's the same thing for phenylmercuric acetate and organic mercury compound, to my knowledge, there's been very little on the uptake, the metabolism, the excretion of that form of mercury in humans, but again, there's -- it seems plausible that one would be -- if one is concerned about methylmercury, and we are for a good reason, that we would be concerned about some of the other organic mercury forms as well.

MS. BASSI: And my third question, I believe you said or implied that Great Salt Lake has higher levels of methylmercury than water bodies in Illinois. Why would that be?

DR. MURRAY: Well, there are a lot of questions about that. It's not that clear. Great Salt Lake is obviously a very unusual

water body, it's a very saline water body inland in the U.S. It's not clear where the -- to my knowledge, where the mercury is coming from, how it's getting methylated. It's a fairly shallow water body. I think in a lot of ways the conditions are not necessarily considered to be ideal for methylmercury production, but somehow methylmercury is being produced or mercury has been taken up by insects, by the shrimp and then taken up by ducks. It's just something that has been really investigated over the past few years, I think mostly by the state agency staff out there, and I don't think people have a good handle on why the levels are elevated.

MS. BASSI: Thank you.

HEARING OFFICER: Mr. Zabel.

MR. ZABEL: Dr. Murray, is ethylmercury introduced into the environment or formed into the environment?

DR. MURRAY: That's a good question. I'm not aware of any studies showing that ethylmercury can be produced by bacteria in

the environment. I know methylmercury can be naturally produced. I guess it's conceivable that ethylmercury can be produced, but I'm just not aware of any evidence to indicate that, but it has been, as I mentioned, used extensively as a preservative in vaccines.

MR. ZABEL: So Ethylmercury, which is formed in the environment from other mercury compounds, so ethylmercury has to be introduced into the environment?

DR. MURRAY: I would assume, yes.

MR. ZABEL: Thank you. Is alkylmercury formed naturally in the environment?

THE WITNESS: Again, beyond methylmercury, I'm not aware of other forms of organic mercury, but I don't know if there are any reasons why some of those forms could not be created in the environment.

MR. ZABEL: There's just been no studies you're aware of of that form at issue?

THE WITNESS: Correct.

HEARING OFFICER: Question number

four.

DR. MURRAY: In your testimony, you state that mercury contamination is an additional stress that could be delaying recovery of certain bird populations in Southern Florida that are significantly impacted by other factors. What are the other factors that stress and significantly impact these bird populations in Southern Florida?

As with any wading birds, habitat quality is important for the South Florida wading bird population. The Everglades system, in particular the hydrology has been heavily altered by human activity for decades, and restoring more natural flow conditions is a key objective of current restoration efforts. Wading bird populations for a number of species decreased dramatically in the Everglades through the 20th Century, following large-scale hydrological alterations. Wading birds rely on certain water depths for optimal foraging conditions, and changes, in depth or timing,

to optimal levels can lead to decreased foraging success for these birds. For example, the water levels remained high in early 2005 following 2004 hurricane activity, and while recession lead to lower levels in the spring, heavy rains in March and April left higher than optimal levels that persisted until the start of the summer rainy season. While populations of five species of focus have increased over the past 15 years, researchers and managers note that the system is still not fully understood, and conditions are still not optimal for full recovery of these populations, with questions remaining about what can be done to really optimize these conditions, and the South Florida Water Management District produces annual reports on wading birds, and have noted some of the challenges.

HEARING OFFICER: Question number five.

DR. MURRAY: On the fourth page of your testimony, you refer to mercury-containing seed dressings causing

bird mortality. What type of mercury was this?

As I noted previously, in the case of the Swedish contamination cases of ring-necked pheasants and rooks, the seed dressings were alkylmercury mercury compounds.

What were the mercury levels found in the birds that died?

I'm not sure of those levels, but presumably, since they were eating -- consuming seeds that had high levels of alkylmercury in them, initially, I assume that the levels would have been quite high. And laboratory studies on toxicity of mercury compounds would give also a rough estimate of what those levels would likely have needed to be to cause acute mortality on a short-term basis.

Later in the same paragraph, you refer to ecologically relevant levels. Please define that term, numerically if possible, and compare to the levels in connection with the seed dressings incident.

By ecologically relevant levels, I'm referring to the concentrations of mercury that would be seen currently in the environment in locations not impacted by point sources, whether current or historical point sources. For example, mean methylmercury concentrations in fillets of 13 freshwater fish species in lakes in the Northeastern U.S. --

THE REPORTER: Can you slow down a little?

MR. MURRAY: Oh, sure.

For example, mean methylmercury concentrations in fillets of 13 freshwater fish species in lakes in the Northeastern U.S. ranged from about 0.17 to 0.75 milligrams per kilograms or parts per million. This was published in paper by Kamman, K-A-M-M-A-N, et al, in 2005.

In addition, it's noted in the technical support document for this rule-making process, large mouth bass mercury concentrations in Illinois have been measured and were shown to range from 0.01 to 1.4

parts per million with an average of about 0.19 parts of million, so lower than the -- at the low end of the concentration range seen for species in the Northeastern U.S.

The largest majority of these samples would have come from water not contaminated by current or historic point sources. Concerning typical liver mercury levels, I'm not aware of recent studies of mercury contamination pertaining to ring-necked pheasants in the wild. In one of the studies I cited in my testimony on Florida wading birds, Sundlof, et al, in '94, reported liver mercury levels that ranged from 0.29 to 18.84 in seven species, with averages for three study areas of 0.44, 0.55 and 2.63 parts per million in the liver.

HEARING OFFICER: Go ahead.

MR. ZABEL: Just so I'm clear, the last numbers you gave, those were not in the seed dressing cases of pheasants, were they?

DR. MURRAY: No, they were not.

MR. ZABEL: Do you have those numbers?

DR. MURRAY: No.

MR. ZABEL: Those would be acute numbers?

DR. MURRAY: Right.

MR. ZABEL: And just for the record, do pheasants eat large mouth bass?

DR. MURRAY: No.

MR. ZABEL: Thank you.

DR. MURRAY: I was talking about -- I was just indicating in that case some of the freshwater fish tissue that had been sampled for mercury.

MR. BONEBRAKE: You mentioned at the beginning of your answer, I think you mentioned the type of mercury at issue was alkylmercury, and in your earlier answer, as I understood it, you described it as a category that mercury included, but was not limited to methylmercury?

DR. MURRAY: Right.

MR. BONEBRAKE: Was methylmercury at issue in the Swedish study?

DR. MURRAY: I don't believe it is. My recollection was, it was more of an ethylmercury compound, but I'm not positive

on that.

HEARING OFFICER: Question number six.

DR. MURRAY: On the fifth page of your testimony discussing loons, you referred to elevated mercury in eggs and prey fish. Is that loon eggs? Yes.

You refer to a decline in egg laying in areas with elevated methylmercury concentrations in eggs and prey fish. Was the author noting a coincidence or alleging a causation?

The author, Barr, in 1986, described the inverse relationship between reproductive success and mercury contamination, i.e., increased percentage success in territories that were increasingly distant from the point source mercury contamination. These lower levels were seen in loon tissue and in prey, namely yellow perch, both within the area termed C1 of six lakes downstream from the chlor-alkali plant thought to be the principal mercury source in the region, as well as in other lakes downstream or upstream from the most

contaminated areas.

If the latter, did the author test for other contaminants? Yes, in fish.

If so, did he/she find any?

Barr, in 1986, reported, quote, generally low levels, unquote, of the other toxicants measured in fish in three of the study regions, including lindane, heptachlor, aldrin, heptachlor epoxide, dieldrin, and PCBs. The author noted, quote, non-mercury toxicants can be discounted as a major factor in the failure of loons in the Wabigoon-English system subjected to high levels of mercury contamination, end quote.

If so, did he/she exclude those as possible causative or contributive factors?

Yes, as noted above, the author did not believe that the other contaminants were at levels sufficient to cause reproductive harm in the loons. However, the author did note that earlier research had indicated that the methylmercury has the potential to act in an additive or synergistic manner with organichlorine

compounds.

HEARING OFFICER: Question number seven.

DR. MURRAY: Is the form of mercury stressing birds in Southern Florida always methylmercury, i.e., do other forms of mercury cause adverse effects?

All forms of mercury are toxic, depending on the route of entry and the dose. As noted previously, the piscivorous birds are generally thought to be at greater risk of exposure to elevated levels of environmental mercury, because methylmercury biomagnifies to a greater extent than inorganic mercury, and thus the prey piscivorous species will tend to be higher in methylmercury than inorganic mercury. In addition, methylmercury is absorbed more readily in the intestine than inorganic mercury, as I mentioned earlier.

HEARING OFFICER: Question number eight.

DR. MURRAY: Are belted kingfishers a species of blue herons? See fifth page of

your testimony, second paragraph, fifth sentence. Your testimony suggests that belted kingfishers are species of blue herons.

This paragraph indicates examples of other birds for which mercury exposure, and in some cases effects, data have been obtained. The sentence in question was written in a condensed manner to indicate that great blue herons and belted kingfishers had been subject to mercury exposure studies. They are clearly different species, not even being in the same order, Ciconiiformes in the case of the great blue heron, and Coraciiformes in the case of the belted kingfisher.

If not, what the did the researchers find regarding blue herons?

Wolfe and Norman, in 1998, reported that no correlation between tissue mercury concentrations and distance from a major mercury source in the region, namely a mercury mine near Clear Lake, California, nor any difference in reproductive success

between the contaminated site and nearby sites that were presumably at lower contamination levels. The researchers also noted that they did not have formal controls or a matched reference population in their study; at least one of the two studies at which growth rates were compared was done in a region, namely known as Nova Scotia, known for elevated methylmercury levels in fish and wildlife. Also, average blood methylmercury concentrations in the herons reported by Wolfe and Norman in 1998 at each of the three sites were in or near the impacting, in quotes, range as identified by Evers, et al, in 2003, and this range was 1.3 to 2.0 parts per million.

HEARING OFFICER: Question number nine.

DR. MURRAY: Your testimony suggests that some animals are exposed to mercury by eating insects. How do insects take up mercury?

Uptake of mercury at lower levels of the food web is still not fully

understood. In aquatic habitats, insects take up inorganic and methylmercury both from water and via diet. As with higher levels in the food web, diet appears to be particularly important. In measurements in a flooded reservoir in Ontario, methylmercury concentrations in predator insects, i.e., insects feeding on other animals, were nearly three-fold higher than levels in so-called collectors or shredders, that is insects that feed on plant tissue or decomposing organic matter, and that's referenced in a paper by Hall, et al, in 1998. In addition, factors such as pH, dissolved organic carbon and other water chemistry parameters can influence methylmercury production, and thus uptake into aquatic biota, including insects, lower on the food web. An example is a study by Watras, et al, in 1998, that looked at these parameters.

There has been very little study of uptake of mercury at low levels of terrestrial food webs, as I noted earlier. Rimmer, et al, in 2005, and Miller, et al, in

2005, noted that methylmercury is found in plant leaves, though it is a very small fraction of total mercury, and it is not clear if this represents mercury produced in the plant or taken up from the atmosphere or via the routes. This leaf matter can serve as a source of methylmercury when consumed by insects.

Part B, what form of mercury is absorbed by insects such that it can be absorbed by other animals that consume insects?

Again, both inorganic and methylmercury can be taken up by insects. Because methylmercury is excreted more slowly, this form would tend to biomagnify, that is from insects to a predator, to a greater extent than inorganic mercury. In a recent study on mercury in Bicknell's thrush, that is Rimmer, et al, in 2005, it is presumed that the form of mercury in their diets is mostly methylmercury. In this study, the researchers did not measure mercury content of the prey, but they did

note that the proportion of methylmercury in insects can vary significantly, from about 20 to 25 percent in detritivores, that is, again, the insects feeding on decomposing plants issue, to high levels, such as around 95 percent in dragonflies eating other insects.

HEARING OFFICER: Question number 10.

DR. MURRAY: Why would there be greater uptake of mercury in insectivorous passerines' wintering areas than in their breeding areas?

Mercury uptake will be a function of quantity of food consumed and mercury concentration and form, that is inorganic mercury or methylmercury, in the prey items. Again, the study by Rimmer, et al, in 2005, noted higher methylmercury blood levels in Bicknell's thrush at several wintering sites in Hispaniola and Cuba, but there were a relatively small number of samples at each site. The authors noted that the lack of information on factors in the wintering habitat could influence methylmercury levels,

and so they did not have any good explanation for why there were elevated levels at those sites.

HEARING OFFICER: Dr. Murray, before you go on, I just want to note the question actually says would there be greater take up of mercury. I'm assuming they're the same, uptake, take up. I just want to be sure. Okay. Thank you.

DR. MURRAY: Do such birds generally breed in the spring and/or summer?

Bicknell's thrush breed in late spring/early summer. In Vermont, the breeding usually begins in May, with the initiation of most clutches in June, and fledging from early July to early August, according to a report by Rimmer, et al, in 2001.

One would assume that insectivorous would winter in warmer areas where insects continue to be active during the winter months; is that correct? Yes.

Where would such wintering areas be?

This will vary depending on the species. For the Bicknell's thrush, passing the subject to the Rimmer, et al, paper, the wintering habitat is the Greater Antilles, including Cuba and Hispaniola, and this is from the Rimmer, et al, report in 2001. And then by contrast, for another thrush, the Swainson's thrush, the wintering areas can range from Mexico to as far south as Argentina. So knowing -- the wintering areas vary quite widely, and thus, the potential for methylmercury exposure will vary depending on where they are and conditions, in part, specific to those sites, to those wintering sites.

HEARING OFFICER: Question number 11.

DR. MURRAY: In your testimony regarding the studies of elevated mercury levels in mink, you refer to the elevated mercury levels, e.g., 5 ppm in the diet, in one study, and then to another study that reported extensive death of brain cells at high levels of methylmercury.

What type of the mercury does the

first reference in this sentence to elevated mercury levels mean? Methylmercury.

Is there an ecologically relevant level for mercury in the diet?

As I noted previously, in Northeastern U.S., mean methylmercury concentration in fillets of 13 freshwater fish species in lakes ranged from about 0.17 to 0.75 milligrams per kilogram or part per million. That's, again, the Kamman, et al, paper in 2005, and as I noted also, the Illinois large mouth bass had concentrations ranging from 0.01 to 1.4 with a mean of 0.19 according to the technical support document.

If so, how does it compare to the 5 ppm?

These levels are obviously lower than the high experimental level used in the study cited in Heinz in 1996.

In the other studies using lower doses, what were those doses?

The study of Wobeser, et al, in 1976, utilized chow spiked with methylmercury chloride at concentrations of 0, 1.1, 1.8,

4.8, 8.3 and 15 milligrams per kilogram. Histopathological damage, such as pale livers and nervous system lesions, was seen at the 1.1 milligram per kilogram dose, and anorexia and ataxia, or lack of muscle coordination, were seen after to two to three months at the 1.8 milligram per kilogram dose level.

Are you aware of the fish tissue sampling that has shown methylmercury levels as high as 5 ppm in Illinois fish? No.

What were the high levels of methylmercury in the second study you referred to?

This is also referring to the Wobeser, et al, 1976 study. The highest exposure level was 15 milligrams per kilogram.

Are you aware of any fish tissue sampling that has shown methylmercury levels in Illinois fish as high as the level reported in the second study you referred to that considered high levels of methylmercury?

No. But even in the earlier study, namely Wobeser, et al, in 1976, as

noted above, subclinical effects were seen beginning at a dietary concentration of 1.1 milligram per kilogram, which is closer to levels that would be expected in some Illinois fish.

HEARING OFFICER: Mr. Zabel?

MR. ZABEL: As I understood you, you said 0.014 to 0.019 in Illinois fish; is that correct?

DR. MURRAY: The range was 0.01 to 1.4.

MR. ZABEL: I'm sorry. The last one was 1.4?

DR. MURRAY: Right, and the average was 0.19 for large mouth bass.

MR. ZABEL: The average was 0.19?

DR. MURRAY: Right.

MR. ZABEL: The next subpart of that question, as I understand, you were saying that adverse conditions were seen at a level of 1.1; is that right?

DR. MURRAY: Right.

MR. ZABEL: And it's two levels of magnitude higher; is that correct?

DR. MURRAY: One order of magnitude higher than the mean of the large mouth bass in Illinois.

MR. ZABEL: Thank you.

HEARING OFFICER: Question number 12.

DR. MURRAY: You refer to recent studies reporting an association between methylmercury in wild mink and other neurochemical receptors in the brain. What do you mean by an association?

In a study of wild mink trapped in the several locations in Canada, muscarinic acetylcholine receptor density and ligand affinity both increased with total and methylmercury levels in the brain. These are receptors for the neurotransmitters in the brain and indicate -- and the researchers found association between the levels of these receptors and methylmercury that they measures. Other research has shown that methylmercury can affect neurotransmitter pathways, such as synthesis, storage or release of neurotransmitters, re-uptake or clearance mechanism.

Was this coincidence or causation?

Again, previous work has shown that methylmercury can alter neurotransmission pathways, so the authors noted that, though there was a correlation, it is also biologically plausible.

Did these studies find biochemical changes in the mink and otters?

In the dosing study on captive mink, up to 2 ppm methylmercury, Basu, et al, in 2006, did not find effects on brain choline acetyltransferase, acetylcholine and choline transporter associated with methylmercury exposure. However, the researchers did find higher densities of muscarinic cholinergic receptors in several parts of the brain at several doses, in a pattern -- in a similar pattern with the findings in wild mink. It was published by Basu, et al, in 2005. And similar findings were observed by the same group in wild otters, although the trend was decreasing muscarinic acetylcholine receptor density and ligand affinity with increasing mercury

exposure. So it's a different trend with what they saw with the mink, and was a separate paper by Basu, et al, in 2005. In addition, negative relationships between dopamine-2 receptor density and total mercury were observed in both wild mink and otters. Again, both in papers by Basu, et al, in 2005.

You say these changes can be associated with clinical effects. Were clinical effects observed in the mink and otter?

No, but as the authors note, the cholinergic and dopaminergic systems are involved in a number of neurobehaviors, including learning and memory, motor functions, temperature regulation and cognition. This is referenced in Basu, et al, in the second 2005 paper.

HEARING OFFICER: Excuse me. Mr. Bonebrake, do you have some follow-up?

MR. BONEBRAKE: In your response to Subpart C, you refer to exposure level of two parts per million, and then later in your

answer, you refer to several different exposure levels. Did I understand your answer correctly?

DR. MURRAY: Right.

MR. BONEBRAKE: What were those several different exposure levels?

DR. MURRAY: The levels used in the dosing study of the captive mink were nominal, the concentrations were zero -- this is parts per million, 0, 0.1, 0.5, 1 and 2 parts per million in the diet.

MS. BUGEL: For the record, can you please indicate what you're reading from.

DR. MURRAY: Oh, sorry, and this is from Basu, et al, paper in 2006, which is in the testimony.

MR. BONEBRAKE: And the effects you were referring to, are those associated with the highest two parts per million dosing level?

DR. MURRAY: In some cases, the maximum response was seen at actually lower levels. For example, in the basal ganglia and in the brain stem, the maximum responses

and the changes in receptor density were at either the 0.5 or the 1 ppm level, not at the highest exposure level, and this, again, is Basu, et al, 2006.

MS. BUGEL: Are there two different Basu, et al, in 2006?

DR. MURRAY: Just one for 2006, and then two for 2005.

HEARING OFFICER: Please continue, Dr. Murray, with your answer.

DR. MURRAY: And then Part E, were other factors, such as other chemicals, excluded from causation? Not to my knowledge.

If so, how? Again, I'm not sure in terms of the studies of the wild mink or otter whether these other factors were -- other possible chemicals, as far as I know, they were not assessed, and to my knowledge, they weren't. So there could be no assessment of the potential effects of those on the response variables.

HEARING OFFICER: Question number 13.

DR. MURRAY: Your testimony states

that while a number of studies have shown a decline in deposition in the past several decades, at least in some sediment cores, contemporary deposition rates are still thought to be well above pre-industrial values, indicating the importance of human activities.

Are you aware of any studies, including studies of the tissue of fish in museums, that show that fish tissue levels are not increasing over time even if deposition levels are?

One study I'm aware of is Amrhein and Geis, published in 2001, which reported inconsistent results in comparing fresh yellow perch caught in 1988 in Wisconsin lakes to archived museum samples from 1927, showing two lakes with an increase in mercury, one lake with a decrease in mercury, and two lakes showed very little change between the two periods. But there are methodological issues that remain to be resolved, including any effect on concentration of storage in alcohol versus,

for example, freezing, and until methodological issues are resolved with analyzing museum samples, monitoring of fresh fish tissue would be the optimal means for assessing trends in fish tissue mercury concentrations. And, to my knowledge, there are -- there have been no, kind of, ongoing monitoring programs measuring mercury in fish that go back, say, like, six or seven decades. There are programs that have been monitoring for several decades, and there's one part in Canada I'm aware of, and then some state health departments or state agencies have been monitoring fish looking at trends over the past, say, couple -- two or three decades, but to my knowledge, that's the longest database we would have on mercury in fish tissue in the U.S. or Canada.

HEARING OFFICER: Question number 14.

DR. MURRAY: Do you agree that some level of methylmercury was present in fish tissue prior to the industrial resolution? Yes.

Do you contend that some level of

injury occurred to fish and animals as a result of that pre-industrial level of methylmercury in fish tissue?

That is hard to know. Fish and fish-eating wildlife presumably evolved mechanisms for detoxifying mercury to some extent, and this might possibly involve selenium, for example. So they may have generally been able to deal with the mercury exposures prior to the human alteration of the global mercury cycle. On the other hand, natural activities that changed mercury exposures, for example, if there is damming of a river that submerged plants and potentially increased methylmercury production in that location, this could conceivably lead to increased exposures of fish or wildlife above a toxic threshold in that area. At the same time, increases in mercury mobilization by human activity have much more likely increased exposures more globally as compared to pre-industrial exposures.

HEARING OFFICER: Question number 16.

DR. MURRAY: With respect to your testimony regarding the potential harm to fish for mercury exposure, what is the form of the mercury to which the fish studied were exposed?

Studies have investigated exposure to both inorganic, for example, mercuric chloride compounds, as well as organic mercury, such as methylmercuric chloride exposures.

At the sites where there were very high mercury exposures, at sites contaminated by direct discharges, what other contaminants were in the discharges?

This sentence in my testimony is mainly referring to controlled studies at exposures that would be seen at sites heavily contaminated by points source discharges, such as mercury cell chlor-alkali plants. At such sites, there could be other contaminants present as well.

What was the source type of the discharges, such as industrial, municipal wastewater treatment plant, agricultural,

run-off collection, et cetera?

Sites that are heavily contaminated by point source discharges include mercury cell chlor-alkali plants and gold mining operations. In the U.S., high-level ongoing contamination is not common, fortunately; typical effluent or run-off concentrations will be much lower than levels seen at sites of historic contamination or major spills or releases, but these lower levels can still contribute mercury to water bodies that are not currently meeting water quality standards.

What is a more typical environmental exposure for fish?

Again, fish tissue in New England lakes were found to average between about 0.2 and 0.75 ppm mercury. Concentrations over 1.0 part per million are occasionally seen in some Midwestern water bodies, and as I noted, concentrations in large mouth bass are 1.4 parts per million have been -- were reported in the TSD.

Do these typical levels vary from

state to state?

Typical levels vary more by water body in part on variables such as pH, dissolved organic carbon, amount of wetland in the watershed, as I noted previously, but can vary regionally as well. For example, there are often higher levels of fish methylmercury in the more acidic, organic carbon rich lakes in Northern Minnesota than some other parts of the region.

How did you determine these typical levels?

Again, some levels in the Northeastern U.S. -- and I keep citing the Northeastern U.S. study because they -- the Kamman, et al, 2005, because they compiled thousands of data points from a number of different databases in that assessment, so it's a pretty good representative of concentrations in that part of the country, and in Southeastern Canada that -- for the various species. I'm not aware of such a database for Illinois fish or for many other states in the Midwest, and again, there is

the large mouth bass stated in the TSD.

What is an environmentally relevant concentration of methylmercury?

Again, in terms of fish tissue, this would range in the northeast, in terms of mean levels from about 0.2 to 0.75 part per million, based on the mean concentrations in the 13 species in the Northeastern U.S. In Illinois waters, the means of large mouth bass is more like about 0.19 part per million so the typical concentrations are going to be lower, down to 0.1 or lower, and occasionally up over 1 part per million in large mouth bass.

HEARING OFFICER: Mr. Bonebrake.

MR. BONEBRAKE: You've mentioned a couple times now a high number, I think, of 1.4 parts per million of the large mouth bass population in Illinois; is that correct?

DR. MURRAY: Correct.

MR. BONEBRAKE: Do you know where that particular fish -- what body of water it was found?

DR. MURRAY: No, I'm not positive.

MR. BONEBRAKE: Do you know if there's any uncertainty at this point in time regarding the validity of that number?

DR. MURRAY: It's always possible that you've got an invalid number due to various reasons, in particular, contamination. I think that kind of number, if you look at the databases of methylmercury levels in fish in EPA's national listing of fish and wildlife database, you'll occasionally see numbers up above that one part per million level. And in particular, in the northeast, sometimes you see the mean levels that approach that. So if the mean levels are, say, 0.7 or 0.8 part per million, obviously, you're going to have individual fish well above that, including above one. So it's possible that it resulted from contamination, but more typically, the concern with contaminated samples is in measuring, say, water -- water concentrations with the mercury, because the concentrations are so much lower, it's easier to have contamination that leads to an elevated level than in fish tissue where the

concentrations are higher and there's a little less concern about various results that are due to contamination.

MR. BONEBRAKE: Did you read Gorachev's (phonetic) testimony in this matter?

DR. MURRAY: No, I did not.

HEARING OFFICER: I want to note for the record for people who will read the transcript that Dr. Murray has also provided the references that are cited in his testimony, and they have been filed with the Board and are available through the Board's website in a filing for August 8th and August 14th, and there's well over 200 pages of reference material that has been included in his records, so I just want to note that. Are there any questions for Dr. Murray?

MS. BUGEL: We are going to have a few questions, but we'd like just a short break for Counsel to confer before questioning.

HEARING OFFICER: Okay. Well, it's a little early, but let's take about a ten-minute break.

(Whereupon, a break was taken, after which the following proceedings were had.)

HEARING OFFICER: Let's go back on the record.

MS. BUGEL: I do have just two follow-up questions, and then Mr. Harley is going to have two follow-up questions.

Dr. Murray, referring back to your -- question 1(b), you provided an answer to question 1(b) that discussed factors that can influence mercury methylation, and a question was asked of you whether there were any studies of Illinois waters to identify the factors, and your answer, I believe, was no; is that correct?

DR. MURRAY: Correct.

MS. BUGEL: And then I would like to just ask you, are the studies from outside of Illinois regarding the factors that effect methylation still applicable to Illinois?

DR. MURRAY: Yeah, I mean, one of the goals, obviously, with science is to come up with models that explain phenomena that are

generalizable, that are applicable in other settings beyond the subject, the area of focus of a particular study. So as I noted, in a lot of the detailed biogeochemistry studies of mercury have taken place in Wisconsin and Minnesota and New England and Ontario and other countries. So generally north temperate areas, temperate lakes in particular. But the factors that influence methylmercury production in particular, as I note, things like pH and dissolved organic carbon, content of sulfate levels, the percentage of wetlands and watersheds, and all those factors -- it's not a simple relationship. Sometimes the studies show conflicting results just because the process is complex and not everything is fully understood, but it's clear that all of those factors seem to be important in the production of methylmercury, which, again, is important because that's a form of biomagnifying to the greatest extent, and all those factors can come into play in Illinois waters as well in terms of pH, the more

acidic waters, and for example, an additional factor is that if you look, say, coal-fired power plants, we're looking at mercury here, but obviously, there is major sources of sulfur dioxide as well. And one of the whole purposes -- or one of the whole goals of the Clean Air Act of 1990 was to reduce, in part, sulfur through the acid rain to reduce sulfur dioxide emission so that acid-impacted water bodies in the eastern U.S. could recover. So there's been some reductions there, but emissions still continue to be high. So that's a case where you'd have two pollutants coming from the same source, where the one can interact with the other. In terms of creative conditions, that may be more favorable for methylmercury production, basically, in deposition of sulfate of acidity, acid deposition in rain or in dry deposition contributing to acidified water bodies, which then can, in some cases, lead to higher methylmercury production.

There are also issues like, you know, reservoirs and dams in water bodies can

lead to increased levels of methylmercury production, and changes in the water levels, in particular, flooding of areas that were previously above water, now have plant matter in them that's below water, and once that decomposes, it can lead to anaerobic conditions in the water body, which again, facilitates the production of methylmercury. So in any areas where you've got reservoirs and the change in the water levels, those factors can lead to the increased methylmercury production, and hence, increased availability of methylmercury to build up in food webs. So those factors can all come into play in Illinois waters.

MS. BUGEL: And the second question, in response to question four, you discussed factors in South Florida that were stressors to the bird population, and you mentioned habitat -- human activities in the habitat quality. Are the similar types of stressors also seen in Illinois?

DR. MURRAY: Well, obviously, a habitat is an important requirement for any

wildlife species, including for birds, so that's been a significant factor. It's thought in Florida in preventing the recovery of a number of the wading bird population, but as I noted there, the -- kind of, the alteration of water levels that followed from all of the activities, hydrological modifications there in the Everglades, it's slowed down the recovery -- just that those conditions of not having natural flow regimes there have slowed down the recovery of wading bird populations there. And I just noted the issue of the changing in reservoirs, where you've got changing water levels that can contribute to increased methylmercury production; and in fact, in the Everglades, there are certain areas that -- methylmercury is not uniformly high in the Everglades. It definitely varies, but there's certain areas that could definitely have higher levels, and the same kind of thing can happen in Illinois. Obviously, it's a different system, but any place where you've got reservoirs or water levels and the change in

a particular flood or increase can lead to submerged vegetation that can decompose that can lead to the increased production of methylmercury, and that's increased uptake in the food web.

HEARING OFFICER: Ms. Bassi?

MS. BASSI: Isn't there a distinction between the Everglades and a reservoir, though? Aren't reservoirs man-made?

DR. MURRAY: Yeah, they're -- yeah Everglades is natural but it's been so hydrologically modified, I think it would almost be characterized now as more of a man-made and artificial system. I think there are a lot of people who are working on it. But, yeah, reservoirs, in general, are man-made. Obviously, you can have a natural reservoir in a small river with a beaver dam producing, you know, a small reservoir there, but...

HEARING OFFICER: Mr. Harley.

MR. HARLEY: Dr. Murray, for the record, my name is Keith Harley, and I'm an attorney for the Illinois Public Interest

Research Group and Environment, Illinois.

Earlier in your testimony, you used the term temperate lakes to characterize the lakes where most of the studies have been done about the impacts of mercury on wildlife populations. You said the temperate lakes tended to be in northern locations by comparison to Illinois. Are the lake systems in Illinois also properly characterized as temperate lakes?

DR. MURRAY: I would say that the water bodies in Illinois are kind of at the southern end of the temperate range, I mean, based on climate. Obviously, there are a lot smaller number of lakes -- natural lakes in Illinois than in the upper Midwest, but they would be considered to be in the southern range of the temperate lake system.

MR. HARLEY: Just one other question, Dr. Murray. In response to questions that were put together by Dynegy and Midwest Generation, you have indicated that some of the wildlife species that are impacted by mercury include this list: Loons, belted

kingfishers, blue herons, ring-necked pheasants, two types of thrush, insectivorous passerines, 13 species of freshwater fish, some insect-consuming mammals, aquatic insects, minks and otters.

Dr. Murray, is this the total list of wildlife receptors that are susceptible to mercury toxicity?

DR. MURRAY: Well, no, that wouldn't be a completed or universal list. Just to clarify two that -- the species you indicated, including fish species, indicate data for which mercury exposure is available and not necessarily where effects have been measured. The fish tissue data I was talking about for the Northeastern U.S., the 13 species, those were measured -- mercury levels measured in those fish. It wasn't -- those were just measured in fish environment. It wasn't part of any kind of controlled study, but there have been -- it's important to -- just, in turn, whether it's fish or wildlife to think about the, kind of, practical concerns in doing controlled dosing

studies.

So there's some wildlife species for which there aren't much data because they're just hard to study, in particular marine mammals; but in this case we're talking here about, the situation in more of the simple U.S., the number of the species of wildlife that have been studied intensively for mercury exposure. And toxicity is a relatively small membrane. I mean, we noted it in the loons, the herons, other species where controlled studies have been done, and also a number of species where field data has been obtained, such as the belted kingfisher.

So in some cases the species are -- in all cases, assuming the data are solid, species with good indicators of mercury contamination exposure in the environment, but the number that have been subject to controlled dosing studies is relatively small. In fact, mallard ducks were subject controlled dosing studies, in particular in the '70s, and even more recently. And it's not necessarily clear

that those are the species that are most sensitive to methylmercury toxicity, but for various reasons that species was chosen for study and had still been subject of a study. But it is assumed, as I mentioned earlier, that results from studies from individual species, assuming similar kinds of chemical transport and biological mechanisms going on between different species, say, within the bird -- among birds, can -- you know, can have that ability with other species.

So just briefly then, the number of species for which mercury and methylmercury is potentially a problem is fairly large, and again, would include non-piscivorous species, in particular, and the large majority of those have not been studied in controlled dosing studies, and as we know, there's relatively limited data on even mercury exposure levels in a lot of those species in this part of the country.

HEARING OFFICER: Anything further for Dr. Murray? Dr. Murray, thank you very much for appearing and for your testimony. Thank

you.

All right. Next is Ameren. Before you start, Mr. Zabel?

MR. ZABEL: I have a motion to make on the record. We would move the Board, and I'll explain reasons for this, but I'll do the motion on that one first. That the Board had scheduled additional hearings in this matter, and it specifically addressed to the IEPA and Ameren proposal that we're about to hear testimony on. As an alternative route, because there's a time deadline concerning the Board in this matter, they would suggest that the IEPA and Ameren proposal be separated out as a separate docket or subdocket so that hearings on that proposal can be held while the Board could otherwise move forward on the general rule on mercury. Either of those approaches would be acceptable.

The reason we have a problem and we're having a motion is, as the Board knows, this was only presented to us on July 28th. There's been very little time to analyze and

respond to it. Furthermore, there's no procedure in the record, as currently set, to file responsive testimony. The testimony was all due on the 28th. There's new date for additional testimony. So we see there are several factual, several Illinois and legal and several federal legal problems, as we understand the Ameren/IEPA proposal. As I mentioned, we've had no opportunity to present responsive evidence. We have had no time really to present it to our experts to analyze the impact of this proposal on the other generated units in the state, whether they opt in or out of this proposal, what the impact of the proposal would be if only Ameren opts into it or others opt into it under SOx, SO2 and under NOx regulations. We're concerned that both Mr. Lawson and Mr. Flamingas (phonetic), if I recall testimony in their transcripts, said that the technology-only standard was unacceptable for mercury, and now we have one. We don't understand why the Agency has changed its position, and why it doesn't change its

position on the entire regulation.

On the legal front, as I mentioned, there's no SO2 or NOx evidence in this record to support an SO2 or NOx approval. We believe the promulgation of the SO2 will violate Section 10, prohibits the Board from adopting SO2 regulations for sources outside the metropolitan areas, unless it's done for purpose of complying with SO2 and National Air Quality Standard.

We believe, and we haven't had time to analyze this, as I stated, that this is an Ameren-only proposal; that, in fact, the facts demonstrate that it's the only one in reality that can be eligible to apply. Then we believe it's a longer proceeding. In Commonwealth Edison versus The Pollution Control Board, which is one of the cases that Mr. Forecade furnished to the Board during the June hearing. Although, it arose in somewhat of a factual setting, the judge stated, and I quote, substantive rules of this nature -- and this on the side of SO2, in particular, standards in that case.

Quote, substantive rules of this nature are promulgated for general, not special application. Where one seeks to relax their enforcement against it exclusively, the legislator is determined that the appropriate remedy is for the agreed party to seek a variance according to Title 9 of the Act, end of quotation.

Now that we've had a second proceeding, 28.1, for adjusted standard, both of which are provided by the legislator with specific entities with specific concerns. This is to be a regulation of general applicability, but the Board has no evidence that it, in fact, would apply generally or could apply generally, which is why additional time is necessary.

If Ameren, as its testimony indicates, has coordination and technological problems with the proposal, either it's the variance or adjusted standard that isn't appropriate or everyone has those same problems in the rule of general applicability.

The problem at the federal level is probably worse. How are they going to demonstrate compliance in the cap, is a question you would ask the Agency. How are you going to demonstrate compliance with the cap, if only Ameren is going to apply or others are going to opt in? What assumptions are they making about others opting in? We have no idea, and there's no testimony supplied from the Agency.

More importantly, we believe that surrender of allowances in the prohibited trading violates both the Supremacy Clause and the Interstate Commerce clause. I refer the Board to two decisions the Clean Air Markets Group versus Pataki, 194 App. Supp. 2d. 147, it was a district court case in which New York attempted to restrain trading of SO2 allowances. The district court found it in vio- -- in those cases, it was some of -- different facts, but similar. They could still trade. They weren't prohibited from trading. They were limited in how they were to trade.

Allowances weren't removed from the market. Congress has defined that market at a certain size, at a certain scope. New York tried to modify only who they could trade with. The district court found it violated both the Interstate Commerce Clause and the Supremacy Clause.

The case went to the United States Court of Appeals to the Second Circuit in 338 App. 3rd. 826, and the Court of Appeals affirmed they only reached a Supremacy Clause, found in the New York statute, and violating Supremacy Clause and declared it unconstitutional.

We have not had time to prepare a brief on either the state or federal issues, but we think there are serious concerns that the Board should be consumed with with this proposal, and additional hearings or a separate docket would be appropriate. Thank you, Madam Hearing Officer.

HEARING OFFICER: Thank you, Mr. Zabel. Mr. Rieser, I imagine you have a response?

MR. RIESER: Well, I'll note as an initial measure that I don't seem to have as good a microphone as Mr. Zabel. To my ears, I sound like Donald Duck, and I don't know if that's universally heard, and I don't want that to effect the seriousness of this argument.

Obviously, Mr. Zabel has raised a lot of issues, which are going to be difficult to respond to orally, since I wasn't able to write them all down. As far as additional hearings, we have two weeks in front of us, and if after the end of those two weeks, the Board feels that there's going to be a need for additional hearings, as you have reserved to yourself anyway, then that will be a decision that gets made.

I do want to note as I was going to say in presenting the witnesses, that we do have the Agency available, and they have agreed to answer some questions that were directed to Mr. Menne that were really more directed to the Agency, i.e., what does the Agency think about this or think about that

or how does that impact the Agency's other testimony. So Mr. Ross is available to respond to that now, and there's been a suggestion that he be allowed to answer those questions as we move forward so that we can keep the record together.

As for the legal issues, as to separate it out to a docket, I guess my response is that this is all at peace. As we'll talk about -- this was negotiated with Ameren. It's not Ameren's position that other companies can or can't because we don't know if other companies' systems well enough to be able to say whether they can utilize it or not, but the intention is that this is all at peace with the other rules.

Sitting here, it would surprise me greatly if there were not other rules with general applicability that also addressed, within the same docket, issues relating to individual companies, whether they were separate sections or separate parts or some measure where a company or trade association came in and made suggestions as to how those

rules would apply in certain specific settings. So I don't know that we're required to use the site-specific unadjusted standard mechanisms or the variance mechanisms for these purposes. Obviously, the time lines that are laid out here would make that extremely difficult. I guess it was our thought that these were rules of applicability that would apply throughout the state and have to be adopted very quickly, and then bringing us into part of that whole discussion was the federal way -- the federal way to address that.

As for the legal issues, the legal issues tend not to be addressed within the context of the hearings themselves, anyway, since these are primarily factual and intended to involve the presentation of factual testimony. The legal issues are usually addressed in post-hearing comments. Obviously, to the extent that Mr. Zabel believes that there are legal barriers to adopting the rules that are proposed, then that would probably be the time to address

those, whether or not they were presented in a separate hearing.

So that's my initial response. Obviously, Mr. Zabel had a lot of -- made a number of points, and I guess, I'm not sure the reason for bringing it up now as opposed to presenting it in argument as testimony was filed, but I certainly would like -- think it would be better for that motion to be presented in writing so that both the issues that are raised can be more fully elaborated and my response can be more fully elaborated.

HEARING OFFICER: Thank you, Mr. Rieser.

MR. KIM: May I respond as well since, I think the Agency --

HEARING OFFICER: Can we get the microphone?

MR. KIM: I'll speak very loudly. John Kim on behalf of Illinois EPA, and I wanted to make a couple statements in response considering the Illinois EPA would also be affected by the request, and as an initial matter, I just want to -- for

clarification, is your motion being made on behalf of both Dynegy and Midwest Generation?

MR. ZABEL: Yes, sir.

MR. KIM: Well, just to -- we would agree certainly with everything that Mr. Rieser has just stated, and then I just wanted to add a couple quick comments as well.

First of all, the language that we're talking about here is -- it's voluntary language, and I think the testimony is going to come out, but it was intended to add an additional measure of flexibility into the rule consistent with what the underlying reasoning was with the TTBS language. This is language that we have discussed with all of the people that are being represented today. We've had a number of discussions, as a matter of fact, with everybody here. So it's not as if this language has just been presented at the very last minute, and I would also tend to agree -- I think I've got some responses as to some of the legal issues that Mr. Zabel raised, but I do think it's

probably best not to get into that here. I think it's better to have the opportunity for everybody to actually write that out and brief it if it does get to that point; but again, similar with the approach that was taken with the TTBS, admittedly, it wasn't presented at the very beginning of the proceeding at the same time the original rule was presented. However, I believe that through the course of the Springfield hearing and through the questions that were asked and so forth, that sufficient answers were given so that the Board would be able to proceed with that language, and I don't think that that's going to be any different than what we would envision here for this language. That's all I have.

HEARING OFFICER: Thank you, Mr. Kim.

MR. ZABEL: I'm not going to belabor the point. I understand Mr. Rieser's surprise, if you will, and I didn't mean to do it as a surprise, but as you know, we had a serious volume of questions from the Agency that we had to prepare for our own witnesses'

responses. We had 11 days. I don't know how many working days that is, which it isn't in writing, and I apologize to the Board, but I haven't had time to research all of this information.

Mr. Kim mentions voluntary, I think the New York case would be quoted on voluntariness, and right now we're considering revising our comment, whether -- if this rule is adopted in a certain fashion, whether we take it to the appellate court or take it to the federal court.

There are a lot of issues here. We're not sure what the answers are to all of them. We would think the Board would want to know that before it happens. It doesn't want to, I am sure, run the risk of contravening with the Interstate Commerce Clause and Supremacy Clause or Section 10 of the Illinois Environmental Protection Act.

All I can say is that it may not have been a surprise to Mr. Kim, but we didn't know anything about this until the 28th of July when it was filed, and the Board

had no knowledge of it until then, so you had no opportunity to set for hearing. You may, and that's what we're asking you to do. We think the Board needs to pursue these issues. We think we would like to be able to pursue these issues. Thank you.

HEARING OFFICER: Well, I first would point out that since this is a motion that only the Board can address, even though our foreman is currently present, there's no way for the Board to address that motion at this point in time. It has to be on a regularly scheduled board meeting. That being the case, I'm going to, as hearing officer, ask that you do address this in writing to the Board, and you can do it one of two ways. If you feel it's of great enough concern that you would like to see the Board make a decision before final comments or before the last set of comments after the hearings would be due, I'm willing to shorten the briefing schedule, i.e., I would have you file a motion within the next seven days, shorten the response period to seven days, which

would put it on in front of the Board's rule in early September, and certainly before any comments would be due from this hearing; or you can raise it in your final comments, and I would leave that up to you. I keep saying final comments, and I don't necessarily mean final comments. I mean post-hearing comments, and I will leave that to you. Which direction would you prefer to go?

MR. ZABEL: I prefer to do it in writing, but as it's obvious, as Counsel for my clients, I'm working on this hearing this entire week for the next seven days and that makes it very difficult -- that's what made it difficult to put it in writing. If I may, Madam Hearing Officer, respond to the request first thing tomorrow morning, I would do that?

HEARING OFFICER: And we can be flexible with that schedule. I just quickly looked at the calendar, the way it's set up, if we did it seven days from Thursday, for example, so that your motion would be viewed on the 24th, responses on the 31st --

THE REPORTER: I wasn't able to hear the end of that.

HEARING OFFICER: Oh, sorry. I just indicated that the Board's meeting schedule is such that if they filed a motion on the 24th and responses were due on the 31st, then the Board could possibly rule the first meeting in September, but that we would be willing to bump that out to the middle of September or wait until final comments -- post-hearing comments, whichever works best for Mr. Zabel.

MS. BASSI: Madam Hearing Officer, I just want to clarify, whatever motion is filed, even if it is filed in the same time frame as post-hearing comments, would that be considered a comment?

HEARING OFFICER: No, it would be a motion. Then I would allow 14 days for response. And keep in mind, when we start talking about post-hearing comments, if there are still issues that you feel need to be addressed, we can also discuss how we're going to have those comments filed. We can

play with that as we get closer to that time.

MR. ZABEL: Yeah, I assume at the end of the hearing we're going to address those procedural questions.

HEARING OFFICER: Absolutely. Yes, Ms. Crowley?

MS. CROWLEY: Can we ask Mr. Zabel to repeat the citation, I didn't quite catch it?

MR. ZABEL: The First District Appellate Court, Commonwealth Edison versus Pollution Control Board. I don't think I gave a citation. I apologize. It's 24 Ill. App. 3d -- 25. I'm sorry. 25 Ill. App. 3d. 271, First District 1974. The two federal cases that I cited are both captioned Clean Air Markets Group versus Pataki, the governor of New York. The District Court case is 194 App. Supp. 2d 147, decided by the Northern District of New York in 2002. The same case in the Second Circuit Court of Appeals is 338 App. 3d. 826, decided in 2003.

HEARING OFFICER: Thank you. So with that, we will look for a motion response.

Mr. Rieser.

MR. RIESER: I do want to suggest a way of proceeding to hopefully shorten this a little bit and to make a better record for the Board. We have two witnesses to present, Mike Menne and Dr. Anne Smith. It would be my suggestion that Mike would summarize his testimony, and he will do so briefly. It is also my understanding from the pre-hearing conference that you'd like to see the joint statement that was filed by the Agency and by Ameren as an exhibit to his testimony, so when he presents himself, his testimony, the expectation is that we will introduce both the joint statement and his testimony as exhibits, and I don't have the numbers handy, and then we would move from there.

The second point -- actually, it's a series of points, is that Midwest Gen has asked a number of questions of Mike, which he will try to answer, and some of them are excellent in moving the record forward and some less so, and I will be putting forward objections to those that are less so as we

move along, but it pretty much follows into three separate groups. One, are the questions that are directed at Mike where he is asked to talk about what the Agency believes or thinks or says about a given issue. As it happens, John Kim has offered to have Jim Ross here to testify as to what the Agency thinks or believes about these issues, and I think it would be my suggestion that we proceed by having Jim simply jump in and answer those questions as they come up in the course of the questions being asked of Mike, as a way of just keeping the record -- keeping the matter moving and keeping the record clear. So that's my first suggestion.

The second group are questions about operations of other companies and how it supplies to other companies. Obviously, Mike doesn't have the information about other companies' operations or emissions or financial issues within his knowledge at a level that he can respond to those questions, and so that's what his response is going to be. He just doesn't know what the impact

will be on these other companies.

The third group is that Midwest Gen asked a number of processed questions; in other words, what were negotiations, who were there, what meetings, blah-blah-blah. The fact is that, obviously, as John Kim had said, there have been -- this was obviously the result of a number of meetings between a number of the Ameren representatives and IEPA representatives. There have been a number of meetings between IEPA representatives of the other companies, and I don't think that the record is furthering and our time is well served by getting into those process questions because I think the question that's before the Board is what is this rule, what does it mean, what's its impact, is it a good idea, is it not a good idea, and the whole process question of who was at what meeting, to me, is fairly irrelevant to answering that question. I understand that at regulatory hearings, there tends to be a pretty broad idea of relevance, but for this situation, it seems like that would be just an

inappropriate use of everybody's time to get into a lot of questions about who did what and who was at what meetings, since that really doesn't have anything to do with the value of the rule to the value of the proposal we're presenting here today.

So it would be my intent to flag those types of questions as we go through and indicate that I have an objection to them, and I guess my expectation is that you will rule depending on what the question is and what else is going on.

HEARING OFFICER: We will need to respond to those objections on a question-by-question basis.

MR. ZABEL: Yeah, we would need you to respond by a question-by-question basis because it would be hard to argue without them.

HEARING OFFICER: We'll do that on a question-by-question basis then. At this time, can we have Mr. Menne and Dr. Smith sworn in?

(Witnesses sworn.)

HEARING OFFICER: And also, are Mr. Ross and Mr. Romaine both going to be answering Agency questions?

MR. KIM: Yes.

HEARING OFFICER: All right. Let's go ahead and swear in Mr. Ross and Mr. Romaine.

MR. RIESER: Aren't they already sworn?

HEARING OFFICER: We'll just do it again.

(Witnesses sworn.)

MR. RIESER: At this time, I'd like to present Mike Menne's testimony and the joint statement as two exhibits. I'm afraid I don't have the --

HEARING OFFICER: 75 and 76.

MR. RIESER: 75 and 76. So the joint statement will be 75, and the testimony will be 76?

HEARING OFFICER: Correct.

MR. RIESER: We have copies of those to be distributed, and perhaps, Dr. Smith's testimony as well at the same time?

HEARING OFFICER: That's fine. It

will be Exhibit 77.

MR. RIESER: Thank you.

HEARING OFFICER: If there's no objection to enter the joint statement as Exhibit No. 75, and the prefiled testimony of Michael Menne as Exhibit 76, and the prefiled testimony of -- not the addendum, just the testimony of Dr. Anne Smith as Exhibit No. 77. Am I correct the addendum is -- (inaudible).

THE REPORTER: Can you repeat the end of that?

HEARING OFFICER: I'm sorry. The addendum is -- (inaudible.)

MS. BASSI: We filed Ms. Smith -- or Dr. Smith's addendum with Marchetti's and with Krish's (phonetic) testimony as part of their testimony -- as references to their testimony.

HEARING OFFICER: Okay. So Exhibit 77 will just be the prefiled testimony of Anne Smith.

MR. BONEBRAKE: Madam Hearing Officer, with respect to your question, as to whether

there's any objections, I just want to state for the record, we're not making an objection at this time, but we're not waiving any objections that we might present to the Board, for instance, in the motion we have discussed and will discuss tomorrow morning.

HEARING OFFICER: Thank you.

THE REPORTER: Miss Hearing Officer?

HEARING OFFICER: Yes.

THE REPORTER: Can I have one of those?

HEARING OFFICER: Sure.

THE REPORTER: Thank you.

HEARING OFFICER: So, again, for clarification, the joint statement, which is -- the joint statement and the ruling that's attached is Exhibit No. 75. The testimony on Michael Menne is Exhibit 76, and testimony of Anne Smith is Exhibit No. 77.

MR. RIESER: And I'd also like to note that the rules are also attached to Mr. Menne's testimony. So if you're referring to 75 and 76, we'll refer to the proposal throughout to avoid confusion.

With that, I'd like for Mr. Menne to summarize his testimony and then proceed with the questions.

HEARING OFFICER: Excuse me, Mr. Rieser, before we start, the copies that I was just handed does not include the rule attached to the back. We have the joint statement. I have Mr. Menne's testimony, and then I have one copy of the proposed multi-pollutant standards ruling, which I have put with the joint statement, but then there's not one to go with Mr. Menne's testimony.

MR. RIESER: My recollection is that we filed it with it attached, and we can provide additional copies of it here if that would be useful.

HEARING OFFICER: Yeah, I just want to be sure that it's identical to what you filed.

MR. RIESER: Super. We'll make sure we have the right one.

HEARING OFFICER: Let's go off the record for just a second.

(Whereupon, a discussion was had off the record.)

HEARING OFFICER: Back on the record.

MR. MENNE: My name is Mike Menne. I'm vice president of the Environmental, Safety and Health Department for Ameren Corporation out of St. Louis. Ameren Illinois of generating companies have 25 coal-fired units, and thus, the outcome of this hearing in one way or another this proceeding will effect our company to a significant degree as well as our customers.

Ameren as well as most of the electric utility generating companies takes compliance with environmental standards very seriously. In fact, like others, we try to make an effort to operate well below our compliance levels so we have an operated margin below the level that we need to maintain just for compliance with environmental standards. Thus, when we initially reviewed the proposed mercury rule that's the subject of this hearing, it gave us some concern that we would be able to

comply with a 90 percent controlled rule in just three years by 2009, at least from the standpoint of being able to put in controls that we believe would reliably get us to 90 percent on all of our 21 coal-fired units.

In addition, this Board is going to begin hearing on the Clean Air Interstate the -- Federal Clean Air Interstate Rule, I believe in October, I think it set some hearing dates for it, the CAIR rule will require significant additional reductions of SO2 and nitrogen oxide emissions from electric generating units in the state.

So what we, Ameren, did was approach the Illinois Environmental Protection Agency. Realizing that our decisions to control SO2 emissions, to a lesser extent NOx emission, but particularly SO2 emission, is going to have a significant impact often our planning for control of mercury operations because a lot of SO2 controls also control mercury, such as wet scrubbers and whether or not to use bag houses with dry scrubbers, et cetera.

So we approached the Agency with the idea and with the concerns that I just mentioned in mind of whether or not they would be willing to agree to an off-ramp approach, if you will, or amendment to this rule that would allow companies to control sulfur dioxide and nitrogen oxide emissions to a point that we believe would actually put controls on the units that are beyond the requirements of the Federal CAIR rules as an option to controlling mercury or guaranteeing that we will control mercury on all of units by 1990 (sic).

The Illinois EPA seemed to have -- I'm sorry. 2009.

The Illinois EPA seemed to be appreciative of the fact that we wanted to reduce SO2 emissions and NOx emissions to a large degree more significantly than might be otherwise required, and they appreciated the fact that these controls can compliment each other. They had basically two requirements that they wanted us to meet. One was that we would control mercury emissions on all of our

units by 1990, and we have -- I keep saying 1990, and I apologize for that. For some reason that year is stuck in my head. 2009. If I ever a say 1990, I mean 2009. 2009, and we've agreed to that, and that is in this proposed amendment, with the exception of our smallest units, which are less than 90 megawatts. Those units have to install mercury controls by 2012. The second thing they wanted to do was to make sure we guaranteed that we controlled mercury by some future date at the 90 percent level, and that is in this amendment that we will be in compliance at the 90 percent level on all our units, again, with exception of the smaller ones by 2015.

The agreement that both Ameren and the Illinois Environmental Protection Agency have with regard to both agreeing to the language that has been submitted and attached to my testimony is basically laid out in the joint statement that was also just submitted as, I think it was Exhibit --

HEARING OFFICER: 75.

MR. MENNE: 75, and as such, we are urging the Pollution Control Board to adopt this amendment as an alternative method to comply with the spirit of this mercury rule, and that's my opening statement.

HEARING OFFICER: Okay.

MR. MENNE: You want me to go right into the questions?

HEARING OFFICER: Yes, please. And these are questions by Dynegy and Midwest Generation.

MR. MENNE: Question number one. Has anyone outside of Ameren aided Ameren in preparing responses to these questions? And if so, who?

The answer to the first question is yes. The who is really the legal team that has aided Ameren throughout this whole process.

What form did that help take?

Basically, they provided me with these questions. And as Mr. Rieser noted, they discussed whether some of them should, in fact, be answered straightforwardly or

which ones I could or couldn't answer because of the knowledge base. They advised me on -- I told them I didn't know a lot of these answers. He said that's fine. If you can't answer them, just do it. That sort of thing.

HEARING OFFICER: Excuse me. Mr. Zabel.

MR. ZABEL: Could you tell me who was on your legal team besides Mr. Rieser?

MR. MENNE: Who was on the legal team?

MR. RIESER: Well, again, this gets into the first -- the process questions. I don't know how it matters to the Board who was on the legal team. It was lawyers from McGuire, Woods who were on the legal team who worked together with Ameren to formulate answers to these questions.

MR. ZABEL: I think it's all relevant to the very broad rules of admissibility in this proceeding. Was it only -- I'm going to revise my question. Was it only lawyers from McGuire, Woods?

MR. MENNE: No.

MR. ZABEL: Where else?

MR. RIESER: It's the same objection, and he spoke too quickly for me to interpose. These are the process questions that I think are objectable and do nothing to forward the record.

HEARING OFFICER: I have to agree with Mr. Rieser. I'm not sure I understand the relevance.

MR. ZABEL: I think it's relevant how the Board came about having this proposal presented to them. It's acting -- it may be a rule of general applicability, and I think it's important to know how it came about. My next question will go to the same subject.

HEARING OFFICER: Well, I think he's testified to how it came about. Ameren approached the Agency to discuss --

MR. ZABEL: Very generally, he did, indeed, and that's why I'm following up on this.

HEARING OFFICER: I will allow it. Answer the question, Mr. Menne.

MR. MENNE: Which question am I answering?

HEARING OFFICER: Who besides McGuire, Woods?

MR. RIESER: Well, but that's for this question.

HEARING OFFICER: Right.

MR. RIESER: Again, the -- you're absolutely right it's the whole process. It has nothing to do with the rule that's before you, the merits or demerits, as it may be, are written into the rule, and there's technical testimony in support of it, and that's where the focus should be and not on how many meetings did you have and who was at what meeting. That's the next question. If it's your direction to have him answer the question, then he should answer the question, obviously, but for the next one we'll --

HEARING OFFICER: We'll take it up then.

MR. ZABEL: It's a question-by-question basis.

MR. MENNE: Well, I think I was asked what other firm, and I'm going to struggle with this because I don't -- these firm names

give me trouble. Summershine.

THE REPORTER: What was it, Summershine?

MR. RIESER: Sonnenschien, S-O-N-N.

MR. MENNE: And I believe that's the only outside firm that I can think of, other than our internal attorneys at Ameren.

HEARING OFFICER: Thank you.

MR. ZABEL: And were the answers to the questions discussed with people from the Agency?

MR. RIESER: Same objection.

MR. ZABEL: It's an Agency proposal, Madam Hearing Officer. I think we ought to have at least some idea of what the Agency's input was, as they tender no prepared testimony in support of their own proposal.

HEARING OFFICER: It's a joint statement. It's not necessarily the Agency's proposal, but I do think it is important to know how much -- how involved the Agency has been in preparing for the answers to the question about the joint statement, which they share. So this question, yes.

MR. MENNE: As I understand the question, did the Agency assist me in any way in answering these questions?

HEARING OFFICER: Yes.

MR. MENNE: The answer to that is no.

The second question, who was involved in negotiating the multi-pollutant standards?

MR. RIESER: It's the same objection, Madam Hearing Officer.

HEARING OFFICER: But in this case, that's been in all the newspapers, so I think we can answer it. I mean, that's a matter of public record.

MR. MENNE: Well, actually negotiating the standards was members of the Illinois Environmental Protection Agency, myself, some of my staff and some of the lawyers on the legal team, not all of them, but several of them were involved at different points in time.

HEARING OFFICER: Question number three.

MR. MENNE: Who drafted the

multi-pollutant standard?

MR. RIESER: Same objection.

HEARING OFFICER: This one you have to answer.

MR. MENNE: It was derived from negotiations from a number of teams -- from meetings that we had. I would say it was drafted -- at least the initial draft came from our legal team, and I don't know exactly who came up with the first language, but it went back and forth between our legal team and members of the Illinois Environmental Protection Agency, and that's how it was drafted.

HEARING OFFICER: Question number four.

MR. MENNE: What persons and entities provided input or comments concerning the development of the MPS?

MR. RIESER: Same objection, but I understand your ruling.

MR. MENNE: The answer is really the same as number 3. It was basically the members of the Illinois Environmental

Protection Agency, parts of our legal team, and there were many people within Ameren in the internal departments that had comments on the development of this.

HEARING OFFICER: Mr. Bonebrake?

MR. BONEBRAKE: Who of EPA, the Illinois Environmental Protection Agency, was involved in drafting the MPS and provided input or comments regarding the MPS?

MR. ROSS: I would say the main people at the IEPA involved in that process were Chris Romaine, Laurel Kroack and myself.

THE REPORTER: And what is your name again?

MR. ROSS: Jim Ross.

MR. BONEBRAKE: If I understand the process correctly, and correct me if I'm wrong, your testimony is that the first draft of the MPS was done by Ameren representatives, and then subsequent provisions were made by IEPA personnel; is that correct?

MR. MENNE: If I recall properly, I think our legal team took the first crack at

how the language would fit into the ruling.

MR. BONEBRAKE: Does that mean drafting some of the language?

MR. MENNE: I would assume, yes, drafting some language, and then presenting it to IEPA. I believe that's how the language came to be.

HEARING OFFICER: Question number five.

MR. MENNE: Who drafted the joint statement?

I'm going to have to defer this a little bit because I wasn't involved directly in the drafting of the joint statement. It involved the lawyers, primarily, and when I looked at the joint statement, it's signed by David Rieser and John Kim, so I'm assuming they had a lot to do with drafting it, but that's as far as my direct knowledge goes on this statement.

HEARING OFFICER: Okay. Question number 5A.

MR. MENNE: I have read this statement, and I agree with this statement.

HEARING OFFICER: Question number six.

MR. MENNE: You state in your testimony you're not speaking on behalf of the Agency. Who is?

I think that Mr. Ross has agreed to do that.

MR. ROSS: I can and Chris Romaine can.

MR. MENNE: And number seven, I would like to defer to the Agency as well.

MR. ROSS: Number seven is, do you know why the Agency failed to offer any testimony in support of the MPS?

And we believe the purpose of the second hearing is specifically for those who opposed the rule to present their testimony. So, in part, that's why, but also just the timing that was involved. The resolution on the MPS was reached late in the negotiations process, just prior to the beginning of these hearings, so we did not have sufficient time to provide adequate testimony, but we are making ourself available here today to answer any questions.

MR. ZABEL: I don't understand your answer, that is, quote, people opposing the proposal. Dr. Murray didn't oppose the proposal. Ameren did not oppose the proposal, and I don't believe that was what the Hearing Officer's order said. Could you explain, Mr. Ross?

MR. ROSS: Well, we presented our primary case at the initial hearing, and the second hearing, the primary purpose is for those opposing the rule to present their case. Now, we have had an amendment. We understand that, so we did take part in the joint statement, and we are making ourself available to answer any questions.

MR. ZABEL: You are aware that the Ameren proposal supports the Agency proposal, are you not?

MR. ROSS: Yes, we're aware of that.

MR. ZABEL: And you were aware that that would be the subject of this hearing, were you not?

MR. ROSS: We were aware, as I stated, late in the process --

MR. ZABEL: How late?

MR. ROSS: -- so just prior to the beginning of this hearing.

I would say agreement was reached roughly a few days before prefiled testimony was required.

MR. ZABEL: And yet, Ameren had an opportunity and capability to file that testimony. Why couldn't the Agency?

MR. KIM: Well, before this is answered, if you look at the language of the joint statement, which is found in Exhibit 75, it states that Ameren is proposing the language, and the Illinois EPA supports that presentation. However, that language makes clear Ameren is presenting the proposal. When you asked why there is no testimony, the Agency is agreeing and supporting Ameren's decision to bring this to the Board's attention, but if you read that language, it states very clearly Ameren is making the presentation, the Agency supports that presentation. So --

MR. ZABEL: Why is not presenting

evidence -- explain why it supports that proposal.

MR. RIESER: It's hard to know where this is going. I mean --

MR. ZABEL: It certainly is. I'll stipulate to that.

MR. RIESER: What has happened, has happened, and so again, we're getting into a process issue that I think retracts from a good discussion about what actually has been proposed and whether that makes sense or not.

HEARING OFFICER: I don't think I'm as concerned as Mr. Zabel, and you've made several comments about not -- the Agency not providing testimony, et cetera. This is a rule-making process and comments are not honorable, and there have been opportunities for comments, and maybe comments can be perhaps in another hearing, and I understand where you're going with this stuff, but I don't believe we should belabor the point.

MR. ZABEL: I won't belabor it, but I will respond, Madam Hearing Officer.

The Agency is one of the two major

branches of this state government in the environmental area. It is usually the major component of regulations to this Board. I would think the Board would want to know its participation and how it came about to support this, and that's the purpose of my question.

HEARING OFFICER: And I'm allowing them to answer your questions, but I do think we're going a little bit beyond what the purpose of this hearing is.

MR. ZABEL: And I won't belabor it.

HEARING OFFICER: We're on question number eight.

MR. RIESER: And this is one of the ones I'm objecting to on a process basis.

MR. ZABEL: Excuse me. I don't know. Did Mr. Ross complete his answer to seven?

MR. KIM: I believe that his answer would have been covered under the Hearing Officer's ruling just now.

HEARING OFFICER: No, he can answer the questions. I said we're not going to belabor the point about what this hearing is

about. I do think we need to know --

MR. ROSS: I can continue.

MR. KIM: I'm sorry. To know?

HEARING OFFICER: Mr. Ross can continue to answer his question.

MR. ROSS: 7A, was the possibility of the Agency's testifying discussed with the Agency?

Well, I believe --

MR. KIM: You're here now.

MR. ROSS: Right.

I mean, we've had short discussions with Ameren about us testifying, and I think it was agreed that Ameren would be the one testifying. B, did anyone from the --

MR. ZABEL: Excuse me, Mr. Ross. Why?

MR. ROSS: Simply, as John stated, that it's --

MR. ZABEL: John is not under oath.

HEARING OFFICER: Go ahead and state what Mr. Kim stated because he wasn't sworn in.

MR. ROSS: Well, I believe it was

discussed that Ameren is the one submitting the amendment and supporting the -- and proposing the amendment and will provide the primary support for the amendment, and the Agency, again, would make itself available here today to answer any questions.

MR. ZABEL: And when was that decided?

MR. KIM: Again, is this line of questioning necessary? He's answered the questions. If we're going to go back into a time line of when every discussion was held, we're going to be here for a long time.

MR. ZABEL: I think it's very difficult because in question 7B, the syntax is wrong if the Agency is answering the question, but nobody told us they were going to answer the questions, so the syntax is written the way it is.

Now, I'm curious why and I will be curious when it was decided to tender the Agency's witnesses, and why before that, it was determined not to? That was the point of the question.

HEARING OFFICER: Mr. Ross should

answer the question.

MR. ROSS: I think it goes back to the timing. When was that decided? My best guess is a couple days prior to when we had to get prefiled testimony in. When anyone who was submitting prefiled testimony had to get it in.

HEARING OFFICER: And I also want to note for the record that it was stated at the pre-hearing conference that the Agency will not be providing testimony. So in fairness to Mr. Zabel, the Agency -- I think he's right to ask these questions because we did discuss this at the pre-hearing conference, and I believe this was raised by Ms. Bassi, and the Agency indicated they would not be providing testimony, and I appreciate that you are here to answer the questions, as I'm sure Mr. Zabel is, but I do think that he is legitimately asking some of these questions.

MR. KIM: Just to clarify, and I can't recall, was the pre-hearing conference held before or after the prefiled questions were submitted? Because my thought is when -- we

probably -- and I could be wrong if the dates don't match up, but my sense is, I thought the pre-hearing conference was before the questions were received -- well, in any event, the reasoning was, a number of the questions, upon receipt and upon review, clearly were placing Ameren in the position of having to look into the minds of the Agency and answer some of these questions, and so we simply thought it would be helpful for the Board and for all the parties, instead of Ameren saying, well, I don't know, you're going to have to ask the Agency, to have someone here from the Agency answer those questions.

HEARING OFFICER: The pre-hearing conference was held before the questions were filed, but I really -- you know, we're spending a lot of time arguing over this stuff. So just answer the questions. I understand you want to make your point, but I think that we need to go ahead and answer the questions. I will address objections on individual questions as they come up. For

now Mr. Ross needs to answer the question.

MR. ROSS: 7B, did anyone from the Agency indicate why no testimony would be offered?

We've spoke to that already, I believe.

7C, if so, what were the reasons? Previously provided.

That takes us to eight.

HEARING OFFICER: Question number eight.

MR. MENNE: Is there a written formal agreement between Ameren and the Agency relative to the proposal of the MPS?

MR. RIESER: And this is another one of those process questions to which I've been objecting. The joint statement that's been presented is a written statement between the Agency and Ameren with respect to the MPS, and that's what we're presenting here today and prepared to testify about.

HEARING OFFICER: Mr. Zabel?

MR. ZABEL: There's things in the joint statement that raises questions. For

instance, the statement -- there's articulation in the joint statement that if there are -- to this effect, and you can look it up if you wish, that Ameren would be last if there are further regulations of SO2 and NOx. I want to know if there's an agreement -- I'll ask Mr. Menne specifically the question. Is there a memorandum of understanding between the Agency and Ameren that at least in part addresses the proposal here?

MR. RIESER: Again, this is exactly the type of question that goes to the process. The memorandum of the statement -- the joint statement that's been presented is the statement that's intended to embody the agreement between Ameren and the Agency. Obviously, there are ongoing discussions that are still taking place, as there are between all of the other companies. We still have the CAIR rule-making that's coming up. So there are ongoing discussions on these things, but the joint statement is what we are presenting to the Board for the Board's

consideration.

MR. ZABEL: Madam Hearing Officer, Page 3 of the statement, the paragraph at the top, the very last sentence, "And any further reductions needed would first come from other sources." I think the Board -- and certainly, we would like to, but I think the Board is entitled to know the other agency involved in the proposal that has made an agreement with Ameren that affects this movement.

MR. RIESER: Well, and there's a question that's being put to Mr. Menne later on about this very point, what does this mean, what do you mean by other sources, and he's prepared to answer that question. So it's hard to see where we go with going further on this. He's ready to answer the question, as is the Agency.

MR. ZABEL: And I think the Board ought to know as it's memorialized in the agreement, whether now or if he answers that further question.

HEARING OFFICER: Where were you

reading from Mr. Zabel? I'm sorry.

MR. ZABEL: It's on Page 3 of the joint statement. It's the paragraph that ends at the top. It's the very last cause in that paragraph.

HEARING OFFICER: I have to agree with Mr. Zabel on this too. I think we need to know if there's a formal agreement that Ameren, by making this agreement, that is now going to place a more significant -- intentionally more significant burden on other sources, and if there's a formal agreement to that end with the Agency.

MR. MENNE: Well, I think the agreement is written right here, just what it says, "Any further reductions needed would first come from other sources," and it's signed by us and them as well. If you're asking if there is another written document that specifies that, I personally have not seen any document to that effect. I'm not saying that any does not exist. There were some drafts that were made. All I could say is, to my knowledge, I have not seen anything

that's been signed written by either us or the Agency on that.

HEARING OFFICER: Thank you.

MR. ZABEL: I don't want to ask technical evidentiary questions because we don't do that in this proceeding. Mr. Menne is testifying on behalf of his company. He may not know it personally, but the question was directed towards him. So I'll direct it to the Agency, since they're here to testify today. Mr. Menne may well not know, and I accept his answer, but that doesn't mean it doesn't exist.

MR. ROSS: It's my understanding there are three documents that memorialize the agreement. The first one being the joint statement that was submitted to the Board and signed by both parties. There's the multi-pollutant standard itself, and finally, there is a letter of understanding. And I might as well continue on to 8A.

MR. ZABEL: We'd like a copy of the letter for the record.

MR. ROSS: I believe that --

MR. RIESER: It's my understanding, just to follow-up on this, that that letter of understanding is not final. It's still being negotiated, and the question was, is there a final agreement, and the answer, as I understand it, and Mr. Ross may have a final thing that I haven't seen, is that there was not. So I don't know what purpose it would serve to present a draft of an agreement -- present a draft of an agreement that's not final. Again, negotiations are continuing with respect to the CAIR issues, with respect to other issues, so...

HEARING OFFICER: Would you like to ask Mr. Ross if there's a final agreement, or would you like me to swear you in?

MR. RIESER: No, I don't want you to swear me in.

HEARING OFFICER: Would you like to ask Mr. Ross if there's a final agreement or if it's a draft agreement?

MR. RIESER: Mr. Ross, is this a draft that you're thinking about or has this been signed?

MR. ROSS: It has not been signed by both parties, so I would assume that would make it not finalized.

MR. ZABEL: Is it signed, Mr. Ross, by one of the parties?

MR. ROSS: I believe it has been signed by one of the parties.

MR. ZABEL: Which one, Mr. Ross?

MR. ROSS: By Ameren's representative.

MR. ZABEL: And has it been tendered to the Agency for its signature?

MR. ROSS: I believe that's the status.

MR. ZABEL: You probably could file background with the Board, and if they want to amend it when it's signed by the other party, when it's changed, I certainly have no objection to that, since this is a fairly expedited proceeding, and we may never see it otherwise.

MR. RIESER: Again, I'm going to object as just not having any relevance whatsoever to this proceeding.

MR. ZABEL: Without seeing it, it's

hard to answer that.

MR. RIESER: Well, the Board could look at en camera. We could see where we are at the end of the questioning to see whether it's meaningful.

HEARING OFFICER: I'm, frankly, disagreeing upon having a draft included, and the reason being is that it could change, and I think the joint statement speaks for itself. I would ask that if it's finalized, then that be included into the record.

MR. ZABEL: I'm afraid, Madam Hearing Officer, and I hate to say this, I'm very reluctant, but it's a perfect excuse for them not to have a second signature until these proceedings are over. I'm sorry to say that, but the way this proceeding has gone, I have to put that on the record for our own appeal, if nothing else.

HEARING OFFICER: I appreciate that, Mr. Zabel. Question number nine.

MR. MENNE: Question number nine, in drafting the MPS, was any consideration given to the compliance issues of other companies

subject to the proposed mercury rule?

I would see if the Agency wants to respond to that. In my view, there was certainly no conscious attempt to exclude any others from -- we knew this would have a general applicability, but our discussions were simply on Ameren and how this would fit into Ameren's position. We briefly discussed other companies and whether or not they would comply, but it was not -- we didn't have any sufficient information as to the other companies and how that would fit into the rule, and the Agency did not go into that. So I can't say it was not discussed, but only in a statement here or there, not to any extent. And I think that covers 9A.

And 9B is, to my knowledge, there is no provision or language that was specifically drafted to address other companies.

HEARING OFFICER: Mr. Bonebrake.

MR. BONEBRAKE: Mr. Menne, I think you said -- you were addressing question nine from your perspective, and you didn't know

whether the Agency had any further input with respect to question nine. Does the Agency have a further response with respect to question nine?

HEARING OFFICER: Obviously, Mr. Romaine had his hand in the air.

MR. KIM: You saved me the trouble. Thank you.

MR. ROSS: And the answer is yes, other consideration was given to other companies -- or consideration was given to other companies. First, I would like to state that since at least as early as the stakeholder meetings, we have offered to meet with anyone to discuss the proposed rule and industries' concerns, and the offer to meet was to any of the power plants, environmental groups or anyone involved in this rule. Obviously, Ameren took us up on it, and we have worked out an agreement, which we are now discussing.

Since the announcement of the Ameren agreement, we have met with several more companies, including Midwest Generation,

Dynegy and Dominion Kincaid. We have been in active negotiations with at least one of these companies.

Back to consideration given to others and drafting the MPS. In the proposed MPS, the standards for NOx and SO2 given option, that is to either comply with a numerical emission rate in pounds per million BTU or a percent reduction from a baseline emission rate, whichever of the two is more stringent. The pounds per million BTU standard were arrived at via discussions with Ameren. The percent production standards were put there specifically for other companies. These percent reductions are actually less than the reductions Ameren needs to achieve to meet the numerical emission rates of the MPS. Therefore, the MPS actually requires others who desire to use it or opt in to use it to get less of a percent reduction in SO2 emissions specifically. This is based on the fact that we looked at what other companies are currently doing in the way of emission

control and where they could reasonably be in the future with some level of additional control.

So we have looked at each company in the state individually in terms of what their current emission rates are and where they could get with good pollution control, and we are open to more discussions with companies on the MPS, although, timing now is somewhat of an issue. It's important to note that as the MPS is currently written, it is available for use by all. It is not limited to Ameren.

B, please identify any provision --

HEARING OFFICER: Mr. Zabel.

MR. ZABEL: I'd like to follow-up on that and show Mr. Ross a document, if I may?

HEARING OFFICER: Sure. Mr. Zabel has handed me a document analysis of Ameren's multi-pollutant alternative to Illinois' proposed mercury rule. If there's no objection, we'll mark this as Exhibit 78. Seeing none, we'll mark this as Exhibit 78.

MR. ZABEL: Mr. Ross, have you seen the document before?

MR. ROSS: I have seen it, yes.

MR. ZABEL: At the moment, I'm only going to ask you a couple of questions in light of what you just said about percentage. Turn to Page 3, please, of that document.

MR. ROSS: Okay.

MR. ZABEL: Do you see the table?

MR. ROSS: Yes, I do.

MR. ZABEL: A 30 percent reduction of Ameren would put them at about 0.33, would it not -- 35 percent. I'm sorry. The first stage of the Ameren proposal. I'm sorry. I misstated that 65 percent reduction.

MR. ROSS: Yes, I believe a 65 percent reduction.

MR. ZABEL: 65 percent, 35 percent of current emission.

MR. ROSS: Right.

MR. ZABEL: That would put Ameren, would it not, at about -- on this average that's shown on this table at about 0.33, which is the standard in the proposal?

MR. ROSS: Well, actually, I believe -- if you want to be specific --

MR. ZABEL: I can pull out a calculator and hand it to you if you'd like.

MR. ROSS: I don't think that's necessary.

HEARING OFFICER: Mr. Zabel, where exactly are you?

MR. ZABEL: I'm looking at the table on the bottom of the page where it says annual SO2 emission rates.

MR. ROSS: And you ask this in a later question, and we'll get to it, but I believe the actual percent reduction of 68.7 gets them to 0.33, and that's from a starting emission rate at 1.053.

MR. ZABEL: So it's slightly different than the average shown here?

MR. ROSS: That's correct.

MR. ZABEL: And applying that same percent let's say for Dominion, what would they end up at?

MR. ROSS: A lower emission rate mainly due to the fact that they emit at a

higher rate at this time.

MR. ZABEL: It looks to me that they emit at a lower rate than Ameren.

MR. ROSS: Or a lower rate at this time, that's correct, lower rate.

MR. ZABEL: So the percentage reduction requirement that it's the more restrictive of the two between the 0.33 and the 65 percent reduction --

MR. ROSS: Right, so --

MR. ZABEL: Let me finish the question, Mr. Ross. It puts every single company to a lower rate than Ameren, would it not?

MR. ROSS: I believe that's correct due to Ameren having a higher starting point.

MR. ZABEL: So, in other words, the others who have done better, but in the past, so they'll be punished for it; is that right, Mr. Ross?

MR. ROSS: No, that's not correct. Actually, they'd need to reduce emissions at a lower percentage. As I stated, Ameren will be required to reduce their emissions

68.7 percent, and the rule only requires that others would reduce 65 percent.

MR. ZABEL: But to a lower level than Ameren, it would have to be at; is that --

MR. ROSS: A lower level due to Ameren's higher starting point.

MR. ZABEL: Due to the fact that Ameren is currently emitting almost twice as much sulfur as any of the others?

MR. ROSS: I wouldn't say that's an accurate --

MR. ZABEL: Average emission rate.

MR. ROSS: I still say that's not accurate.

MR. ZABEL: Significantly higher, I'll eliminate double.

MR. ROSS: Higher than.

MR. ZABEL: And aren't all of these companies competitors of Ameren?

MR. ROSS: I believe they would be.

MR. ZABEL: And in your experience, the lower the rate in pounds per million, the more expensive it is to control?

MR. ROSS: Not necessarily.

MR. ZABEL: Why not?

MR. ROSS: Well, I believe what we're looking at here -- we look at what every company currently has, what Level of SO2 to control, and we're looking for every company to get a good level of SO2 control.

Now, a lot of the arguments we've been hearing as we discuss this with other companies is they believe that low sulfur coal gets them to that level, and that is not our belief. We believe a good level of sulfur control, you require scrubbers on some of the units, not necessarily all of the units, but certainly the larger capacity units would need scrubbers to get down below the point -- or at or below 0.25 pounds per million BTU level.

So how much does it cost the company? A scrubber would probably cost in the same range. Each company would pay the same amount for a scrubber. I mean, it's dependent on a lot of factors, but based on -- if one company had a 300-megawatt plant, they would probably pay about the same

rate if they were using the same coal and all the other wide parameters that affect operations at a coal plant, they'd probably pay roughly the same amount for a scrubber than someone else who ran a 300-megawatt plant.

MR. ZABEL: Dominion would have to be at the rate based on these numbers of 0.15, would it not, at a 70 percent reduction -- or 30 percent reduction?

MR. ROSS: I haven't done the calculations, but probably that sounds right. That sounds like a rate they could get to with the addition of a scrubber. Like, Ameren is being required to put on scrubbers to get to their rate.

MR. ZABEL: And its competitor, Ameren, would be at 0.25; is that correct?

MR. ROSS: That is correct, again, due to their higher starting point, but again, Ameren would have to reduce emissions more at a higher percent than any of the other companies, and it's more profound when you get to the Stage II.

It's two phases. There's Phase I and Phase II. So when you get to the Phase II of the SO2 requirements, it's a 0.25 pounds per million BTU limit, and the actual reduction that Ameren will be required to achieve to get to that 0.25 pounds per million BTU is 76.3 percent, whereas, other companies would only be required to reduce their SO2 emission to 70 percent.

MR. ZABEL: To a much lower rate than Ameren, nonetheless?

MR. ROSS: To a lower rate than Ameren, and that's mostly due to the fact that Ameren does continue to burn some Illinois coal.

MR. ZABEL: Well, isn't 0.15 about 40 percent of 0.25?

MR. ROSS: I'd have to do the --

MR. ZABEL: Feel free to do it. It doesn't take long.

MR. ROSS: I don't have a calculator.

MR. ZABEL: You can't do that one in your head?

MR. RIESER: Objection.

MR. ZABEL: No further questions at this time on that exhibit.

MR. KIM: Is this exhibit being offered into evidence?

HEARING OFFICER: Yeah, I already asked for objections for purposes of the record.

MR. KIM: I'm sorry. I didn't hear that. I was just curious if we could get a little foundation as to how this -- where this document originated or who prepared it or how it --

MR. ZABEL: Mr. Ross identified that he'd seen it before.

MR. ROSS: I've seen it before, but I did not generate that document.

MR. ZABEL: I didn't ask you if you generated it.

MR. KIM: Again, Mr. Zabel offered an exhibit. I'm simply asking if we could get some basic information from him as to what this exhibit represents, who prepared it, how it came to be and how it is he's submitted it today. I don't think that's asking anything

unusual.

MR. ZABEL: It's a document used on cross-examination. I introduced it solely for that purpose at this point. If you want to introduce it on our direct case, we will. He's identified it, and he's seen it before. It speaks for itself. He's answers the questions. I don't think anything more is necessary.

HEARING OFFICER: Excuse me. This was not offered for the truth of any matter asserted in here. It's been admitted as an exhibit for cross-examination purposes, and there's no intent that this information should be considered as testimony.

MR. KIM: That's fine. Thank you.

MR. ZABEL: I mean, I'm happy to ask Mr. Ross, if it helps the Board, to look on the last page and identify the tag line, if he can.

MR. ROSS: G:/KK/Laurel/ANALYSIS OF AMEREN AMPS.7-21-06.doc.

MR. ZABEL: Does that mean anything to you, Mr. Ross?

MR. ROSS: That means that it was most probably generated by our bureau chief, Laurel Kroack, since her name appears in the document name.

MR. KIM: And I think my question would probably be mirrored by Mr. Zabel, if we offered up for any purpose a document that had been prepared by his client and not by us.

MR. ZABEL: I offered it for cross, and I expect the Hearing Officer to be doing the same.

HEARING OFFICER: Yes, again, this is not offered as the truth of the matter asserted. It is offered to establish a point. I don't think any of us is going to -- let's just say that the Board will not accept as a fact what these averages are, unless they're presented in direct testimony at a later date and time. They were presented to make a point, which I think is made.

MR. KIM: Thank you.

HEARING OFFICER: Dr. Girard?

DR. GIRARD: I'd like to ask a clarifying question about this memorandum of understanding between Ameren and the Agency.

Does this deal with mercury NOx and SO2, or does it just deal with NOx and SO2?

MR. ROSS: I believe it just deals with NOx and SO2.

HEARING OFFICER: Ms. Bassi, you have follow-up?

MS. BASSI: Yeah. Mr. Ross, you were saying that in your -- in, apparently, the Agency's opinion, you want every company to reach a, quote, good level of sulfur control on at least some of the larger units or maybe you said on the larger units; is that correct?

MR. ROSS: I don't think that's exactly what I said. I said the Agency, to some degree, needs companies to reach a good level of SO2 control in order for us -- you know, the big picture here is we have two major nonattainment areas in the State of Illinois, the greater Chicagoland area and

the East St. Louis Metro East area nonattainment for the ozone and PM 2.5 National Ambient Air Quality Standards. So we have to make a -- we have to come up with a plan, as you know, to achieve those standards at some point in time, and in order to do that, we need reductions in NOx and SO2. NOx being a precursor to both PM 2.5 and ozone, and SO2 being a precursor to PM 2.5.

So in order to get the reductions in SO2 that we feel we need to help us in our attainment demonstration, that low sulfur coal, which I don't think -- there is no formal category to classify that for what level of SO2 control that constitutes, but we need a higher level than that at our plants in the State of Illinois to help us in our attainment purposes -- needs.

MS. BASSI: Is there a difference in the environment as to whether the lower sulfur rates that are emitted come from low sulfur coal or other control measures?

MR. ROSS: No, they're not, but what

we see with low sulfur coal is a lot of companies are using 100 percent low sulfur coal, and what mission rate that takes them to is around in the 0.5 to 0.6 pounds per million BTU area, and we need lower than that. We need 0.25 or lower.

MS. BASSI: And before we venture into this discussion and much further, is that the scope of this hearing?

HEARING OFFICER: I was just about to interrupt and point out that, as interesting as these questions are, I think these questions belong to Member Johnson and Hearing Officer Knittles. I understand that because Ameren has included in their joint statement SO2 and NOx, that we need to get some points on it, but I think we're getting into way too much detail for this proceeding. I believe, Mr. Ross, we were at 9B. Mr. Bonebrake, do you have a follow-up?

MR. BONEBRAKE: I did have a follow-up. First, part of our concern here, Madam Hearing Officer, is the proposal that's been signed (inaudible) not the support that

we typically expect to see, and that's one of the reasons why these questions are being presented. There has been a joint proposal, and we're asking questions about background regarding the proposal.

My specific follow-up relates to Exhibit 78 and the SO2 table, Mr. Ross, and what Mr. Zabel was asking you questions about. To your knowledge, are the numbers on the S02 table on Page 3 of that exhibit correct?

MR. ROSS: To my knowledge, they are most likely correct. The difference I was citing is that the average -- the final column in that bottom table, that's the average of 2002 through 2004. What the MPS baseline is determined by is the average of years 2003 through 2005, and that's what I was referring to. We -- I was referring to the actual baseline rate that the MPS uses to determine reductions from.

MR. BONEBRAKE: And the 2003 through 2005 numbers on this chart, you believe to be correct?

MR. ROSS: Yes, they are correct.

HEARING OFFICER: Mr. Ross, we were at question 9B.

MR. ROSS: 9B, please identify any provision or language of the MPS that was drafted to address such issues.

And as I stated, the MPS provides an option for compliance, an emission rate or percent reduction. Ameren will most likely meet the numerical emission rate. So intuitively, the percent reduction requirement was established for use by other companies. That takes us to ten.

HEARING OFFICER: You know what? Do you have follow-up?

MR. BONEBRAKE: I do have a follow-up.

HEARING OFFICER: Okay. Go ahead.

MR. BONEBRAKE: Just for clarification, the percentage reduction was established by the EPA, rather than Ameren; is that correct?

MR. ROSS: That's correct.

HEARING OFFICER: With that, before we proceed to question number ten, let's take

about a ten-minute break, and we'll come back, and we'll shoot to going until about 5:30.

(Whereupon, a break was taken, after which the following proceedings were had.)

HEARING OFFICER: Back on the record. I think we're at question number ten.

MR. MENNE: Based upon your and the Agency's analysis of the MPS, what other companies do you and the Agency believe could cost-effectively take advantage of the MPS?

Again, this is one of those questions where you're talking about cost-effectively, how other companies could comply, I really don't have any information to answer that question.

HEARING OFFICER: Does the Agency have anything to add?

MR. ROSS: Yes. Again, we believe the MPS is available to all companies, and the more that use it, we're fine with that. The most obvious candidates, we believe, besides Ameren, who we fully believe will use it, are

Dynegy and Midwest Generation, who have large fleets of coal-fired power plants in Illinois. Others have evaluated and at least one other large has indicated that there may be the potential for them to use it with some minor tweaks to the percent reduction in maybe a few other spots in the proposal, but without face-to-face meetings and discussions, the IEPA is hard-pressed to evaluate what other companies can and cannot do.

HEARING OFFICER: Mr. Bonebrake.

MR. BONEBRAKE: Mr. Ross, has there been any assessment by the Agency of the controls that other companies would be required to install in order to be eligible for and comply with the MPS?

MR. ROSS: To some degree, yes, and I say to some degree because we have sat down with Ameren extensively and gone over what controls would be required, and we have sat down with another company and gone over what controls would be required specifically to utilize the MPS. So at least with those --

with two companies, we have gone over in detail what additional controls would be required to utilize the MPS.

MR. BONEBRAKE: With the exception of those two companies, has the Agency conducted any such assessment?

MR. ROSS: Yeah, to -- yes, to some degree, in that we have looked over each plant or each company individually at their fleet of power plants and looked at their level of control and made a preliminary determination on what additional controls may be needed to utilize the MPS, such as I spoke of earlier, that we believe low sulfur coal -- use of low sulfur coal alone will not get you to the levels required to utilize the MPS. You would require some additional scrubbers to get there -- a company would require some additional scrubbers to utilize the MPS, or for those companies who have no scrubbers, it would be, they would have to install some scrubbers.

HEARING OFFICER: Ms. Moore?

MS. MOORE: In looking over the other

corporations and how they might use the MPS and what might actually be needed in order for them to comply, was there any consideration given as to improvements that might have been ongoing or under a court order or some improvements for emission reduction that might have been made in the last several years?

MR. ROSS: Yes, there was. We've looked at consent decrees that require controls be installed over a time frame and what level of control is achievable from those additional controls required by that decree.

MS. MOORE: And beyond the decree, if someone had made some investments that were significant over a period of years, and then benefitted from some reductions, was there consideration given to that?

MR. ROSS: To some extent, in that what we're looking at, kind of, is what each system has in place at this time and where they can -- and what level of control they have, whether it be medium -- and again,

there's no specific table or chart you can look to that says this constitutes medium level sulfur control, this is good level sulfur control, this is high level sulfur control, but you can look at a system and see basically what they are doing to control SO2 emissions and where they could do better and what rate they're emitting at now and where they could reasonably get to with the installation of some additional sulfur controls, such as a scrubber.

MS. MOORE: Thank you.

HEARING OFFICER: Ms. Bassi?

MS. BASSI: I have to come back to a question that I was asking earlier, which is what is the difference to the environment if the reduction in sulfur rate comes through the type of coal that's burned through a control device, and it sounds to me like -- is it true that what the Agency has done is evaluated the control devices, or lack thereof, that are at the various plants, rather than looking at the level of sulfur rate that can be, I want to say tolerated,

which is probably not the best word, in order to meet whatever the environmental goal is that's not the subject of this particular proceeding?

MR. ROSS: I will answer that the same in which I answered it before that we believe low sulfur coal and the emission rate that corresponds to that does not get you low enough for our needs, and that is what we're seeing for companies that use 100 percent western subbituminous coal, low sulfur coal, also known as low sulfur coal. Their typical emission rates are in the range of 0.5 to 0.6 pounds per million BTU. The emission rates we're looking to get down to are, obviously, 0.25 and below. We believe that constitutes a level of control that we need in Illinois.

MS. BASSI: The question is, why is it necessary in an MPS, which prescribes certain control measures as opposed to just an emission rate?

MR. ROSS: The MPS only addresses emission rate and percent reduction. We're not telling companies that they need to

install any particular controls to get there. They can get there as they see fit. So we are basing our rule on the emission rates that are needed in the State of Illinois, but we believe -- well, obviously, the use of low sulfur coal alone cannot get you there. So the most logical, reasonable way to get there, most straightforward is to install SO2 scrubbers.

MS. BASSI: Why is there not an equal emission rate for all companies?

MR. ROSS: Again, we discussed that to some degree that all companies are not equal in their starting point. Some companies -- I mean --

MS. BASSI: Excuse me --

MR. ROSS: Pardon? I missed that. Could you repeat that, please?

MS. BASSI: No, I interrupted. I apologize.

MR. ROSS: Well, there's different starting points for different companies. As your witnesses will testify and our witnesses testified in the first hearing, each plant

and each unit, there's a wide variety of operating parameters. There's different boiler types. There's different coal types, et cetera, et cetera, and so what we looked at is each -- what's actually occurring in Illinois at this period, what each system is actually doing and where we need to get to as far as the level of SO2 and NOx control that we need in Illinois, and what can be reasonably achieved, and we discussed what can be reasonably achieved with several companies.

MS. BASSI: Let me put it another way. Generally speaking -- and I want to make this just a general statement because I don't have the rules all memorized, but generally speaking, a rules of general applicability as an emission rate or percent reduction, it doesn't have -- nevermind. I'm --

MR. ROMAINE: I'll answer that question. This is Chris Romaine. We have many regulations that give people choices of either an emission rate or a control efficiency requirement that allow people to

start from different places to achieve environmental objectives.

HEARING OFFICER: Question number 11.

MR. MENNE: Page 3 of your testimony, you state that Ameren will work with EPRI to evaluate ways for continuously measuring mercury emissions.

HEARING OFFICER: That's EPRI for our court reporter.

MR. MENNE: Oh, sorry. EPRI. Does Ameren have doubts about how to continuously measure mercury emissions, i.e., that such measurements cannot be made now with reliable accuracy?

The simple answer to that question is yes.

MR. ZABEL: We like simple answers, Mr. Menne.

HEARING OFFICER: Question number 12.

MR. MENNE: Your testimony states that Ameren is determined to find out how effective this type of technology activated carbon injection will be on our generating units and that we do not believe Ameren's

system can make the IEPA 90 percent reduction requirement with HCI, and that's halogenated activated carbon injection, alone.

A, does this mean that Ameren questions the Agency's assertion that non-halogenated activated carbon injection, ACI, or HCI, will achieve 90 percent reduction in mercury emissions reliably?

The key to this question is the word reliably, in my view, and that is -- as I mentioned in my opening statement, that is where our concern is that we would be able to achieve 90 percent reduction just using ACI reliably in that short period of time.

Part B, what additional controls would be required to reliably achieve 90 percent reduction?

This is really a -- the answer to this is that it's very site-specific. I have seen test data which shows that you can get 90 percent removal with certain types of activated carbon injection to reliably remove 90 percent. Some of the other options are to use a wet fluid gas desulfurization

combination with selective catalytic reduction. Another option would be a spray drier absorber or fabric filter in association with activated carbon injection. There's a number of technologies that we believe we could get 90 percent. At least there's test data to suggest that you could if you put on a lot of control -- or a lot of different control, but it's very site-specific on different units.

HEARING OFFICER: Mr. Zabel.

MR. ZABEL: Mr. Menne, if there were no MPS promulgated with the Board's rules, would Ameren rely solely on ACI -- halogenated ACI for compliance?

MR. MENNE: No.

MR. ZABEL: What else would you rely on?

MR. MENNE: We believe that we would have to put at least fabric filters or bag houses on each one of our units in combination with ACI or a scrubber of some form.

MR. ZABEL: So by doing the MPS, you

won't have to meet the 90 percent or 0.0080 in 2009; is that correct.

MR. MENNE: That's correct.

MR. ZABEL: So under the MPS, it's basically the Agency that takes the risk that it's right, whereas, for everyone else under the rule, they have to take the risk; isn't that the case?

MR. MENNE: I'm not sure I understand your question. If you try to comply with the rule, you can take whatever risk you have with the controls that you put on.

MR. ZABEL: That was a complex question. I apologize. Let me break it up.

If the MPS is included in the rule, Ameren opts for it, you will install it with the exception of the small unit, ACI and all the remaining units; is that correct?

MR. MENNE: On most of them, yes, scrubbers.

MR. ZABEL: Scrubber units, understood, but on all the rest of the units install the ACI?

MR. MENNE: That's correct.

MR. ZABEL: And you would operate with good operating practices and whatever went with that?

MR. MENNE: Yes.

MR. ZABEL: And you would be in compliance of the rule?

MR. MENNE: Presumably, yes.

MR. ZABEL: So if the Agency's testimony that that technology is sufficient for 90 percent is, in fact, wrong, you would not be taking a risk of an enforcement action under those circumstances, would you?

MR. MENNE: No, because we'd be in compliance with that provision of the rule.

MR. ZABEL: But if the Agency was wrong, and another source did not opt for the MPS, then it takes the risk of an enforcement action, doesn't it?

MR. MENNE: The company, you're saying takes the risk?

MR. ZABEL: Yes.

MR. MENNE: Yes, that would be true.

MR. ZABEL: Thank you.

HEARING OFFICER: Mr. Bonebrake.

MR. BONEBRAKE: Mr. Menne, I believe you mentioned that, absent the MPS, in your response to questions from Mr. Zabel, that Ameren would install a bag house of condition to ACI, is that correct, to its various units?

MR. MENNE: That's what we were assuming we would have to do, that's correct.

MR. BONEBRAKE: Did Ameren price those bag houses?

MR. MENNE: Yes, we did. Well, I would say yes. All these are kind of rough estimates, but yeah, we took a rough shot.

MR. BONEBRAKE: Could you give us a range of those bag houses?

MR. MENNE: On our system, it would be $350 to $400 million.

MR. BONEBRAKE: That's bag houses on all of your units.

MR. MENNE: That would be bag houses on every unit that we would currently plan to install ACI, correct.

MR. BONEBRAKE: And how many units would that be again, Mr. Menne?

MR. MENNE: Let's see. I believe that would be 16 units.

MR. BONEBRAKE: And that $350 to $400 million compliance would be in addition to the cost associated with installation and operation of the ACI; is that correct?

MR. MENNE: That's correct.

HEARING OFFICER: Sub C.

MR. MENNE: Given the Agency's support for the MPS, which does not require a 90 percent reduction of mercury emissions in 2009, it appears that the Agency no longer views a 90 percent reduction of mercury emissions in 2009 to be necessary elements of an Illinois mercury rule. Is that correct?

I'll have to defer to the Agency with regard to that question.

MR. ROSS: And the answer to that is, no, the Agency's position is that meeting a 90 percent reduction is necessary and required, and the sooner the better.

MR. ZABEL: It's not going to be required, is it, of most of the Ameren units if they opt for the MPS; is that correct,

Mr. Ross?

MR. ROSS: It will be required of 94 percent of their capacity by 2015 and --

MR. ZABEL: That's not the question, Mr. Ross. In 2009, will they be required --

MR. ROSS: In 2009, they are required to install mercury controls or achieve mercury control as a co-benefit by the end of 2009 on 94 percent of their capacity.

MR. ZABEL: Are they required to reach 0.0080 or 90 percent reduction in 2009?

MR. ROSS: No, they are not, not until 2015. So they are required to meet it, yes, it's delayed.

MR. ZABEL: I'm asking about 2009.

MR. ROSS: Well, you stated that they were not required to do that, and they are.

MR. ZABEL: So if the technology that they install -- this is the same question I asked Mr. Menne, and I'll ask the Agency. If they install the ACI as planned under the MPS, install the 90 megawatts units, and the scrubbers probably aren't needed, and in

fact, that technology does not work, they're in compliance with the rule, are they not?

MR. ROSS: They would be in compliance with the mercury portion of that rule if they operate that equipment in compliance with the other requirements of that portion of the rule, which has some operating parameters that are required, and they must also comply with the SO2 and NOx requirements in the future.

MR. ZABEL: And that answer is Member Johnson's concern. I'm sticking with mercury at the moment, Mr. Ross, if they don't meet 90 percent, they're still in compliance in 2009, 2010, 2011, 2012, et cetera; is that correct?

MR. ROSS: That's correct.

MR. ZABEL: Thank you.

HEARING OFFICER: Question number 13.

MR. MENNE: Does Ameren intend to put all three of its companies into the MPS?

Our current intention is yes.

If so, does it have any commitment to do so?

It's kind of a technicality here in terms of what the commitment is. We have no commitment in terms of, you know -- this would have to go to the Board of those companies to get a commitment as to whether they want to do that. So we don't have anything that commits us to following that path, but our intention is yes.

MR. ZABEL: Just to follow-up. The three Ameren companies, what about Electric Engineering?

MR. MENNE: It excludes it.

HEARING OFFICER: Ms. Bassi.

MS. BASSI: Just a clarification on the question. You stated that you have the intention to put all three of your Illinois companies into the MPS. Is there a requirement or a commitment that all three have to go in as opposed to two or one?

MR. MENNE: Yes, the requirement is all of the generating systems have to be MPS.

MS. BASSI: Including EEI?

MR. MENNE: That is correct, from my understanding.

MR. ZABEL: Is that how you interpret the rule, or is that an agreement you have with the Agency?

MR. MENNE: That's the way the rule -- I've been told the rule requires it.

MR. ZABEL: Thank you.

HEARING OFFICER: Question 14.

MR. MENNE: On Pages 3 and 4 of your testimony, you indicate that Ameren reduced emissions SO2 and NOx by 60 to 70 percent over the past 15 years.

Subpart A, what has been the reduction over that period for just the Illinois units currently owned by Ameren?

Our calculations are that our NOx rate on our units has been 70 percent reduction. NOx tons is 62 percent reductions. Our SO2 rate is 67 percent reduction, and our SO2 tons are 56 percent reduction.

B, is the historic 60 to 70 percent reduction in SO2 and NOx emissions across the Ameren's fleet in Illinois a total amount of the reductions of these two

pollutants combined?

The answer is no. I just give you the specifics. So that makes Part C moot.

Part D, does that figure include or exclude EEI?

The figures I gave you include EEI.

Part E, what are the percentage reductions for just Ameren's Illinois facilities?

It's the same as the answer I just gave in A, those reductions would be the same.

Question F, how do these emission rates and pounds per million BTU of Ameren's Illinois facilities compare to those of other Illinois generators for SO2 and NOx?

And I did not make an attempt to compare those. I do not know.

MR. ZABEL: Has the Agency?

MR. ROSS: Yes, as a matter of fact, that was the table that you referred me to earlier. That is a comparison of the emission rates of all of the systems in

Illinois.

HEARING OFFICER: Would that be Exhibit 78?

MR. KIM: Yes.

MR. ZABEL: And you believe those numbers are accurate, I think you testified; is that correct, Mr. Ross?

MR. ROSS: I checked the numbers for 2003, 2004 and 2005 on the SO2 only for Ameren, I believe, and I found those numbers to be accurate.

MR. ZABEL: So you believe the rest are as well?

MR. ROSS: I have no reason to not believe it, but I have not checked them.

MR. ZABEL: Fair enough. Thank you.

HEARING OFFICER: Question number 15.

MR. MENNE: Page 4 of your testimony, you state we do not believe Ameren can achieve 90 percent reduction with HCI alone because of the use of subbituminous coal and SO3 -- I assume that should be conditioning.

Do you have any reason to think it would be different for other similar units?

And the simple answer is no.

Part A, what is Ameren's schedule for the installation of SO2 and NOx control equipment?

Well, the schedule -- what we intend to do is put in SO2 and NOx controls to meet the rates that are given in the MPS under the time frames that are given to the MPS. We have commitments to putting some scrubbers on some of our units early in Duck Creek and Coffeen units. The remainder, while we have looked at what type of installations could be used to achieve those rates, we'd like to keep the flexibility with the developing technologies to be able to use any technology that will get us to those emission rates.

B, will Ameren continue to inject SO3 until our installations are complete?

Our company will continue to inject SO3 as long as it is required to meet capacity in particular limits.

What is the quantitative effect of this SO3 injection on mercury emissions?

And here, I'm not sure I can really give you a quantitative effect, and I'm not an expert in mercury control technologies. I believe Jim Stow (phonetic) provided some testimony in the previous hearings as to problems that occurred with SO3 injection. I have seen some test results that suggest when you use ACI in combination with SO3 injection that can reduce the efficiency of your carbon injection, and I've seen numbers that range anywhere from 30 to 70 percent of control efficiencies. Again, it's very site-specific. It depends upon a lot of factors within a given unit; and I believe others will be testifying to this in a more quantitative fashion in the course of the next week or two. That's about the best I can do on that.

HEARING OFFICER: Question number 16.

MR. MENNE: What percent of the coal Ameren burns in Illinois is from Illinois?

Currently, it's 16 percent.

MR. ZABEL: Mr. Menne, if I may, as a follow-up, are those burned in scrubber

units?

MR. MENNE: One of the units is currently scrub. One of the units that burns Illinois coal is currently scrub.

MR. ZABEL: Is there a unit on the Ameren system burning Illinois coal that is not scrub?

MR. MENNE: Yes.

MR. ZABEL: Which one?

MR. MENNE: I'm probably going to have to defer that just to make sure my answer is accurate.

MR. ZABEL: Is it burned in a blend?

MR. MENNE: At Coffeen, we are currently burning Illinois coal at times and subbituminous coal at times.

HEARING OFFICER: Question number 17.

MR. MENNE: On Page 8 (sic) of your testimony, you state that all the MPS will result in SO2 and NOx reductions above those required by CAIR. Is this just considering Ameren utilizing the MPS?

And, to my knowledge, the answer to that question is yes.

Part B, how much will the reductions by Ameren exceed the reductions to be achieved under CAIR?

What I'd like to do on this question B and question C is defer these questions to Anne Smith, who's really looked at this more closely and better to answer the question.

HEARING OFFICER: Before you do that, I would note you read it as in reference to Page 8 of your testimony, and it is actually question 6 -- on Page 6 of your testimony. You read it as on Page 8.

MR. MENNE: Oh, sorry.

HEARING OFFICER: That's all right, just correcting it for the record.

MS. SMITH: The analysis that we did of the MPS system produced lower emission subjected to the NOx than the analysis that we did of just the CAIR in line with the CAMR rule, and the differences were associated with Ameren emissions. They ranged from -- for SO2 from about 23,000 tons less per year in term ten rising up to somewhere between 43

and 45,000 tons per year difference in the late -- time frame of 2015 through 2020, but we ended the model at 2020.

For NOx, the emissions were about -- they ranged between 1,200 tons per year -- 1,200 tons per year and 2,600 tons per year difference, always lower than for the years from 2010 through 2020.

HEARING OFFICER: I want to clarify when you refer to CAIR, you're referring to the federal proposal for CAIR?

MS. SMITH: That's correct.

MR. ZABEL: Did you do any analysis of the Illinois proposed CAIR comparison?

MS. SMITH: No, we did not.

MR. ZABEL: Did you do any analysis of any post-CAIR requirements if they were necessary in Illinois?

MS. SMITH: No, we did not.

MR. ZABEL: Do you believe that there would be post-CAIR requirements in Illinois?

MS. SMITH: It's my understanding that there's going to be an nonattainment issue, and Illinois believes that a nonattainment

issue will remain even after limitation of the Federal CAIR, that's my understanding.

MR. ZABEL: And it's your understanding of the regulations that if that nonattainment condition continues, additional requirements will be necessary, to your knowledge?

MS. SMITH: I'm sorry. I didn't hear the question.

MR. ZABEL: If nonattainment conditions continue after the CAIR, additional requirements would be necessary in Illinois, would they not?

MS. SMITH: In Illinois, it's not clear to me exactly where reductions will have to come from.

MR. ZABEL: But there would be a need for additional reduction to demonstrate progress towards attainment; is that your understanding?

MS. SMITH: That's my understanding if you have a nonattainment issue left after --

THE REPORTER: I'm sorry. Can you repeat that? I'm sorry.

MS. SMITH: It is my understanding that if you would have to have a nonattainment, that you have to have additional reductions of S02 or NOx, depending on what the nonattainment problem is, if that nonattainment problem remains after full limitation of the Federal CAIR program.

MR. ZABEL: And it's your understanding that the Agency believes it would remain; is that correct?

MS. SMITH: It is my understanding that they've projected NOx being a problem after implementation of CAIR.

MR. ZABEL: Did you do analysis of whether these reduced numbers would be lower or higher than would be necessary in that first CAIR?

MS. SMITH: I did not.

HEARING OFFICER: Question number eight, please. I'm sorry. She answered that. I apologize. Question C, does this comparison exclude the possibility of purchasing allowances under CAIR?

MS. SMITH: For that, I'd like some clarification. What comparison exactly? In which situation?

MR. ZABEL: The comparison you made, I think, under MPS, assumes those requirements and not the use of allowances; that's the objective of the question.

MS. SMITH: Under the MPS, we require certain technologies to be put in place that would meet these emission rate limits that are stated in the MPS, in the wording of it. So those would be forced in controls and the MPS system would achieve those rates at the required times.

MR. ZABEL: And in your CAIR analysis, were you assuming technology or purchasing allowances?

MS. SMITH: We were not forcing in any technology. We were assuming that units would take the least cost approach in the face of that marketplace for emission allowances. So trading was permitted under the CAIR analysis for any company.

MR. ZABEL: And in that analysis,

would Ameren have purchased allowances rather than install the same level of technology as the MPS?

MS. SMITH: They would have been purchasing --

MR. RIESER: I'm sorry. Could I hear the question back, please?

THE REPORTER: Can you repeat it?

MR. ZABEL: In your analysis of CAIR for Ameren, would there have been less technology installed than there is under the MPS?

MS. SMITH: I haven't had a chance to look at my notes.

MR. ZABEL: You can do that at any time, Ms. Smith, feel free.

MS. SMITH: I cannot comment for NOx because the NOx currently has not yet been allocated under CAIR, but for SO2, it would appear, from the model that we've done, that they would purchasing allowances for SO2.

MR. ZABEL: And that would make that differential much greater, doesn't it?

MS. SMITH: Yeah, the differential al

between --

MR. ZABEL: If you assume technology for CAIR, rather than purchasing allowances, the amount of reduction beyond CAIR would be much less, would it not?

MS. SMITH: I'll just try to answer it --

MR. ZABEL: I can rephrase.

MS. SMITH: Because the MPS achieves greater reduction of SO2, than our simulation of what Ameren would do under the CAIR rule, there's less need for using allowances under the CAIR rule by Ameren because their emissions are lower; so to the extent that they were purchasing, there would be less need to purchase.

MR. ZABEL: What you have indicated -- maybe that question wasn't clear. That there'd be 23,000 less tons of SO2 in the MPS, than in CAIR in 2010; is that correct?

MS. SMITH: That's correct, in 2010.

MR. ZABEL: And is that because there would be no technology installed under CAIR?

MS. SMITH: There is technology

installed under CAIR, not in every unit.

MR. ZABEL: I'm sorry?

MS. SMITH: There is some technology in our simulation being installed under CAIR, but it's not as much as what is given --

MR. ZABEL: How much of that 23,000 ton differential is attributable to the lesser technology installed under CAIR?

MS. SMITH: Well, all of it, basically, except that there may be some differences, but they'd be small.

HEARING OFFICER: Question number 18.

MR. MENNE: On Page 6 of your testimony, you state that the MPS will allow Ameren to take advantage of the co-benefits that established NOx and SO2 controls provide for mercury control. A, what do you mean by established controls?

I would characterize that as installed hardware for SO2 and NOx controls, such as scrubbers or selective reduction.

B, without the MPS, would Ameren not be able to take advantage of co-benefits?

The answer is yes.

C, what do you mean by take advantage of?

Basically, take advantage means that by installing hardware, such as scrubbers and SCR, you get mercury reductions out of them as well. So you get the advantage of reducing more than one pollutant at a time. You also get the advantage from an economic standpoint that you might be able to get mercury reductions with your SO2 controls.

D, would units not in the MPS and subject to the Illinois mercury also not be able to take advantage of the co-benefits from NOx and SO2 controls?

And the answer is yes.

Number 19, what is LADCO's Midwest Regional Planning Organization list that you refer to on Page 7 of your testimony? Please provide a copy.

Do you have a copy?

MR. RIESER: We have a copy. This was the round two modeling summary taken from LADCO's website. We have a copy that we're

presenting here. It's actually an appendix to this document. The document itself is dated July 12th, 2005, and the address for where we obtained the document is www.ladco.org/regional_air_quality.html.

HEARING OFFICER: If there's no objection, we'll mark this as Exhibit No. 79. Seeing none, it's marked at Exhibit 79.

MR. MENNE: Number 20, isn't it true --

HEARING OFFICER: Give me one second. Because I'm still shaking my head as to the answer to Question 18D, and I think I'm not the only one. With a double negative in there, I'm a little confused.

MR. ZABEL: Would you like me to rephrase that question?

HEARING OFFICER: Could you please.

MR. MENNE: I'm not sure I answered it right now that I see the double negative.

MR. ZABEL: For a unit that does not opt for the MPS, would it be unable to take advantage of the co-benefits, as Ameren is under the MPS?

MR. MENNE: So if they're not in it --
MR. ZABEL: They don't opt in, will they be able to take advantage of the co-benefits the way Ameren is?
MR. MENNE: Well, they wouldn't have the co-benefits from installing scrubbers and other technologies, so they would not have that, which we are required to do under the MPS.
MR. ZABEL: Over the time schedule that's set forth?
MR. MENNE: That's correct.
HEARING OFFICER: Thank you. Question Number 20.
MR. MENNE: Isn't it true that USEPA promulgated the CAIR and CAMR so as to allow states and companies to coordinate and synchronize the measures necessary to comply with both programs because of the potential co-benefits and inter-relationships that are recognized under the MPS?
And my simple answer to that is yes, I think that's the intention that's specified in the preambles to those rules.

21, you state that the MPS will provide substantial beyond-CAIR NOx and SO2 controls. What is beyond-CAIR?

When we make the statement beyond-CAIR, we're talking about anything that's more stringent than required by the federal rules.

To your knowledge, is there any evidence in the record of this proceeding concerning SO2 and NOx emissions, existing controls or proposed regulations?

To my knowledge, no. I can't answer it fully because I haven't read the whole record.

C, to your knowledge, is there evidence in the record of this proceeding concerning beyond-CAIR requirements?

And, to my knowledge, the answer would be no.

Is this statement limited to Phase II -- CAIR Phase II?

I guess my answer would be the same, no, referring to --

MR. RIESER: Well, which statement is

referred to as being limited to CAIR Phase II?

MR. ZABEL: I assume the answer to the question is the same as C?

HEARING OFFICER: Ms. Bassi?

MS. BASSI: Just to clarify, does beyond-CAIR refer to only the reductions that might be required by CAIR Phase II?

MR. MENNE: No, it's for both Phase I and Phase II.

Does the MPS provide controls beyond CAIR Phase I?

And, again, that's going to be a system by system determination, but I believe for Ameren, it does, yes.

How does the MPS affect compliance with CAIR Phase I, which has compliance dates of 2009 for NOx and 2010 for SO2?

It does not. It doesn't.

G, will Ameren have to trade to comply with CAIR Phase I?

Again, I can't really answer that question. We're not sure because the way the CAIR is going to be implemented in Illinois

has not been determined yet. We don't really know what NOx analysis we're going to have and what additional allowancing we might be eligible for.

MR. ZABEL: Excuse me, Mr. Menne, is that just for NOx?

MR. MENNE: Well, I answered with regard to NOx. With regard to CAIR SO2, again, I'd like to get back to this question, if I can.

MR. ZABEL: Certainly, I'd rather have you be comfortable with your answer.

MR. MENNE: Part H, is this similar to the position of other companies, to the best of your knowledge?

Again, I can't begin to answer that.

HEARING OFFICER: Mr. Menne, I actually have a couple of follow-up questions, and this is as good a place as any, and they're brought about by some of these questions in the record in this mercury proceeding regarding NOx and SO2.

One of my questions is, since the

CAIR rule has been proposed in Illinois, would it be Ameren's intent and the Agency's intent to also file this joint statement, or have they already filed? Which I don't think they have this joint statement in the CAIR rule-making proceeding.

MR. ROSS: The Agency does not have that intent, nor have we discussed that with Ameren.

MR. RIESER: I have the same answer as well. It's certainly something that we can look at, but it wasn't our intent.

HEARING OFFICER: My next question is, given that the actual ruling, which does contain some standards, for lack of a better word, at this point, for NOx and SO2, and in fact, specifically cross-references provisions of the proposed CAIR rule that aren't currently adopted, would it be feasible, for example, if the Board were to decide to proceed with this proposal and accept this proposal, but hold off on the provisions for NOx and SO2 until the CAIR rule; would that be feasible?

MR. RIESER: Well, obviously, this is all for peace. Mercury reductions are based on achieving the CAIR of NOx and SO2 levels, so those have to be together somewhere. We're certainly open to a discussion about the -- whether -- we're looking at the issue of whether additional language needs to be in the proposed CAIR rule itself, so that the rules are consistently coordinated. So that's the best answer I've got.

HEARING OFFICER: And now we really do have to swear you in.

MR. ZABEL: Does that mean I get to cross-examine, Mr. Rieser?

HEARING OFFICER: Only to the questions I just asked.

MR. RIESER: I guess I wasn't trying to provide the factual information, but the legal analysis of what the language of the rule has to say or how things were being addressed within the language of the rule itself, which I guess I view as a legal issue and not a factual question.

HEARING OFFICER: I'll let it go.

Question number 22.

MR. MENNE: How many coal-fired units under 90 megawatts are in the Illinois portion of the Ameren's system?

There's actually six.

What is their aggregate capacity?

Roughly, 280 megawatts.

B, isn't it true that two of the three coal units at Grand Tower would not have to have any mercury controls before January 1, 2013, and might never be required to meet a reduction or emissions rate requirement?

Grand Tower was converted to gas a few years ago, so they're not subject to the rule.

C, isn't that also true for four of the five coal units at Meredosia?

Yes.

D, isn't that true for all the units in Hutsonville?

Yes.

MR. ZABEL: Mr. Menne, in your discussions with the Agency, were there any

consideration about hot spots at the Hutsonville plant for mercury controls at least until 2015?

MR. MENNE: The discussion centered around the fact that Hutsonville is within relative -- relatively close proximity to our Newton plant, which would be required to have mercury controls on. So from a geographical standpoint, there would be controls on units in that area; but with regard to specifically the hot spots for various small units, it's a matter that is debatable.

MR. ZABEL: How far apart are the two plants?

MR. MENNE: Roughly, 50 miles.

MR. ZABEL: And in what direction from Newton is Hutsonville?

MR. MENNE: East.

MR. ZABEL: Which way are the prevailing winds, Mr. Menne?

MR. MENNE: Generally southwest to northeast.

HEARING OFFICER: Question 23.

MR. MENNE: How many coal-fired units

under 90 megawatts are operating in the State of Illinois, including but not limited to Ameren's units?

I believe I just mentioned six in the Ameren system. I can't speak with 100 percent sure -- I don't know, but I've been told that there are two others in the State of Illinois, which would make it eight.

Why is 90 megawatt the threshold between --

HEARING OFFICER: Ms. Bassi?

MS. BASSI: Does the Agency know the answer to that question?

MR. ROSS: What was the question?

MS. BASSI: Number 23.

MR. ROSS: Eleven.

MS. BASSI: Thank you.

MR. ROMAINE: That's the total number.

HEARING OFFICER: Question number 24.

MR. MENNE: Why is 90 megawatts the threshold between large and small units in the MPS?

To be quite honest with you, that's what we proposed because it fit the

Ameren system.

25, does the choice of 90 megawatts as the threshold provide additional relief for Ameren that would not be available to other companies?

Well, to the extent there's 11 units, obviously, there's units and other systems that could take advantage of it.

26, what support is there in the record in this proceeding for your statement that participation in the MPS will contribute significantly towards attainment of the ozone in the PM 2.5 National Ambient Air Quality Standards?

MR. RIESER: We looked for that specific statement. I'm not sure we could find that specific statement in the testimony. So if you could point to it?

MR. BONEBRAKE: Why don't we pass the question, and we'll take a look at the testimony, then we can come back to it.

MR. RIESER: Super. Thank you.

MR. MENNE: 26A, has Ameren modeled the effect of the MPS? Oh, we're going to

come back to this. Okay. 27.

HEARING OFFICER: Ms. Moore has a question, I think.

MS. MOORE: No, that's okay.

HEARING OFFICER: Okay. Go ahead.

MR. MENNE: Well, I think 27 is the same thing. It would be deferred as well because it talks about significant contribution.

MR. RIESER: Right.

MR. MENNE: 28, what other sources does the provision of the joint statement that any further reductions needed would first come from other sources refer to?

Basically, all other sources that is outside of Ameren.

HEARING OFFICER: Mr. Bonebrake?

MR. BONEBRAKE: Is that including, but not limited to other electric generating units?

MR. MENNE: That is our assumption, yes.

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

MR. MENNE: Well, I guess the basis of that assumption is simply just taking the statement on its face that's in the joint statement, and that's the best way I can answer that. I mean, we didn't specifically talk about other types of sources and whether they would go after it or anything like that. I'm just talking on the basis of the agreement that's in the joint statement.

MR. BONEBRAKE: And is that the statement that's set forth in the joint statement set forth in any other agreement between Ameren and IEPA?

MR. MENNE: Again, not to my direct knowledge, no.

HEARING OFFICER: Ms. Bassi, do you have follow-up?

MS. BASSI: I found the answer -- or the source for the question for 26, if it's time to go there.

HEARING OFFICER: Go ahead.

MS. BASSI: It's in the joint statement. It's in the next to the last paragraph on Page 3 that says, "The level of

NOx and SO2 reductions required in the proposed rule is expected to contribute significantly towards the state's efforts to achieve attainment of the NAAQS," and I shortened that.

MR. MENNE: Well, I think there's a big difference between contribute significantly towards the state's efforts to achieve NAAQS, as opposed to significantly contribute towards attainment. I don't believe we made an analysis as to how much it would contribute towards attainment of the NAAQS, but I think the joint statement says it contributes towards the state's effort to achieve the NAAQS. I think that's a big difference in -- at least, in our view. I think the state believed that these reductions were going to make a major contribution to their efforts in attaining the NAAQS, but we don't make a claim, on the face it, that it will significantly contribute to NAAQS attained.

MR. RIESER: And by NAAQS you mean, National -- N-A-A-Q-S, National Ambient Air

Quality Standards for the reporter's benefit.

MR. BONEBRAKE: I have a follow-up that's directed to the Agency, and again, referring to Page 3 of the joint statement. There appears to be a sentence that reads, "Ameren and the Illinois EPA agree that compliance with the multi-pollutant alternative is both technically feasible and economically reasonable, and that the level of NOx and SO2 reductions required in the proposed rule is expected to contribute significantly towards the state's efforts to achieve attainment of National Ambient Air Quality Standards, and any further reductions needed would first come from other sources."

That last phrase, "Further reductions needed would first come from other sources," would that apply to any and all companies that would elect to participate in the MPS? That is, the -- if, let's say Dominion were to participate in the MPS as well as Ameren, then with respect to both of those companies, the Agency would go to all other sources first?

MR. ROSS: Potentially, we believe as a result of this agreement, Ameren's coal-fired units will be well controlled. That's the qualifier, so to say. So to the extent that others who choose to utilize the MPS, that their systems would also be well controlled, then I would believe that we would generally agree to a similar statement with those companies. We've analyzed exactly -- or potentially what Ameren needs to do to comply with the MPS, what controls would be put on their existing systems, and the level of emissions they will achieve as a result, and we believe that takes them to a good level of pollution control.

HEARING OFFICER: We have a follow-up from the audience.

MS. FRONTCZAK: I have a question for the Agency.

HEARING OFFICER: You need to identify yourself.

MS. FRONTCZAK: Mary Frontczak.

HEARING OFFICER: Can you stand up, please? We can't see you at all. Thank you.

MS. FRONTCZAK: The MPS applies only to existing units; isn't that right?

MR. ROSS: That's correct.

MS. FRONTCZAK: So a new unit would still have to meet additional reductions?

MR. ROSS: A new unit would still need to comply with the non-MPS portion of the rule, that's correct.

HEARING OFFICER: Mr. Bonebrake.

MR. BONEBRAKE: My follow-up for Mr. Ross, and maybe we're moving into Question 29 a little bit here, but that is whether there are -- whether the statement here appears to be for the benefit of Ameren, and the joint statement is agreed by Ameren and the Agency, and I just posed to you, Mr. Ross, a hypothetical, if Dominion were to participate in the MPS as well.

That election may not occur in the MPS until sometime in the future. What would be the form of the reassurance that IEPA would provide to Dominion in that scenario?

MR. ROSS: That would depend on what we work out with Dominion. I mean, what

we've done with Ameren is we've reached a general understanding that after the controls they install as a result of this MPS, they will have good control system-wide, and in general, we do not seek additional reductions from systems that are already well controlled. We would first look to systems that are not -- and units that are not as well controlled.

MR. BONEBRAKE: Would that mean, Mr. Ross, that you would anticipate that any company considering opting into the MPS at some future date would first need to come to the Agency and work out a specific agreement with the Agency regarding protection from the CAIR requirements?

MR. ROSS: No, they do not have to, nothing is forcing them to.

MR. BONEBRAKE: But to be able to obtain that assurance from the IEPA, wouldn't that be necessary, Mr. Ross?

MR. ROSS: No, I would think that all they need to do is reach a level of good control, and we would not look to them for

additional reduction.

MR. BONEBRAKE: And what assurance would they have that the Agency would not go to them for additional control?

MR. ROSS: I don't think they would have any assurances, except that, in general, we do not look for additional reductions from units' systems that are well controlled.

MR. BONEBRAKE: Whereas for Ameren -- this to Mr. Ross, Ameren has the assurance that's provided in the sworn statement; is that correct?

MR. ROSS: And that does go into Question 29, and we're not giving any guarantees here, and I don't think the statement gives any guarantees. It's just a general understanding that we've reached with Ameren that after they achieve the limits required by the MPS, they will be a well controlled system. The emission reductions and SO2 and NOx are in the -- we estimate in the hundreds of thousands of tons per year, which is, I think all would agree, significant, and they will install numerous

scrubbers, a couple SCR's, potentially, across their fleet of coal-fired power plants. So after they are done with this broad multi-pollutant control strategy, they will be a well controlled system.

HEARING OFFICER: Would you, Mr. Ross, agree then that any utility or any group that took advantage of the MPS provision as written, if they complied with those provisions, that they would be a well controlled --

MR. ROSS: Intuitively, yes, I would agree with that.

HEARING OFFICER: Ms. Hirner, you had a question.

MS. HIRNER: D.K. Hirner with the Illinois Environmental Regulatory Group. I just have a -- to ask the Agency a point of clarification. In the statement of reasons, when it says first from all other sources, do you anticipate both EGU's and non-EGU's?

HEARING OFFICER: In the joint statement?

MS. HIRNER: The joint statement.

MR. ROSS: I think the agreement -- the understanding is limited to Ameren's coal-fired power plants. So we would not look first to them for additional reductions.

MS. HIRNER: But you would look to non-EGU's prior to?

MR. ROSS: Perhaps.

HEARING OFFICER: Dr. Girard.

DR. GIRARD: Mr. Ross, I have a question. The federal mercury rule requires cap on mercury emissions for Illinois. Have you done the ballpark figures to see if all the current Illinois coal-fired plants utilized MPS, would there be any room for new coal-fired plants under the federal cap, the mercury issues?

MR. ROSS: Yes, we believe so. The cap up to the year 2018 is somewhere around 3,000 pounds. Our original estimates based on the proposed rule prior to the MPS, was that the mercury emission reductions would be -- or the level of mercury emissions would be in the neighborhood of 900 to 1,000 pounds, which gives us a buffer zone of

around 2,000 pounds of mercury emissions to play with, so to say.

So with the MPS, we think we will potentially see additional mercury emissions, that's true, but nothing too significant; that is, at most, we estimate that the mercury emissions in Illinois could increase to around 1,500 pounds to -- out to 2015, where they will be required to meet 90 percent on 94 percent of their capacity. Even at 1,500 pounds, that's less than half of the federal mercury cap until the year 2018. So we still have a very large comfort zone that our proposed rule will fall well below the federal mercury emissions caps.

MS. BASSI: Does this estimate of the number of pounds that would be admitted in Illinois if all the companies opted into the MPS reflect a lack of confidence on the part of the Agency that ACI would get 90 percent reduction?

MR. ROSS: No, it's just a real quick preliminary worse-case calculation.

MR. ZABEL: What was the basis of the

calculation, did you assume 90 percent?

MR. ROSS: Well, we assumed that the six small units, obviously, would not receive any control until 2012, and then it was just --

MR. ZABEL: What about the other five? If everyone opts into the MPS, didn't you say there were 11?

MR. ROSS: So you're talking, outside of Ameren if everyone opts into it?

MR. ZABEL: That was the chairman's question, if everyone opts into the MPS.

MR. ROSS: Yeah, if everyone opted into it, still, the level -- the buffer zone is -- I would say gives us a high level of confidence that there is absolutely no way we could ever reach that 3,000 pounds of mercury emissions per year. Now, I -- now, you're going to ask me for the -- I didn't actually do the calculations.

MR. ZABEL: I'm not going to ask you for the numbers. I'm confused as to what the answer was in regards to the question.

Did the Agency analyze the

compliance with the cap based on if all the units in the state opted for the MPS?

MR. ROSS: And answer was, yes, we did assess that. We looked at that. The buffer zone is, again, huge under our existing rule without the MPS. We estimate emissions won't get above 1,000 with it, and the actual federal mercury cap is greater than 3,000. So, you know, that's three times as much. You have a buffer zone of 2,000 pounds per year of mercury emissions. Even with the MPS, there's no possible way you will ever get to a level of 3,000 pounds per year of mercury emissions.

MR. ZABEL: And what was the basis of the appraisal and trading off that increase in alleged number of toxins for precursors of the ozone and fine particulate?

MR. ROSS: Well, I think what we've done with the MPS is simply to recognize that some companies are willing to commit to a broad strategy of pollutant reductions, not only mercury, but NOx and SO2, and in order to do this, they would need to take advantage

of some co-benefits from other controls; and of course, there are cost and timing issues involved in this multi-pollutant strategy. So we are simply recognizing those aspects, as others have done, New Jersey, has a similar multi-pollutant strategy approach. The LADCO rule also promotes a multi-pollutant approach where they do something very similar to what we are doing. They give some additional time to reach mercury reduction levels if the company will commit to reductions in SO2 and NOx. So it's very similar to what we are doing.

MR. ZABEL: Actually, didn't the USEPA, to ensure CAIR and CAMR, do exactly that?

MR. ROSS: That's a good point. The USEPA did the same thing.

MR. BONEBRAKE: Mr. Ross, I have a follow-up for clarification. I think you indicated that under the proposal that IEPA has before the Board, and prior to the proposed MPS, that you expected annual mercury emissions to be about 1,000 pounds;

is that correct?

MR. ROSS: And I, again, don't have the number, but the estimates were roughly in that neighborhood, yes.

MR. BONEBRAKE: And it's also your testimony that if all of the companies from the State of Illinois were to opt into the MPS, that the pounds of mercury emissions per year would increase by about 500 pounds?

MR. ROSS: I would say under worse case scenario, they would increase to around that range, and that's based on -- only the smaller units can avoid mercury control until 2012, and then the larger units still get some level of mercury control, they're just not required to meet 90 percent until 2015. So the increase in mercury emissions will be the difference between the smaller units not getting any mercury control until 2012, and the larger units still putting on mercury controls, but not necessarily being required to meet 90 percent, so they may only get 80 percent, so there's only a 10 percent difference there. So that's the incremental

increase in mercury emissions that could occur as a result of the MPS.

Now, one important thing to note, and Ameren has stated this, I believe, in their testimony, and our estimates concur, is that when Ameren installs all these controls at the end of their multi-pollutant plan, that is in 2015, their actual mercury emission reductions from 94 percent of their capacity will be greater than 90 percent, we estimate somewhere in the neighborhood of 94 percent mercury emission reduction. So the net effect of giving them more time, is they will potentially get greater mercury emission reductions.

MR. BONEBRAKE: The 500 pound differential that we've been talking about, would that apply then from the period of 2009 until to 2015?

MR. ROSS: Probably under a worse case, yes, I would think. It would be somewhat less due to the installation of mercury controls on the smaller units at the end of 2012, but I don't think that would

play a major role since those units are already considered small -- relatively smaller emitters of mercury than the larger units.

MR. BONEBRAKE: And I think you just mentioned as well the calculations being in the neighborhood of 94 percent reduction from --

MR. ROSS: Well, I think that's in Ameren's testimony, and yes, we've done some rough calculations.

MR. BONEBRAKE: When you say Ameren's testimony, do you mean the testimony of Ms. Smith?

MR. ROSS: Yeah, I believe it's in Ms. Smith's testimony.

HEARING OFFICER: Ms. Bassi?

MS. BASSI: Back to my question before. You stated just a minute ago that if the other companies -- if all the other companies opted into the MPS, you thought there would be less than a 90 percent reduction in mercury emissions, yet, all of them would be required to install ACI except

on their smallest units, which the 90 -- you said around 80 percent; is that correct?

MR. ROSS: Well, what the MPS requires is that units that will not install -- or who burn -- some units need to install mercury controls by July 1st, 2009. Some units need to install mercury controls by December 31st, 2009, and other units need to install mercury controls by December 31st, 2012.

So it's somewhat complicated, but there's three phases in there. The large units, 94 percent of Ameren's capacity or potentially a different percentage of another company's capacity who would enter the MPS, would need to install mercury controls able to reach a 90 percent reduction by no later than December 31, 2009.

MS. BASSI: Is the difference then -- when you use the word able --

MR. ROSS: Right.

MS. BASSI: -- is the difference in your confidence of reaching the 90 percent based upon measuring the 90 percent or demonstrating that they've met the 90

percent?

MR. ROSS: Say that again.

MS. BASSI: Well, you said they must install equipment that is able to meet 90 percent.

MR. ROSS: Right.

MS. BASSI: How do they demonstrate equipment able to reach 90 percent?

MR. ROSS: Equipment that is generally believed -- that the Agency has testified is able to achieve a 90 percent reduction.

MS. BASSI: And where did the 80 percent come from?

MR. ROSS: Well, just assuming -- pulled it out of the air, a rough number. Some of them may not reach 90 percent. You know, you have to do a worse case assumption, what we believe, and some of them may not reach 90 percent. Technically, they're not required.

MS. BASSI: Why would they not reach 90 percent?

MR. ROSS: Some of them may reach 95 percent, but some may not.

MS. BASSI: Why not?

MR. ROSS: They may have difficulties. I mean, they have testified that they're not able to reach 90 percent on some of their units. What this does is -- it's a compromise. It recognizes that potentially there may be difficulties. We'll give you more time in this broad multi-pollutant strategy. It kind of takes the argument out of the equation, so to say, if they'll commit to larger reductions over the long haul.

MS. BASSI: Well, do you assume then that the technology will not necessarily meet 90 percent that you testified to earlier will meet 90 percent?

MR. ROSS: No, we are not making that assumption. We generally, and it is our continuing position, that the technology we have testified is capable of meeting 90 percent, and this will all be discussed, I believe, when Mr. Cichanowicz is up here. As we presented our testimony, he'll present otherwise, and there will be, I'm sure, some discussion on that.

HEARING OFFICER: Anything further? It's a good place to call it a day. Let's go off the record.

(Whereupon, there were no further proceedings had on this date.)

STATE OF ILLINOIS)
) SS
COUNTY OF COOK)

JULIA A. BAUER, being first duly sworn on oath says that she is a court reporter doing business in the City of Chicago; that she reported in shorthand the proceedings given at the taking of said hearing and that the foregoing is a true and correct transcript of her shorthand notes so taken as aforesaid and contains all the proceedings given at said hearing.

JULIA A. BAUER, CSR
29 South LaSalle Street, Suite 850
Chicago, Illinois 60603
License No.: 084-004543

SUBSCRIBED AND SWORN TO
before me this # day
of #, A.D., 2004.

Notary Public