BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

VOLUME I

IN THE MATTER OF:	)	
	)	
EMISSIONS REDUCTION MARKET	)	R97-13
SYSTEM ADOPTION OF 35 ILL.	)	(RULEMAKING)
ADM. CODE 205 AND AMENDMENTS	)	
TO 35 ILL. ADM CODE 106.	)	

The following is a transcript of a rulemaking hearing held in the above-entitled matter, taken stenographically by LORI ANN ASAUSKAS, CSR, RPR, a notary public within and for the County of Cook and State of Illinois, before Chuck Feinen, Hearing Officer, at 100 West Randolph Street, Room 9-040, Chicago, Illinois, on the 21st day of January, 1997, A.D., commencing at the hour of 10:00 o'clock a.m.

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

HEARING TAKEN BEFORE:
ILLINOIS POLLUTION CONTROL BOARD,
100 West Randolph Street
Suite 11-500
Chicago, Illinois 60601
(312) 814-4925
BY: MR. CHUCK FEINEN,
HEARING OFFICER.

ILLINOIS POLLUTION CONTROL BOARD MEMBERS PRESENT:

Ms. Elizabeth Ann
Mr. Kevin Desharnais
Ms. Kathleen Hennessey
Mr. Richard McGill
Ms. Marili McFawn
Mr. Anad Rao
Mr. Hiten Soni
Mr. Joseph Yi

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY MEMBERS PRESENT:

Ms. Bonnie Sawyer
Mr. Richard Forbes
Mr. Bharat Mathur

OTHER AUDIENCE MEMBERS WERE PRESENT AT THE HEARING, BUT NOT LISTED ON THIS APPEARANCE PAGE.

I N D E X

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E X H I B I T S

THE HEARING OFFICER: We are going to get started today. Good morning. My name is Chuck Feinen. I'm the assigned hearing officer to this matter. Also here today with the board is Marili McFawn.

MS. McFAWN: Good morning.

THE HEARING OFFICER: Joseph Yi.

MR. YI: Good morning.

THE HEARING OFFICER: Kathleen Hennessey.

MS. HENNESSEY: Good morning.

THE HEARING OFFICER: Richard McGill --

MR. McGILL: Good morning.

THE HEARING OFFICER: -- a new assistant to Kathleen Hennessey and Kevin Desharnais.

MR. DESHARNAIS: Good morning.

THE HEARING OFFICER: Sitting next to me is Elizabeth Ann, one of our technical unit support staff or member.

Also, in the back of the room is Anad Rao and Hiten Soni, whom we are trying to hide, but they are back there too.

The proposal that's before the board today was filed on October 7, 1996, by the agency pursuant to Sections 27 and 28 of the Environmental

Protection Act.

The proposal includes rules designed to implement Section 9.8 of the act, which is entitled Emissions Reduction Market System.

The agency has prefiled some testimony. There have been prefiled questions. There have been two sets of hearings set up for today, tomorrow, and then again on the 3rd and 4th, all of which are as of now designated for the agency to propose their proposal.

There have been several hearing officer orders dealing with prefiled testimony and prefiled questions that spell out what's been going on, but just for clarification, we were hoping to get prefiled questions in for this first set.

Due to some late testimony filing, Chris Romaine's testimony and prefiled questions for Chris Romaine will be held over for a later date. Most likely, that will be the 3rd and 4th. I don't see any other way around it.

Also, in the back, I should note that there are some handouts from the agency and from the board. The handouts from the board or at least some handouts from the board are a service list as of

today's date. That's in the back.

Also, in the back, are two lists; the notice list and service list. If you haven't been added to the service list or notice list yet, please feel free to sign your name on the appropriate list in the back.

Before we get started, I have indicated that there is a motion that wants to be presented.

MR. TREPANIER: Yes. I'm Lionel Trepanier. I have filed an appearance and I am coming forward as a respondent requesting an extension for prefiled questions. I have my motion in support of that.

Could I bring that to the hearing officer at this time?

THE HEARING OFFICER: Yes.

Could we go off the record for a little bit?

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

THE HEARING OFFICER: Mr. Trepanier filed a motion for an extension of time for filing prefiled questions.

To summarize what the motion states, it's basically due to the late filing of Chris

Romaine's testimony and the post office service, and so forth and so on, and that Mr. Trepanier didn't receive all the testimony until about two business days prior to the required prefiled date of testimony.

What I think the motion asks for is for him to be allowed to ask questions at the February 3rd, and if need be, the February 4th hearings.

Is that correct?

MR. TREPANIER: Yes.

THE HEARING OFFICER: That's pretty much a summary of the motion.

Bonnie, do you have anything?

MS. SAWYER: I'm just wondering are you intending to prefile questions prior to those dates?

MR. TREPANIER: I saw in the order that I received from the board postmarked the 14th of January where it has set a certain date for submission of prefiled questions.

MS. SAWYER: Right. I mean -- but you are going to file it later? You're requesting to file your prefiled questions later, is that correct?

MR. TREPANIER: Yes. The contention is that it would be unconstitutional to move forward and not

allow an opportunity for meaningful cross-examination of the witnesses.

There is a certain right that's being exercised and it would be a denial to not allow the witnesses to be cross-examined in a meaningful way. That includes looking at a proposal and having time to consider that testimony.

MS. SAWYER: Certainly. I guess I'm just wondering are you -- did you request a specific date that you want to prefile testimony on? I didn't quite follow that.

THE HEARING OFFICER: I think that what Mr. Trepanier -- do you mean prefiled questions?

MS. SAWYER: Yes, I'm sorry.

THE HEARING OFFICER: I guess maybe to make this a little bit quicker, is there any way that you could prefile questions by January 31st for the witnesses that are here today so they can prepare by the 3rd and 4th to respond to those questions?

MR. TREPANIER: That's ten days from now. That seems fairly likely.

THE HEARING OFFICER: That's okay then?

MR. TREPANIER: Yes.

THE HEARING OFFICER: So if I were to grant

the motion, you would prefile your questions and serve the service list with those questions by January 31st and then --

MR. TREPANIER: I at least would have the reservations that the agency had in the size of the service list. I have even more concerns being with a very limited income.

So I would seek that I file a copy with -- of my prefiled questions with the clerk and then the clerk make those available to the respondents so that they have it.

THE HEARING OFFICER: Unfortunately, I don't think that the board is prepared to do that. Part of the cost of participating in these hearings and filing questions and being on the service list is that you also serve other participants on the service list.

If we were to allow participants just to file one copy with the board, the board would then be in the business of serving everybody eventually. We just can't let that happen.

MR. TREPANIER: Okay. I understand what you're saying, then, is that you are requesting that the service list be provided with the service

or mailed by the 31st of January first class?

THE HEARING OFFICER: Excuse me?

MR. TREPANIER: The prefiled questions should be mailed January 31st. That's my understanding of what the board would like and that it be mailed to the service list?

THE HEARING OFFICER: That would be sufficient. Of course, if there is any way you can get us a copy because when you mail them on the 31st, it sometimes takes four days and sometimes even longer.

If you can give us a copy, we can maybe -- if, like, the agency wants to call us up for that, we can get it to them right away instead of them waiting for it to come in the mail.

MR. TREPANIER: Okay. So if I understand this, you want a copy in the office on the 31st?

THE HEARING OFFICER: Right, and then you can mail everyone else on the service list a copy of your questions also.

MR. TREPANIER: Okay.

THE HEARING OFFICER: If that's okay with you and the agency doesn't have any problems with that, I'll grant that motion --

MS. SAWYER: That's fine.

THE HEARING OFFICER: -- with the condition that Mr. Trepanier get a copy to the board on the 31st and then mail a copy to all persons on the service list on the 31st.

Then, on the 3rd and 4th, all of the agency witnesses who testify today will be back to respond to those questions.

MS. SAWYER: There are a couple of witnesses that we are going to have testify this afternoon. They are not from the agency. They are members of the design team.

It wasn't our intention to have them come back on the 3rd and 4th. If you need some time to take a little break to ask them questions or something like that, that's fine.

Their testimony is going to be rather general market-based introductory-type stuff. It wasn't our intention, though, to have them come back.

THE HEARING OFFICER: Where are these people from?

MS. SAWYER: Well, one is from the Environmental Defense Fund. He is out of Washington, D.C. The other two are from the Chicago area. They

are from Commonwealth Edison and --

THE HEARING OFFICER: I would expect the people from the Chicago area would be able to --

MS. SAWYER: Make it back?

THE HEARING OFFICER: -- make it back. Who is the witness?

MS. SAWYER: Joe Goffman.

THE HEARING OFFICER: Will he be here today?

MS. SAWYER: Actually, he won't be here until tomorrow.

THE HEARING OFFICER: Did he prefile his testimony?

MS. SAWYER: We prefiled overheads.

THE HEARING OFFICER: But you didn't prefile his testimony?

MS. SAWYER: Not specifically, no. He is going to do more of a presentation.

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

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

THE HEARING OFFICER: Mr. Trepanier, did you want to ask something or respond?

MR. TREPANIER: Yes, I did want to respond

to something. I believe that all of the witnesses are subject to the same requirements that they be available for a meaningful cross-examination.

I would say that even in this instance, that the material that the agency desires to have the witness testify upon is material that they should have served in an expedited manner as they have requested.

If there is any fault that could be found in a situation that presents us where the agency wants to put on testimony, where they had in a timely fashion put in the prefiled testimony, that's the agency's responsibility, and that was their choice.

Now, I think presented with this is that we need to hear more from the agency as far as what it is that makes it so important that this witness be put on tomorrow and not on the next hearing when they would allow for the meaningful cross-examination to a person.

MS. SAWYER: Well, first of all, this testimony -- the board's order initially required us to prefile testimony by a certain date. We requested a waiver from the requirement to prefile all portions

of the testimony and for an extension.

We did file overheads that these witnesses will be using on January 2nd and we sent them overnight mail to everyone on the service list.

At that time you were not -- oh, no. I believe we did send it overnight to you also. So this isn't a portion of the testimony that was filed at the later date.

I would like that -- what I would like to happen is that the witness essentially listen to the testimony and make a determination if he believes that he needs additional time to prefile questions on that.

We already have -- the person who is coming from Washington, he has already been scheduled to come in from Washington. He has a flight in. It may be that Mr. Goffman could be available on the later dates. I don't really know.

THE HEARING OFFICER: Well, didn't you say that he was going to testify tomorrow afternoon?

MS. SAWYER: No, tomorrow morning.

THE HEARING OFFICER: Tomorrow morning. And you hope that all of the cross-examination would happen tomorrow?

MS. SAWYER: Right. I mean, this testimony is not going to be the detailed technical portions of this rule. It's going to be more general market information.

MR. TREPANIER: Well, this clearly -- this information -- that market information is what would be the subject of the inquiry of the board in making a determination if the proposed regulations do fulfill the intent of the Environmental Protection Act's section that's being implemented.

Also, I wanted to say that the January 2nd filing of the overhead didn't sufficiently provide an opportunity for a basis for a meaningful cross-examination and that's because of the agency's lack of diligence in following the rules and as it says in the motion, they failed to provide the copy of the proposal when the board took this matter and set it for hearing.

At that point the rules required that the proposal be available, but it was not. The agency representatives left the board meeting before the end of the meeting and were unavailable at the end of what I believe was on or about December 5th. So a copy of the proposal was not available. I

didn't receive that proposal until on or after January 8th.

As it says so in the motion, I believe that this agency deliberately failed to allow this rulemaking open for a public review and that's why they didn't use their own mailing list to let the interested parties know that the rule was now pending before the board.

THE HEARING OFFICER: Are there any other comments from the audience?

Mr. Harsch?

MR. HARSCH: I am Roy Harsch. I think that counsel for the agency has made a very good suggestion. The hearing officer has deferred the ruling until tomorrow when we have had an opportunity to hear the testimony and ask questions from the floor.

Perhaps there will be no need for testimony -- the need for additional testimony as questioning is presented and we would have the opportunity then to make appropriate motions for the hearing officer to rule.

THE HEARING OFFICER: Okay. This is what I am going to rule. As far as the witnesses

that can definitely show up for the 3rd and 4th, I am going to grant the motion.

As far as Mr. Goffman's testimony, I'm going to reserve ruling on that until after we hear his testimony and see how much questioning there will be.

Additionally, there is an option that we might have to have several more dates for hearings beyond the 3rd and 4th at which time he may be required to come back and provide responses to those questions if he cannot make it in for the 3rd and 4th. I will reserve on that until after tomorrow.

MS. SAWYER: Okay.

THE HEARING OFFICER: Are there any further comments?

Do you understand the ruling?

MR. TREPANIER: Yes, sir. Thank you.

THE HEARING OFFICER: Okay. Let's proceed.

Are there any other motions before we start today? Are there any other questions before we start today?

All right. Well, then, I would like to turn it over at this time to the agency for their proposal on the rulemaking.

MS. SAWYER: Good morning. My name is Bonnie Sawyer. I am representing the Illinois Environmental Protection Agency in this matter.

The Illinois EPA is proposing a rule today to fulfill the rate of progress requirements of Section 182(c) of the Clean Air Act, which will be described in greater detail in the agency's testimony.

The proposed rule is entitled Emission Market Reduction System. It's proposed pursuant to Section 9.8 of the Illinois Environmental Protection Act. This section directed the Illinois EPA to design a market system to meet post-1996 Clean Air Act requirements.

There are procedural rules that have been filed to accompany this proposed rule additionally.

The agency would like to proceed with questions or proceed with testimony by perhaps a group of people and then ask questions after that.

I can describe in greater detail how we would like to proceed. We are going to begin our testimony with David Kee from the U.S. EPA, Region 5.

Mr. Kee will provide testimony on the

federal prospective for the need of reductions in emissions and a little bit about the federal and state relationship.

If anyone has questions for Mr. Kee, we would suggest that those questions could be asked immediately following his testimony.

Next, the agency will present testimony by Bharat Mathur and Richard Forbes on the air quality planning aspects on which this proposal is based.

It's our hope that both Mr. Mathur and Mr. Forbes will testify and then we will have questions -- any questions that you choose to ask to them.

This will be followed by testimony by several of the members of the team that helped to design the conceptual framework of the proposed rule.

These people will be Philip O'Connor from Palmer and Bellevue, Robert LaPlaca from Commonwealth Edison, and Joseph Goffman of the Enviromental Defense Fund.

As I stated earlier, Mr. Goffman will testify tomorrow. His testimony will be followed by

an overview of the proposal by -- presented by Roger Kanerva.

After that testimony, we will follow with testimony by Illinois EPA personnel on various components of the rule.

After that, we will present an economic -- testimony on the economic analysis performed in support of the proposal and then we will end testimony by several other members of the design team and they will essentially be presenting testimony on their perspective of the proposal.

In terms of the questions filed, in some cases, I think it would probably be better to wait until the agency presents its detailed testimony on the various components of the rule to proceed with some of the questions because just in terms of having things going smoothly and the way things are ordered, it would be better if the agency witnesses were there as a panel to respond to the questions.

That's all I really had.

THE HEARING OFFICER: Let's go off the record, please.

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

THE HEARING OFFICER: I think that's what we are going to do is proceed how the agency proposed. We are going to let people ask their prefiled questions as we go as they pertain to the testimony or the section. At the end of the prefiled questions, of course, people with prefiled questions will be allowed some follow-up.

At the end of that we will allow people who did not prefile to ask questions. However, we will have to see how that goes. We will reserve the right to move things on and tell people that that's been asked and answered and move on. So if everyone is okay with that, I think we will start with the agency?

MR. TREPANIER: I have brought some prefiled questions.

THE HEARING OFFICER: Yes.

MR. TREPANIER: So I would like that opportunity to have those addressed at the time of the testimony when it's most appropriate.

THE HEARING OFFICER: Did you bring copies or --

MR. TREPANIER: I have the originals now. So before the witness comes, do I need to present that

to the agency?

MS. SAWYER: We would appreciate it if you could give us a copy as soon as possible.

MS. McFAWN: Have you filed a copy with the clerk?

MR. TREPANIER: No. Having just gotten the previous ruling, I have not filed these.

THE HEARING OFFICER: Let's go off the record.

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

THE HEARING OFFICER: Mr. Trepanier, in the earlier motion this morning, we gave you an extension to file those by the 31st. The agency is going to have all of the witnesses that they will have testify today back again on the 3rd. Maybe we will start out the proceedings on that morning with the questions that you will have filed on the 31st, which would include those that you have there.

MR. TREPANIER: Well, I would offer that what my preference and what I'm seeking is that I be allowed to present my questions of these witnesses instanter.

THE HEARING OFFICER: Right.

MR. TREPANIER: When I last received the board's order after the 14th, this is my opportunity to come in, you know, real quickly and say I have my questions.

THE HEARING OFFICER: Right. What I'm saying is we're going to give you an opportunity on the 3rd to ask all of those questions of the witnesses who will testify today.

MR. TREPANIER: I believe some of the purpose of the hearing wouldn't be served if the questions from someone who is coming forward from a point of view claiming that this point of view has been blocked out to then proceed with the testimony in questions on the testimony minus that critical -- those critical questions which are available and I do have them to give them to the agency today.

THE HEARING OFFICER: Mr. Trepanier, you filed a motion for an extension on prefiled questions to ask those questions. I granted the motion so that you could file those at a later date and ask those questions on the 3rd. I think it's sufficient -- I mean, it's fair for you to be allowed to do that.

In all honesty, it's fair to allow the agency some time to look at those questions and it's

also justifiable. I think what we are going to do is just let you ask your questions on the 3rd.

Now, after everyone else has asked their prefiled questions today and there is some rebuttal, we will open the floor for some questions to the general public. If you feel the need to ask those questions then, you can. However, you will still have the right to do it on the 3rd.

Now, I'm not going to guarantee today that we are going to have time for everyone to ask questions after the people who have prefiled questions to ask questions.

MR. TREPANIER: Well, I would just add that I would think that would be fair. The testimony is punctured with questions. It would be in that area that's being questioned that Mr. Trepanier, myself, has questions that he has worked on for prefiling and immediately following the receipt of this board's order, he has brought them.

MS. McFAWN: Have those questions been prefiled with the clerk of the board or are they just in your possession now?

MR. TREPANIER: I'm seeking to present them instanter.

MS. McFAWN: Generally, this is a rulemaking. What we try to do is have things prefiled so they can be reviewed by the agency so that their witnesses can be more responsive to those questions, more fully responsive than they can if the questions are just generally asked instanter, to use your word.

In that way, it makes the record more orderly. It answers your questions more fully. I think what the hearing officer has suggested here is you have several options. You can go ahead and prefile those questions and they will be taken in the order as they are received.

You also have the option of waiting until or filing before January 31st and having the opportunity of posing those questions to the agency's witnesses at the next set of hearings in February.

You also have the option at the close or at the time of the hearing questions are being posed of the agency's witnesses to ask those questions, and that will probably happen tomorrow based on what I am hearing, and you can ask those not even having prefiled them as time allows, as can anyone else sitting in the audience that has not prefiled questions as of this time.

We try to make it an opportunity for yourself and anyone else in the audience to ask questions of the agency's witnesses at a pertinent time, at a critical time, and yet keep our record orderly so we can review the record because it's hard to take in all that's said and it's important that our written record be legible and understandable as is today's proceeding.

So I have just laid out the three options. I think the hearing officer has tried to do the same. You are free to exercise any of those options. Okay?

THE HEARING OFFICER: Do you want to start the proposal, Bonnie?

MS. SAWYER: Sure. I'll start by introducing our first witness, David Kee, of the U.S. EPA.

THE HEARING OFFICER: Would you swear in the witness?

(Witness sworn.)

WHEREUPON:

D A V I D K E E ,

called as a witness herein, having been first duly sworn, deposeth and saith as follows:

MR. KEE: Mr. Hearing Officer, members of

the board and staff of the board, good morning.

Ladies and gentlemen, my name is David Kee, K-E-E. I am the director of the Air and Radiation Division of Region Five of the United States Environmental Protection Agency.

It's a pleasure to be here this morning to present testimony from the United States Environmental Protection Agency on this proposed rule.

I have been asked to give a little bit of background information about myself. I will try to keep this brief. I'm a native of Illinois. I was born and raised in Harvey, Illinois. I majored in economics at the University of Illinois.

In 1963, I entered federal service with the United States Public Health Service, which is a predecessor agency of the U.S. EPA.

In 1970, I actually served as an assistant to the first chairman of this board, David Curry.

Since 1979, I have served in my current position, which essentially directs the implementation of the Clean Air Act in the Midwest.

With that, I will go ahead into my

testimony. Again, the U.S. EPA really does appreciate the efforts that the state of Illinois and other states are putting forth to improve air quality.

In the last 25 years, we have made very significant strides in improving air quality, but much remains to be done.

U.S. EPA understands the difficulties that states, industries, and our citizens face in achieving greater reductions in emissions.

Congress also understood this difficulty and it turned toward innovative emission reduction methods in its 1990 amendments to the Clean Air Act.

The most noteworthy example of a new approach to air pollution control was the Clean Air Act's acid rain programs allocation and trade system.

Additionally, the title won nonattainment provisions, authorized the use of innovative approaches such as economic incentives and other market-based approaches.

Finally, the Title 5 permit program of the Clean Air Act was designed to accommodate the flexibility needed to implement such programs.

The federal government itself is clearly turning towards using the free market to control air pollution and we appreciate the leadership and innovation that the state of Illinois is putting forth in this area and in particular, in the trading system under review in this proceeding.

U.S. EPA is further encouraged that Illinois is moving in the right direction to improve its air quality and the air quality of its neighboring states.

As for the emissions reduction market rule, U.S. EPA has had several opportunities to review drafts of this rule. We are looking forward to reviewing this rule formally as a state implementation plan revision once it is adopted by the board and submitted today to the federal government by the state of Illinois.

On perhaps a more sober note, I should have to note that the U.S. EPA has notified the state of Illinois that it has obligations that it must meet under the Clean Air Act or sanctions will be imposed against the state.

The current U.S. EPA policy is that states must submit a state implementation plan

revision by December of this year, 1997, to meet the rate of progress requirements for the next three years, that is, by 1999.

It is, therefore, important that the board act upon this rulemaking proposal in a timely manner in order to avoid any possible sanctions.

In turn, the U.S. EPA agrees to review the final rule in an expeditious manner.

Those are my comments.

MS. SAWYER: Thank you, Mr. Kee.

MR. KEE: Thank you.

MS. SAWYER: Are there any questions?

MR. TREPANIER: Is that open for anyone to ask a question?

THE HEARING OFFICER: Yes, go ahead. Please state your name before asking a question to get it on the record.

MR. TREPANIER: I am Lionel Trepanier. The December 1997 date that you mentioned, how was that determined?

MR. KEE: It was 18 months from the time that we notified the state of its failure to submit the rate of progress -- the implementation plan revision.

MR. TREPANIER: So on that day, if there is a

proposal that the EPA has not made a determination on, that is sufficient for the U.S. EPA?

MR. KEE: The state will submit by that date to stop what we call the sanctions clock, which is currently running.

MR. TREPANIER: And that sanction, is that the sanction that would increase the amount of offsets required when major new sources are cited in the nonattainment area?

MR. KEE: That is one of the sanctions available to the administrator of the U.S. EPA.

MR. TREPANIER: Thank you.

THE HEARING OFFICER: Are there any further questions from the audience?

From the board?

MS. McFAWN: Yes. Mr. Kee, who is with you today?

MR. KEE: John Summerhays of our staff.

MS. McFAWN: Welcome.

MR. SUMMERHAYS: Thank you.

MS. McFAWN: You mentioned that the U.S. EPA is using the market system. Can you tell us a little bit more about that?

MR. KEE: Yes. Our Title 4 of the Clean Air

Act, which we developed, includes the provisions of the acid rain program.

Basically, this is, in my opinion, the most successful part of the Clean Air Act. In essence, Congress allocated to the large utility sources of sulfur dioxide allowance for an annual emission allowance for sulfur dioxide. This program went into effect in its first phase in 1995 and in reality, sulfur dioxide emissions -- particularly in the midwest, which the utilities were still burning high sulfur coal without controls prior to the implementation of this program -- had seen very significant reductions in SO2 emissions and it's being done through a market trading program, which allows individual utilities to determine on a plant-by-plant basis how they meet the overall reduction targets that they can get.

MS. McFAWN: Is there anything in that program that you would tell us that would teach us something about this one, any glitches that you have run into, or anything particularly useful?

MR. KEE: I think that that program is perhaps somewhat simpler than what you are endeavoring to do because the monitoring is more straightforward

and these are single stacks or individual stacks at each power plant where it's somewhat easier to monitor emissions and thus keep track of the allocations in the trading.

I think you are embarking on even a more innovative area in terms of trying to do this same type of trading program or similar trading program for organic compounds.

I think the measurement will be the key. You are creating something of value which would be traded and the people who both buy and sell these credits, as they are doing with the acid rain program, will want the assurance that they are actually buying and selling something of value and to do that, there has to be good measurement.

MS. McFAWN: You said that you reviewed the preliminary draft that the agency has been working on along with others. Did you have any preliminary comments on those drafts?

MR. KEE: I will turn to Mr. Summerhays.

THE HEARING OFFICER: We will need to swear him in if he is going to testify.

(Witness sworn.)

WHEREUPON:

J O H N S U M M E R H A Y S ,

called as a witness herein, having been first duly sworn, deposeth and saith as follows:

MR. SUMMERHAYS: I'm John Summerhays.

MS. McFAWN: Your position with the agency is?

MR. SUMMERHAYS: I'm an environmental scientist in the Air and Radiation Division.

MS. McFAWN: Thank you.

MR. SUMMERHAYS: Repeat your question.

MS. McFAWN: Mr. Kee had mentioned that you reviewed the preliminary draft that had been circulated by the agency in its attempts to revise this proposal and I just wanted to know if you had any preliminary comments on those drafts.

MR. SUMMERHAYS: In general, we have been supporting the program. We certainly need a rate of progress submittal and this is an innovative approach for getting those reductions. We will be examining the specific rules in more detail and most likely will be filing comments.

The main thing I would say is that we think it's a good innovative approach in getting the reductions that are necessary.

MS. McFAWN: Nothing at this time would cause you significant concerns with the proposal as is?

MR. SUMMERHAYS: There is nothing that causes significant concerns.

MS. McFAWN: You mentioned that you were going to file comments. Do you mean with the Pollution Control Board during this proceeding?

MR. SUMMERHAYS: We are considering filing comments with you.

MS. McFAWN: Okay. That would be most helpful if you file during our rulemaking. It shortens up our process. I should say the state's process and not just the board's.

THE HEARING OFFICER: Please state your name.

MR. NEWCOMB: My names if Christopher Newcomb from Karaganis & White.

Are you familiar with the emission reduction market system program regulations that were proposed in southern California?

MR. KEE: Not particularly. I don't know what familiarity John has with them.

MR. SUMMERHAYS: I'm somewhat familiar, but not real familiar.

MR. KEE: I'm just aware that there was a

program attempted. Beyond that, I don't have any specific knowledge of their program.

MR. NEWCOMB: So you did not compare whatever that program was in southern California to the proposed program here?

MR. KEE: I'm not aware if that's something we can have done or intend to do.

MS. MIHELIC: I am Tracey Mihelic from Gardner, Carton & Douglas.

Mr. Kee, are you aware of any other market programs similar to the one being proposed that has been successful elsewhere in other states?

MR. KEE: No, I am not.

MS. McFAWN: Can I expand on your question?

Are you aware of any other states?

MR. KEE: Oh, I'm aware of the fact that southern California, the South Coast Air Board, did go down this road. Again, I think that this is the definition of innovation and it is, I think, one of the first.

There are, of course, trading -- Michigan has a trading rule. It's not a CAAPP and trade type of a program. We are in the process of evaluating that which is before us as a state

implementation plan submittal.

So I'm aware of the attempts that Michigan has made in the trading area, but again this is in terms of a nonattainment area that's using the program to meet its rate of progress requirements under the Clean Air Act. I'm not aware of another one that's in place.

MS. MIHELIC: Again, I am Tracey Mihelic. Oh, were you addressing someone behind me?

THE HEARING OFFICER: Yes. In the back, why don't you go ahead.

MR. BARNES: My names is Cal Barnes. I'm with Garden Container. The question that I have is you allude to being aware that they went down this road. They have abandoned the program. I just was curious as to whether they would have made any effort to find out why they spent all that money and then they abandoned it? What's the key for Illinois going down the same road?

MR. KEE: Again, from the prospective of the federal government, I think we want to see Illinois succeed in this case. Certainly, I'm sure that the folks from Illinois have looked at the California situation and weighed that in making their

determination to move forward.

We are working with Illinois to try to see if we can make this successful. Again, I think, as I indicated, the definition of innovation is someone who is going to have to make -- to step out to make a program like this work. We want to work with Illinois.

At the federal government, we are trying to reinvent ourselves. We are trying to be open to innovation. We are trying to find new ways to do things. I would very much like to see this innovative approach proven in the midwest.

MR. SUMMERHAYS: If I could add an answer to that question. The South Coast is continuing to implement a trading program for nitrogen oxide. They have been implementing that for a number of years.

MR. BARNES: That is true, but they have abandoned the VOC.

MR. SUMMERHAYS: They are proceeding towards implementing the program -- extending the program to regulate VOC as well.

They had difficulty agreeing on how to assess baseline emissions in part because of recessionary circumstances and business swings.

So they were unable to agree on how to set baseline emissions.

MR. BARNES: I didn't know why they abandoned it.

MR. SUMMERHAYS: That is why they failed to proceed to complete the program.

THE HEARING OFFICER: Let's try to ask questions and keep it to questions instead of testifying.

Ms. Mihelic, I think you had a question?

MS. MIHELIC: You had talked about the open trading program in Michigan.

MR. KEE: Yes.

MS. MIHELIC: What do you mean by that term as compared -- I understand the capital trade program here, but what do you mean by open trading?

MR. KEE: John, can you help me on that a little bit? I have limited understanding.

First of all, most of Michigan is in attainment, including the Detroit metro area. So they no longer have these rate of progress requirements which puts sort of a CAAPP, if you will, on emissions that the Chicago area can emit.

What they are attempting to do, as I

understand it, is to just permit trading almost anywhere in the state without having the concept of a lid on emissions, if you will.

It would allow companies to trade back and forth again virtually anywhere within the state without having the concept of the CAAPP.

The acid rain program that I alluded to, we are reducing the overall emissions that can be admitted by utilities in this country to reach sort of a target level, which is very similar to the situation that you have here for VOC emissions in Chicago and the metro east areas of Illinois.

So there is an actual CAAPP on emissions and you are using the market-based approach to help meet that target. The Michigan system is not driven by that kind of a target situation.

MS. MIHELIC: You are talking about the Title 4 program being similar to the one proposed here, similar, not identical, I understand, but do you know how trades are actually occurring under the Title 4 program on a yearly basis?

MR. KEE: No, not off the top of my head. That information is really readily available from the U.S. EPA from our acid rain program. It's probably

on the web.

If I may, I'm not sure that the actual number of trades are necessarily the only measure of the success of a program.

From an environmental standpoint, we are seeing a reduction in emissions. Whether companies choose to trade -- first of all, utilities can trade internally between their various plants and those trades don't necessarily get reflected in terms of certain market trades that are revealed, but there are trades occurring and they are out there.

I think the sense of the regulatory community is that the cost of the program as reflected in the actual dollar value of individual trades is much less than what people had speculated the cost would be absent the trading program.

MS. MIHELIC: And you said there are reductions being achieved in the emissions. Do you know if those reductions are being achieved because utilities have actually just reduced emissions by other controls or by using the trading to obtain those reductions?

MR. KEE: Well, trading doesn't in and of itself reduce emissions. They have reduced emissions

either by the installation of pollution controls or likely by switching to lower sulfur coal, which is the way they have chosen.

Of course, they have had that freedom under the Clean Air Act to choose how they reduce their emissions.

I'm not sure it's possible to take apart, you know, what the actual impact of the trading program is other than just sort of speculating that the overall costs from an economic sense, I think, are thought to be lower than through a command and control system, which is the system that we had used in the past where basically bureaucrats are assigned to individuals -- Congress assigns to individual plants what their targets are and then they meet those targets individually.

The whole concept here is that by allowing freedom of individual sources to either reduce emissions or to buy from a source that has a lower cost of control, that you will find for society as a whole the lowest cost way of achieving the goal.

Again, the sense that I have is that we are achieving our environmental goals and the sense

that I have is that we are doing it at a far lower cost than through a command and control approach.

THE HEARING OFFICER: Mr. Burke?

MR. BURKE: I'm Ron Burke with the American Lung Association. I have seen a summary of the agency's -- EPA's outstanding --

THE HEARING OFFICER: Is this going to be a question?

MR. BURKE: Yes. This is a question.

-- (continuing) outstanding issues with the Michigan proposal. In your opinion, does Illinois' proposal have any of the same problems that you have identified with Michigan's proposal?

MR. KEE: I really am probably not in a position and I don't have with me today the person who is working on the Michigan rule. We do have, as you indicated, some difficulties with the Michigan rule.

It is my sense that -- and I have certainly not been advised that we have those kinds of issues, but again, we are going through a review process and as we identify issues, we will be raising those.

Certainly, the sense that I have is that

we have not identified those kinds of concerns. It may well be that many of those concerns arise from the open market nature as opposed to the capital trade nature of the Illinois rule.

THE HEARING OFFICER: You have a question?

MR. ELVERT: Yes. I am Bob Elvert of Mobil Oil. Just as a clarifying question, is the Michigan program a voluntary program or is it not an acquired program?

MS. SAWYER: I just want to clarify that, you know, his testimony is not really about the Michigan program today.

MR. ELVERT: Right. I just wanted to clarify this so people don't think that Michigan is a required control measure, that it is a voluntary measure. I think he pointed that out.

MR. KEE: Was that a question? I think that's right. I think that's sort of the nature of the open market, that companies can come in as they have surplus credits, which goes to the whole question of the definition of what surplus is in a system where you don't have a capital trade program. So it's a much different type of situation in Michigan as we have here in the state of Illinois.

MS. HENNESSEY: Mr. Kee, I have one question.

On Title 4, are there any limits to the number of credits or allowances that any single utility can purchase?

MR. KEE: Off the top of my head, I don't think there is. Up to their limit of their financial ability and their desire to have access credits, I think there's -- really, I am not sure there is any limit upon what any of us -- I mean, this is not limited to utilities.

Anyone can go over to the Board of Trade and buy these credits. I don't know what the price is. It's $70 or $80 a ton. I don't think there is any limit on the ability of any individual to accumulate those.

Some environmental groups have purchased allowances and retired them to take them out of the system and that effectively reduces emissions. Other companies can buy them and bank them. They have a certain life.

I think the answer is that that's the nature of the free market system that we are relying on and, in fact, it is working rather well.

MS. HENNESSEY: Thank you.

THE HEARING OFFICER: Mr. Trepanier?

MR. TREPANIER: On the Title 4 program, when an allowance -- when a reduction is made and an allowance is created, does that allowance -- has that been reflected in the Clean Air Act during the process permit of the generator?

MS. SAWYER: I'm going to object to this line of questioning because we're getting into -- he is not an expert on the Title 4 acid rain program.

We are going to present more testimony on Title 4 later on in the proceeding, but Mr. Kee is here to present a policy perspective and is not an expert on the details of the Title 4 program.

MR. KEE: Thank you, Bonnie.

MR. TREPANIER: Maybe if I could just clarify the information that I'm looking for regarding this and how the EPA has developed their -- developed a recommendation on it.

When you compare it with the Title 4 program, is the creation of an allowance -- is the reduction in the Title 4 program represented by one allowance or is it re-represented every year?

MS. SAWYER: I see this question as a detailed question about the acid rain program.

MS. McFAWN: Ms. Sawyer, did you think you were going to have more testimony on the Title 4 program?

MS. SAWYER: Yes, we are.

MS. McFAWN: Would you be happy to hold that question for the correct person to answer it for you?

MR. TREPANIER: Yes.

MS. McFAWN: Thank you.

THE HEARING OFFICER: Are there any more questions? Okay. Thank you.

MS. McFAWN: Thank you very much, gentlemen.

MS. SAWYER: We are ready to swear in the next witness.

(Witness sworn.)

WHEREUPON:

B H A R A T M A T H U R ,

called as a witness herein, having been first duly sworn, deposeth and saith as follows:

MS. SAWYER: Would you please tell us your name?

MR. MATHUR: Bharat Mathur.

MS. SAWYER: Could you tell us a little bit about your educational background?

MR. MATHUR: I have bachelor's and master's

degrees in engineering. In addition, I have several management courses from several different institutions.

MS. SAWYER: Mr. Mathur, could you tell us a bit about your work experience?

MR. MATHUR: I have been with the Illinois EPA for 25 years. Currently, I'm the chief of the Bureau of Air. As such, I'm responsible for the development and implementation of all of the air pollution control programs under the Clean Air Act as well as the Illinois Environmental Protection Act.

Prior to that, I was the deputy manager in the Division of Land Pollution Control and dealt with Superfund and RECRA issues.

Prior to that, I was in the permit section in the Division of Air Pollution Control. Prior to that, I had several positions in the Division of Water Pollution Control.

MS. SAWYER: Mr. Mathur, if you would, just proceed with your presentation on air quality.

MR. MATHUR: Okay. Thank you. If you don't mind, I'll stand.

MS. SAWYER: Not a bit.

MR. MATHUR: What I would like to present

today is very briefly some of the Clean Air Act requirements as they relate to ozone in Chicago and also share with the board and the audience the evolving policy and strategy issues as they apply to the ozone and some of our policy framework of where this particular proposal fits into the scheme of our thinking of the Illinois EPA.

Could we have the next slide, Gary?

MR. BECKSTEAD: Yes.

MR. MATHUR: I first want to start by emphasizing that we are talking about the Chicago nonattainment area only. There are two ozone nonattainment areas in Illinois. The other is the metro east. That is not the subject of this proposal. Our comments will be limited to our strategy in Chicago.

Just leave it up there.

The Clean Air Act when adopted or passed in 1990 for the very first time contained descriptive mandatory control measures that states had to develop and implement depending upon the severity of the nonattainment problem.

Chicago was determined to be a severe nonattainment area, which is second only to Los

Angeles because of the measured ozone concentrations over a certain period as defined under the Clean Air Act.

Consequently, some of the mandatory measures imposed in Chicago were fairly rigid and strict.

In addition to these mandatory measures, there were two other key requirements in the Clean Air Act; one of them being that by 1996, the state would develop and equip regulations and adopt adequate regulations and submit to the EPA as a state implementation planned revision of all those requirements to show a 15 percent reduction in emissions from a 1990 baseline.

Mr. Forbes, in his testimony after mine, will provide some details on some of those requirements.

The second provision of the Clean Air Act required states to continue to provide an average of three percent a year reductions in the precursors of ozone. In other words, those pollutants that are responsible for the formation of the ozone.

We are here today to talk about our strategy relative to satisfying the annual three

percent requirement to refer to the Clean Air Act as ROP measures.

I would like to report that the state of Illinois has performed very successfully in the last five years in terms of meeting these obligations that were not only mandatory, but they are obligations under the 15 percent plan.

Our regulations are at EPA. It is my information that most of them will be approved imminently so that by 1996, we will not only have the regulations on the books, but also actually achieve a reduction in emissions. We will also be addressing that later.

I want to recognize the cooperative effort of not only the factory industry, but the environmental groups, the agency, and lastly, but certainly not the least, the responsiveness demonstrated by the board itself in allowing Illinois to be one of the forefront states in meeting its obligations under the Clean Air Act.

Quite frankly, I'm hoping that a similar approach will allow us to further achieve our mandate obligations.

An important issue that came out of our

analysis of the ozone air quality program was that in spite of making the reductions mandated and otherwise required by the Clean Air Act, we are not able to demonstrate attainment for the ozone standard in Chicago. That is why we are proceeding to look at the additional reductions.

Particularly, there are two pollutants that contribute to the formation of ozone. One is volatile organic materials or volatile organic compounds. Sometimes they are referred to synonymously. For this proceeding, I will not distinguish between the two. I will refer to them as VOCs or VOMs. The second pollutant is nitrogen oxide.

When the Clean Air Act was adopted in 1990, it was generally felt reductions of either VOCs or nitrogen oxides would lower ozone concentrations.

However, the state of Illinois, in working cooperatively with the states of Wisconsin, Michigan and Indiana, through an organization called Lake Michigan Air Directors Consortium, formerly referred to as LMADCO, have done extensive air quality analysis which was conducted by perhaps the country's most sophisticated air quality model, which

developed or demonstrated some pollution in the typical thinking when the Clean Air Act was adopted.

Essentially, we determined through all of these studies that because of the mix of the pollutants and the chemistry in the Chicago area, nitrogen oxide reductions were not giving us reductions in ozone.

I would like to refer to the next chart, which is labeled Figure 2. It depicts bar charts that are the result of extensive computer modeling to show the impacts of VOC and NOx reductions on peak ozone concentrations.

What this chart shows, starting at the left-hand bar, is a model of 1990 emission levels in Illinois, the model predicted at peak ozone concentrations of 143 parts per billion as compared to the ozone standard of 120. This is clearly demonstrating a violation.

When you applied an across-the-board 30 percent NOx reduction strategy, the ozone peak concentration actually went up. This is the basis of my earlier statement that because of the chemistry in Chicago, NOx reduction, as a strategy, is not available to this state.

The third bar shows the beneficial effects of reduction of 30 percent in VOCs. The fourth chart shows what happens when you reduce VOCs and nitrogen oxide. The ozone concentration goes up from just the VOC strategy.

The conclusions that can be drawn from this analysis are, number one, that NOx reduction creates an ozone disbenefit or an increase in ozone, which is certainly not what we are trying to do here.

Number two, the only pollutant available to reduce in the Chicago nonattainment area in order to lower the ozone concentration is VOCs. Hence, the agency's strategy has to be a VOC oriented strategy as much as we were looking forward to being able to reduce nitrogen oxidizes to reduce the ozone.

Now, a --

THE HEARING OFFICER: Before we move on --

MR. MATHUR: Yes.

THE HEARING OFFICER -- I wonder if the agency could enter that as an exhibit, Figure 2?

MS. SAWYER: Sure. All of these have been -- were included in the prefiled testimony, but we can enter all of the slides he is using as either one

exhibit or exhibits individually, whichever you prefer.

THE HEARING OFFICER: Well, it might be better for the record if we enter them as we went so it's better on the testimony.

MS. SAWYER: Right.

THE HEARING OFFICER: I think we will be a better record.

MS. SAWYER: Okay.

THE HEARING OFFICER: So if you don't mind doing it as we go along, unless you see a problem, we'll just proceed.

MS. SAWYER: That's fine.

THE HEARING OFFICER: If you could, move to have that entered.

MS. SAWYER: Okay. I need the board to mark this as Exhibit 1.

(Document marked as Hearing Exhibit No. 1 for identification, 1/21/97.)

THE HEARING OFFICER: Just so the record is clear, Figure 2 was not the first overhead that Mr. Mathur used. It's the third one.

Let's go off the record.

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

THE HEARING OFFICER: I believe this is the third overhead that was used. We have marked that as Exhibit 1. At the end of Mr. Mathur's testimony, the agency will move that these be entered as an exhibit. If there are any objections, we will take care of them then.

MS. SAWYER: Are we on the new chart?

MR. MATHUR: Yes.

MS. SAWYER: Okay. I would like to have this 12 marked as Exhibit 2.

(Document marked as Hearing Exhibit No. 2 for identification, 1/21/97.)

MR. MATHUR: Okay. I'm now referring to Exhibit 2 or my Figure 3.

One of the many significant findings of the Lake Michigan Ozone Study was that there was a high level of ozone entering the Chicago nonattainment area. We typically measure ozone at ground level through our monitoring network.

When we conducted the Lake Michigan study, we acquired aircrafts and balloons in order

to get a profile of ozone and precursor concentrations vertically at higher altitudes.

This is a plot of the ozone concentrations at the southern boundary of the nonattainment area. As you can see in Figure 3, the concentration of ozone at ground level would be as low as 32 parts per billion, fairly steady after being 32 and 38.

However, if we were able to measure and if we actually were able to measure ozone at increasingly higher altitudes, the ozone concentrations changed. They went up. This was the first time that we, in the midwest, and perhaps in the country, realized that various levels of ozone concentrations exist as we go up from ground level.

As you can see, the highest concentration measured on this particular evaluation was 110 parts per billion. It doesn't take much to conclude that if the ozone as high as 110 parts per billion is entering the Chicago nonattainment area, it would not be very easy to demonstrate attainment in Chicago when the standard itself is only 120. It would particularly not be easy when the only

strategy available is reduction of VOCs.

I'm going to the next chart.

MS. McFAWN: Before you go on, could you just, for the record, explain what LMOS is?

MR. MATHUR: LMOS stands for the Lake Michigan Ozone Study, which was conducted by the Lake Michigan Air Directors Consortium. The acronym for that is LMADCO, which is a not-for-profit organization whose members are of the states of Illinois, Wisconsin, Michigan and Indiana.

MS. McFAWN: The study was conducted in '91?

MR. MATHUR: The study has been conducted from 1990 with actual field measurements in '91.

MS. SAWYER: I will mark this as Exhibit 3.

(Document marked as Hearing Exhibit No. 3 for identification, 1/21/97.)

THE HEARING OFFICER: I'm marking what is called Figure 4, "VOC Reduction at Different Background Levels."

MR. MATHUR: Exhibit 3 or my Figure 4 is intended to show the relationship between the percent reduction in VOCs with no change in the concentration of boundary ozone and with a change or a lowering of

boundary ozone concentrations.

I made the point earlier that with ozone coming in as high as 110, our VOC reduction target to demonstrate attainment would be high. That figure is almost 93 percent.

We do not believe that it is technically feasible to reduce the 1990 inventory of VOCs in the Chicago nonattainment area by 93 percent.

If we were able to reduce the incoming ozone to 70 parts per billion, the VOC reduction target in Chicago is lowered to just over 60 percent.

If we were able to lower the incoming ozone to 60 parts per billion, the target VOC reduction is lowered to just over 45 percent, closer 16 to 48 percent.

This kind of information was instrumental in sharpening our strategy from that point on. It became increasingly clear that the solution to the Chicago nonattainment problem was a combination of reductions in incoming pollution as well as continued reductions in the Chicago nonattainment area.

MS. HENNESSEY: Mr. Mathur, the base case

that you have listed on this Exhibit 3 is 143 parts per billion?

MR. MATHUR: The base case is reflecting no change in incoming ozone concentration.

MS. HENNESSEY: Okay.

MR. MATHUR: So I had indicated that the incoming ozone was as high as 110. For discussion purposes, we could use an average incoming ozone of about 90 parts per billion.

MS. HENNESSEY: Thank you.

MR. MATHUR: Having observed phenomenon of the kind I have just described and having realized that Congress and the Clean Air Act had not considered these kinds of phenomenon, we brought this information to the attention of the U.S. EPA.

Our primary purpose in discussing this with the EPA -- actually, there were two primary purposes. One was to persuade EPA to understand that even though we know that air knows no bounds, that we did not know the extent of the transport of pollution.

Secondly, we had to persuade EPA that this phenomenon was not limited to the state of Illinois, that perhaps this phenomenon was broader

than the state of Illinois.

A similar phenomenon was being noticed in New York and other northeastern states. Even states like Georgia, as they were developing ozone attainment strategies for Atlanta, they were noticing high levels of ozone coming into the area.

This resulted in one of the more significant EPA policies on ozone attainment. In March 1995, Mary Nichols, the assistant administrator of Air and Radiation at U.S. EPA put out a two-phased ozone policy.

The first phase would require that states continue to make incremental reductions in emissions in the nonattainment area as required by the Clean Air Act, which quite literally translated to you will do your three percent a year reduction as required by the Clean Air Act for as many years as required by the Clean Air Act.

The Clean Air Act requires that three percent a year reduction in 1996 through the attainment year, which is 2007.

If you compute roughly that three percent a year reduction for 11 years, it's a nominal 33 percent reduction beyond 1996. So the first phase

of EPA's policy would require states to meet the congressionally mandated targets of three percent a year reduction.

The Clean Air Act would have allowed states to use either VOCs or NOx to meet that three percent requirement. Fortunately, as I explained earlier, NOx reductions are not available as a strategy and we were faced with looking at a 33 percent reduction of VOCs.

The second requirement or the second phase of the EPA policy memorandum was to facilitate a national discussion and analysis on the transport phenomenon.

The Environmental Counsel of States, the acronym for each is ECOS, E-C-O-S, which is made up of environmental commissioners in the 50 states, took on the responsibility of conducting a national assessment of ozone transport.

The group came to be called the Ozone Transport Assessment Group or OTAG. Participation in OTAG was mandatory under the March '95 policy put out by the EPA.

The EPA also allowed the state for participation in this two-phased policy an extension

of time to submit our ozone attainment strategy, which otherwise would have been required by November of 1994.

So in return for extending the submission of our attainment strategy to EPA, we were required to do two things. Number one, make continued reductions in VOC of three percent a year; and number two, participate in this national ozone analysis of transport.

What we submitted to U.S. EPA in November was an interim attainment strategy where we assumed a boundary ozone of 60 parts per billion and therefore, indicate to the U.S. EPA that we would meet -- consequently, we would need to have reductions beyond 1996.

I will go to the next slide.

MS. SAWYER: I will just have this marked as Exhibit 4.

(Document marked as Hearing Exhibit No. 4 for identification, 1/21/97.)

THE HEARING OFFICER: I am marking what is known as "Table 1, 1970-2007 Chicago VOM Emissions Summary, Tons Per Ozone Season Weekday," as Exhibit

No. 4.

MR. MATHUR: I will now describe Exhibit 4, my 3 Table 1.

The purpose of this table is to show you how the various sectors contribute to where pollutions have also contributed to emission reductions since 1970.

We started in 1970 at approximately 2,000 tons a day of VOCs from these various sectors. By 1990, when the Clean Air Act was passed, we were at about 1,200 tons a day.

Most of the reductions between 1970 and 1990 were due to significant improvements in automobile design, reductions in automobile emissions, and reductions in the stationary source sector or industries in Illinois.

For ten years, as we now know it, Illinois EPA proposed and board adopted what was formally referred to as RACT regulations. They were 20 instrumental in making significant improvements in air quality and reductions in emissions.

Between 1990 and 1996 is when we implemented the mandatory Clean Air Act measures and 24 our plan to reduce emissions by 15 percent, which in

our business is referred to as the 15 percent plan, but which all of the regulations have been adopted and submitted to the EPA and are pending their approval.

If we made no further reductions after 1996, the numbers under the column 1999 and 2007 reflect the growth that would occur because all sectors receive growth over time.

The last two columns are intended to give a sense of what are the total VOC emissions the Chicago area can have with the two different boundary conditions that I have showed on the previous exhibit.

So if we could achieve a 60 parts per billion ozone boundary instead of the average of 90 that we experienced in our field study, we would have a 60 or a 50 percent target depending 60 parts per billion or 70 parts per billion.

In the most severe circumstance, VOC inventory in Chicago would have to be about 480 before we could demonstrate attainment. In lesser significant circumstances, we could do a VOC inventory in Chicago of 600.

This is a very significant data because

it shows you that at the end of 1996, we are nowhere near where we would need to be even with all of the reductions in boundary ozones.

So the point that I am trying to make is as we finalize the conclusion of this national assessment on transport and as we come up with more defined strategies of how we could lower background ozone by reducing emissions outside of Chicago, we have assumed the best case, which is 60 parts per billion, and we still need no more than 600 tons per day VOC in the Chicago area.

So our challenge is to go from 781 down 13 even under the best of circumstances. That is why we are here today to talk partly about how to get that.

I will now show the next one.

MS. SAWYER: I would like to have this exhibit marked as Exhibit 5.

(Document marked as Hearing Exhibit No. 5 for identification, 1/21/97.)

THE HEARING OFFICER: I am marking the Figure 23 5 OTAG map as Exhibit 5.

MR. MATHUR: Figure 5 is a map of the eastern

United States, which is the subject of this national assessment of ozone transport that I have talked about. Thirty-seven states are included in this modeling domain.

The study itself is not relevant to this particular proceeding at the moment. I would like to point out that the initial rule as developed by the agency was in response to the EPA policy statement of 1995 where we were seeking a 30 percent reduction from stationary sources over a six-year period. This was responding to the three percent a year ROP requirement of the Clean Air Act.

The proposal before the board today is significantly different. I will explain it in a minute, the difference, but that is why the results of OTAG at this time are not relevant. They will be relevant when the agency determines that conditional reductions in Chicago are necessary.

In June of 1996, the state of Illinois again took a lead position in bringing to the attention of the U.S. EPA that their first requirement of their '95 policy of the nonattainment area implement a three percent reduction through 2007 was impractical and not feasible at the moment

particularly because until we had the completion of the OTAG study, it was premature to conclude that all of the 33 percent would be necessary in Chicago.

Consequently, EPA revised its policy position and now only is requiring that a nine percent aggregate reduction over the next three years be made and submitted to EPA. Based on the Clean Air Act deadlines, this submission was due to EPA in the middle of 1996.

That is why we received a threat of sanction in July of 1996 informing us that we were significantly behind schedule in submitting an ozone attainment state implementation plan and as is provided for in the Clean Air Act, we were given 18 months to make that submission or to face sanctions.

That was the 18-month period alluded to by Mr. Kee. It simply means that we are required to submit our nine percent ROP state implementation plan on which the trading rule currently before the board is a key part to EPA by December of 1997.

In order to allow the agency to make this submission by December, I would be looking forward to the board adopting these rules no later than August of 1997.

We can go to the last slide, which will be Exhibit 6?

MS. SAWYER: We will have this marked as Exhibit 6.

(Document marked as Hearing Exhibit No. 6 for identification, 1/21/97.)

THE HEARING OFFICER: I am marking what -- I am marking Exhibit 6, which is called "Table 2, Summary of Attainment/ROP Scenario With ERMS Program @ 4%, '97 - '99, Emissions of VOM Tons Per Day."

MR. MATHUR: Exhibit 6 from my Table 2 is a summary chart that I will attempt to use to make several significant policy statements that were the foundation of the agency's approach to this particular rulemaking.

I have already mentioned a change in EPA policy requiring its submission of the first nine percent ROP by December of '97 resulting in emission reductions in '99.

In view of that change in policy and in view of the Ozone Transport Assessment Group and their work in order to determine the ultimate balance between reducing ozone entering Chicago and reducing

emissions in Chicago, the agency revised its target reductions from 30 percent over six years down to 12 percent over the next three years for an average of four percent a year.

I want to clarify that four percent a year is a way of stating the requirement consistent with the Clean Air Act language where we would be seeking the 12 percent at the end of the third year or at the end of 1999.

I would like to briefly explain what's on the chart. I have the four industry sectors or four sectors that typically reduce VOCs. The point refers to large stationary sources. On-road mobile refers to typically automobiles and other gasoline vehicles. Off-road mobile refers to lawn mowers and golf carts and other similar machinery that uses gasoline that is not on the road. Area refers to small stationary sources like gas stations and dry cleaners where each individual source has small emissions, but collectively as a class, their emissions are significant.

The first column reflects the 1990 base emissions, which are the foundation of Clean Air Act planning in Illinois and all other states and gives

you a breakdown of the contribution of each of those sectors.

Now, 1996 is what we expect to see when everybody comes into compliance with our 15 percent plan. Because of the nature of the rules and because of the building contingency that is required by the Clean Air Act and because of the higher effectiveness in terms of our ability to enforce the rules and the higher voluntary compliance that we expect from our regulative community, we were able to demonstrate further reductions in emissions.

Consequently, we have achieved more reductions than the 15 percent target would have required. In other words, if you look under the column for 1996, our target level was 857 tons. That's where we should be, but we hoped we would be at 781. The good news is that it gives us a head start on our next ROP target.

If you look at the first row for point sources, which is the subject of today's discussion, we expect that all of the point sources would have collectively an emission of 171 tons per day.

The figure in parenthesis next to 171, which is 105, that is the emission level in tons

per day from those sources that we believe will be affected by the occurrence regulatory proposal. There are certain exemptions built into this rule, as the agency will testify in the next several days. Now, 105 is the emission level those sources that we believe will be covered.

Under the 1999 column, that is our best attempt to show emissions from the various sectors including from the point sources after the application of the 12 percent reduction.

I might add that there were two additional rulemakings necessary over and above the reductions that we would already get from our 15 percent plan.

One is this trading rule. The other is the regulation that would impact cold degreasing operations, which is the reduction that you see under the area source sectors between 1996 and 1999.

That rulemaking is -- has been submitted to the board and that, in combination with this rulemaking, are the only two outstanding regulations for the state who develop its '99 SIP to be sent to the EPA by December of 1997.

We also have indicated on this chart

what is the ROP target beyond 1999 just for reference. We obviously are not there. We have also indicated on the chart what might be the attainment level of VOCs at 570-some tons, which is reflective of a 70 parts per billion ozone boundary. For planning purposes, the agency believes this is the more realistic figure than the 60.

Once again, I make the point that while we are only seeking the 12 percent today and will await the results of the ozone transport assessment, the 12 percent we seek today is well within the reductions that we believe will be necessary in Chicago.

There should be no question, and there certainly isn't in our mind, whether this 12 percent is being sought prematurely. We will need more later.

The other message on this chart is that it is the state's intention to maximize emission reduction credits from federal measures as much as we can. We do not wish to impose on our own regulated community before making sure that we have taken advantage of all of the federal measures that are in the Clean Air Act or that EPA has required to

promulgate.

Some of those are measures for cleaner gasoline. There are measures for lower emission standards for cars. There are several EPA measures for off-road engines and for area sources. We have maximized the benefits that the state can derive from some of those measures.

Not all federal measures are going to be promulgated in the next three years. Some of them are going to be promulgated over the next ten or 15 years. We have tried to indicate on this chart, at the bottom right-hand corner of the chart, what some of the future federal measures are that will give us emission reduction benefits.

The state is not in the position to take advantage of those today because we have a requirement to show a nine percent reduction aggregate from all the emission sectors by '99.

I want to make it clear that should we need additional reductions beyond '99, we will first depend on all of these federal measures that are going to happen anyway for seeking more reductions for our own community.

I think I will stop here. I'm open for

questions.

THE HEARING OFFICER: Do you want to take a five minute break before we do that and come back and start questions for Mr. Mathur?

(Whereupon, after a short break was had, the following proceedings were held accordingly.)

THE HEARING OFFICER: We will go back on the record at this point and proceed with the questioning of Mr. Mathur.

Let's go with those that are prefiled.

MR. SAINES: I'm Rick Saines with Gardner, Carton & Douglas. These questions are not part of our prefiled questions. These questions --

THE HEARING OFFICER: Can we start with the prefiled questions first?

MR. SAINES: Sure.

MS. FAUR: I'm Cindy Faur from Sonnenschein, Nath & Rosenthal. We have just a couple prefiled questions concerning the use of emission reductions from outside the Chicago area.

In your testimony, you stated that there was a -- that we would need to have a combination of

emission reductions from inside the nonattainment as well as from outside the nonattainment area.

Will the agency consider the use of permanent, enforceable, real, quantifiable and surplus emission reductions that occur outside the nonattainment area in the ERMS system?

MR. MATHUR: Let me first clarify that my statement that we would need emission reductions inside the nonattainment area and outside, I was referring to needing emissions outside, reduce the boundary of concentration, or in other words, to reduce transported ozone.

Because if we are successful in lowering boundary ozone, the VOC reduction target inside goes down towards what I believe is a more reasonable level.

That was my context of emission reductions outside and emission reductions inside. This particular rulemaking is intended to reduce emissions inside as part of the overall target inside.

So at the moment, this rule does not accommodate emission reductions outside. That will be done as part of the larger exercise that comes out

of OTAG in order to determine what are the strategies that reduce transported ozone.

MS. FAUR: Okay. So to clarify, once the OTAG findings have been released, the agency would intend to take another look at this rule and make revisions if suggested by the OTAG findings?

MR. MATHUR: That is correct.

MS. FAUR: Okay. I have one other question.

What flexibility or incentives will the agency provide for companies with operations in the Chicago area to consolidate operations into Chicago, from source areas outside, but upwind of, the Chicago nonattainment area?

MS. HENNESSEY: Ms. Faur, could you identify for the record the number of the prefiled question you are asking, please?

MS. FAUR: This is my last question.

MS. HENNESSEY: Okay.

THE HEARING OFFICER: This is Question No. 12 on Page 5 of their prefiled testimony.

MS. HENNESSEY: Thank you.

MS. FAUR: It's on Page 5 of our prefiled testimony.

MS. HENNESSEY: Thank you.

MS. FAUR: This has another part to it, but I thought I would let him answer this first.

MR. MATHUR: We do not have a strategy that will provide that kind of incentive as a part of this rulemaking.

Let me hasten to add that we have strongly pushed EPA as it develops further ozone attainment strategies to allow credit from the reductions of VOCs outside or upwind of Chicago to be countered towards the ROP targets inside of Chicago in an effort to bring some equity into where sources can reduce and thereby allow the state to meet its Clean Air Act obligations.

MS. FAUR: Has the agency developed any criteria as to how far upwind a source may be to impact the Chicago nonattainment area?

MR. MATHUR: The agency has not developed any criteria, but I will refer you to the U.S. EPA's proposed new ozone standard in which they discuss an interim transition policy between now and when a possible new ozone standard is promulgated and that interim transition policy proposes to allow ROP credit from reductions outside the nonattainment area as far away as 100 kilometers for VOC and 200

kilometers for NOx.

MS. FAUR: Thank you.

THE HEARING OFFICER: Are there any other prefiled questions for Mr. Mathur?

Okay. Let's go to the other questions.

MR. SAINES: I'm Richard Saines for Gardner, Carton & Douglas.

Mr. Mathur, I would like to return to the discussion between the interrelationship between NOx, N-O-x, and VOCs or VOMs.

Now, you stated that reductions in NOx can actually have a disbenefit in terms of the resulting ozone reduction. So as the affected sources under this proposed rulemaking are reducing their VOCs, what is the agency doing to ensure that there is not concurrent NOx reductions occurring in the Chicagoland nonattainment area to offset or result in a disbenefit of the ozone?

MR. MATHUR: The agency has already done a lot. By that, I mean the agency applied for and obtained from U.S. EPA an exemption from the NOx reduction requirements of the Clean Air Act.

At the moment, we are not required to meet some of the mandatory NOx reductions like NOx,

RACT or NOx new source review requirements, and thereby, we are making sure that these reductions do not occur and therefore, make the ozone worse, and therefore, cause us to have to make up.

We intend to keep pushing that point with EPA as long as the air quality analysis continues to show that there are disbenefits from NOx reduction inside the Chicago nonattainment area.

MS. MIHELIC: I'm Tracey Mihelic from Gardner, Carton & Douglas.

In your Table 2 where you talk of the survey of nonattainment/ROP scenarios with the ERMS programs where you go through the point, on-road/off-road area sources --

THE HEARING OFFICER: That's marked as Exhibit 6?

MS. MIHELIC: Right. In here, it shows that point sources have already come up since 1990 with 45 percent reductions of emissions and area sources have only come up with 24 percent.

Why did the agency choose to seek 12 percent reductions from point sources and not for area sources?

MR. MATHUR: First of all, let me say that

Mr. Forbes, in his testimony, will address the issue of how the agency arrived at an emission reduction strategy in more detail and he will provide clarification to your question.

Second of all, it is my belief and my strategy that the nature of area sources, very small sources, a large number of them that exist in all states demands that the best way to regulate these sources is through national standards.

We are working with the EPA, who already has an agenda for area source reductions, to incorporate all possible area source categories in their reduction strategies. I believe over the next several years, we will see appropriate area sources targeted for emission reductions.

So whereas controlling them at the state level was impractical and not the appropriate and equitable way to go at this time, I am confident that over time, they will be asked to contribute to the words cleaner air.

Since it is my belief that we will need further reductions in Chicago, those kind of sources in Illinois will be included in the strategy over the next several years.

MS. MIHELIC: Other than this agenda by U.S. EPA, have there been other proposals by U.S. EPA to regulate these kinds of sources?

MR. MATHUR: Yes. U.S. EPA has regulated these kind of sources. If you would, refer to the bottom left of Table 2.

MS. MIHELIC: But I'm saying from here on out, in addition to the 24 percent reductions.

MR. MATHUR: Yes. If you look at the bottom right-hand corner of Table 2, we have suggested that EPA is examining new rules for stationary area sources. I believe they are in the process of developing a list of sources that are appropriate for regulation. We would be working with them and tracking their progress.

MS. MIHELIC: I have just one additional question.

You talked about a change in the ozone standard and the proposed change. Have you looked at or has the agency looked at how this is going to impact the area of the sources affected by the ERMS rules or will, I guess, the agency look at that when the proposed standard is actually promulgated?

MR. MATHUR: You are correct. We will look at

this when the final standard is promulgated.

MS. MIHELIC: So will the sources outside of the current nonattainment area be subject to a separate rulemaking if they become affected by the new ozone standards?

MR. MATHUR: That will be part of our analysis as we respond to the new ozone standard in our obligations to develop strategies for the new ozone standard.

It is our opinion, based on our analysis, that the reductions that we are seeking in this regulation are not only needed for the current ozone standard, but also will be necessary for any future ozone standard.

So we do not believe that we are promulgating a regulation that will be unnecessary down the road.

THE HEARING OFFICER: Are there any further questions?

MR. NEWCOMB: This is Chris Newcomb again from Karaganis & White.

A series of these questions were asked of David Kee and he indicated that he was probably not the best recipient of these questions so I

thought maybe I would address a few of them to you.

The first one would be whether Illinois has taken a look at the other emission reduction market system regulations that have been proposed and identified what other problems they have had and what the measures they may have taken to circumvent those problems?

MR. MATHUR: Let me first say that the answer to your question, have we looked at other mechanisms, the answer is yes.

Let me also add that the agency intends to present testimony regarding these other mechanisms later in these proceedings. I would suggest that that would be a more appropriate time to have that discussion.

I would like to add that a delay in the implementation of the reclaim program for VOCs should in no way be seen as a VOC trading program as not suitable or cannot be implemented in Illinois.

Our program, in my opinion, is simpler. It is, at the moment, targeted for a very finite emission reductions, pending an analysis of the need for further reduction, and it is not at the moment targeted for attainment.

We have the opportunity to learn from how it works over the next several years and come back and improve it should it be necessary. We have taken a more practical view of some of the monitoring requirements that Mr. Kee alluded to.

Lastly, I believe it's time for Illinois to show California how to do it.

MR. NEWCOMB: The woman who proceeded me asked about area sources. Could you be a little more definite or explain some of the other sources that fit into this category of area sources? It wasn't clear from your very short list on the exhibit that you presented.

MR. MATHUR: Let me defer that to Mr. Forbes as he goes through the agency's analysis and shares with you what are typically the area source categories.

MR. NEWCOMB: Has the agency also identified specifically where the ozone is coming in from? I know you talked several times about incoming ozone.

MR. MATHUR: That is exactly one of the objectives of the ozone transport assessment group of its evaluation based on the 37 states.

I'm hoping that whenever that study is

completed, we will make sure that its results are comprehensively discussed with all interested parties and that before any future strategies are developed, a clear explanation of the kind of issues that you have raised will be available for any subsequent problems of reductions that we may be seeking.

MR. NEWCOMB: Finally, I have a question about indirect source for review programs. Is that best directed to you or Mr. Forbes?

THE COURT REPORTER: Could you repeat that question?

MR. NEWCOMB: Is any question about indirect source review programs, as they may apply to area sources, apply to other sources besides the point sources that eventually will be regulated?

Is that a question better directed to you or Mr. Forbes?

MR. MATHUR: Obviously, Mr. Forbes.

MR. NEWCOMB: Thank you.

THE HEARING OFFICER: Go ahead.

MR. HARSCH: I'm Roy Harsch from Gardner, Carton & Douglas.

I can't help but to ask this question. You testified today that your current state of

knowledge shows that increases in -- excuse me -- that decreases in NOx emissions has an adverse effect on ozone levels.

Has anyone run the model to see what would happen if NOx emissions actually increase?

MR. MATHUR: Let me first clarify this phenomenon where if you decrease NOx, the ozone goes up, and it has been modeled inside the Chicago nonattainment area and it has been observed in other parts of the country. I want to make it clear I'm talking about inside Chicago nonattainment data and not necessarily outside.

As far as your second question has anyone modeled the impacts of increase in NOx emissions, yes, we have. They have been modeled with respect to growth in NOx emissions that occur over time. That has been an extensive part of the analysis that is ongoing in OTAG.

Whenever the OTAG results are available, we will be addressing issues surrounding the increases in NOx, what is the impact of those increases on ozone air quality, and other questions.

MR. HARSCH: Do the results show an increase in NOx emissions leading to a decrease of ozone

levels in the Chicago nonattainment area?

MR. MATHUR: The final work on that is not complete, but preliminary results do not allow any such conclusion to be made.

MR. HARSCH: Thank you.

THE HEARING OFFICER: Are there any further questions?

MS. HENNESSEY: I have a quick follow-up question.

Mr. Mathur, has the Lake Michigan Ozone Study been published or subjected to any kind of peer review?

MR. MATHUR: Yes. Let me explain why I say yes. The Lake Michigan Ozone Study was the foundation for the state submitting some of its SIP revisions to the EPA. In that, all SIP revisions to EPA undergo a public hearing. From that perspective, it has been subject to peer review.

Other than that, since there has been no other use of the results of Lake Michigan Ozone Study, the only other peer review was through the formation of an advisory committee, Lake Michigan Air Directors Consortium, made up of industry and environmental groups and other experts who provide

ongoing peer review.

So those have been the mechanisms with which the work has been reviewed by others outside of the study group itself.

MS. HENNESSEY: Are you aware of anyone having criticized the methodology used in the Michigan Lake Ozone Study?

MR. MATHUR: Except for detailed questions that don't come up in this field, I'm not aware of any broad criticism.

In fact, I might add that the model that was developed as a result of the Lake Michigan Ozone Study is the model that was selected by the 37 states as they do their OTAG evaluation.

MS. HENNESSEY: Thank you.

THE HEARING OFFICER: Are there any further questions?

MR. TREPANIER: This is Mr. Trepanier. In part of your testimony, you testified that there were efforts and actually you had a relationship with some environmental groups in the development of the rule.

Did the reaching out for criticisms or for assistance in developing this program, did that go as far as the agency using the mailing list that

they established for this proposal? Was that mailing 2 list used in 1996?

MR. MATHUR: Let me answer it two ways. First, I don't believe in my direct testimony that I alluded to who we consulted with respect to their development of this particular rule.

The testimony that I gave was that as Illinois finds itself in a leadership role across the country through the development of programs through 1996, we worked extensivley with all state holders including environmental groups.

As far as the second part of your question, I don't believe I have the answer as to procedurally what mailing lists were used.

MR. TREPANIER: So if I understand, then, what you just said is that when you refer to your testimony working with environmental groups, you weren't referring to this proposal?

MR. MATHUR: That's correct.

MR. TREPANIER: I have a question regarding one of the exhibits and that's Exhibit No. 2, your Figure 3. Is there something here -- was there evidence that showed that this ozone that was detected was entering the Chicago ozone nonattainment

area?

That seemed to be the presumption of your testimony. I was just wondering was there and where is the evidence that this ozone was entering rather than staying?

MR. MATHUR: The word entering was used to suggest that as we monitored ozone at the boundary of the nonattainment area, meaning that we were measuring ozone not necessarily inside the nonattainment area, but sometimes outside. Since we were measuring high levels of ozone outside, our presumption was that the air mass that had the high ozone outside did enter the Chicago nonattainment area and hence, the use of the word entering Chicago nonattainment area.

MR. TREPANIER: Do I understand now what you are saying is that you did measure up to 110 outside the nonattainment area and that that was not compared to what was -- there was no gradient leading out and there was no indication that that material is coming in?

MR. MATHUR: Let me answer your question this way. Exactly what was the scientific evaluation and what were the techniques and methodologies used and

how the gradients were developed, I'm not in a position to discuss that.

My understanding is that this chart depicts ozone concentrations at varying altitudes from ground level going up and that these measurements were done at the southern boundary of the Chicago nonattainment area.

My purpose in referring to this chart was simply to show that as we gained the tools to measure ozone at higher levels, we found that the ozone concentrations at all levels are not the same and we should not lose site of the fact that simply because we measured ozone at low concentrations at the ground that there is an ozone at higher concentrations and at higher levels, which does create problems for the Chicago nonattainment area.

MR. TREPANIER: The next exhibit, Exhibit 3, when it assumes a 30 percent reduction for precursors at the boundary, now, is that referring to the type of a reduction in the numbers that are showing on Exhibit No. 2?

MR. MATHUR: Generally, that is correct. Precursors to ozone include NOx and VOCs and what that statement in Figure 4 means is that together

with a presumed ozone concentration of either 60 or 70, the model input also included a presumption that there would be a concurrent reduction of 30 percent in the levels of VOCs and NOx at the boundary.

So that to achieve a model lower target as indicated by the second two bar charts, one would have to not only see a reduction in ozone, but a reduction in the precursors of at least 30 percent before the model would predict what it predicts in the second and third bar charts. That's what it means.

MR. TREPANIER: I believe I'm having trouble understanding that, but maybe more testimony will answer that question and I will ask another question if I might.

On Exhibit 4, I'm recalling your testimony was to the effect that it is here showing nowhere near where we need to be. Is there something on Exhibit 4, Table 1, that shows where we need to be?

MR. MATHUR: Yes. If you look at the last two columns on Table 1 marked target 50 percent, target 60 percent, if we are able to achieve reductions in boundary ozone down to 60 parts per

billion, our proximate target for reduction in emissions in the Chicago nonattainment area is 50 percent and 50 percent is applied to the 1990 emission level and that's how we arrived at approximately 600 tons per day as the final emission level likely to show attainment.

Similiarly, if all we were able to achieve is a boundary ozone of 70 or a lesser reduction than 60, then, our target for reduction in Chicago would be 60 percent meaning we would need the emission levels to go down in Chicago to 480.

The point I was making is whether it's 480 or 600, we are not there yet. Therefore, we need continued reductions in Chicago to achieve either of those two numbers.

That was my point made earlier about achieving a balance between emission reductions outside of Chicago to lower the boundary ozone on the one hand and then lowering emissions inside of Chicago on the other to take both of those efforts to allow Chicago to meet the ozone standard.

MR. TREPANIER: As a question on Exhibit No. 6, in the table, in the column for point sources, and there are numbers within the parenthesis, I

wanted to ask a question regarding number 92 that's in parenthesis.

Now, does this number reflect anticipated new construction that would be cited by 1999, and additionally, does that number reflect what would -- under my reading of the rules is likely going to be a baseline allotment level that's higher than the current actual emissions?

MR. MATHUR: Could I defer that to Mr. Forbes because he is going to go into detail on some of these numbers?

But I do want to point out that the 92 number is less than 105. So I don't see your statement that the actual emissions will be higher.

MR. TREPANIER: That's what I'm asking. I'm asking when you develop that number of 92, did you consider that the baseline determinations under the rules would most likely seem to have to be higher than what is actually the current emissions and does that number 92 reflect that because the rules allow for new construction to emit without allotments for the year of 1999?

MR. MATHUR: I will let Mr. Forbes respond to that as he gives his detailed testimony on numbers.

THE HEARING OFFICER: Go ahead.

MR. SAINES: Thank you. I'm Richard Saines. It is my understanding based on my previous question regarding the interrelationship between NOx and VOCs that the agency had taken steps to ensure that NOx was not going to be further reduced in the Chicago area.

As a follow-up to the previous speaker's question, it appears that the graph, I believe, in Figure 4 indicates that you are assuming a 30 percent reduction of precursors at the boundary. Could you clarify whether that includes both reduction -- a concurrent reduction of NOx and VOCs?

MR. MATHUR: Yes, it does. And it refers to reductions of NOx and VOCs outside the Chicago nonattainment area and upwind of Chicago.

MR. SAINES: Okay. Thank you.

THE HEARING OFFICER: Ms. Rosen?

MS. ROSEN: I'm Whitney Rosen from Illinois Environmental Regulatory Group.

I just wanted to clarify one of your responses to an earlier question. Is it not correct that representatives of the environmental community and environmental groups did participate on the

design team which developed the basis for this proposal?

MR. MATHUR: Yes. As we have discussed, one of them will be testifying tomorrow.

MS. ROSEN: Okay. Thank you.

MR. CHARI: I am Desi Chari with Safety-Kleen.

I have a question on the inventory -- all the baseline emissions are based on 1990 baseline emissions. We have shown reduction in 1996 if you are looking at Table 1. Is it based on the rules that have been enacted so far or that is actually we have achieved that level right now?

MR. MATHUR: Let me defer this to Mr. Forbes who has developed these numbers. He is better prepared to respond after his testimony.

THE HEARING OFFICER: Are there any further questions?

MS. MIHELIC: You stated in your testimony in answering some of the questions just asked that 12 percent is not the amount of reductions that's going to be needed to achieve attainment overall in the Chicago nonattainment area, is that correct, that additional reductions are going to be needed after

1999?

MR. MATHUR: Yes. Twelve percent, I do not believe, will be sufficient to show attainment.

MS. MIHELIC: And you said 12 percent by point sources or by all sources?

MR. MATHUR: We haven't done that kind of analysis. After we see all of OTAG's results and form a strategy regarding reduction outside of Chicago and what is left to do inside, that would be a better time to have a discussion on what is remaining to be done in Chicago.

MS. MIHELIC: So it's possible that more than 12 percent will be required for point sources after 1999?

MR. MATHUR: It is possible.

THE HEARING OFFICER: Okay.

MR. TREPANIER: This is Mr. Trepanier.

Your testimony was that the agency would like to see this adopted no later than August of 1997. Earlier, EPA testified they wanted to have the proposal in their hand in December of 1997.

What concerns does the agency have that they would need to have this approved by the board in three or four months prior to its submission to

federal EPA?

MR. MATHUR: Let me give you a program perspective and not give you a legal response since I'm not a lawyer.

Typically, from the time that a board puts out its final notice and when all of the documentation that the agency needs to put together is a state implementation package, it's two to three months. That was the basis of my statement that in order to beat the sanction deadline, and at the break I was corrected that the sanction deadline is January 3, 1998.

In order to submit to EPA by the end of the year the state implementation plan, I would like to see this rule come out of the board by August to allow us to meet our demands.

MR. TREPANIER: Is it your position, then, that from your view, the agency could then meet the requirements that are on them in their regular course of business?

MR. MATHUR: That's correct.

THE HEARING OFFICER: Are there any further questions?

At this time I would like the agency

to move to have the six exhibits entered into evidence.

MS. SAWYER: The agency moves to have exhibits 1 through 6 admitted into evidence?

THE HEARING OFFICER: Is there any objection having these exhibits entered into the record?

Hearing none, then, I will note that Exhibit 1 is Figure 2 - NOx Disbenefit Effect; Exhibit 2 is Figure 3 - Ozone Concentrations Measured at the Southern LMOS Boundary; Exhibit 3 is Figure 4 - VOC Reduction at Different Background Levels; Exhibit 4 is Table 1, 1970 to 2007 Chicago VOM Emissions Summary; Exhibit 5 is Figure 5 - OTAG Map; Exhibit 6 is Table 2, Summary of the Attainment/ROP 15 Scenario with ERMS Program. With that, those will be 16 entered into the record.

I think this will be a good time to take a lunch break for an hour and we will be back here at 2:00 o'clock to start in again.

(Whereupon, after a short lunch break was had, the following proceedings were held accordingly.)

THE HEARING OFFICER: Why don't we go back

on the record.

We will start with, I believe, the testimony of Dick Forbes from the agency?

MS. SAWYER: That's right. Do we want to just swear in the witness?

THE HEARING OFFICER: Yes.

(Witness sworn.)

WHEREUPON:

R I C H A R D F O R B E S ,

called as a witness herein, having been first duly sworn, deposeth and saith as follows:

MR. FORBES: My name is Richard A. Forbes. I am employed by the Illinois Environmental Protection Agency as the manager of the Ozone Regulatory Unit in the Air Quality Planning Section, Bureau of Air. I have been employed by the IEPA in this capacity for approximately 11 years.

Prior to that, I served as an analysis unit manager and new source review manager both in the permit section of IEPA's Bureau of Air.

Prior to that I served as an environmental protection engineer in the Bureau of Water. In all, I have been employed by IEPA for approximately 24 years.

My educational background includes a Bachelor of Science degree in environmental engineering from the University of Illinois at Champaign-Urbana. I have a Master's of Science degree from Southern Illinois University at Carbondale.

I hold a professional engineering license and I am registered in the state of Illinois.

My testimony today deals with VOM emissions in the Chicago nonattainment area and IEPA's basis for planning proposals to satisfy Clean Air Act requirements. I am going to do this more as a presentation on overheads.

MS. SAWYER: Could I just interrupt for one moment?

Mr. Forbes has two types of overheads; one is just kind of bullet points of what he is going to talk about and others that are tables and figures. I would rather not interrupt the presentation to mark the bullet point overheads as exhibits. We will do that for the figures and tables.

Is that okay?

THE HEARING OFFICER: That sounds reasonable.

Does anyone have any concerns with that? Okay.

MR. FORBES: The 1990 Clean Air Act amendments require that states develop new inventories for nonattainment areas in each of their respective states and identify the base year for those inventories to be 1990. This inventory is the basis for most Clean Air Act requirements and provisions.

IEPA completed this new 1990 inventory in 1992. U.S. EPA approved that inventory in 1995. The inventory includes estimates of volatile organic material, or VOM, nitrogen oxides, or NOx, carbon monoxide, or CO, emissions from point area and mobile sources.

The state implementation plan, or SIP inventory, includes all anthropogenic and biogenic emissions from sources in the nonattainment area and for major sources within 25 miles from the nonattainment area.

This inventory is used for a variety of purposes, but primarily for air quality modeling and for air quality analysis.

The breakdown by category is point sources contributing 26 percent; area sources, 20 percent; biogenic sources, 8 percent; on-road mobile, 36 percent; and off-road mobile sources, 10 percent of the emissions to this 1990 inventory.

The total VOM for the Chicago nonattainment area is 1,363 tons per ozone season weekday, and that is information that's contained in the inventory submittal that IEPA made to the U.S. EPA and which has since been improved.

Figure 1 depicts the distribution of these emissions in the form of a pie chart and supplies the specific emissions to each category and the percentages that I just mentioned are the percentages that are shown in a more exact way on this figure.

MS. SAWYER: Could I mark this as Exhibit 7?

(Document marked as Hearing Exhibit No. 7 for identification, 1/21/97.)

THE HEARING OFFICER: We are now marking Figure 1 the 1990 Chicago SIP Inventory of VOM Emissions as Exhibit 7.

I have a quick question of

clarification. When you are referring to VOMs, are you also referring to VOCs too?

MR. FORBES: Yes. In our -- in my presentation, they should be considered as interchangeable for purposes of our testimony today.

In addition to calculating the SIP inventory, which includes all the emissions and sources, we also are required to calculate what is termed the rate of progress inventory.

That inventory includes only the anthropogenic or VOM emissions within the nonattainment area only. This inventory is used for rate of progress calculations and its breakdown by point sources is 26 percent; area sources, 22 percent; on-road mobile, 40 percent; off-road mobile, 16 percent.

The total VOM emissions in the Chicago nonattainment area for just the rate of progress purposes is only 1,217 tons per ozone season weekday.

Figure 2 then provides a --

MS. SAWYER: Hold on. I would like to mark Figure 2 as Exhibit 8.

(Document marked as Hearing Exhibit No. 8 for identification, 1/21/97.)

THE HEARING OFFICER: I will now mark this as Exhibit 8. Figure 2 is 1990 Chicago ROP Inventory Summary for VOM Emissions. This has been marked as Exhibit 8.

MR. FORBES: This figure also provides graphical representation of the distribution of emissions by point area on-road/off-road mobile sources and Figure 2 contains the more specific emission totals for each category and the specific percentages that I just summarized.

The 15 percent rate of progress plan that is required under Section 182(b)(1) of the Clean Air Act required to be prepared and submitted for moderate areas and above where there is nonattainment of the ozone standard. This plan was due in November of 1993 and was completed by IEPA in that year, 11/1993.

U.S. EPA is currently reviewing and IEPA believes that it's likely that U.S. EPA will approve Illinois' ROP plan.

The board has adopted all of the various 15 percent rate of progress rules over the last several years.

U.S. EPA has proved all of the Illinois 15 percent rules that are contained in that plan. The 15 percent plan itself goes further than RACT did and tightening many of our existing RACT rules.

It also includes nonstationary source rules like marine vessel loading as well as auto body refinishing. The total reduction achieved by this plan is approximately 318 tons per day or we estimate a 1996 emissions level with these regulations included 781 tons per day.

The required rate of progress reduction, using U.S. EPA's criteria, is 282 tons per day or we have to achieve a 1996 target level of 857 tons per day.

The excess reductions that have been achieved from the 15 percent plan are being applied to the three percent ROP plan to the 1997 to 1990 time frame.

In other words, the additional reduction that has been achieved or will be achieved through the end of '96 will help to lessen the requirements

needed under the three percent plan.

The ERMS technical support document summarizes the various rate of progress measures and their reduction quantities.

MS. SAWYER: I'll mark this Table 1 as Exhibit 9.

(Document marked as Hearing Exhibit No. 9 for identification, 1/21/97.)

THE HEARING OFFICER: Table 1 is a 15 Percent Plan Breakdown Creditable Reductions chart that will be marked as Exhibit No. 9.

MR. FORBES: Table 1 provides a summary of the distribution of the emissions achieved under the 15 percent rate of progress plan.

If we look under the state measures column, we can see that 98 tons per day are coming from point source categories, 45 tons per day are coming from area source categories, 32 tons per day are coming from mobile source categories for a total of 175 tons per day of reduction or approximately 55 percent of the total plan are coming from state measures.

Moving to the federal measures column,

approximately one ton a day are coming from point sources, 30 tons per day are coming from area sources, and 111 tons per day are coming from mobile sources for a total of 143 tons per day or in other words, the federal measures are providing approximately 45 percent of the 15 percent rate of progress plan reductions.

If we look horizontally across, we can see the percentages that are coming from each of the major emission sectors.

For point sources, we are getting a total of 99 tons per day or about 31 percent, area sources are a total of 75 tons per day or 24 percent, and mobile sources are a total of 143 tons per day or 15 45 percent of the 15 percent rate of progress plans are coming from those three sectors.

Next, I would like to illustrate for you by way of a graph sort of a progress that has been made so far since we started in 1970 and the board has been adopting RACT regulations since that time up through the latest 15 percent rate of progress plan measures.

As you can see, we started at about 2,000 tons per day in 1970 making a substantial

reduction beginning in 1990 with most of that being attributed to the various RACT regulations adopted by the board.

From 1990 through 1996, we again have made progressive reductions in the overall pool of emissions in the Chicago area with those reductions being attributed to our 15 percent rate of progress plan, those rules having been adopted by the board.

MS. SAWYER: Just a moment. I would like to mark this as Exhibit 10.

(Document marked as Hearing Exhibit No. 10 for identification, 1/21/97.)

THE HEARING OFFICER: Marked as Exhibit 10 is Figure 3, Chicago VOM Emissions: 1970 - 1996.

MR. FORBES: Section 182(c)(2) of the Clean Air Act now requires Illinois to develop a three percent rate of progress plan and we are focusing on the period of 1997 to 2007 with right now the emphasis being on the first three-year period, 1997 to 1999.

U.S. EPA criteria determines the target levels that have to be achieved for each three percent rate of progress for each three-year period.

Target levels are based on 1990 rate of progress inventory. That determines the 1996 target level and subsequently determines the various rate of progress milestone levels that have to be achieved.

Those milestone levels are calculated for 1999, 2002, 2005, and then the attainment year, which is 2007.

Again, the ERMS technical support document provides details on the procedure for EPA's calculations that states have to do to determine the target levels.

U.S. EPA has issued a SIP call to Illinois on July 10, 1996. That SIP call was later contained in a federal register, 61 FR 36 292. The provided of this federal register requires that a SIP 16 revision for the first ROP milestone, that is, 1997 through 1999, has to be provided no later than January 3, 1998, in order to avoid sanctions.

Failure to submit a SIP revision could result in a number of federal sanctions that have been identified at various times in previous proceedings.

The remainder of the three percent ROP plan will be required along with the attainment plan.

The calculations that IEPA has used in order to help it assess it's requirements under the three percent ROP period for 1997 through 1999 determine that a 46 tons per day reduction for 1996 VOM levels is needed in order to meet the ROP milestone level.

That is the 781 tons per day we project 1996 emissions to be and then comparing that to the ROP level of 735 tons per day with the difference being 46.

The approach that IEPA has used in developing its plan to achieve this three percent requirement was to first evaluate all of the available control measures that have been scheduled for implementation.

We wanted to then account for all federal measures plus ongoing benefits from existing measures. After projecting emissions and incorporating growth and controls for all categories, we then wanted to determine the reduction shortfall needed -- that would be needed from state measures.

Now, the federal measures that have been considered for the post-'96 time frame are off-road engine standards, motor vehicle control standards for on-road vehicles, on-board diagnostics for on-road

vehicles, the national low emission vehicle standards for on-road vehicles, clean fuel fleet standards, and consumer product limitations.

All of these are federal measures which are ongoing and at various stages of implementation and approval and we feel confident that these measures will be implemented and will result in reductions that will improve air quality in Chicago.

The projected 1999 VOM emissions with growth in all of these federal measures, we estimate to be 745 tons per day.

Looking at the 1999 ROP target level of 745 tons per day, the difference shows us a shortfall of about 20 tons per day not including any contingency. This would be the exact amount.

This next figure that I have, Figure 4, helps to illustrate where we think we are going with all of the measures that are in place, plus all of the expected federal measures, without the ERMS program, without the other command and control proposal that's part of our ROP plan, you can visually see the difference.

If you look at Figure 4, you will notice the smaller of the two lines, the one that has the

triangles as the markers, is the projected emissions level that I was describing. In 1999, you can see that it is about 754 tons per day.

The heavier indicative line, which is the ROP target level, which has the square markers, is the federally defined ROP target milestones that we have to achieve in order to meet our various three percent ROP requirements.

So without doing anything at this point in time, but including all of the various 15 percent measures that have been adopted, and accounting for all federal measures, you can see we had a shortfall and we calculate that to be approximately 20 tons per day.

MS. SAWYER: I would like to mark Figure 4 as Exhibit 11.

(Document marked as
Hearing Exhibit No. 11
for identification, 1/21/97.)

THE HEARING OFFICER: Exhibit 11 is Figure 4, entitled, "Projected Chicago VOM Emissions: 1996 - 2007."

MR. FORBES: IEPA has reviewed area and mobile source categories for available control options.

We could only find after our review one area source measure, which we felt would be a reasonable measure that we could hopefully go after and try to reduce emissions from that category, and that is an area called cold cleaning degreasing.

We were not able to identify any other mobile source measures, ones that were not already earmarked for control by the U.S. EPA.

IEPA has also reviewed point source categories to try and define or determine if there are any other potential reductions that could be achieved.

However, since all of the RACT rules have been applied and we have tightened most of those RACT rules beyond what the existing requirements call for, we could identify few traditional control options that would be available in a command and control manner.

There are a number of reasons for this, but this next slide identifies the main ones. First of all, it's difficult at this point in time to identify traditional category-specific control methods, ones that could be -- or that would lend themselves to standard command and control type

regulations across the board, very difficult to meet, very tight regulations that we know would achieve the reductions needed.

Secondly, cost effectiveness for the traditional methodologies have gotten much higher.

Then lastly, trading provides more flexibility than rules of general applicability, those kinds of rules that tend to be very fundamentally rigid and are generally identified as command and control type measures.

The next table that I have here is a listing of the various Chicago area source categories that make up the 1990 inventory and their 1996 inventory.

On this chart, what we have tried to do is identify that in 1990, there were several categories that were already controlled by previously adopted RACT regulations.

Those were stage one, gasoline tank truck leaks. We already had a simple cold cleaning degreaser regulation. That was one of the first RACT regulations adopted. Asphalt paving, that was a RACT regulation. Open burning is generally prohibited under the Environmental Protection Act.

In 1996, we adopted a number of measures that targeted area source categories. One was VOL transfer for ships and barges. Stage two, was vehicle refueling. We also had underground storage tank breathing, which was another category.

As you can see, there are several others that are federal -- federally driven reductions such as architectural coatings, traffic and maintenance painting and auto refinishing, although that one, we initiated at the state level on our own.

In addition to that, U.S. EPA adopting consumer and commercial solvent regulations. The way they are approaching this, they are doing it product-by-product and they intend to continue to regulate as many products as they can as it becomes feasible.

They had a certain group in 1996 that they were going to regulate and we took credit for those reductions as well.

After looking this table over and trying to identify categories that would remain, that we think we could regulate, we were not able to identify any other than cold cleaning degreasing. We went back and revisited that category and believe it is

reasonable to ask for further reductions in controls in that area.

If we haven't already filed, we will be filing very soon a board regulation to further tighten and achieve reductions in that particular category.

MS. SAWYER: I would like to have Table 2 marked as Exhibit 12.

(Document marked as Hearing Exhibit No. 12 for identification, 1/21/97.)

THE HEARING OFFICER: Thank you. I'm going to mark as Exhibit 12, "Table 2, Chicago Area Source Category Summary, 1990 Area Source Emissions of Volatile Organic Compounds." That has been marked as Exhibit 12.

MR. FORBES: As on-road mobile sources are generally regulated by and -- generally, U.S. EPA and the federal government have granted rights to regulate on-road sources.

We focused on off-road sources to see if there were categories there that we might be able to further go on and regulate, that there might be a command and control type rule that we could

investigate.

As you can see in this column, we have 1990 emissions listed and then regulatory status. Most of those categories that have any sizeable emissions amounts to them are either controlled now by U.S. EPA through their most recent small engine regulation or are in the process of being regulated or will be regulated in the very near future by additional engine standards that U.S. EPA will be proposing.

After looking at this information, the agency really could not identify a specific category that it felt it would be possible to go after to regulate from this group. There weren't very much the categories left. The ones that were available had very small emissions and it did not seem that this was the way to go either.

MS. SAWYER: I would like to mark this Table 3 as Exhibit 13.

(Document marked as Hearing Exhibit No. 13 for identification, 1/21/97.)

THE HEARING OFFICER: I will be marking Table 3, "Chicago Off-Road Mobile Category Summary, 1990

Non-Road Emissions of Volatile Organic Compounds" as Exhibit 13.

MR. FORBES: In the process of trying to identify various categories of emission sources that might be possible to regulate, IEPA went back to review the cost effectiveness that it has seen over the years starting with RACT I up to the latest 15 percent rate of progress plan.

What I have done is summarized that information and superimposed from what we learned from our trading development on this rule. I summarized what the cost per ton is for each of these various measures.

As you can see back in 1975, when we first adopted RACT I, we ended up with a dollar per ton figure of approximately 600.

I should also point out that all of these figures have been adjusted to be on the same basis. They are all in 1990 dollars so they can be compared.

RACT II, in 1980, is about $720 per ton. As you can see going up to our 15 percent rate of progress rules, the latest is set at approximately $6,600 per ton.

That's a substantial increase over the original measures that were adopted. We estimate based on data that will be presented later that the cost effectiveness of the ERMS program that's being proposed is in the neighborhood of $2,500 per ton.

MS. SAWYER: We will mark Table 4 as Exhibit 14.

(Document marked as Hearing Exhibit No. 14 for identification, 1/21/97.)

THE HEARING OFFICER: I will mark as Exhibit 14 the document entitled, "Table 4, Illinois VOM Reductions Program."

MR. FORBES: So given this information and the difficulty in trying to identify categories that we think would lend themselves to being regulated under command and control scenarios, we identified the one category of area source, cold cleaning degreasing, and we looked further at the ERMS for trading concept.

With the cold cleaning degreasing rule, we expect that we can achieve about 11 and a half tons per day in 1999.

We estimate that the trading program as

proposed could achieve about 12 and a half, 12.6 tons per day, in 1999.

These two measures together will provide around 24 tons per day of reduction, which is a little in excess of the 20 that I mentioned earlier that we needed to just barely meet our requirements.

We think that we do need and the EPA requires that we have some small amount of contingency just as a safety measure to ensure that when we get to 1999, that we have, in fact, made and met our target.

Figure 5 hopefully will illustrate some of the information that I have been going through here and some of the information that Mr. Mathur provided testimony on earlier.

This is a graph which provides a view between '96 and 2007 of how we think emissions will go without a trading, without a command and control rule, with just the federal measures that are already earmarked and plus the 15 percent measures that are already adopted.

The dark line again represents the rate of progress. It represents the total projected emissions with the proposed ERMS program and the

one command and control rule that we are proposing, the cold cleaning degreasing program. The thin line with the triangle markers represents the rate of progress levels.

Now, what I have done is also imposed the attainment levels that we have spoke of earlier with regard to achieving -- if we were to achieve a 60 part per billion background ozone concentration or a 70 part per billion background ozone concentrations. Those two lines represent attainment levels.

So as you can see, if we were able to achieve a background level down to 60 parts per billion with the assumptions Bharat Mathur explained in his earlier testimony, we think we would be very close, although not there, but very close to being able to achieve attainment with the plan that we have proposed.

On the other hand, if it's 70 parts per billion and we achieve that, you can see from the graph that we still have a ways to go to reach attainment.

We believe this is a reasonable program, that the two measures that we have identified will

provide us with a very good prospectus on being able to both meet our rate of progress requirement for the first three-year period as well as getting us in the right direction for reaching attainment in the Chicagoland area.

MS. SAWYER: I would like to mark Figure 5 as Exhibit 15.

(Document marked as
Hearing Exhibit No. 15
for identification, 1/21/97.)

THE HEARING OFFICER: Figure 5 is a document entitled, "1996 - 2007 VOM Emissions For Chicago," and we will be marking that as Exhibit 15.

MR. FORBES: Section 9.8 of the act requires a 15 portion of reductions for each emission sector in order to attain the ozone standard.

IEPA is proposing a plan for only the first three percent ROP milestone. However, we have still attempted to look at what the proportional reduction shares are with respect to the plan that we have proposed.

Based on 1996 emissions, the contribution from each of the main emission sectors, point area and mobile, is 22, 26, and 52 percent

respectively.

We believe this represents the proportional share for each sector. In other words, we would need 22, 56 and 22 percent of the required reductions from each of those sectors in order for it to be a proportionate share of reduction.

IEPA's plan proposes that with ERMS and the one command and control rule identified will provide production shares of 20, 22 percent, and 58 percent respectively.

Although we don't believe it's required at this point since we are only going to try to satisfy the first three percent ROP milestone period, we believe it does meet the intent of the act in trying to regain proportionate shares from each of these sectors.

I would like to take just a minute to address an air quality consideration. Unlike other air pollutants, ozone is formed in the atmosphere. It is not emitted directly as a pollutant.

Depending on conducive weather conditions, which are hot, sunny days with little wind and no rainfall, we see the formation of ozone. The ozone attainment strategy, therefore, should be

designed with a seasonal phenomenon in mind.

The IEPA reviewed IEPA monitoring data from 1988 through 1994 to review the number of exceedances and frequency and occurrence of those exceedances.

What we found was that all of the exceedances or the .12 ppm standard fall within the May through September period.

Table 5, which will be difficult to see on this overhead, is a distribution of what those window exceedances have occurring and what we have shown here is from April through September and the 25th of April is a questionable date.

I'm not sure that we have invalidated that data, but there was some other strange information that went along with it so we don't believe it's a valid reading on that particular day.

But as you look through here, you can see that all of the occurrences are primarily occurring in June, July, and August with a few outliers in May and September.

MS. SAWYER: I would like to mark Table 5 as Exhibit 16.

(Document marked as
Hearing Exhibit No. 16
for identification, 1/21/97.)

THE HEARING OFFICER: We will mark the document entitled, "Table 5, Ozone Exceedances: 1988 - 1994" as Exhibit 16.

MR. FORBES: This data, after having reviewed it, indicates to us that the concern for ozone -- for the programs that we're currently working on, we should be focused on the May through September time frame. Therefore, in designing ERMS, these were quality concerns that were addressed.

First, we wanted to make reductions when it was most advantageous for air quality. We wanted to do it in a way that would provide the most flexibility for sources. We wanted to minimize the extent possible on sources for further reductions.

Consequently, based on air quality data, we proposed that the ERMS be limited to a seasonal unit control period of VOM emissions from May through September 30th.

Next, I would like to touch on just a summary of the ERMS participating sources. In order to try and assess how much production the program

would achieve and who would be involved in the sources, we did an analysis of the participating sources based on the rule that's been proposed.

Initially, we relied on the projected 1996 SIP revisions in order to assess the breakdown of sources. As you can see here, we have about a -- a little over 1,900 sources, about almost 9,000 emission units. Seasonal emissions were approximately 2,000 tons. A 15 percent ROP plan estimated it would reduce '96 emissions to about 22,000 tons per season.

Next, what we did was analyze that information with respect to a range of breakdown by size basically. As you can see here, we started with those sources that were greater than 100 tons per season and then 15, 25, ten, all the way down to zero. Essentially, we reviewed where we thought a reasonable cutoff would be for applicability in this program.

Basically, at the ten-ton or greater ton per season level, we would achieve the goal of about 90 percent of the emissions as you can see on this particular table.

Based on the recommendation of the

design team helping and assisting IEPA in developing this program, IEPA shows a draft applicability level at the 90 percentile equivalent to sources being greater than ten tons.

MS. SAWYER: I would like to mark Table 6 as Exhibit 17.

(Document marked as Hearing Exhibit No. 17 for identification, 1/21/97.)

THE HEARING OFFICER: The document entitled "Table 6, VOM Sources in Chicago, Grouped by Emission Category (1996 Estimates)," is marked as Exhibit 17.

MR. FORBES: This initial count indicated there would be approximately 283 participating sources, but during the outreach period, when we started actually getting into drafting the specifics of the rule and looking at the language and the various provisions, a number of recommendations and suggestions were made.

Based on the final proposal incorporating all of these various suggestions, IEPA went back and looked at the 1994 annual emissions report data to try and get a little more accurate assessment of the number of participating sources

that would be in the ERMS program. These results were contained in Exhibit 7.

MS. SAWYER: Let's mark Table 7 as Exhibit No. 18.

(Document marked as Hearing Exhibit No. 18 for identification, 1/21/97.)

THE HEARING OFFICER: Exhibit 18 is "Table 7, Analysis of ERMS Participating Sources."

MR. FORBES: Basically, in summarizing this table, what we found out is of about 17,600 tons of emissions, 12,500 would be attributable to ERMS sources.

We determined that there were approximately 244 participating sources and about 4,100 emission units that would be subject to the program and that's after removing various exemptions and exempt units and accounting for other sources such as Non-CAAPP/CAAPP or FESOP facilities.

Some of the late editions to our proposal that required us to go back and review information contained in Table 7 was a 15-ton per season CAAPP or seasonal limit option available to sources as well as the 18 percent early reduction

option.

IEPA evaluated the 15-ton per season option concluding that if all available sources opted for this provision, a reduction loss of only 115 tons per season or about .75 tons per day would occur. Regarding the 18 percent option, it was not possible to estimate how many sources might choose that. However, using this option, we believe we would achieve actually greater reductions than what was projected and therefore, it would not adversely affect the outcome of the results of Table 7.

That concludes my presentation.

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

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

THE HEARING OFFICER: Let's go through the prefiled questions that pertain to the testimony of Mr. Forbes, if there are any.

Seeing none, we will go on the floor. Mr. Saines?

MR. SAINES: Yes. We agree with Bonnie that we have agreed to defer certain questions. However, these questions are part of our prefiled questions.

This is referring on Page 2 of our prefiled questions, Section B, regarding Appendices A through E of the technical support document.

Question number two is why did the agency designate sources with greater than 25 tons per year of emissions as non-CAAPP sources in Table 12 of Appendix C?

MR. FORBES: The agency listed sources in Table 11 of Appendix B.

MR. SAINES: I believe it's Table 12 of Appendix C. It's Roman numeral twelve.

MR. FORBES: The agency lists its sources in Table 12 of the appendix entitled non-CAAPP sources. We identify -- we listed sources, which are identified through an evaluation of CAAPP applications as being non-CAAPP sources, primarily sources which have requested FESOPs and sources which notified the agency that they were closing and withdrew their state operating permits after 1994.

These company CAAPP applications were received in late 1995 and 1996. Emissions listed for these sources were from the year 1994 as contained in the 1994 annual emissions report.

Since the later information for these

sources indicated that these sources would be CAAPP sources when the ERMS program begins, the agency identified and removed them from the potential list of ERMS participating sources.

MR. SAINES: Thank you. The next question is question number three. In Table 13 of Appendix D, it discusses sources. How is the source defined? Is the source defined as the facility as a whole or specific emission units within the particular facility, Table 13 of Appendix D?

MR. FORBES: The definition of source in Table 13 of Appendix D is consistent with the CAAPP application. That is, it means the facility as a whole. However, the title of this table may be confusing. Perhaps a better title would be exempt units and ERMS sources. That is what is represented in the table.

MR. SAINES: Thank you.

Okay. Next question, question number five, what was the agency's basis for placing sources on the "ERMS Participating Sources List" in Table 14 of Appendix E?

MR. FORBES: The basis for the agency placing sources on the ERMS participating sources list in

Table 14 of Appendix E was the proposed ERMS rule applicability criteria, which requires CAAPP sources having season emissions greater than ten tons to participating ERMS and excluding those emission units identified in proposed Section 205.405, which are exempt from further reductions.

MS. MIHELIC: I'm going to ask the next set of questions. Going to Page 6 of our prefiled questions under Section 3, Section 205.110, regarding the purpose, we withdraw Question 1 under Section A, but going to Question 2, what findings of the National Ozone Transport Assessment Group being coordinated by the Environmental Council of States that was discussed earlier has the Agency taken into account?

MR. MATHUR: I'll answer that one.

There are no findings of OTAG. Therefore, none have been taken into account. As I testified earlier in response to an earlier question, I don't believe any OTAG issues need to be taken into account since we have reduced the time period from these reductions to three years.

MS. MIHELIC: As a follow-up question to your response, does the agency intend to withdraw the

language stated in the purpose regarding the findings of the OTAG assessment -- the OTAG group that the stated purpose is to take into account those findings in Section 205.110?

MR. MATHUR: I don't believe it's necessary to take it out. When the agency began the process, it fully intended to take OTAG's findings into account.

Since the legislation requires us to take the findings into account, we will take them into account. Probably in the next revision to this rule, it should be determined that additional reductions are necessary.

As the agency has previously indicated, before it requires reductions beyond the 12 percent, it will come back to the board, explain the findings of OTAG and justify the increased level of reductions.

MS. MIHELIC: Going to Section B on Page 7, Question 2, we will withdraw that question from the record. Actually, we withdraw Questions 4, 5, 6 and 7 at this time.

We are reserving the right to ask the remaining questions at a later date and to have

follow-up questions regarding the testimony after all of the other prefiled questions have been asked.

THE HEARING OFFICER: Okay. Are there any other prefiled questions?

Are there any questions of Mr. Mathur generally? Mr. Newcomb?

MR. NEWCOMB: I'm Christopher Newcomb from Karaganis & White.

What are the sources that you have identified as exempt sources to date and is there a list of those that were included in the technical document?

MR. FORBES: Could you clarify which --

MR. NEWCOMB: You identified certain sources as being exempt already. Could you identify what those sources actually are and where those sources are?

MR. FORBES: Okay. Are you referring to one of the tables that I showed as an overhead?

MR. NEWCOMB: Table 7, which I believe was Exhibit 18.

MR. FORBES: On Table 7, you are referring to the category listed as exempt sources?

MR. NEWCOMB: That's correct.

MR. FORBES: Those are sources that we identified as bakery resources.

MR. NEWCOMB: As what sources? I'm sorry.

MR. FORBES: As bakery sources.

MR. NEWCOMB: Has the agency to date identified other sources that may fall under the exemption proposed in Section 205.405?

MR. FORBES: We have attempted to identify those particular units, those emission units. I believe you have an appendix that identifies those. Those are the boilers, fuel combustion units, sources that are complying with MACT and NESHAP.

MR. NEWCOMB: Additionally, there is a category which is best available technology. Has the agency identified certain sources that may debate that standard?

MR. FORBES: No, we have not. Not at this point.

MR. NEWCOMB: Has the agency done any follow-up to estimate what emissions reductions won't be obtained due to sources meeting that standard?

MR. FORBES: No. We haven't made an estimate at this time because it is a site-specific

determination and we do not know, you know, who will apply for such an exemption and who may be granted such an exemption.

MR. NEWCOMB: Under the categories of sources; the point sources, area sources, mobile sources, under all of those categories, is the ERMS program only really applicable to point sources at this point?

The only thing you have identified that I can see is one area source category. Other than that, it seems like the entire program is falling on point sources alone, is that correct?

MR. FORBES: The ERMS program is intended to pertain to stationary point sources. The rule that I was referring to as a command and control rule, the solvent degreasing rule is for a specific regulation that we would propose just for cold cleaning degreasers.

In the ERMS rule, however, we have provided for intersector types of trading and reductions to take place so that area and mobile source reductions can be accounted for and utilized in the trading program.

MR. NEWCOMB: Is that trading program only

involuntary for other participants?

MR. FORBES: Yes, it would be.

MR. NEWCOMB: In addition, has the agency considered indirect source or complex source programs as another method to meet greater rate of progress obligations under the Clean Air Act?

MS. SAWYER: Could we get some further clarification on what you mean by this.

What do you mean by indirect source?

MR. NEWCOMB: Indirect sources and complex sources is a particular term for such facilities as airports, highways, parking facilitis, and the like. Under Section 110(a) of the act, these are sources which cannot be required to be regulated by the EPA, but which states are free to regulate in any of their SIP requirements.

MR. FORBES: The agency has reviewed all of those various sectors. I don't think at this time we have identified any specific programs. We would be -- that's something that we would propose for those indirect sources at these various locations that you have identified.

However, most of the equipment and the various mobile units that would be involved either

vehicles or diesel trucks or off-road engines, forklifts, baggage handling equipment, all are currently being controlled or will be controlled by engine standards that the U.S. EPA is proposing.

So we believe the primary source of the emissions is already being identified and will be controlled.

MR. NEWCOMB: Thanks.

MR. CHARI: This is Desi Chari with Safety-Kleen.

You're emission inventory for point sources have included fugitive emissions within the point sources?

MR. FORBES: Yes. We've included fugitives to the best of our ability and source's abilities to quantify those emissions.

MR. CHARI: How would the actual versus potential emissions maybe rule on the emission trading program for fugitive emissions cause most of the fugitive emissions are based on potential and real factors? So how would that be used in the actual emission trading?

MR. FORBES: It sounds really like your question is a quantification question.

MR. CHARI: Uh-huh, yes.

MR. FORBES: Possibly. I could give you an example. Currently, the board has regulations that limit the amount of equipment leaks from SOCMI facilities. It requires certain kinds of testing at a certain prescribed frequency.

Standard EPA emission factors are used to calculate that and to determine whether sources are complying. The trading option could possibly be to make more inspections at more frequent intervals or include more valve fittings, flanges, whatever the equipment that's being regulated is.

So that would be one way where a source could use emissions trading to either meet their own requirement or to provide ATUs or emission reductions to another source.

MS. SAWYER: And additionally, we are providing more testimony on quantification methods at a later point in the hearing.

MR. TREPANIER: My question, Mr. Forbes, refers to Table 2. I believe that is Exhibit No. 6. This is a question that I asked earlier and it was deferred to you.

That has to do with the column or the

line for point sectors and they are numbered -- there is in parenthesis 92. I have a question about that and that's does this number reflect a new construction that's anticipated under these rules that the construction that's been permitted or in other ways somehow deemed to be in progress in 1999 and also does that number 92 include the likelihood under the proposed rules that the baseline determination is going to be at a level that's higher than the existing levels of emissions -- the existing actual levels?

MR. FORBES: Okay. That table that you are referring to is Table 2 of Mr. Mathur's testimony?

MR. TREPANIER: Yes.

MR. FORBES: Okay. To address your first question, the 92-ton per day number is intended to -- we did include growth for those point source emissions that would be smaller than the applicability requirements for ERMS.

We did include a growth factor because there will be no such limitation for that. They could continue to grow pursuant to their existing requirements or regulations.

For the ERMS participating sources, we

did not include growth amount for that because their allotment will be based on 92 to 94. Any future growth would have to be obtained through the trading program.

I'm trying to remember your other question.

MR. TREPANIER: It's my understanding that your testimony is saying that a facility that's under construction in 1999, when they open, they will be required to have an allotment?

MR. FORBES: It would depend on the size and circumstances and the timing of when they actually got their construction permit and when they would start operating.

The clearest one -- the clearest issue is a new source constructed after the program begins would not receive an allotment.

MR. TREPANIER: But my question refers to this number 92. And I'm asking if this number 92, is that including what those -- that construction that the agency, by their rule, is anticipating that is going to be occurring in 1999?

MR. FORBES: I guess my answer is we have attempted to try and do that by providing a small

amount of growth in our calculations.

MR. TREPANIER: Specifically, to fit, as I understood what you said, that growth that was included was fit to grow in those sectors that's not included in the ERMS program?

MR. FORBES: Well, that's primarily what we had in mind, but it would also cover any of the additional possible growth that might occur between now and 1999. It's our best estimate as to what that amount would represent.

MR. TREPANIER: How was that determined?

Is there a place in the documentation that shows what was the agency's expectation on how many facilities are going to be under construction in 1999?

MR. FORBES: We don't estimate growth on that basis. We base it on growth projections that we obtain from the U.S. EPA program that's called EGAS. It uses economic factors to project growth in various nonattainment areas and we use that to help develop or projection, growth projection.

MR. TREPANIER: Do you know that that model that you are using to project the growth, does that include the factor that the growth in that model,

people are going to be gaining a pollution -- sellable pollution allotment?

Is that a factor considering that that's going to actually drive construction of polluting facilities?

MR. FORBES: I would have to say that I'm not -- I'm not familiar with all of the factors that are included in that model. It is a U.S. EPA model that's designed and built by them and provided to the states to obtain the growth numbers. So I'm not sure if that factor was incorporated into that model.

MR. TREPANIER: And it may not be since, as we heard from the OCP, this was something new, this type of a trading program?

MR. FORBES: Yes.

MR. TREPANIER: I have a question regarding Table No. 2. I'm sorry I'm not able to say which exhibit it was. It was a Chicago area source category section. It was your Table 2.

THE HEARING OFFICER: It was Exhibit 12, I think.

MR. TREPANIER: I think you presented this as an overhead slide. It's my memory that you -- you had reported that you found that it's reasonable to

visit one of these categories and I apologize that I didn't hear clearly which category it is that the EPA is intending to visit.

MR. FORBES: This is Table 2, the Chicago area source category summary?

MR. TREPANIER: Yes.

MR. FORBES: I think I was referring to the consumer versus solvent category. The U.S. EPA has identified specific products that they are going to regulate under the general heading of consumer and commercial solvents. They have indicated that they will continue to study that group of products -- the thousands of product that make up consumer products and as they find solutions to further reduce the solvent content, that they will continue to regulate those products as time goes on.

MR. TREPANIER: Did the state EPA find any of these categories -- find something in any of these categories that maybe a command and control rule is going to be looked at in the future?

MR. FORBES: Not really because most of these consumer commercial products are being manufactured throughout the United States. It is difficult to control projects made in our states, but sent in in a

commercial manner and sold to various drug stores and department stores, it's difficult. It requires some different kind of regulation on the product and policing those kinds of products and making sure that everyone in the facility that's selling them maintains that the proper solvent content --

MR. TREPANIER: I understand that, that I did improperly hear your testimony earlier, but in all the categories on Table 2, the stake you paid is not intending on visiting any of those categories?

MR. FORBES: No, we are. Cold cleaner degreasing under other solvent use, as I mentioned, we went back and reviewed these categories and identified them because we felt that there were additional requirements and controls that we could specify for that category. We will be -- if we haven't already filed the rule -- filing a rule for that particular one.

MR. TREPANIER: Do you know the number of what you expect is going to be a reduction in VOM emissions with that regulation?

MR. FORBES: Yes. That's about 11.5 tons per day approximately.

MR. TREPANIER: On the Figure 5, I also don't

have the exhibit number. I'm sorry. This was Figure 5, 1996, 2,000 VOM emissions for Chicago.

THE HEARING OFFICER: Exhibit 15?

MR. TREPANIER: It has three lines across the first page.

THE HEARING OFFICER: Yes.

MR. FORBES: Yes.

MR. TREPANIER: Would it be a correct interpretation of this -- of the information on this page to be that -- that the projected emissions and the reductions that will be accomplished under ERMS as they are estimated now, it's just making compliance in 1999 as the program -- as the agency is forecasting how this is going to work, its just going to make it in 1999?

MR. FORBES: Well, we -- according to the figure, Figure 5, what is included here is the ERMS program along with the solvent degreasing rule. Both of those together would allow us to just make our ROP target level in 1992.

MR. TREPANIER: Okay. So Figure 5 includes that regulation?

MR. FORBES: The cold cleaning, yes.

MR. TREPANIER: Okay. And then with that, if

that's showing that -- that would just make it if it works as anticipated, is that correct?

MR. FORBES: I'm sorry. I didn't understand that.

MR. TREPANIER: You're not projecting an over-compliance in the year of 1999, are you? You're projecting that it's going to meet compliance?

MR. FORBES: Well, we're -- no. We are projecting that we would be somewhere between four and five tons under the target.

MR. TREPANIER: That's less than a percent?

MR. FORBES: Yes. It's very small.

MR. TREPANIER: Yes, but it does provide some contingency.

Would you say -- what can you tell me about the ability that you can forecast in that model that was used in projecting the growth?

What's the reliability of that model? Is the reliability of that model greater than the half of a percent or so that we're going to -- that we're shooting for on target? How reliable is that model compared to what the end result is looking for?

MR. FORBES: I'm sorry. I'm not familiar enough with the model itself to be able to tell you

what that variability is.

MR. TREPANIER: Do you know who is familiar with that model and how it works?

MR. FORBES: Well, probably someone at U.S. EPA. They are the ones that developed that growth model. I'm not aware. I have not seen any of the information of that nature in any of the documentation. They would be the source of the model.

THE HEARING OFFICER: Go ahead.

MS. MIHELIC: I'm Tracey Mihelic from Gardner, Carton & Douglas. You stated earlier that from the years 1970 to 1990, there were reductions in emissions and significant amounts of reductions.

Do you know what percentage of reductions came from point sources during that period of time, what percentage of the overall reductions came from point sources?

MR. FORBES: I do not have the percentages, but in Table 1 of Mr. Mathur's testimony, it does provide the numbers from 1970 and 1990 through 1996. It could be calculated.

MS. MIHELIC: Okay.

MR. FORBES: I haven't done that.

MS. SAWYER: That should be Exhibit 5.

MS. MIHELIC: You stated before that the U.S. EPA had a SIP that required a 50 percent ROP plan by January 3rd of 1996 and in your overhead, it said it could result in sanctions if this plan is not provided to U.S. EPA at that time. Is it an absolute that U.S. EPA will impose sanctions if this plan is not submitted by January 3, 1998?

MS. SAWYER: Just for clarification, you said for the 15 percent ROP by 1996. It was for the nine percent ROP by --

MS. MIHELIC: By 1999.

MR. MATHUR: Let me address that question. I won't even begin to guess what EPA will or will not do. So your question would better aimed at the U.S. EPA. ?

MS. SAWYER: And it's somewhat of a legal question also on what they're required to do.

MR. MATHUR: But under the Clean Air Act and the sanction notice, the state will be under threat of sanctions. What they actually will do, only they know.

MR. WAKEMAN: I'm Jim Wakeman of Tenneco.

Going back to Exhibit 15, Figure 5,

the model that you have referenced here or talked about makes the assumption that in order to make or to get to attainment, we are assuming that background levels are dropped.

What happens if those targets aren't met? In other words, the background don't drop, what are the contingencies and what likely impact is that going to have on our --

MR. MATHUR: Let me address that.

As I mentioned in my testimony, those are planning targets, backdrop levels, only after OTAG is finished would we be able to model what might be the impact on ozone background.

The backgrounds don't drop to 60 or 70. They only drop from 98. That's the best that can be done based on OTAG. The immediate conclusion is we need more VOC reductions in the Chicago nonattainment area. That's the relationship that I had established in one of my earlier bar charts.

That is why I had testified that once OTAG is completed and we have the results, we will be in a position to come back and talk about what additional reductions, if any, are necessary in the Chicago nonattainment area for VOCs.

MR. WAKEMAN: That doesn't give me the answer on the contingency, I understand where you're coming from.

THE HEARING OFFICER: Are there any further questions?

MS. MIHELIC: You referred -- going back to the federal measures that will be imposed for mobile and area sources, in Exhibit 6 from Mr. Mathur's testimony, I just want to clarify what the exhibit actually says here and that currently there have been promulgated ROP controls. It says -- and I'm looking in the bottom left-hand corner -- plus FMVCP, D.A. Gasoline, RFG I, E I/M, all of those have been actually proposed and enacted for on-road mobile?

MR. MATHUR: They are all in regulations.

MS. MIHELIC: Have they been enacted?

MR. MATHUR: No, not all have been enacted.

MS. MIHELIC: Do you know when the deadlines for enactment are?

MR. MATHUR: The only one that has not been enacted, as far as I know, is E I/M in Illinois.

MS. MIHELIC: And is there a deadline by which Illinois will enact that regulation?

MR. MATHUR: No. There isn't a deadline

that we have imposed on ourselves, but it is our expectation that the program will be fully in place by the end of '98.

MS. MIHELIC: And for off-road and area sources, have all of those regulations been enacted?

MR. FORBES: The solvent degreasing is one that we have been talking about. That one will be filed with the board.

The federal off-road small engine standards has been adopted and is in place. Consumer solvents, that also has been, at least the first phase. The U.S. EPA's consumer solvent rules have been adopted. I think that might have been a regulatory --

MS. MIHELIC: Is that a consumer -- is that the consuming product regulation?

MR. FORBES: Yes.

MS. MIHELIC: Is that also going to apply to point sources potentially?

MR. FORBES: Well, it really applies to commercial projects. I think the way it -- my understanding is it limits the solvent content of various products that are manufactured so it --

MS. MIHELIC: So could it apply --

MR. FORBES: -- could indirectly affect those facilities that are manufacturing those products.

MS. MIHELIC: And those facilities could be point sources?

MR. FORBES: They could be point sources.

MS. MIHELIC: For solvent decreasing regulations, do they have to be enacted also by September of this year in order to consider them with the 15 percent plan being submitted to U.S. EPA?

MR. FORBES: Three percent.

MS. MIHELIC: Sorry, three percent.

MR. FORBES: Yes. Both rules would be needed to be submitted to U.S. EPA as a SIP revision, as a package.

MS. MIHELIC: Have they been proposed in Illinois yet?

MR. MATHUR: Yes. They have been submitted to the board as of last week. They are downstairs somewhere.

MS. McFAWN: Actually, they are upstairs.

MR. MATHUR: They are upstairs.

MS. MIHELIC: Okay. Moving over to the left side of the page, which one of the on-road mobile sources have been proposed or adopted?

MR. MATHUR: RFG II will come into effect in 2000. I believe the National LEV negotiations are very near closure and that there we will be a national clean vehicle act. Clean Fuel Fleets is on the books. On-board controls is on the books.

MS. MIHELIC: When you say "on the books," on the state's books or on the federal books?

MR. MATHUR: Federal.

MS. MIHELIC: For off-road and area sources, which one of those are on the books or have been closed?

MR. FORBES: In terms of this particular part of the table, measures beyond 1999, those are both proposals or at least indications by EPA that they will regulate aircraft, watercraft. They will be studying those particular classes of off-road vehicle engines.

MS. MIHELIC: I'm just trying to figure out which ones have been actually proposed and which ones are still just being investigated.

MR. FORBES: That last one would be still being investigated.

MS. MIHELIC: All on the off-road and area sources, that whole group?

MR. FORBES: Correct.

MS. MIHELIC: You stated during your testimony that the proportionate share of point sources was 22 percent, is that correct?

THE HEARING OFFICER: Is that for the ROP?

MS. MIHELIC: That's my next question.

What is the 22 percent proportionate share?

MR. FORBES: The point source is 22 percent.

MS. MIHELIC: And that's to meet the three percent deadline in 1999?

MS. SAWYER: 1999?

MR. FORBES: 1999.

MS. MIHELIC: Okay. And what is the proportionate share to meet the attainment standard -- to meet attainment? Is that the 33 percent discussed earlier today?

MR. MATHUR: We don't know attainment target yet. Once we have an overall target, we will be able to determine what the strategy should be.

MS. MIHELIC: So you're not sure what the proportionate share of point sources is to meet the attainment standard?

MR. MATHUR: No.

MS. MIHELIC: How, then, can the agency meet the requirements of the statute that these rules adopted by the board shall include provisions that are sure that sources subject to the program will not be required to reduce emissions to the extent that it exceeds the proportionate share of the total reductions required of all emission sources including mobile and area sources to attain and maintain the national air quality standards for ozone in the Chicago nonattainment area?

MR. MATHUR: It's our belief that once we have determined what is the fullest extent of VOC reduction is necessary to show attainment, we will then do the analysis to meet that provision in the legislation when we come back the next time for additional reductions.

MS. MIHELIC: What are the provisions in the rules that assure that the proportionate share will not be exceeded?

MS. SAWYER: I think this is really a legal question. It's in the legislation. It certainly is a -- takes precedence over the ruling in providing that assurance.

MS. MIHELIC: Are you saying that the rules --

it specifically states that the rules adopted by the board shall include such provisions. I'm just wondering what provisions of the rule is assured that the proportionate share will not be exceeded by point sources?

MR. MATHUR: The 12 percent and our explanation of how we arrived at the 12 percent.

MS. MIHELIC: So the 12 percent figure is what assures your proportionate share?

MR. MATHUR: Mr. Forbes' testimony demonstrated that while we look at proportionality issue, it could be a longer term attainment based analysis. We felt that even at this moment where we are simply doing a portion of the attainment demonstration through an initial nine percent reduction, the reductions that we have sought from the stationary sources based on their contribution seems to fit the proportionality interpretation.

When we come back with additional reductions based on a more final target of attainment, we will revisit the issue of what is appropriately proportional for each segment.

MS. MIHELIC: Right now, area sources are now being required to reduce their emissions by

their proportionate share by 1999, is that correct?

MR. MATHUR: In our opinion, they are.

MS. MIHELIC: And how are they?

MR. MATHUR: Because we believe proportionate share doesn't necessarily translate to exactly the same percentage necessarily.

MS. MIHELIC: I thought you stated earlier that their proportionate share was 22 percent reduction.

MR. MATHUR: We demonstrated that based on their contribution to the total emissions pie.

MS. MIHELIC: I 'm a little confused right now. I thought that their share was 22 percent reductions? Is that correct that their share of reduction is 22 percent?

MR. MATHUR: What Mr. Forbes indicated was that based on the makeup of the emissions as to what is causing the emissions, the percentage reductions that we have assigned for '99 seems to be proportionate to their contribution.

MS. MIHELIC: So they are being required to reduce their 1996 emissions by 22 percent by 1999?

MR. MATHUR: Where is Table 2?

Table 2 has a 24 percent reduction for regular sources from 1996 to 1999.

MS. MIHELIC: And what are the --

MR. FASANO: Twenty-four percent from 1990.

MR. MATHUR: I'm sorry. From 1990.

MR. FORBES: If I could maybe refer back to one of the charts I went though, we calculated or determined what we thought would be the proportionate share as 22, 26, and 52 percent based on each of those sectors' contribution for their portion of emissions in 1996.

The plan that we are proposing would achieve a 20 percent reduction by point sources and we said their fair share was 22. We said that area sources would get 22 percent and their fair share was that.

Mobile sources would achieve 58 percent and their proportionate share, it was said, is 52 percent.

MS. MIHELIC: I guess I'm just asking where is 21 the 22 percent reduction coming from, area sources?

Is that all in the consumer products regulations? Is it all coming from that regulation because that's the only one connected?

MR. FORBES: It's from the -- actually, there is a very small amount coming from consumer versus solvent federal measure. There is a particular product that they are regulating in that time frame and it's very small. The majority of emissions are -- would be coming from the degreaser rule.

MS. MIHELIC: They are not being considered point sources, the degreasing operations?

MR. FORBES: No. That's an area source.

THE HEARING OFFICER: Are there any other questions?

MR. DESHARNAIS: Chuck, I have one.

THE HEARING OFFICER: Okay.

MS. MIHELIC: I have one more question.

MR. DESHARNAIS: Go ahead and finish up.

MS. MIHELIC: I have two more questions.

After 1999, what's the next year that Illinois will have to show further reductions toward attainment to U.S. EPA?

MR. FORBES: 2002.

MS. MIHELIC: And if the federal measures that you have set forth in that Exhibit 5, I believe, the left-hand side that sets forth those measures that should be promulgated or attempt to be promulgated

are not promulgated by that time, what assurance can the agency give to the point sources that it will not require further reductions only from point sources at that time?

MR. MATHUR: I don't think the agency at this point can discuss what its strategy might be between 1999 and 2002. One of the biggest factors is what is the result of OTAG.

As Mr. Forbes has testified, and as I have testified, if OTAG can give us ozone boundary of 60 and sufficient precursor reductions, we might demonstrate attainment in Chicago with emission levels at 99.

On the other hand, if OTAG cannot achieve the required level of reductions, we would have to re-evalute the level of reductions of VOCs in Chicago.

So consistent with our commitment to seek only the first ROP reductions, we are not prepared to discuss what the agency strategy should be or could be or will be until we come back seeking further reductions if that's what we need.

MR. NEWCOMB: This is Chris Newcomb again.

To try and clarify Tracey's earlier

question, under the ERMS program with the single exception of consideration of the cold clean air degreasing operations, all the emission reductions that are being required, these regulations will be from point sources, that there was not a proportional reduction required in the different categories that you have described, is that correct?

MR. FORBES: No, that's not correct. In order to achieve our three percent ROP plan, we are getting reductions from mobile sources. Most of those -- in fact, all of those measures are coming from federal requirements, but they will require global source emissions to reduce, as we sit here, 58 percent.

MR. NEWCOMB: How did the federally implemented programs mesh with ERMS programs?

My understanding right now is that under these regulations, point sources are being -- will be required to conduct further reductions.

However, federal reductions in part are going to be reductions that you expect from categories such as area sources and mobile sources and it doesn't seem as though proportionate shares are being considered in this connection, but it is perhaps being considered in the larger plan, is that

correct?

MR. MATHUR: Your last statement is correct. We are conducting a review of the proportionate area wide reductions.

The ERMS rule applies to point sources because for the other sectors, reductions are being sought either through federal measures or through other kinds of regulations. So there is really no relationship between ERMS and other sectors and their reductions.

ERMS is the method that the agency is proposing to seek reductions on the point source category.

MR. NEWCOMB: Thank you for the clarification.

I don't mean to be redundant about this, but it is your perception, then, that the regulations as proposed are to meet the statutory requirements in Section 9.8(c)(3)?

MR. MATHUR: That is correct.

MR. NEWCOMB: Thank you.

MS. MIHELIC: To that question, you stated you considered federal measures for the mobile and area sources. What about federal measures such as MACT standards that will apply to the point sources?

Have you considered those in the reductions that point sources will have to attain by 1999 or thereafter?

MR. MATHUR: Yes, we have. In fact, our 15 percent plan specifically had a line item for MACT reductions.

MS. MIHELIC: And you're talking about the 15 percent plan for 1996?

MR. MATHUR: Between 1990 and 1996. In this ERMS program, as people meet their MACT obligations that are mandatory, they can apply those towards their satisfaction of the ERMS report. So they have heads up, if you will, by meeting a mandatory federal rule and they will also be satisfying the VOC aspects of this rule if the MACT pollutant is a VOC.

MS. MIHELIC: Okay.

MR. TREPANIER: I would like to refer again to Table 2, Exhibit 6. Again, the numbers in parenthesis -- I understand that during Mr. Mathur's testimony, these numbers in the parenthesis were identified as tons per day, sources affected by these rules. Specifically, I had that attached to 105.

Now, I see that the next numbers in the parentheses is 92 by 1999 and a 92 by the year 2002.

Can that fairly be read to signify that the agency expects that there will not be an increase in the amount of allotments that are issued in 1999 versus the amount of allotments that are issued in the year of 2002?

MR. MATHUR: That is correct.

MR. TREPANIER: And in that instance, is that based on an assumption that there would not be any other -- there would be no sources added between 1999 and the year 2002?

MR. MATHUR: That is correct too.

MR. TREPANIER: Okay. And does the rule contain a provision that a source under construction and without an allotment in the year 1999 will receive their allotment once they have completed construction and they have operated for three years?

MR. MATHUR: Yes. May I suggest that as you asked questions on the substantive provisions of the rule that we defer it to the appropriate time?

MR. TREPANIER: I wanted to understand these 92s because it seems to be -- this table seems to say that there will not be any growth in the number of regulated sources under this program between 1990 and 2002. So I wanted to confirm that this --

although the rule doesn't provide that there could be more regulated sources in the year 2002 than 1999, this table doesn't show that.

MR. MATHUR: Let me explain the purpose of the 92 number showing up twice on this table. The ERMS is limited to meeting the ROP requirements in 1999. With 92 being repeated again for 2002, it is just a demonstration that this particular rule at the moment is not seeking any further reductions.

Since the sources that make up the 92 tons will be capped at 92, no increases will be allowed and we haven't shown a change in that number because we don't have a strategy yet for further deductions beyond 1999. That's the only purpose of showing 92 next to the 161 under the 2002 column.

MR. TREPANIER: I understand that as the rules are written, that 92 could well be a 95 in the year 2000, that that could be anticipated?

MR. MATHUR: It's my strongest hope and belief that it will not go up over 92 because that is the whole purpose of these rules.

MR. TREPANIER: But the rule does allow that a source under construction in 1999 could receive their first allotment in the year 2002?

MR. MATHUR: The rule does allow that flexibility, but the rule also limits it to actual emissions once it has operated for three years.

We can further discuss the provisions -- substantive provisions of the rule after we have had an opportunity to present direct testimony on those provisions.

MS. SAWYER: Right. And we are going to have more testimony on that specific area of the rule.

MR. TREPANIER: Are you anticipating testimony that's going to support that number 92 in the year 2002?

MR. MATHUR: No, but it's going to support the concept that you have just raised as perhaps impacting the 92 number. We will have testimony that will address issues relative to resources under construction, when they begin operation, and how the process includes their emissions.

MS. SAWYER: Well, I think we would like to respond more fully to your question. Hopefully, we can do so tomorrow.

MR. WAKEMAN: I'm Jim Wakeman from Tenneco.

Going back to the model, if the

transport of air during the ozone season tends be northward, I'm curious as to why the ERMS program isn't being applied to, say, St. Louis or downstate, whatever the terminology is, because that would help to get to that 60 or 70 number in the charts?

MR. MATHUR: As I mentioned earlier, there are two issues relative to the ozone strategy. One is what pollutant and where it should be reduced outside and upwind of Chicago in order to reduce transported ozone.

A second issue is once we have an idea of what level the ozone reductions we can achieve by this upwind strategy, we may still need further reductions in Chicago.

This program at the moment is limited to achieving further reductions in Chicago. When the OTAG process is finished, it will have examined all of the possible strategies that will help reduce transported ozone, which will have include possible reductions of VOC and/or NOx.

Once those decisions have been fully reviewed, the agency intends to put regulations into place to achieve the appropriate reductions.

If we determine at that point that we

need further reductions in VOCs in the metro east, that certainly similar approach will be looked at.

MR. WAKEMAN: Thank you.

MR. FORCADE: I have just one short question.

Mr. Forbes used a series of bullet overheads which weren't introduced as exhibits. Would it be possible for the agency to provide copies of those tomorrow so that we could have that?

MS. SAWYER: Sure.

MR. FORCADE: Just the bullet overheads.

MS. SAWYER: We may have copies here.

THE HEARING OFFICER: I ask that we take a five-minute break. When we get back, I know there are some questions that the board still has to ask most likely.

(Whereupon, after a short break was had, the following proceedings were held accordingly.)

THE HEARING OFFICER: I think we are going to try to go until 5:00 o'clock tonight and then stop there.

The agency has one more witness they would like to try to get in tonight. Maybe we might

just get his testimony and carry him over for questions tomorrow.

There is also an issue of where we are going to be tomorrow. This room is not reserved for us tomorrow. Hopefully, we will find out shortly where we will be at tomorrow. If not, I think the best thing is for everyone to just come by here and we will leave the notice on the door.

I believe we were finishing up questions with Richard Forbes. Were there any other questions?

I have one question, then. We use a lot of the 1996 projections. Is there any way that the numbers from '96 are going to be finalized before, let's say, August of '97?

MR. FORBES: Probably not because the -- we're trying to rely on the annual emission reports and those reports are not due until I believe May of '97 for the '96 period. It does take some time to go through and have quality assurity data. So it probably will not be available by that date.

THE HEARING OFFICER: Okay. I don't believe there are any other questions.

MS. SAWYER: The agency would like to call

Philip O'Connor.

THE HEARING OFFICER: Oh, before we go on to the next witness, we have marked Exhibits 7 through 18, but I don't believe they were moved into evidence.

MS. SAWYER: Oh, right. The agency moves that Exhibits 7 through 18 to be admitted into evidence.

THE HEARING OFFICER: Are there any objections to enter those exhibits into the record?

Hearing none, then, I will enter into the record Exhibits 7 through 18, which have been marked previously.

MS. SAWYER: We have five slides for this testimony. Would you care to mark them as exhibits in advance just go through each of them?

(Documents marked as
Hearing Exhibit Nos. 19 - 23
for identification, 1/21/97.)

THE HEARING OFFICER: Sure, I can do that.

I'm going to mark as Exhibit 19 an overhead that's going to be entitled, "Key events in the Development of the SO2 Trading Program."

I will mark as Exhibit No. 20 a document

entitled "Clean Air Act Amendments of 1990, effect on Acid Deposit in North America."

I'm going to mark as Exhibit 21 a document entitled, "Cost of SO2 Emissions Control, Is It Much Lower Than Expected?"

I'm going to mark as Exhibit 22 a document entitled, "IEPA 1993 Pre-feasibility Study for Ozone Precursor Trading."

I'm going to mark as Exhibit 23 a document entitled, "Key Principal Shared by SO2 and ERMS Trading."

(Witness sworn.)

WHEREUPON:

P H I L I P R. O ' C O N N O R ,

called as a witness herein, having been first duly sworn, deposeth and saith as follows:

MR. O'CONNOR: I'm told this is a -- the five different slides that I will be using will be Exhibits 19 through 23 in that order.

My name is Philip O'Connor. I'm a principal with Coopers & Lybrand Consulting. My role here is really pretty straightforward. I'll try to keep this short.

It's to really describe why it is that

the experience of the acid rain trading system under the Clean Air Act amendments of 1990 ought to be encouraging with respect to our expectations about the ERMS trading system that is suggested through this proposal or through this proposed rule.

My perspective on this is having served as a representative during the debate over the 1990 Clean Air Act on behalf of Commonwealth Edison. What that was was bringing the first major utility in the country to the table to negotiate with the U.S. EPA on the idea of an SO2 trading program.

Subsequently, I chaired the subcommittee that the U.S. EPA established to design the trading program. This was part of a larger group which was set up to expedite the rulemaking subsequent to the passage of the legislation.

The first slide really just touches on the events that ultimately produced the trading program. The essence of this is that it has pretty respectable roots starting with Ronald Coase, the nobel prize winning economist at the University of Chicago.

Basically, in 1960, he developed the idea that he might be able to deal with a variety of

problems of externalities, including pollution, by assigning property rights or the equivalent of property rights so that people could find ways to trade among themselves either the damages or compensation relating to pollution.

The earliest experiment really out of the federal and environmental regulatory apparatus was that for the -- to get the lead out of gasoline.

Fundamentally, it was just a program of assigning to the different refiners in the country different levels of lead on a declining basis that could be in gasoline and they tried it amongst one another.

Essentially, we have gotten down to the point of a pretty lead-free gasoline system out there and that was achieved largely by a trading program.

The point is that there are going to be some emitters who have a lower cost of reducing their emissions than others and why not get the efficiencies of that and in addition, it doesn't require as much in the way of government preapproval of technology for reductions. There will be more innovation and more willingness by emitters to adapt new means of control and experiment with it.

This evolved in 1988 into a Harvard study group which the late Senator Heinz and Senator Tim Wirth at the time on a bipartisan basis suggested that there should be a trading system for SO2 to address this problem for the acidification of lakes in the northeast and Canada.

That resulted pretty quickly in the agreement between the White House and the U.S. EPA on the one side and the Enviromental Defense Fund on the other to include a trading system for acid rain into the Clean Air Act amendments that were being prepared for the 1990 Clean Air Act Amendments.

During the course of that debate, what happened is most of the electric utility industry -- which, of course, was the subject and the target of this regulation -- moved from the point of, first of all, fought out opposition to any kind of acid rain program first, but second, moved from having a mind set about a very standard format for regulation and that is each and every plant being regulated and the technology being used and being certified in some fashion by the government from that to a system in which there was trading.

One of the key elements of that change

of heart was that there was an enormous conflict among the utilities once they realized there was going to be a program. Some utilities, essentially demanded subsidies that would flow from the non-emitting or the low emitting utilities to the high emitting utilities to pay for scrubbers. That was sort of once they realized there was going to be a reduction program.

The thinking evolved to the point of adopting a trading program because that was actually a very efficient way of having a kind of subsidy system, one that did not pick up money or move it involuntarily from one player to another because it could allow those who were very high emitters who probably had low cost control and get those reductions down and in turn, sell the emissions of allowances that they had been granted.

The U.S. EPA in 1991, after the bill passed, created the advisory committee and that was the one that I referred to where I chaired the trading committee with the time and trading system.

The important thing about that is it really did expedite the rulemaking and it's been somewhat replicated in this process, kind of up

front, however, in the effort to get as many of the interested parties together as possible to agree on a way of doing things.

In 1993, there was the first SO2 allowance auction and that was conducted by the Chicago Board of Trade on behalf of the U.S. EPA and really produced the first numbers as to what these allowances were worth.

Ultimately, during this period in the past several years, there has been such a widespread acceptance and recognition of the success in the program and the way in which it has operated smoothly, but the idea of trading program has been applied now to these other more complex situations dealing with ground level ozone and so forth.

Most every one, I think, as I said, agrees that it's been an extraordinarily successful effort. The U.S. EPA -- I think you have copies of the color slides there. Essentially, this blue area you see, which is exactly the area that was targeted for reduced acidification in the lakes and the streams and so forth, it has indeed experienced a significant reduction as much as 25 percent in many of the areas for acid rain.

Some of the areas where it's gone up had relatively low acidification as it was. So from the point of intended result of the policy, it's been exactly that which was targeted by the Congress and the U.S. EPA at the time.

So from the standpoint of asking the question, well, okay, maybe it worked smoothly, but does it actually accomplish that which it was intended the answer was yes.

In fact, some of the more recent information from the U.S. EPA indicates the target for the 1995 period, which was the first year for the program, where the target was about 8.7 million tons among the 445 Phase 1 units, the actual emissions had been 3.4 million tons less.

So there was a dramatic reduction -- early reduction below the original target. No one says that the trading program is exclusively responsible for that. Other things such as lower western -- low sulfur coal prices, and the like contributed to that significantly, but the MIT work has indicated that one of the things that the allowance system has done was to make those prices much more apparent and to make midwestern and eastern

utilities much more willing to go out into the market and purchase low sulfur coal from the west rather than thinking they had to stay with a particular form of compliance to get a particular plant's emissions down.

Now, the other thing -- well, let me go back to this point of what's really being done is the selling of pollution reduction as opposed to the selling of pollution.

What's really being done is that a lower price or a lower cost of control by one party is being sold to another so, in essence, they are splitting the difference.

When one goes back to the actual language in the text of the Clean Air Act amendments in the sulfur -- in the SO2 program, what one finds are two numbers, which reflect what the belief was by the congress and by the U.S. EPA, just about everybody, as to what the marginal cost of control is going to be.

It is somewhere between $750 and $1,500 per ton of SO2. Those numbers are actually in the statutes because they are set as kind of default numbers, but at which parties can purchase allowances

from the government from a reserve.

What this slide shows, and I wish it showed it more clearly, but the line is pretty darn clear, which is as of today, the marginal cost of control if you see that in terms of the price of an allowance, instead of being $750, it is more on the order of $65 to $75.

So we are running somewhere one-tenth what the anticipated cost of control was at the time the debate was taking place.

Now, we can say that the utilities exaggerated at the time or whatever it was, but this is considered a very startling difference in the business.

You can also see that in '94, some of the auction numbers at that time were up in the $150 or $160 range and they have come down. Now, there are people who believe that these numbers will begin to go up somewhat as we get to Phase 2 in 2000, but who knows? That will take an enormous climb to get anywhere up near the marginal costs that was expected at the time of the debate.

Again, while these declines in cost and control cannot be attributed exclusively to

the trading system, one of the things it does is the trading system makes it clear that you can get to the least cost of form of control in order to achieve the results.

Again, I would reiterate the results are much better today than we had thought going in -- in terms of going in and in terms of the amount of early reductions.

This sort of developing knowledge and experience encouraged the Illinois EPA to undertake an effort to see whether this basic format might be worthwhile to pursue with respect to ozone.

So Director Gade put together kind of a design team of various players. The Enviromental Defense Fund was involved and people from my office were involved; I was and it was my experience, people from the EPA, people from a number of major sources of emitters and so forth.

Now, what's interesting about this, to show you how thinking can change in a modest period of time, we originally started out to design a NOx trading system because that's what was believed at the time to be the pollutant that was the problem.

During the course of the work of the

design team, it became more clear to the science that it was the VOMs. Now, what I know in that particular field, you can put in a thimble. So I take the fifth when it comes to what the science is on this. I'm happy to listen to the scientists.

But the point is that it was -- barely a beat was missed in moving from talking about a NOx trading system to being able to talk about a VOM trading system. That's how versatile and flexible the approach is. That, I think, is something that actually recommends this to you.

Again, you have already talked earlier this afternoon about the focus on the Chicago metropolitan air shed.

One of the problems is what kind of liquidity do you have? Do you have enough players to make it a liquid system? Indeed, with several hundred emitters available to be in the program, that's more than sufficient for liquidity in the program.

The early design also proposed the use of the fixed percentage allocation of allowances against a baseline period emissions of encumbents as simple, fair and efficient.

Now, let's go back to the roots of the trading system. One of the things that Professor Coase would tell us if he were here would be that if you want an effective trading system for pollution, we could just as easily take all of the allowances or credits we were going to use and we could go over to the Ogden school in my neighborhood and hand it out to the first graders and within a fairly brief period of time we would have an efficient trading system because they are worth something.

So you don't have to give them to the encumbents. You don't have to keep them in a reserve and auction them off to whoever wants them. Theoretically, you can do anything.

The reason that the suggestion was made for allocating these on a fixed percentage basis against a baseline so you could get the baseline and say well we need this much reduction and we can give everybody who is already in the game a certain amount is that's the fastest way to get agreement and to get to a system that works. You deal with the encumbents.

True, there are people who come along later and need to buy them, you find a way to deal

with that, but they are not here. They are not part of the current system.

So this is a very pragmatic sort of decision. It could be done other ways, but this gets it off and running quite quickly.

The other thing it does, it satisfies the question of let's call it a subsidy or assistance or where you find the resources to make the current reductions. It answers the same question that was answered with the utility back with the SO2 program. If you have an allowance system and somebody is a big emitter, you probably have a lower cost of control and sell that lower cost of control to people who are already suffering from a long diminishing return.

Banking was proposed. Now, it's true that in a smog situation, you have a shorter life span for a bank allowance. In the SO2 program, it's essentially forever. In this kind of program, a more seasonal, kind of intermittent sort of thing. You probably don't want to have a very long period for banking.

The point is if you don't use one today, you can use some tomorrow. That may be a definite

period or an indefinite period. That reduces the incentive to essentially ignore controls because if it's worth only something right today, you're probably going to spend it. If you can find a way to transfer it to someone else and get value out of that, you'll do it, and that means again that you are engaging in control.

The other point is that new sources would have to obtain these offsets at 1.31. So you will be getting reductions right out of the box and then be able to demonstrate they can secure allowances for three seasons and that way, if they were given a license or certification to emit again at a lower ratio they would, nonetheless, still have to show that they could get emissions allowances for the subsequent three periods after they began emitting.

The trading units are relatively small -- mechanically a relatively small number of tons. Therefore, you have more liquidity. So rather than dealing with thousand dollar bills, you are dealing with five-dollar bills.

Finally, there was a recognition that there might be atypical situations and some thought

should be given to some allowance for excursions and exactly how you're going to deal with those.

So the allowances, unlike the SO2 system, are not necessarily the exclusive remedy, but it accounts for 99 percent of all of the situations set forth for emissions.

The point I would like to conclude with, and I've already really touched on it, is that there are a number of key principals that are shared by the SO2 and the ERMS -- proposed ERMS trading system.

There is a cap on total emissions, which is fundamentally important because the big shift in thinking in the SO2 program is away from a reduced rate of emission down to an actual cap on total emissions. So you actually have improvement as opposed to simply the very short-term improvement and then an increase of pollution all the time. That's the same with this.

Again, we share the idea of an allocation of baseline allowances to the encumbent emitters. It would be an open ownership trading system so that, in essence, anybody can own these allowances and you find that there's greater

liquidity and greater innovation if you allow, theoretically, non-emitters to own these, if they would like to. They can only be used to retire or to satisfy emissions from a licensed source.

There would be banking of allowances permitted. There would be a reserve of allowances so that new players come into the market -- new sources would have access.

Now, to be honest with this, that is something that is really done to satisfy skepticism about a trading system working. The reality is, as far as I know, nobody has ever gone to the U.S. EPA to buy out a new reserve account. They may or they may not in this situation, but it is essentially a safety valve for those who believe the market might not work.

It relies on established protocols for measuring and estimating emissions so that essentially the ways in which Illinois EPA today goes about measuring emissions and pollutants and so forth, they would continue to rely on those same measurement techniques to decide who is emitting how much and therefore, how many allowances would have to be retired.

There would be an annual reconciliation. So you would take simply an annual period and then at the end of that, having once set these measurement criteria, you would know exactly how many allowances had to be turned in to satisfy how many -- how much there had been in the way of emissions.

Finally, one of the other things is in an effort to try to reach a very high degree of agreement among the interested parties at the outset so that a rather complex idea could be brought forward in as mature a state as possible for the board's consideration.

So let me stop there. I will try to answer any questions that I can.

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

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

THE HEARING OFFICER: I guess if there are prefiled questions for Mr. O'Connor, we will start with those and go through our normal routine.

Are there any prefiled questions? No prefiled questions. Are there any other questions? No questions. Well, I have a question.

Go ahead.

MR. TREPANIER: This is Mr. Trepanier. My question of Mr. O'Connor has to do with on Page 5, the last statement of that page. I'm interested in whose statement is that?

Who is saying that and who are these interested parties that it's referring to?

MR. O'CONNOR: What I'm speaking to really is the process that at least we participated in in the design effort.

So those would be the members of the design team and a variety of people who had an opportunity to comment. So that covers the range from some of the oil refineries to the Environmental Defense Fund.

So while it may not have been each and every interested party, there was a fairly broad spectrum of opinion and experience that probably brings this rule, I would think, to a fairly high degree of development at this stage of the game.

MR. TREPANIER: Is it your contention that what you are saying that the critique of the proposal from an environmentalist point of view was provided by the Enviromental Defense Fund?

MR. O'CONNOR: That would be my opinion having dealt with EDF over the past what would be now six years through the course of the 1990 amendments, I would certainly think that, yes.

MR. TREPANIER: So you would feel that the Enviromental Defense Fund could be designing these emission trading programs since 1989, but yet remain objective and provide an environmental critique?

MR. O'CONNOR: Yes. They were probably hard nosed, I thought, during the design phase and the discussions on the rule as it developed over this several-year period.

MR. TREPANIER: Were you aware of how the mailing list was used? Earlier, I has asked the question if the mailing list that the agency developed for the proposal was used in 1996 and the answer was deferred. Would you be the person who would answer that question?

MS. SAWYER: No, he wouldn't. It would have to be someone from the agency. Mr. O'Connor is not aware of what the agency's mailing list is.

MR. O'CONNOR: That's true.

MR. TREPANIER: Regarding your testimony on that overhead that was presented as Page 4, was there

a reason for allocating the allowances to encumbents beyond that it was quick?

MR. O'CONNOR: No, not really. I mean, it is a pragmatic consideration. You know, one could devise a variety of means for the allocation and the allowances.

As I said, one could take what might be the absurd, but still nonetheless theoretically acceptable, which would be to hand them out to first graders at the school. One could auction them off simply as brand new items from the government or one could do something akin to what is being suggested here, which is to take the incumbents, give them a cap in the aggregate and therefore, cap individually and hand out the allowances in that way.

So there are different ways in which it could be done. Again, if one believes in the market, eventually the efficiencies would find their way through.

MR. TREPANIER: These allocations would need to be given to people who were doing the pollution because otherwise, they wouldn't know how to reduce by 12 percent, wouldn't that be correct?

MR. O'CONNOR: As I said, there are

alternatives. Again, let's take the most absurd example, but nonetheless theoretically acceptable, if we were to go over to the first grade class at Ogden school and hand them out to all the children walking out the door at recess, the folks in this room that represent emitters would very quickly find their way over to the Ogden school and they would be buying these emissions either from the children or their parents. So the emission allowances would find their way into the hands of those, in the first place, who needs them? Then, they would go about the normal process, which would be to either buy or sell them among themselves based upon their cost of control.

MR. TREPANIER: Was there any environmental criticism that you received -- when you participated on the design team, was there any other criticism coming from an environmentalist not associated with the Environmental Defense Fund?

MR. O'CONNOR: I wouldn't call it criticism.

MR. TREPANIER: That's what I'm asking. I'm asking if you did receive criticism?

MR. O'CONNOR: Well, let me put it into context. This was a several-year process. The

rule not spring fully grown from the head of Phil O'Connor or anybody else. It was a general idea and an effort.

So most of the criticism was carried out of the context of the effort to see if one could devise a trading system that was applicable to the ozone problem.

So that was the objective. So most of the criticism that took place was really in that context. Frankly, most of the skepticism about a trading system came from current emitters.

The resistance initially came from folks who frankly were concerned about changing from the way that things had been done in the past and doing them somewhat differently.

MR. TREPANIER: Do you believe that with this system that it will be able to effect the 12 percent reduction from the point sources by 1999?

MR. O'CONNOR: What I would say is that it's much more likely that one would effect that reduction or any other using this system than to go about it in a more conventional way.

MR. TREPANIER: Then, in 1999, if granted we've gotten that 12 percent reduction and granted

also that no further reductions were necessary, is there any purpose, then, to continue in a market system?

MR. O'CONNOR: Probably all the reason in the world because one of the great values of it is it would be much easier to maintain an absolute cap because if you had a fixed -- taking your proposition that we now have reached a level that we were satisfied with and for the sake of argument, there were one million units of emission that were tolerable, a market system would actually maintain that much more efficiently than any other way than I can think of because you have a fixed number of emission units to trade and therefore, they would trade among all of those people who had emissions and therefore, had to come into the Illinois EPA and demonstrate that they were in compliance. So actually, it would be a fairly efficient system to do it in contrast, let's say, to one in which you were running out trying to achieve a total cap on emissions by regulating rates of emissions for people.

MR. TREPANIER: But under this program, when that 12 percent reduction is effected, through all of

the regulated sources which right now is projected to be 92, those levels of emissions will be secured by the Clear Air Act permitting process permits, would they not?

MS. SAWYER: That's really a procedural question. Mr. O'Connor probably isn't the best person to ask how we are going to handle it and respect permitting.

MR. TREPANIER: I think that there is some knowledge here, though, that as an expert, we can learn from.

Let's look at the SO2 program that when there was a reduction -- when one utility is selling their allowance of SO2s, now is the selling utility, then, required under a permit to maintain that lower level of emissions?

MR. O'CONNOR: Absolutely.

MR. TREPANIER: And you understand that under this program, that's also the system?

MR. O'CONNOR: Well, wait. Let's stand back here. You are giving me a proposition about a future that doesn't yet exist.

MR. TREPANIER: No. I'm talking about the trades that have already occurred in SO2 programs.

MR. O'CONNOR: Okay. Let's just talk about SO2.

For every ton of SO2 that you emit, you must then retire an allowance at the end of the year for that SO2 ton.

If I were to sell every last allowance that I have, if I were Commonwealth Edison and I sold all of my allowances to American Electric Power, I have to turn off. I cannot emit a ton unless I had an allowance to retire against it.

Now, if I were to --

MR. TREPANIER: What about next year? Could you turn your machine back on the next year?

MR. O'CONNOR: Only if I have allowances.

MR. TREPANIER: If you went out into the market and then repurchased allowances?

MR. O'CONNOR: Right. I even have the right to sell on a forward basis allowances that are not good until next year. I'm entitled to them now. So in 1999, I know that I have allowances for 1999. I can't use them until 1999. I could sell them today, but if I want to run my plant and submit sulfur in 1999, I better go find some allowances to replace the ones that I sold.

MR. TREPANIER: How is it that you know you're going to have an allowance in 1999?

MR. O'CONNOR: Because the Congress of the United States told me that I will and for this purpose, I will believe them.

MR. TREPANIER: So you are saying under the SO2 program, occasionally allotments are distributed by Congress?

MR. O'CONNOR: In fact, in Phase 1, the allotments or the allowances were specified plant-by-plant in the statute.

Then, for Phase 2, which brought in other lower emitting plants, there was a general description of how the U.S. EPA had to go about doing that.

U.S. EPA then calculated what each of the Phase 2 plants would get and that was non-appealable decision on the part of the U.S. EPA. So everybody today who has a Phase 1 or Phase 2 plant knows exactly how many allowances it has forever and ever, amen.

MR. TREPANIER: Unless they sell their allowances?

MR. O'CONNOR: Right. Then, they have the

money.

MR. TREPANIER: Okay. Now, let's take this -- what we have learned about the SO2 program and then as you have done it with your presentation, look at the similarities with the ERMS trading.

When we reach 1999 and the chairs around the table have been readjusted so reductions are made where they are most economically available, now has the program accomplished its goal?

MR. O'CONNOR: Well, the goal is up to the policymakers. If the policymakers have decided that enough has been achieved, then, a goal has been reached. If the policymakers say, no, there must be more reductions, then, there will be more reductions.

MR. TREPANIER: You're saying sources say the 17 five-ton source can be brought in at that point in 1999?

MS. SAWYER: That's kind of speculative. We're not really sure what would happen at that point.

MR. O'CONNOR: That's correct. But the trading system is flexible.

THE HEARING OFFICER: Okay. Are there any

additional questions?

MS. MIHELIC: I'm Tracey Mihelic on behalf of Gardner, Carton & Douglas and the ERMS Coalition.

What are the sources regulated by Title 4?

MR. O'CONNOR: Essentially, coal fire boilers.

MS. MIHELIC: So one type of source is regulated?

MR. O'CONNOR: Fundamentally, although they make different kinds of boilers.

MR. WAKEMAN: I'm Jim Wakeman on behalf of Tenneco.

What is meant by the ability to secure? Is that the financial backing or the ability to go out and identify the sources for the future?

MR. O'CONNOR: You're talking about the current rule?

MR. WAKEMAN: No. I'm talking about as it applies to ERMS.

MS. SAWYER: Ability to secure? I'm not quite sure I understand the question.

MR. WAKEMAN: Well, in your presentation, you said that new sources should obtain offsets at a 1.3

to one ration and demonstrate the ability to secure allowances for three seasons.

MR. O'CONNOR: Right. I have to lag that question to EPA folks. While I have been involved in helping to design the rule and so forth, my daily wick right here is an SO2 experience. So I'm assuming it would have to be something satisfactory to EPA.

MS. SAWYER: That question would be better directed to Chris Romaine during his testimony.

MS. MIHELIC: Going back to that, utilities are essentially the type of sources regulated. Of the sources that have had to comply with Title 4 and come up with reductions, how many sources have modified their operations in order to reduce the number of sources regulated?

MR. O'CONNOR: I don't have a specific number for you, of course, and then that would depend on what one meant by modify.

For instance, a modest number of Phase 1 21 plans have installed new scrubbers. That's probably just a handful.

Others have switched their fuel from higher sulfur to lower sulfur. Others have actually

just made adjustments in their burning process. Others have had additives of various kinds to coal. Some have thrown in chopped up tires, as an example.

So there is a wide variety of mechanisms apparently that utilities and independent power producers -- well, really utilities in Phase 1. They are the only ones with the older and dirtier plants have used to reduce. Some have actually somewhat reduced operation.

MS. MIHELIC: How many of these sources actually rely upon the ability to purchase SO2 allotments in the market in order to come up with reductions required?

MR. O'CONNOR: Oh, a very large number. Much of the trading is done, however, within utility systems so that American Electric Power, for instance, will move allowances from the account of one plant to the account of another plant.

But there are other more involved things. I serve as a common designated representative for two rural coops in the south who have made reductions and they, in turn, operate as kind of a virtual utility system with a plant owned by Baltimore Gas and Electric which then uses the

savings of those two rural coop plans in the south to satisfy some of their requirements.

Those plants basically in the south have opted into the program. They would not have been covered under Phase 1 originally. They volunteered to come in and they have made early reductions. It's a large number of different situations.

MS. MIHELIC: But is the majority of the trading going on between basically a company that owns a number of utilities trading amongst its own companies?

MR. O'CONNOR: Within its own system, yes.

MS. MIHELIC: And this is a nationwide program, is it not?

MR. O'CONNOR: It's nationwide, but for Phase 1, almost all of the plants are east of the Mississippi.

MS. MIHELIC: So it's half of the nation?

MR. O'CONNOR: Yes, half.

MS. MIHELIC: It's not basically limited to one small area in the United States?

MR. O'CONNOR: No. It's a national program.

MS. MIHELIC: What are the number of sources subject to Phase 1?

MR. O'CONNOR: I believe 445 units.

MS. MIHELIC: What are the total number of sources subject to this program?

MR. O'CONNOR: I believe it's close to 2,000. It's here somewhere.

MS. MIHELIC: What are the key differences between the Title 4 program and the ERMS program being proposed?

MR. O'CONNOR: The key differences would be variations, really, on details that are designed to accommodate the difference in the nature of the problem.

A good example being that while there is a shared principal of banking, the banking on the SO2 side is, in effect, internal while the banking for the ERMS program is basically a two-season banking.

MS. MIHELIC: Okay. Just so I understand you, the banking -- I bank an SO2 allotment, that's forever?

MR. O'CONNOR: If it's a 1997 vintage SO2 allotment and I don't use it for '97, then, I can use it for any year in the future.

MS. MIHELIC: So you could use it 2010?

MR. O'CONNOR: At any time, yes.

MS. MIHELIC: Are there any other differences between the programs?

MR. O'CONNOR: Oh, there are. I'm just trying to think about the extent to which it might be significant.

Yes, I mean, there is one -- the treatment of what I would call exceptions or excursions is somewhat different.

Under the SO2 program, to the extent that one has emissions above the number of allowances that you have to retire against them, there are no ifs, ands or buts, it is a $2,000 fine or time and then a deduction from a subsequent allotment of allowances would be coming down the pipeline.

In this situation, which is a good deal more complex, there is a recognition that there could be some kind of a situation that would argue for judgment to be applied and some other enforcement mechanism going to be used that may not cover every situation.

So that might be a difference as well as a shared principal that the allowances be the overwhelming mechanism for compliance.

In this particular case, there is a modest opportunity for some judgment to be applied when the circumstances would warrant.

MS. MIHELIC: Who could enforce for non-compliance with the Title 4 program?

MR. O'CONNOR: Do you mean who has some sort of right to come and litigate or something of that nature?

MS. MIHELIC: Yes.

MR. O'CONNOR: Oh, I know this would disappoint all the lawyers in the room, but the whole point is that it pretty much dispenses with any of those kind of problems.

You are either in compliance or you are not. If you are not, then, you've got a big problem because you have to pay a lot of money and you don't get to increase your emissions in any event because you have to satisfy with the deduction of allowances.

MS. MIHELIC: But you know what that penalty is today if you don't comply next year?

MR. O'CONNOR: Yes.

MS. MIHELIC: In a sense, then, only U.S. EPA is the person who can enforce against those sources? 23

MR. O'CONNOR: Well, I mean, certainly there

are criminal penalties, as an example, for the willful false filing of information. I suppose in that regards, someone who knew about someone making a false filing would go and report them.

MS. MIHELIC: We're just talking about not a criminal type operation or just a failure to have --

MR. O'CONNOR: Yes. I don't believe there is any particular -- I mean, I can't think of -- I mean, there may be something in the statute that addresses that, but I don't recollect it.

MS. MIHELIC: Here, it's been -- there's been some testimony before that this program here -- the ERMS program is being developed because there aren't necessarily other alternatives in command and control.

With respect to the Title 4 program, what were the reductions required by utilities prior to the Title 4 -- trading program being implemented?

MR. O'CONNOR: Well, first of all, let me ask you, I never heard anyone say that there is no other way of doing it.

MS. MIHELIC: Right. I'm just saying that --

MR. O'CONNOR: The contention is that it's a far more preferable way of doing it. So I think just

as with -- I think the point of your question is what other ways were there for SO2?

MS. MIHELIC: Well, what were the reductions required prior to the trading program?

MR. O'CONNOR: That's just the point. There were required reductions in the rate of emissions from specific locations. So if a new power plant was being built, you had to put a scrubber on it. However, the total amount of SO2 emitted in the country was continuing to rise.

MS. MIHELIC: And was that -- were those reductions only required at new facilities?

MR. O'CONNOR: That applied only to new facilities, yes.

MS. MIHELIC: That didn't apply to facilities already existing at the time the --

MR. O'CONNOR: That's right.

MS. MIHELIC: And you talked earlier about a 19 subsidy program that had been discussed during the Title 4 adoption process, that the very high emitters could get reductions down and the cost would be spread amongst all the sources. Was that considered during the ERMS development?

MR. O'CONNOR: No, I don't think it was. If I

can express an opinion, I think that notion was so terribly discredited during the course of the Clean Air Act amendment debate, the idea that you would go and take money away and essentially tax some other producer of product and give the money to his competitors was pretty thoroughly discredited.

On the other hand, the pragmatic determination was made that the best way to satisfy the concerns about financing reductions would be to make the allocations to the encumbents based on some kind of baseline.

MR. SAINES: I'm Richard Saines.

Getting back to some of the distinctions between the SO2 program and the VOM program, is it true that under the SO2 program, fundamentally, all of the effective sources can essentially utilize the option of low sulfur coal as a means to reduce their SO2 emissions?

MR. O'CONNOR: Theoretically, they could buy low sulfur coal and bring it by train, but that might not be the most economical solution.

MR. SAINES: But low sulfur coal is an option that's available or one type of way to reduce emissions under it?

MR. O'CONNOR: Yes.

MR. SAINES: Based on your knowledge of the VOM trading program, there is no corresponding methodology by which the effected sources under VOM can just rely on changing one particular type of process, isn't that true?

MR. O'CONNOR: I don't want to fight with your question, but I think the way to look at this is that the whole point of a trading system is that it does not preclude any conceivable method of compliance.

That's what it avoids whereas in the past, we have had a tendency instead to have the government prescribe a particular means of coming into compliance.

So basically the government in this sort of situation is going to say, hey, look, I'm not going to get into the business of telling you exactly what you have to do to come into compliance. I'm going to do everything I can to give you as much freedom as possible to choose the most economical and most efficient methods. I'm not trying to avoid your question, but I think it's not --

MR. SAINES: Well, the question is really more factual and that is that utilities have an extra

option that is across-the-board. All the SO2 affected sources can rely on a similar type of option that really doesn't exit under the VOM program.

MR. O'CONNOR: I don't know that. I mean, there may be a variety of chemicals that can be developed. The whole point of these things is that the innovation begins to come forward as soon as there is flexibility.

If the main job of the engineer is to sit around and figure out how to satisfy some guy in the government, it's a completely different process of invention that if he is being told let's find the most economical and creative way of satisfying a problem. I would say that that may be a misplaced concern all together.

MR. SAINES: I have one more follow-up. I guess we are not really --

MR. O'CONNOR: I know what you are asking me. I'm just saying it's not the right question.

MR. SAINES: As it currently exists with the VOM program, there isn't a recognized option out there similar to -- I mean, it's something that may have to be developed.

MR. O'CONNOR: I don't know. ?

MS. SAWYER: I don't think Mr. O'Connor, first of all, in his capacity as theoretical analyst on this program is familiar with all of the VOM sources in Chicago and is capable of answering that question.

MS. McFAWN: I don't know that you have established that the feasibility of low sulfur coal is one that is available to all utilities. You might have had contractual restrains that would prohibit the use of that, the price of coal could go up.

You could probably testify that that is available to all utilities, but I'm not convinced that it is.

THE HEARING OFFICER: Mr. Newcomb?

MR. NEWCOMB: I'm Chris Newcomb of Karaganis & White.

The operational changes that facilities were allowed to undergo to meet emission reductions, did they have to go through the agency for approval of operational changes?

MR. O'CONNOR: No.

MR. NEWCOMB: So that was one of the big flexibility features before these facilities came into play?

MR. O'CONNOR: That's one of the features.

MR. NEWCOMB: So the regulatory burden under the SO2 program is actually much lighter than command and control?

MR. O'CONNOR: In many of the utilities, in case one has engaged in these changes in which emissions, in any event, were to change to low sulfur coal or to a variety of things that they are doing today, the point is they have been incentivized to do these things, and have indeed found ways to -- actually, many would tell you the negative cost of compliance. Having thought about it, they realize they could do something different to actually improve the operation and in addition, reduce their emissions.

MS. MIHELIC: I have one last question.

Isn't it true that one of the differences between the types of sources regulated in the SO2 -- in the Title 4 program and the the types of sources regulating in the ERMS program is that the existing sources under the Title 4 program, as you said earlier, had not in the past been required to reduce emissions whereas in the ERMS program, they had in the past been required to obtain

reductions in emissions and there are additional reductions being sought through this?

MR. O'CONNOR: Yes. I think that's the case in terms of the initial conditions, yes.

MR. FASANO: I'm Ralph Fasano from White Cap.

Mr. O'Connor, based on your expertise in Title 4, but also on your knowledge on ERMS, could you comment on the similarities of baseline development as far as whether it would be based on actuals or based on allowable emissions or if there was a lot of -- if it was a tough go in the beginning on Title 4 and then the second part of that is after the baselines were finally agreed upon, I assume, in the reconciliation period similar to ERMS, how that went as far as, you know, was it easy for companies to work with the agency or to agree on the existing regulations --

MR. O'CONNOR: The first part of your question about the baselines was fundamentally, a legislative debate, but it was predicated on an enormous amount of available monitoring information that had been developed over the period of time of the acid precipitation study that the U.S. EPA conducted, which I believe was about a ten-year study.

Most or all of these units had contributed information. So it was a very -- and because of just the nature of the data key being at the power plants with heat rates and fuel consumption and so forth, you could pretty easily arrive at what the emissions were. So there were protocols that were there.

That was largely fought out in the legislative arena and decided, and as I think I noted earlier, the EPA determination of the Phase 2 unit baselines was a non-appealable decision by the U.S. EPA.

The second part, I think you were talking about the reconciliation period. That was left to rulemaking by the U.S. EPA and the timing that came out on that was a function of the process I described of the advisory committee.

Naturally, it started off with the folks that had to do the complying wanting a longer period and some other people wanting a shorter period and it ended up somewhere in the middle, which should not be a surprise.

I have not yet heard of any complaints about that reconciliation period, at least for SO2,

being too short. In part, because of the nature of the data collection, CEM, continuous emission monitoring, and the quarterly reporting and the testing of the monitoring equipment, there is a high degree of confidence in the data within days after the end of the year.

MR. FASANO: So then you would probably agree with me that because of the nature of the SO2 and the large amount of good data for all of these years that it was fairly easy to come up with baselines as opposed to the ERMS --

MR. O'CONNOR: Well, easier -- I think easier in the SO2 program.

Remember, one of the things the trading program does is that because it makes reductions valuable, not the emissions -- in the old system, it's the emission that's valuable. In a trading system, it is the reduction that is valuable.

That encourages emitters to improve their data and their monitoring in order to get more precise information about what they are emitting in order to make their reductions valuable.

THE HEARING OFFICER: I have a couple of questions.

The first question is it sounds to me, in your opinion, that the trading program forces technology or, for a lack of a better term, it creates more economical ways to bring about reduction?

MR. O'CONNOR: Yes, that's right.

THE HEARING OFFICER: And then the other question that I have was dealing with the market reserve aspect of the trading program, is there a danger of having a large market reserve in the trading program that causes the allotments to possibly not trade freely and somewhat know that I can go to this reserve and get what I need as a person tries to drive the price down?

MR. O'CONNOR: Oh, if the reserve were very large, but in this case, the EPA has been, I think, very conservative in designing the size of the allotment.

I don't think any of us felt -- even those of us who aren't wild about reserves, but acknowledged them as important to deal with skepticism, felt that this level of reserve that the Illinois EPA was designing was, you know, perfectly reasonable under the circumstances.

THE HEARING OFFICER: Did you have anything?

MS. HENNESSEY: I may have a question, which may have been defined at the beginning as an economic answer, but are there market forces or any constraints that prevent disproportionate local effects of pollution that may arise from these kind of emission trading systems?

I'm thinking of a situation where I might live on the north side of the city next to a factory and it buys up a lot of allowances from a factory on the south side. That's great for the factory on the south side, but for someone living next door to the factory on the north side, I'm now being exposed to more pollution than I was before this kind of system went into effect.

MS. SAWYER: I would suggest that this is probably an air quality question that may be --

MS. HENNESSEY: Well, I understand we may have a scientific question, but I don't know if there are also environmental forces that may effect that.

MS. SAWYER: Okay.

MR. O'CONNOR: That's a perfectly reasonable question and it has been one that has come up in a

number of contexts both with respect to the SO2 program and to this.

The honest answer is nobody, I think, provides an assurance, an absolute assurance, that the kind of situation you have just described won't occur.

My advice on that, though, would be that rather than having to tail wag the dog, that we recognize that such an occurrence might possibly develop and cross that bridge when we come to it.

The reason that it is probably unlikely to occur is that most emitters of these products today are already licensed to emit at some certain level and that level was associated in some reasonable way with its capacity to produce the product that it's interested in producing.

In most cases, the emissions associated with most products, you really are not in a position to go out and acquire these large number of allowances and somehow change your operation as such that you are going to be encouraged to produce that much more of the product resulting in some widely or dramatic increase in the emissions.

I think the economics actually argue

against the expectation that there has been this highly localized, very adverse effect.

I think we have to allow for the theoretical possibility that it could happen in some way, but I would urge you to consider that as kind of an exception problem and may be something that would require readdressing at a later date just given the expected benefits for reducing the overall problem that you are concerned with right now, which is the ozone problem.

You may actually be referring to some associated pollutant that comes along with the VOMs or something. I would urge you to treat that as an exception and think about a special way of dealing with it down the road.

MS. HENNESSEY: Are you aware of that type of situation that I have described in coming up in the SO2 program?

MR. O'CONNOR: No, not in the SO2 program, no.

THE HEARING OFFICER: We will have one more question from the audience and then we'll break for the day.

MR. WAKEMAN: You mentioned in your testimony several hundred sources. I think that's one of the

varying differences in SO2 and ERMS right now. It's estimated 240 sources. You are saying in SO2 that it's 4,000. At what point are there not enough to make it a viable program?

MR. O'CONNOR: Oh, I mean, a couple of hundred is more than enough. If you get down to ten or 12 or something, I think you can start to worry.

I don't think that will be your problem here. I think you probably will have more than enough sources for liquidity.

MR. WAKEMAN: Thank you. ?

MS. SAWYER: Could I ask a question -- two quick questions?

THE HEARING OFFICER: Okay.

MS. SAWYER: You stated earlier in response to a question from Ms. Mihelic that utilities regulated under the SO2 program were not previously regulated?

MR. O'CONNOR: Well, the Phase 1 units, as a general manner, were uncontrolled units.

MS. SAWYER: Isn't that true for purposes of controlling them for acid rain deposition?

MR. O'CONNOR: Yes, with respect to sulfur, yes.

MS. SAWYER: Isn't it possible -- I mean, isn't it true that some of these units were regulated for the SO2 air quality standard although not for --

MR. O'CONNOR: Oh, yes, yes, absolutely. I'm sorry. I should have noted that. They were for local reasons, yes.

MS. SAWYER: Thank you.

MS. MIHELIC: Is he going to be available for further questioning tomorrow?

MR. O'CONNOR: Actually, I have to go teach a class tonight.

THE HEARING OFFICER: You can move the exhibits.

MS. SAWYER: At this point, I would move that Exhibits 19 through 23 be admitted into evidence.

THE HEARING OFFICER: Any objection?

Hearing none, those will be entered into the record.

Are you going to be available tomorrow.

MR. O'CONNOR: I'll tell you what, if you need me back, I will be over in my office just a block away. Just have somebody give me a call and I'll run right over here.

THE HEARING OFFICER: Why don't we go off the

record for a second.

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

THE HEARING OFFICER: We can go back on the record now.

So if you are called, you're called. I will also let you know that although it was not marked on the outside of the room, we are going to be in this room tomorrow. There is a question of whether or not we will start at 9:00 or 10:00. I was wondering if there were any problems if we did start at 9:00 tomorrow instead of 10:00 o'clock.

I don't see anyone having a problem with that so let's start at 9:00 o'clock tomorrow instead of 10:00 o'clock in this room.

If there is nothing further, I think that will be it and we will continue this on the record tomorrow at 9:00.

(Whereupon, the proceedings held in the above-entitled cause were adjourned to be reconvened at 9:00 o'clock a.m. on January 22, 1997.)

STATE OF ILLINOIS)
) SS.
COUNTY OF C O O K)

I, LORI ANN ASAUSKAS, CSR, RPR, notary public within and for the County of Cook and State of Illinois, do hereby certify that the testimony then given by all participants of the rulemaking hearing was by me reduced to writing by means of machine shorthand and afterwards transcribed upon a computer, and the foregoing is a true and correct transcript.

I further certify that I am not counsel for nor in any way related to any of the parties to this procedure, nor am I in any way interested in the outcome thereof.

In testimony whereof I have hereunto set my hand and affixed my notarial seal this 27th day of January, A.D., 1997.

_____
Lori Ann Asauskas, CSR, RPR
Notary Public, Cook County, IL
Illinois License No. 084-002890

SUBSCRIBED AND SWORN
before me this 27th
day of January, 1997.

_____
Notary PublicL.A.