ILLINOIS POLLUTION CONTROL BOARD

December 10, 2008

IN THE MATTER OF:	)
	)
NITROGEN OXIDES EMISSIONS	) R08-19
FROM VARIOUS SOURCE	)
CATEGORIES: AMENDMENTS TO	)
35 ILL. ADM. CODE PARTS 211	)
AND 217	)

REPORT OF PROCEEDINGS HAD at the hearing held before the ILLINOIS POLLUTION CONTROL BOARD held on December 10, 2008, at 9:30 o'clock a.m., The Thompson Center, Chicago, Illinois.

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

MEMBERS PRESENT:

TIMOTHY FOX, Chairman

ANAD RAO, Member

MR. JOHNSON, Member

HODGE DWYER ZEMAN

BY: MS. KATHERINE D. HODGE

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MR. FOX: We are back. We recessed yesterday afternoon approximately 4:30, and are here at about 9:00 o'clock on Wednesday, December 10th, to resume the hearing in R08-19.

As was the case yesterday, I've left at the door to this room a sheet on anyone who has not pre-filed testimony can indicate that they would like to offer testimony of their own after we have completed the questions based on the testimony that was pre-filed for this hearing. We did have a gentleman on the basis of signing that sheet to offer a comment at the conclusion of that pre-filed testimony. I don't see that he's here yet this morning, but certainly we can accommodate what I suspect will be a brief comment at the conclusion of the questions.

Having mentioned that routine housekeeping matter, Ms. Hodge, you had provided to me yesterday copies of the pre-filed testimony of both Mr. Siebenberger and Mr. Stapper. Was there a motion that you wanted to make in regard to those?

MS. HODGE: Yes, this is Katherine Hodge with the law firm of Hodge Dwyer Zeman, here

for United States Steel Corporation, and, yes, I would ask, Mr. Fox, to please admit the copies of the pre-filed testimony as exhibits as received.

MR. FOX: Very well. Those wil be for Mr. Siebenberger hearing No. 10 and No. 11. Is there any objection to the motion to admit those two separate pre-filed testimony as those exhibit numbers? Neither seeing or hearing any, they would be marked as indicated in the case of Siebenberger No. 10, and Stapper No. 11, into the record.

If you are prepared to begin with perhaps a brief summary or statement, why don't we have the court reporter swear in both gentlemen at once and go ahead and proceed. We can move them in seamlessly through it.

MS. HODGE: I'm going to ask that all three of these gentlemen be sworn in.

(Whereupon the witnesses were sworn, after which the following proceedings were had:)

MS. HODGE: Like I said, this is Katherine Hodge with Hodge Dwyer Zeman on behalf

of United States Steel Corporation, in particular the Granite City Works in Granite City, Illinois. My witnesses today are Mr. Larry Siebenberger, who is the manager of environmental control at Granite City Works and Mr. Blake Stapper, who is with URS Corporation. Mr. Stapper has been involved in evaluating the technical feasibility and economic reasonableness of implementing NOx controlled technology at URS --

As I said, Mr. Blake Stapper is with the URS Corporation, and he's been involved in evaluating the technical feasibility and economic reasonableness of implementing NOx controls at the Granite City Works.

Also present with us today is Mr. Bob Ribbing. Mr. Ribbing is with the environmental quality control department at Granite City Works, and Mr. Ken Hagg to my right. And Mr. Hagg is also with URS Corporation, and he does not have any prepared testimony today, but he will be available to assist in answering questions.

Also present is Monica Rios, who is an associate with my firm. Mr. Siebenberg and Mr. Stapper would like to make brief statements

for the record today, and then would be happy to answer any questions regarding their pre-filed testimony. And before we go to that, I do want to thank the Board today for the opportunity to be here, and also to let the Board know that United States Steel Corporation has been working with the Agency for more than a year now on some of the proposed controls. So we appreciate the opportunity to work with them, and we still have a few issues outstanding and we're offering testimony to that. Mr. Siebenberg?

MR. SIEBENBERGER: Good morning. My name is Larry Siebenberger. I'm manager of environmental control at Greater City Works at U.S. Steel's Granite City Works in Granite City, Illinois. I'm here today on behalf of U.S. Steel to discuss Granite City Works' unique situation in meeting the emission limits proposed by the Agency. My testimony provides a summary of the operations of Granite City Works, briefly describes recent improvements at Granite City Works and explains the impact of the proposed rule on Granite City Works.

Granite City Works currently has 12

boilers. Number 1 through 10 boiler are planned to be shut down in the future, and a new COGEN boiler, which is under construction, will be brought on line. Granite City Works also operates four slab reheat furnaces. The proposed limits applicable to 11 and 12 boiler, as well as reheat furnaces 1 through 4 do not take into consideration the unique characteristics of the units in Granite City Works' operations. As discussed in more detail in my testimony and the testimony of U.S. Steel's consultant, Mr. Blake Stapper of URS, Granite City Works' boilers combustion mixed fuels which consists of blast furnace gas, which is a relatively low NOx fuel, natural gas and coke oven gas. Based on URS's evaluation, the proper feasible control technology for the boilers 11 and 12 is through gas recirculation.

In terms of reheat furnaces impacted by the rule, low NOx burners are currently being installed, and Illinois EPA has agreed such inflation is RACT. Based on its evaluation of control technologies and Granite City Works' unique circumstances, U.S. Steel is

proposing alternative limits for boilers 11 and 12 and the reheat furnaces. Blake Stapper and I are happy to discuss the alternative to the limits with you.

On behalf of U.S. Steel I would like to discuss the Agency's proposed, May 1, 2001 compliance date. My testimony provides greater detail on this issue, but I want to emphasize that U.S. Steel cannot meet the deadline proposed by the Agency. U.S. Steel will need 18 months from the effective date of the Rule to complete engineering, obtain permits, receive capital approval, purchase, procure and install the controls. The proposed compliance date is therefore not achievable for U.S. Steel.

In addition, there are two final issues that I would like to briefly comment on. First, for U.S. Steel, environmental stewardship is a core value. It influences how the company conducts business. U.S. Steel recognizes that manufacturing steel is a resource intense operation that has an impact on future generations. The company is committed to continually improving its environmental and

resource management, as well as maintaining compliance with environmental laws and regulations.

Secondly, as you may know, last week U.S. Steel announced that it was laying off 3500 workers and idling or effectively shutting down three facilities, including Granite City Works. At Granite City Works only the Coke batteries and boilers will continue to operate at reduced levels. At this time we are uncertain how long the temporary idling will last, but it will likely continue until market conditions begin to improve. We are evaluating the impact of the idling on Granite City Works' time frame to comply with the Agency's proposal. I want to thank the Board for the opportunity to testify today, and I request that the Board seriously consider U.S. Steel's proposed limits for its boilers and furnaces as well as consider U.S. Steel's request that the compliance date be revised. I'm happy to answer any questions regarding my testimony.

MR. FOX: Thank you, Mr. Siebenberger.

MR. SIEBENBERGER: Ms. Hodge, does

Mr. Stapper also have some remarks?

MS. HODGE: Yes, he does.

MR. STAPPER: Good morning. I'm Blake Stapper. I'm a principle engineer for URS Corporation, and I'm registered as a professional engineer in the state of Texas. URS is one of the world's largest engineering design and construction firms with over 55,000 employees and over 300 offices in 30 countries. URS was retained by U.S. Steel to evaluate potential NOx controlled technologies for the boilers and reheat furnaces at the Granite City Works located in Granite City, Illinois. URS evaluated several options for boilers 11 and 12 and determined that flue gas recirculation or FGR, in conjunction with the existing burners was the optimum NOx controls for boilers 11 and 12. As discussed in more detail in my testimony, since the existing boilers on 11 and 12 already burn a significant amount of blast furnace gas, the introduction of FGR should not cause any combustion problems or impact

boiler efficiency. URS also determined that replacement of the burners on boilers 11 and 12 and selective noncatalytic reduction or SNCR were not viable options for controlling NOx. Because of the specialized fuel requirements and mixtures utilized at steel plants, many low NOx burners are not designed for blast furnace gas. In addition, boiler 11 is a corner fired unit, so installing wall mounted low NOx burners would require a complete rebuild of the boiler.

My testimony also discusses in detail why SNCR is not a technically feasible option at the Granite City Works facility. Because of problems associated with ammonia slip and the characteristics of boilers 11 and 12, such as varying steam loads and fuel blends, SNCR would not provide optimum control of NOx emissions.

I thank the Board for allowing me to testify today, and I welcome any questions on my any of my testimony.

MS. FOX: Mrs. Hodge, are we

prepared to go to questions to the witnesses?

MS. HODGE: Yes, we are.

MR. FOX: Very good. Why don't we dive right into those. If there is anyone who has a question and identify themselves for the court reporter, that would be greatly appreciated. Please go ahead.

MS. VETTERHOFFER: I'm Dana Vetterhoffer, assistant counsel with the Illinois EPA. Mr. Siebenberger, on page 2 of your testimony you state that undesulphurized Coke oven gas contains hydrogencyanide, which contributes to nitrogen during the promotion process. Does this mean that the results in NOx emission rate is higher when unsulphurized gas is burned than when desulfurized gas is used?

MR. SIEBENBERGER: Yes, that's what it refers to.

MS. VETTERHOFFER: Would you say then that undesulpherized Coke oven gas is your worst case fuel with respect to NOx emissions?

MR. SIEBENBERGER: Yes.

MS. VETTERHOFFER: And how is Coke oven gas desulfurized?

MR. SIEBENBERGER: Well, we are currently installing a desulfurization unit and Coke byproducts unit. The Coke oven gas produced there will go through a mean scrubber which will scrub out hydrosulfide, hydrocyanide and carbon dioxide.

MS. VETTERHOFFER: Does your permit require that the desulfurization process be used continuously?

MR. SIEBENBERGER: Yes, other than when it's down for maintenance.

MS. VETTERHOFFER: Is there a limit in your permit as to the length of time the desulfurization can be shut down in a given year for maintenance?

MR. SIEBENBERGER: Yes, the limit in the permit is 35 days.

MS. VETTERHOFFER: When do you expect construction of the desulfurization system to be completed?

MR. SIEBENBERGER: Currently we are anticipating having the desulf facility finished

by mid-2009. That's obviously subject to change if business conditions cannot support that.

MS. VETTERHOFFER: Would you say that when the desulfurization system has been constructed, that Coke oven gas will be desulfurized most of the time?

MR. SIEBENBERGER: Yes, other than when the system is down for maintenance.

MS. VETTERHOFFER: How many weeks or months per year do you estimate?

MR. SIEBENBERGER: Thirty-five days.

MS. BASSI: Does desulfurization affect NOx emissions?

MR. SIEBENBERGER: Yes.

MS. BASSI: How so?

MR. SIEBENBERGER: The primary purpose of the desulf is obviously to take hydrosulfide out of the gas, but it also removes hydrogencyanide from the Coke oven gas, which reduces the fuel bound nitrogen which produces NOx in addition to the thermal NOx that's generated -- the hydrogen cyanide adds additional NOx to emission generation.

MS. VETTERHOFFER: On page 6 of your

testimony, does the emission limit you propose for boilers 11 and 12 assume that the Coke oven gas is desulfurized, undesulfurized or a combination of the two?

MR. SIEBENBERGER: It assumes a combination of the two. We assume that all of the time the facility is operating on desulfurized gas, except for the 35 days that the desulfurization is down for maintenance.

MS. VETTERHOFFER: On page 6 again, if your proposed limit of .113 lbs/MMBtu for boilers 1 and 12 takes into account a worst case kind of mixed use fuels. Have you examined an emission case for a best case, expected case or any other case?

MR. SIEBENBERGER: Well, I guess in the way of a little background, we produce two byproduct fuels, Coke oven gas and blast furnace gas. Blast furnace gas, as I mentioned, is a low oven NOx fuel. Coke oven gas is a higher NOx fuel, and is affected whether it is desulfurized or not. It is our desire to combust as much of our byproduct fuels as we can in lieu of purchased fuels, in this case natural gas. So we have to

maintain the ability in our facilities to burn as much of the byproduct fuels as we can to displace natural gas. In the case of boilers, we typically burn natural gas, blast furnace gas and Coke oven gas. The condition that is changing is with the new COGEN facility coming on line. The COGEN facility is only capable of burning blast furnace gas and a small amount of natural gas. So the COGEN is replacing boilers 1 through 10, which burn natural gas, blast furnace gas and Coke oven gas. So when the COGEN comes on-line and the boiler 1 is repaired now, we will now have additional Coke oven gas which we will have to combust and hopefully not flare, but combust it in lieu of combusted fuels. So when we say worst case, what we attempted to do was take into account providing a limit that is based on the amount of Coke oven gas that we need to burn 11 and 12, taken into account the additional Coke oven gas that is available and allowing for the fact that depending on which facilities downstream are running or not running, gas may become available. And then when those sources start running again, it may be consuming there. We have

to have the flexibility of producing gas throughout the system. I know Rob Kaleel. We've worked with him in the past on developing an SO2 desulf that we have. In doing so, it was recognized that in setting the amount of Coke oven gas limits on our facilities that we consume it on, we have to recognize the fact that -- we have to be able to move this fuel around to the different facilities based on which facilities are operating at the time. So that drives the maximum amount that we set, and the Coke oven gas really drives the worst case NOx fuel for 1 and 3.

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

MR. FOX: Mr. Siebenberger, I think you had wrapped up one response question from Ms. Vetterhoffer. Should we go back to her? We can certainly go back to her if she's ready for another follow-up question and another question.

MS. VETTERHOFFER: So just to clarify, you only examined worst case because you wanted to maximize flexibility?

MR. SIEBENBERGER: Correct. I mean, we have to have our limit based on worst case scenario for using Coke oven gas in order to allow us to maintain flexibility to move the gas around the facilities.

MS. VETTERHOFFER: Can you just briefly explain what the percentages in your worst case blend, how much of that is Coke oven gas? Is that explained in one of your exhibits?

MR. SEINDENBERGER: It's Exhibit A.

MS. VETTERHOFFER: What would you expect NOx emissions to be for boilers 11 and 12 if only desulfurized oven gases were used in combination with the gas recirculation recommended by your consultant?

MR. SIEBENBERGER: I don't currently have that determination, and we would have to make that determination and submit it, would be happy to submit it.

MS. VETTERHOFFER: Would you be willing to provide that?

MR. SIEBENBERGER: Yes.

MS. VETTERHOFFER: Are boilers 11 and 12 fitted with any NOx controls currently?

MR. SIEBENBERGER: No.

MS. VETTERHOFFER: On page 6 of your testimony you state because of the unique characteristics of boilers 11 and 12, specifically varying mixes of desulfurized and nondesulfurized Coke oven gas in combination with blast furnace gas and natural gas, that the only NOx control option is flue gas recirculation. Why couldn't low NOx be used possibly in conjunction with the FGR?

MR. SIEBENBERGER: I would have to defer to Blake Stapper in this case. I'm not a combustion expert. That's why we retained him.

MR. STAPPER: Low NOx burners are generally circular burners designed for wall-fired applications. So a corner-fired boiler, such as boiler 11, you would have to rebuild the boiler to take the burners out of the corners and put them into a wall. So from that aspect it's certainly not reasonably available as it applies to that boiler. For boiler 12, it is a wall-fired boiler with circular burners, but the reality is that low NOx burner development has primarily targeted natural gas fired sources, and that's simply a

market reality. There is a larger market for natural gas fired low NOx burners, and so that's where the vendors have put their research efforts. There are very few applications in the United States where blast furnace gas and Coke oven gas are being fired, and those different fuels would not be -- it would not be possible to operate those in a conventional low NOx burner. You would have to have something that is custom designed for the application, which currently does not exist. And when I say that it's not possible to fire those fuels in a low NOx burner, I'm not saying that it's not possible to get low NOx performance. I'm saying you would be in danger of a catastrophic failure, an explosion, if you tried to burn those gases in a commercially available low NOx burner.

MS. VETTERHOFFER: Don't refineries, however, use low NOx burners?

MR. STAPPER: Refineries use low NOx burners to burn either natural gas or refinery gas. Refinery gas is primarily composed of -- you can consider it as being a mixture of hydrogen and what is essentially natural gas, and refinery gas

is -- there is a better opportunity to safely control the combustion of refinery gas in a low NOx burner. The blast furnace gas and the Coke oven gas are very different than what a refinery is firing in their low NOx burners.

MS. VETTERHOFFER: Have you selected a supplier for the FGR?

MR. SIEBENBERGER: No.

MS. VETTERHOFFER: Exhibits A and B to your testimony, Mr. Siebenberger, appear to have been prepared by your consultant URS; is that correct?

MR. SIEBENBERGER: Yes, with my input.

MS. VETTERHOFFER: Can I direct questions toward you and then decide if Mr. Stapper might be better to answer them?

MR. SIEBENBERGER: Yes.

MS. VETTERHOFFER: In Exhibit A you provided emission production calculations for boilers 11 and 12 on page 2 under "Normal Operations." Can you just walk us through your calculations?

MR. SIEBENBERGER: Yes. What

Exhibit A attempts to do is present the assumptions that we used to develop the proposed average emission and absorb .113 BTU for 11 and 12 boilers, and there were three distinct operating conditions that were considered. The first being what we called normal operations. Normal operations is based on the operation of both blast furnaces at the facility and providing a maximum amount of blast furnace gas availability. So during this metal when we're running both blast furnaces, we produce the maximum amount of blast furnace gas and we attempt to consume as much of that as we can. In considering that, what we did in our calculation was, we determined both on an ozone and annual basis, when we are on a two-furnace operation, there are still times when maintenance is required on one furnace, and we have to take one or the other furnace down for maintenance. So we determine the number of days that one blast furnace or the other would be down. When a blast furnace goes down -- and we'll cover that under the second scenario later -- it's a changed condition as far as our fuels. So we took the time when both blast furnaces are running, and

we assumed a fuel mix for the 11 and 12 boiler of 25 percent natural gas, 35 blast oven gas and 40 percent Coke oven gas, and we assume that the boilers would be running at full load since we are operating both furnace and need the steam for the hot blast turbulance for the furnaces. We also used the controlled emission rates based on flue gas recirculation for natural gas of .084. For blast furnace gas .0288 and Coke oven gas .44, and, again, this is desulfurized Coke oven gas. And essentially that's the basis for determining the emissions from under normal operations.

MS. VETTERHOFFER: Is the fuel mix, is that the worst case mix that you referred to previously?

MR. SIEBENBERGER: Yes, what we did was, again, we have to preserve the ability to burn Coke oven gas on the 11 and 12 boiler, and particularly with 1 through 10 going down and the COGEN going on, we are going to have more Coke oven gas available to us than under that scenario we currently have. So we have to have the ability to burn Coke oven gas on the 11 and 12 boiler.

MS. VETTERHOFFER: And how are the

emission rates that you list there using FGR estimated?

MR. SIEBENBERGER: They were based on URS's evaluation.

MS. VETTERHOFFER: And, again, I think you addressed this earlier. You haven't examined an emission rate for a best case or expected case; is that correct?

MR. SIEBENBERGER: Correct.

MS. VETTERHOFFER: And I think you already answered this as well, but I'm going to go ahead and ask it just in case, but for the normal operations calculation, did you assume a mixture of desulferized and nondesulferized Coke oven gas or only desulferized Coke oven gas?

MR. SIEBENBERGER: Both actually. We assumed desulfurized Coke oven gas, except for he 35-day period that the desulf would be down for maintenance.

MS. VETTERHOFFER: Do you know if the fuel mix percentages represent heat input or volumetric rates?

MR. SIEBENBERGER: Yes, it's heat input.

MS. VETTERHOFFER: Do you have any historical data regarding how much Coke oven gas is burned in boilers 11 and 12?

MR. SIEBENBERGER: Yes.

MS. VETTERHOFFER: Would you be able to provide that data to the Agency?

MR. SIEBENBERGER: Sure.

MS. VETTERHOFFER: On average how much Coke oven gas has been used in the boilers just historically?

MR. SIEBENBERGER: My memory is, and it's been a while since I've looked at this, but I think we've approached the 40 percent Coke oven gas usage on the boilers at one time or another in the past. Again, we will have a changed condition now where because of boilers 1 through 10 going down, we will have more Coke oven gas available.

MS. VETTERHOFFER: Do you have any estimate of how much you think that will change?

MR. SIEBENBERGER: No, I do not.

MS. VETTERHOFFER: Will the operation of the new ovens at the Sun Coke project increase the availability of Coke oven gas in the future or are those the ones you were just

referencing?

MR. SIEBENBERGER: No, actually the installation of the COGEN boiler, which will burn blast furnace gas and natural gas, takes the place of boilers 1 through 10, our existing boilers. The shutting down of 1 through 10, which burn natural gas, blast furnace gas and Coke oven gas will create an additional amount of Coke oven gas available at our facility for combusting.

MS. VETTERHOFFER: Regarding the emission rates for each fuel shown on Exhibit A under normal operations, are these the guaranteed emission rates from the company supplying the FGR?

MR. SIEBENBERGER: No, they are not.

MS. VETTERHOFFER: I have kind of the same question for page 3 of Exhibit A under Coke oven gas scrubber maintenance mode. Could you briefly explain those calculations?

MR. SIEBENBERGER: Yes. As I said earlier, the emission rates that we used are based on combusting Coke oven gas, desulfurized Coke oven gas, except for our 35 days of the year. So what we did was, we determined, based on 35 days of combusting undesulfurized Coke oven gas what

the NOx emissions would be for the nondesulfurized Coke oven gas, and we compared that to what the emissions would be to burning desulfurized Coke oven gas. And we basically identified the net increase above burning desulfurized Coke oven gas for those periods, and that was identified in our calculation and was determined to represent about 14-1/2 tons of additional NOx per year when we are consuming the nondesulpherized Coke oven gas versus sulfurized Coke oven gas. So we just identified incremental increases in emissions from that period.

MS. VETTERHOFFER: And how did you arrive at the base line NOx rates for the natural gas, blast furnace gas and Coke oven gas?

MR. SIEBENBERGER: I think in the formatting of our attachment, we probably should have had that paragraph under the results column. Because all we're doing here, it's really not relevant to the scrubber down determination. All we are doing here is stating for the purposes of the table below what the current emission rates are based on what IEPA uses in their inventory and what we have used for historical data in the past.

So these are just what we are using as our current emission rates for these fuels.

MS. VETTERHOFFER: Why does the natural gas emission rate go up, not just the Coke oven gas rate?

MR. SIEBENBERGER: Is that in referring to the emission factors?

MS. VETTERHOFFER: Comparing the normal operations versus the Coke oven gas scrubber maintenance mode.

MR. SIEBENBERGER: Oh, good point. I meant to mention that.

Actually, we used the normal operation blend when we determined the difference in the net increase from burning desulfurized versus nondesulfurized gas. There is a correction to our attachment. The Coke oven gas that we show here is at 60 percent. Actually it's at 40 percent. So it should match up with the blend that we have, the mix that we have identified on page 2 for our normal operation.

MS. VETTERHOFFER: Does URS have anything in writing regarding these calculations or how they came up with them that they can share

with us?

MR. SIEBENBERGER: URS did an evaluation and provided that information to us.

MS. VETTERHOFFER: Is that something that you can provide us?

MR. SIEBENBERGER: Yes, I believe so.

MS. VETTERHOFFER: Thank you.

MR. RAO: Would it be possible to provide it into the record so everybody else has it?

MR. SIEBENBERGER: Sure, I assume so.

MS. VETTERHOFFER: On page 7 your testimony does the emission limit you propose for the reheat furnaces assume that the Coke oven gas is desulfurized or undesulfurized or a combination?

MR. SIEBENBERGER: Basically the same is for the boilers. We have assumed that desulfurized Coke oven gas is used at all times, except for the 35 day period that the desulph facility is down for maintenance.

MS. VETTERHOFFER: What would you

expect NOx emissions to be for the reheat furnaces if only desulfurized Coke oven gas were used in combination with the low NOx configuration now being installed?

MR. SIEBENBERGER: We would have to make that determination. I don't currently have it, but we can make that determination. We'll submit it.

MS. VETTERHOFFER: On page 7 of your testimony you state that you have proposed an emission rate of .189 pound per MMBTU for the reheat furnaces based on specific fuel mixes. Is this source case mix as well?

MR. SIEBENBERGER: Yes.

MS. VETTERHOFFER: And similar to what I asked for the boilers, did you examine any other case, best case, any other case?

MR. SIEBENBERG: No.

MS. VETTERHOFFER: For the furnaces, do you know what percentage on a heat input base, how much Coke oven gas was used, what the percentages are for the different gases used?

MR. SIEBENBERG: For the assumptions of our calculations, is that what you are asking?

MS. VETTERHOFFER: Yes.

MR. SIEBENBERGER: Yes. The percentage for heat input for furnace number one, for Coke oven gas, was 32 percent. For number two furnace, it was 32 percent. For number three furnace, it was 72 percent, and for number four furnace it was 70 percent.

MS. VETTERHOFFER: And the rest is from natural gas, is that correct?

MR. SIEBENBERGER: Correct.

MS. VETTERHOFFER: Is there any way we can obtain a copy of the technical proposal from Bloom for the burners on the reheat furnaces?

MR. SIEBENBERGER: I assume so. I don't know if there's -- I'd have to ask our engineering department. I don't know of an issue with it.

MS. HODGE: We'll check on it.

MR. SIEBENBERGER: If there's no issue with it.

MS. VETTERHOFFER: Does the sum of the Coke oven gas used on boilers 11 and 12, plus that used on the other furnaces exceed the amount that the facility produces?

THE WITNESS: Yes, it would.

MS. VETTERHOFFER: By how much?

MR. SIEBENBERGER: I'd have to determine that. I don't know off the top of my head. Again, the reason for that is, we have to have the flexibility when the hot strip doesn't run continually. So there are times when the hot strip is down, and so Coke oven gas that would be consumed on a hot strip, would become available to burn more on the boilers if we chose to do that. Ultimately all the Coke oven gas is going to be consumed, whether we burn it on the boilers, the refurnaces, if we don't burn it there, it's going to be flared. So the amount of Coke oven gas combusted in the facility doesn't change. It just gets moved around from facility to facility based on their operations.

MS. VETTERHOFFER: Do you think that's reasonable since they are annual and seasonal limits?

MR. SIEBENBERGER: Well, I think we have to have that ability, yes.

MS. VETTERHOFFER: On page 3 of your testimony you state that slab reheat furnaces are

heated by Coke oven gas and natural gas. Do you know what the uncontrolled NOx rates are for these furnaces?

MR. SIEBENBERGER: I'm sorry, would you repeat that?

MS. VETTERHOFFER: Sure. On page 3 of your testimony you state that slab reheat furnaces are heated by Coke oven gas and natural gas. Do you know what the uncontrolled NOx rates are for these furnaces?

MR. SIEBENBERGER: I would have to -- I'm sure we do. I don't right at this moment. I would have to find that, what the emission rates were that we used.

MS. VETTERHOFFER: Do you blend the gases before combustion?

MR. SIEBENBERGER: On furnaces -- my understanding is on furnaces 1, 2 and 3, which are of similar design, we provide Coke oven gas to certain zones and certain burners, and it is burned solely on those burners. You either have Coke oven gas or natural gas on those burners. And the remaining burners burn natural gas. The number four furnace we actually burn the Coke oven

gas into the natural gas mix that goes to the furnace in total.

MS. VETTERHOFFER: On page 1 of Exhibit B, the NOx rate shown for furnaces number three and 4 are higher than for furnaces number 1 and 2. Can you explain why there is a difference?

MR. SIEBENBERGER: Well, two reasons that I can think of off the top of my head. The percent Coke oven gas that we used on 3 and 4 is higher than what we assumed on furnaces 1 and 2. In addition to that, I think on number four, because of its different design, it may also have a higher NOx emission rate than 1, 2 and 3.

MS. VETTERHOFFER: With regard to Exhibit B, would the estimate of NOx emission reductions for the slab furnaces, their ozone season emission rates shown on Exhibits 1 and 2, are these provided by the burner manufacturer?

MR. SIEBENBERGER: Yes.

MS. VETTERHOFFER: Are they guaranteed values or expected values?

MR. SIEBENBERGER: It is my understanding that these are guaranteed values.

MS. VETTERHOFFER: With regard to

the table on page 2 of 2 of Exhibit B, are the emission rates simply an average of the emission rates from the table on page 1?

MR. SIEBENBERGER: Correct.

MS. VETTERHOFFER: Have you discussed the appropriate emission limit for this process with the Illinois EPA prior to this hearing?

MR. SIEBENBERGER: Yes, we have.

MS. VETTERHOFFER: Are you willing to continue to work with the Agency on this issue?

MR. SIEBENBERGER: Yes, we are.

MS. VETTERHOFFER: On page 7 of your testimony you state that it would take at least 18 months from the date that the final rule is promulgated to achieve installation of controls. If the Board were to adopt a compliance date 18 months after the effective date of approval, would that be acceptable from your perspective?

MR. SIEBENBERGER: I think so. I guess the one caveat I have to put in is with the recent changes in business conditions, as I stated in my opening statement, we don't know whether that's going to affect our ability to spend

capital. So we could do it if business conditions are normal and will allow us to provide the capital to do it. But if the conditions deteriorate to the point where we couldn't, well, then that would be affected.

MS. VETTERHOFFER: That's all the questions I had for you Mr. Siebenberger. Thank you.

MR. FOX: Did you have questions for Mr. Stapper or otherwise for U.S. Steel?

MS. VETTERHOFFER: I do.

MR. FOX: Before we go on to those, I suspect we can do that very quickly, were there other participants who had questions based on Mr. Siebenberger's prior filed testimony? Seeing none, Ms. Vetterhoffer, if you want to go ahead with the questions that you refer to, go ahead.

MS. VETTERHOFFER: Mr. Stapper, you testified on page 2 of your testimony that Abb Combustion Engineering built boiler 1 and Riley built number 12. Does Abb Combustion Engineering currently go by the name of Alstom?

MR. STRAPPER: I believe so.

MS. VETTERHOFFER: And does Riley

now go by the name of Babcock Power?

MR. STRAPPER: Yes.

MS. VETTERHOFFER: Did you contact either of these companies to seek their opinion on how to reduce NOx boilers?

MR. STRAPPER: No.

MS. VETTERHOFFER: Why didn't you contact them?

MR. STRAPPER: Both those firms are primarily, their business is new boilers. They are less active in the burner retrofit market. I think Combustion Engineering is now actually a North American Company. North American does supply some low NOx burners, but they have a very small market niche. Again, Ulstom and Babcock Power in the current marketplace, in the utility industry, there is sufficient or more than sufficient business for these companies to go after every opportunity, and so they are primarily focused on the utility industry right now because that's, like URS, is a profitable market sector for them.

MS. VETTERHOFFER: And did you say that both of those companies supplied NOx control

equipment?

MR. STRAPPER: Yes.

MS. VETTERHOFFER: Besides Ulstom how many companies have supplied corner fired boilers in the United States, if you know?

MR. STRAPPER: Combustion Engineering is the firm that I think has supplied the vast majority of corner fired burners in the United States.

MS. VETTERHOFFER: And wouldn't that make that company uniquely qualified to evaluate unit 11?

MR. STRAPPER: No, not necessarily. Combustion Engineering's, like I say, their primary focus is to supply new equipment. And they will supply that equipment and make guarantees about how that equipment will perform. They are not in the business of extracting the greatest possible benefit from that equipment, only for meeting their guarantees. And so Combustion Engineering does not have as much experience in the burner retrofit market in the industrial boiler sector as, for instance, URS does.

MS. VETTERHOFFER: And what about boiler 12. Since Riley or Babcock Power supplies NOx control equipment, wouldn't it make sense to contact them for input?

MR. STRAPPER: Our participation in this business over the years didn't require us to contact them to know that there are no low NOx burners available for that application.

MS. VETTERHOFFER: Are there any low NOx burners that you believe could be installed on boiler number 12.

MR. STRAPPER: No, Dan -- let me expound on that answer. There are no low NOx burners that could be safely installed on boiler 12 to burn blast furnace gas and Coke oven gas.

MS. VETTERHOFFER: Did you contact any burner suppliers to see if they could supply low NOx burners that could be used on these boilers?

MR. STRAPPER: No, we did not. URS is involved in the burner retrofit business. To the extent that we have a current database of what is available in the marketplace, and we look at a variety of vendors and a variety of technologies

and that experience base allows us to operate without contacting the vendors for every application.

MS. VETTERHOFFER: Will URS manage the construction of this project?

MR. STRAPPER: That has not yet been determined. I would say likely not.

MS. VETTERHOFFER: Since you were unsure, you probably don't know. Do you know who will be overseeing the construction of this project?

MR. STRAPPER: No.

MS. VETTERHOFFER: On page 3 of your testimony you state that an FGR addition to the existing burners was elected as the optimum NOx control technology. How do you define optimum and how is it optimized?

MR. STRAPPER: I would define as the optimum solution in that it provides the most benefit in terms of NOx reduction with the lowest cost and the highest margin of safety.

MS. VETTERHOFFER: In this optimization did URS consider the Agency's NOx draft emission?

MS. STAPPER: Yes.

MS. VETTERHOFFER: Were the Agency limits considered in the optimization?

MR. STRAPPER: When URS approaches one of these projects, there's always a target emission level that is regulatory driven, that is our objective in developing a cost effective solution. However, there are instances such as boilers 11 and 12 where the specifics of the application don't allow them to readily achieve the target emission rate.

MS. VETTERHOFFER: Is any kind of optimization analysis written down on paper or any document?

MR. STRAPPER: Yes.

MS. VETTERHOFFER: Would you be able to provide the Agency a copy of that or enter it in the record?

MR. STRAPPER: We have provided that to U.S. Steel. It's their document.

MS. VETTERHOFFER: Would U.S. Steel be willing to provide that document?

MR. SIEBENBERGER: Yes.

MS. VETTERHOFFER: Thank you. You

mention on page 4 of your testimony that another factor that makes FGR an ideal NOx technology for the Granite City Works boilers if the amount of FGR added can easily be controlled based on the measured fraction of natural gas, Coke oven gas and blast furnace gas used, allowing NOx controlled to be maximized when firing natural gas or Coke oven gas, but not causing flammability issue when firing blast furnace gas. This implies that the boiler had or will have the ability to track the amount of each fuel being fired for FGR control. Is that correct?

MR. STRAPPER: As part of the retrofit, the instrumentation may have to be upgraded, but the control system would have that capability, yes.

MS. VETTERHOFFER: Does that mean that FGR can be continuously controlled and adjusted based on the fuel mix at the time?

MR. STRAPPER: Yes.

MS. VETTERHOFFER: And this would provide good furnace combustion control and good NOx emission control, correct?

MR. STRAPPER: Yes.

MS. VETTERHOFFER: And that's a benefit of FGR, is that right?

MR. STRAPPER: Yes.

MS. VETTERHOFFER: You then mention that on page 6 of your testimony that boilers 11 and 12 are not good candidates for NGCR application as their operating characteristics are not consistent with the characteristics with the operating characteristics required for NGCR are not appropriate for those two boilers. You then state on page 7 that variations in heating values and nitrogen makes the NOx emissions and furnace temperatures fluctuate which makes NGCR untenable; is that correct?

MR. STRAPPER: Yes.

MS. VETTERHOFF: You previously testified however that you are able to monitor fuel input to provide good combustion control and good NOx emission controls. Wouldn't these same capabilities make NGCR available control options as well?

MR. STRAPPER: No.

MS. VETTERHOFFER: Can you explain why?

MR. STRAPPER: There are a number of factors that affect SNCR applicability that where, with flue gas recirculation, if you have the right amount of flue gas mixed in with the combustion air, you can control the peak flame temperature and control your NOx emissions. That is essentially the only driving factor in flue gas recirculation performance. In an SNCR system you have to match up the ammonia or uria molecule that you are injecting with a NOx molecule in the gas. So it has to do with knowing how much NOx is there and knowing where it's located in the duct. In a boiler, especially like the ones at Granite City where there are multiple fuels introduced that have different NOx generating characteristics, there's stratification of the NOx in the duct. So you can think of it as the NOx generated by the Coke oven gas might follow a different path through the boiler than the NOx formed by the natural gas. If you think of the boiler cross section as a doorway, there might be more NOx at head level than there is at foot level, and that will change as the fuel blend changes. And so your ammonia injection grid, which is distributing

ammonia across that duct, is really not capable of understanding how that distribution across the duct varies and it's not capable of following it. That's one aspect. Another aspect of SNCR applicability is temperature. You need to be in the right temperature window for the right amount of time in order for those reactions to occur. Because unlike combustion reactions, which are very fast, the SNCR reactions are relatively slow. And in the boiler as the load changes, that temperature window moves. So you can imagine at the highest load, immediately at the furnace exit, a boiler essentially consists of a fire box and then ducts that have tubes in them where heat is recovered, that ideal injection temperature is probably right at the exit of the furnace. Maybe 2000 degrees. However at lower loads, that temperature at that furnace exit is going to be lower. And you are not going to achieve the same amount of reduction. It's even conceivable that the ideal temperature at maximum load is somewhere beyond the furnace exit, somewhere within the duct that's filled with heat recovery tubes. And, again, that temperature window is going to move.

So if you have a fixed ammonia injection grid and you have your temperature window, your optimum temperature window moving with load, and also the NOx, the mass of NOx that you are trying to control is changing, both with load and with fuel blend, and then you also have the NOx cross section changing with fuel blend, it's virtually an impossible control scenario. What you end up with is if you have too much ammonia at a given point for the amount of NOx that's present, that ammonia will go through unreacted and you'll have ammonia slip. If you don't have enough ammonia at the point where the NOx is, then there's unreduced NOx and the NOx will be emitted. It is conceivable that in the particular application, the installation of an SNCR could result in higher emissions than the base level or baseline.

MS. VETTERHOFFER: If you just explain the changes of using SNCR, but isn't it true that SNCR has been installed successfully on industrial boilers?

MR. STRAPPER: Yes, but not all boilers and not all boilers have the same configuration as we see at Granite City. Not all

boilers are in the same service. Some are base loaded, whereas others like at Granite City follow load and have significant load variations. And fuel types among different boilers vary, and there are some fuels that are more consistent that would lend themselves better to SNCR and there are also I would say for a typical SNCR application, there are not multiple fuels being fired of such a variety of composition.

MS. VETTERHOFFER: Has SNCR been installed, however, on multi-fueled industrial boilers before?

MR. STRAPPER: I'm aware of boilers in the forest products industry that burn combinations of natural gas and wood products where SNCR is installed. I am not aware of any SNCR applications on boilers firing a combination of natural gas, blast furnace gas and Coke oven gas.

MS. VETTERHOFFER: How many SNCR systems has URS recently designed or supplied?

MR. STRAPPER: URS is not in the business of evaluating NOx controlled technologies to develop cost effective solutions for our

clients' needs. One of the reasons we are not in the SNCR business is it's not a large business, and for us it's not a profitable business. We're capable of doing it. We chose not to.

MS. VETTERHOFFER: According to information provided by Midwest Generation, a company named Fuel Tech has supplied 450 SNCR systems. Have you ever heard of Fuel Tech?

MR. STRAPPER: Yes, Fuel Tech is the industry leader in supplying SNCR systems.

MS. VETTERHOFFER: The information provided by Midwest Generation indicates that a hundred of those SNCR systems were utility; that implies that the majority of systems, roughly 350 are industrial, correct?

MR. STAPPER: If that's what their data says. If you need to me to do the math, I would agree, yes.

MS. VETTERHOFFER: Thank you. Have you contacted Fuel Tech regarding control options for boilers 11 and 12?

MR. STRAPPER: No. We and our staff are fully capable of understanding SNCR applications, where they will work and where they

won't work without contacting Fuel Tech. The other thing that you have to understand in the business that we do, in working with these vendors who supply these control technologies, we do hundreds of these studies; BACT analyses, RACT analyses, and every one of them you need to develop cost information for that particular application. After you call a vendor about a dozen times to give you cost information on an application that your client is not going to be buying because you are just getting that information to complete your study, the vendor doesn't answer the phone anymore. The vendor doesn't go and spend a week designing the system for something that they know they are never going to do. So we have to rely on our experience and our data base to come up with those analyses.

MS. VETTERHOFFER: Were you aware that Fuel Tech's headquarters are in Illinois?

MR. STRAPPER: I was not aware of that.

MR. JOHNSON: Mr. Strapper, it is then and both pre-filed and today that the flue gas recirculation is a more effective NOx

reduction method in this instance at the Granite City plant than SNCR would be?

MR. STRAPPER: Yes, for this particular application.

MR. JOHNSON: And what about cost? Based upon your experience, is the FGR system cheaper to put in than SNCR and operate?

MR. STRAPPER: It's cheaper and it will result in lower emissions.

MS. VETTERHOFFER: I don't have any further questions. Thank you, Mr. Stapper.

MR. FOX: Are there, from other participants here beyond the Agency, are there any other questions either for Mr. Stapper or Mr. Seibenberger before we move on?

MS. HODGE: I do have just a follow-up question for Mr. Stapper, and this is in follow-up to some questions of the Agency yesterday, and it's dealing with page 27 and 28 in the technical support document, and I believe the Agency had been asking some questions of, I think it was of Mr. Dunn of Conico Phillips about the Todd rapid mix burner. And in some conversations last night we learned that URS is very familiar

with this, and I would just ask Mr. Stapper to offer a few comments on this situation.

MR. STRAPPER: Is that okay for the benefit of the Board?

MR. FOX: Yes, please go ahead.

MR. STRAPPER: The materials shown for the lean pre-mix or the ultra low NOx burners in the document in question on page -- I guess it is page 27 -- refers to the Todd Rapid mix burner. It shows data for the installation at Morning Star. URS actually owns the rapid mix burner technology. We hold two patents for the rapid mix burner, and we license that technology to John Zincs, which markets or previously marketed under the brand name of Todd Combustion. Recently John Zinc's sister company purchased Cohen Company. Cohen now offers the rapid mix burner in this particular application, and the QLA burner that's referenced in these materials is no longer offered because the rapid mix burner is superior in performance. The rapid mix burner is a technology that was developed in the early 1990's. There are almost 300 of them currently in service. The oldest one dating back to 1994. All have been

guaranteed and have met 9 ppm, which is .01 lbs/MMBtus. With the exception of two recent ones we have developed a new generation of the burner that's a 5 ppm version, and we've applied for a patent on that technology. So URS understands this burner extremely well, and URS benefits from the sales of this burner.

Unfortunately the rapid mix burner only works in a very narrow niche of industrial boiler applications. It only works on wall-fired, natural gas-fired industrial boilers with one or two burners. It won't work for on refinery gas. It won't work on corner fired units, and it won't work on wall-fired units that have more than two burners. And it would be wonderful if we could apply it to all these boilers because we'd sell thousands of these instead of hundreds, but the reality is, this technology, like many other technologies, is a snapshot for a particular application and cannot be applied with a broad brush to the entire population of gas fired industrial boilers. And in fact our agreement with John Zinc states that if they have a request from a customer to apply

this on a unit that is not firing natural gas, they have to come to URS and ask if it's possible to apply it in that situation. So the reason I would like to bring this up is there are the -- even though this is a wonderful technology and for its application it works as advertised, there are many applications, such as the boilers at Wood River where this technology is simply not feasible. And so I think it's important to remember in reviewing documents such as this, and this is a wonderful document in terms of describing these technologies and how they work and what the potential of these technologies are, but there are always limitations to those technologies and being aware of those limitations is an important part of applying these limits to these boilers.

MS. HODGE: Thank you, Mr. Stapper.

MR. FOX: Any further questions, Ms. Hodge?

MS. HODGE: No, that's all we have.

MR. FOX: Were there any additional questions from the other participants?

MS. VETTERHOFFER: I just had a

couple follow-ups. The rapid mix burner is ultra-low NOx.

MR. STRAPPER: Yes.

MS. VETTERHOFFER: It is not a simple stage air low NOx burner, is it?

MR. STAPPER: No.

MS. VETTERHOFFER: Just one second. Does the Illinois EPA require the use of this technology at the Wood River refinery?

MR. STRAPPER: The rapid mix.

MR. STRAPPER: Not that I am aware of.

MR. FOX: Any additional questions on the part of the participants? We have been under way for quite a while. Why don't we take a break and reconvene here at 10:30 and we can start again with the questions from Midwest Generation.

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

MR. FOX: When we broke for a short time, we had, I believe, wrapped up the questions based on the pre-filed testimony of Mr.

Siebenberger and Mr. Stapper on behalf of U.S. Steel. Was I correct that in fact we had exhausted those? There were no further questions? I'm not seeing any indication that there are. That brings us to the point in the agreed order at which it's time for the testimony of Mr. Wanninger and Mr. Miller on behalf of Midwest Generation. In advance of their testimony, their questions based on that testimony, Ms. Bassi was kind enough to provide copies of pre-filed testimony of Mr. Miller, of the pre-filed testimony of Mr. Wanninger and also Mr. Wanninger has a graph included on page 7, which was not apparently as clear as it might have been and might have been difficult in some of the copies. This was merely a reproduction of that, with the expectation that the type was a little clearer.

Ms. Bassi, I think you indicated you supplied copies to all the attorneys who were here today?

MS. BASSI: I would like to move that these be admitted as separate exhibits, please?

MR. FOX: Very well. And that would

be, Ms. Bassi, for Mr. Miller's pre-filed testimony hearing Exhibit No. 12, for Mr. Wanninger's testimony, Exhibit No. 13, and in case of the graph that we have just been referring to, Exhibit No. 14. Is there any objection to the admission of those three exhibits numbered in that way? Neither seeing nor hearing, Ms. Bassi, they will be marked and admitted according to those numbers.

MS. BASSI: Thank you.

MR. FOX: Surely. You had mentioned that you had Mr. Miller and Mr. Wanninger both interested in offering a brief summary or introduction. Why don't we begin by having the two sworn in just to take care of that and we can proceed to those two summaries in whichever order you wish your witnesses to be.

MS. BASSI: Good morning. My name is Kathleen Bassi. I'm with Schiff Harden, LLP, here in Chicago, and with me to my far left is Tom Bell, who is also an associate with our firm. We are here on behalf of Midwest Generation today, and Scott Miller to my right and Kent Wanninger to my left will be presenting brief summaries of

their pre-filed written testimony, and then we'll be available for questions. And I request that the Agency or whoever just address the questions to Midwest Generation and the appropriate witness will respond. Thank you.

MR. MILLER: Midwest Generation appreciates the opportunity to present testimony in this proceeding. My name is Scott Miller, S-C-O-T-T, M-I-L-L-E-R. I'm responsible for managing the air quality programs at Midwest Generation and have been in the power generation business since 1978. The rule as proposed contends to exempt units subject to the combined pollutant standard or CPS as we have heard before. Currently subpart F, 225 from this rule. Midwest Generation has opted into the CPS. As a result if the Board exempts the amendments to subpart M offered by IEPA at the October 14th hearing Midwest Generation would be exempt from this rule. However, Midwest Generation does not believe it is prudent for it to ignore the emission limitation included in a rule for solid fuel electric generating units. IEPA must have believed that some limit was necessary, even though all each

impacted by this rule has opted into the EPS or the multi-pollutant standard. That being the case Midwest Generation believes it is necessary to address the proposed limit. Midwest Generation supports the testimony given by Dave Kolalz and EK Herner on behalf of IER relative to the appropriateness of subpart M. Based upon analysis provided IER, Midwest Generation agrees that subpart M is not necessary and should be deleted from the rule. As proposed, subpart M exceeds IEPA's definition of RACT as discussed in more detail in Mr. Wanningers' written testimony.

In the alternative, Midwest Generation suggests that the rate that is the basis for the NOx codified in Illinois 217 subpart W of the Board's Rules, 0.15 lbs/mmBtu is a more appropriate emission rate for solid BTUs than the proposed rate of 0.09 lbs/mmBtu. Even at 0.15 lbs/mmBtu is potentially more stringent than a NOx SIP Call (sic) to a plant because each plant would have to achieve that rate without reliance on indudstry streams (sic).

Finally, if the Board believes that subpart M must remain in the rule, Midwest

Generation supports the amendments offered by IEPA at the October 14th hearing, and urges the Board to substitute that language in addition to changing the emission limit in Section 217.344(a) to 10.15 lbs/mmBtu. Thank you.

MR. FOX: Thank you, Mr. Miller.

MR. WANNINGER: Good morning. My name is Kent Wanninger, W-A-N-N-I-N-G-E-R. I am a director in environmental controls and strategy at Midwest Generation. I have worked in the operation in the electric power industry since 1975. My written testimony was submitted to the Board on November 25, 2008. I do need to correct the table on page 6 of the written testimony listing Midwest Generation's units that are subject to this proposed rule. That table does not include two small cyclone boilers, units 1 and 2 of the Will County Station. These boilers are scheduled to be shut down at the end of 2010 as a part of a combined pollutant strategy. The emission rates are similar to those of Joliet 6 and the other cyclone boilers and the Midwest Generation's Chicago area fleet. As stated in my testimony, Midwest Generation believes that the

rate of .09 lbs/mmBtu proposed for solid fuel electric generating units in Section 217 is not RACT, at least at Midwest Generation's units. Midwest Generation is the only company subject to subpart M in the Chicagoland area. Midwest Generation's units with the exception of Joliet 6 and Will County 1 and 2 have low NOx emission rates, though none of these can achieve a 0.09 pounds with per million BTU rate. IEPA proposed that rate of .09 can be achieved through the application of selective noncatalyte reduction equipment, or SNCR, which according to the IEPA would achieve around 30 percent reduction from baseline levels. However, Midwest Generation's baseline NOx levels are very low, much lower than that included in the IEPA's analysis, where the reference .4 to a .5 lbs/mmBtu baseline.

Midwest Generation has obtained a proposal for the installation of SNCR at one of our tangentially fired units, Will County 4, that's included in the testimony. Based on that proposal, a 30-percent reduction is not achievable. This is the proposal that is attached to my written testimony. The rate of reduction

that was proposed by Fuel Tech, the SNCR vendor is a target of 15 percent, which I would point out is not even a guaranteed level of reduction. A reduction of 15 percent is not sufficient for our units to comply with the limit of .09. Therefore in order to comply with this limit, Midwest Gen would have to install selective catalytic reduction or SCR equipment on its Chicago area plants. SCR's are considerably more costly than SNCR'S. Even if the board were to agree that Midwest Generation was RACT and Midwest Generation asserts it was not, it would not be possible for Midwest Generation to comply by the compliance date proposed in this rule. Despite IEPA's testimony to the contrary, our experience is that it takes at least 42 to 48 months for us to plan, finance, permit and install an SCR. Because Midwest Generation's rates are already so low, reducing the rates further to comply with the rate of .09 lbs/mmBtu would cost in the range of 7,000 to 32,000 per ton, well in excess of the 2500, the $3,000 per ton identified in the Agency as RACT. I might add that the $7,000 ton number is for our high NOx Joliet unit, which is a higher NOx rate.

There has been a significant run-up in the costs in all areas of construction, including pollution control equipment in recent years. This is illustrated on page 7 of my testimony by the HIS Sarah curve. That's the attachment that was handed out in the larger scale and easier to read. It shows a significant run-up in capital costs for new pollution control equipment in the power sector, particularly in the last two or three years. As an example of that run-up, Wisconsin Power and Light and Webco just recently filed a joint application with the public service commission of Wisconsin to spend 53.9 million or $405 a kilowatt on a retrofit of SCR at the Edgewater unit five in Sheboygan, Wisconsin. The proposed rule at least as applied to BUT's is not RACT. Thank you.

MR. FOX: Thank you, Mr. Wanninger. That concludes, of course, the two sets of introductory remarks. And we would be ready, I presume, for questions. Is there anyone who has questions to pose to either of the witnesses for Midwest Generation?

MR. ROCCAFORTE: I'm Gina

Roccaforte, assistant counsel on behalf of the Illinois EPA. Good morning.

Has Midwest Generation notified the Agency of its intent to comply with the combined pollutant standard?

MR. MILLER: Yes.

MS. ROCCAFORTE: Isn't it true that this proposed rule making does not apply to coal fired boilers that are complying with the multi-pollutant standards or combined pollutant standards?

MR. MILLER: If the changes are made to the language that we suggested -- if the changes are amended that we recommended and the Agency responded during the question and answer session during the last testimony, we would not be impacted.

MS. ROCCAFORTE: Are you aware that there is currently before the Board docketed as R-9-10 a rule making proposal to incorporate the provisions of the combine pollutant standard within the Illinois Mercury Rule due to the vacature of the Clean Air Interstate Rule. And given --

MS. BASSI: Could I ask for a clarification of that question? You said that R-O9-10 is incorporating the CPS because of the vacature of the CAIR, C-A-I-R?

MS. ROCCAFORTE: I believe that was one of the Agency's reasons for amending the rule, proposing to amend the rule.

MS. BASSI: Okay.

MS. ROCCAFORTE: In addition to addressing monitoring provisions and other provisions.

MS. BASSI: Thank you.

MR. MILLER: Yes.

MS. ROCCAFORTE: Given the NOx and SO2 emissions in the Chicago area, does it seem reasonable that other industries be required to reduce such emissions as well?

MS. BASSI: I'm going to object to that. You are asking them to give you their personal opinions or Midwest Generation's opinion about what should apply to other industries, and that is not within the scope of their expertise at all.

MS. ROCCAFORTE: I'm just trying to

ask if the burn --

MS. BASSI: This is a policy question that the Agency has to decide. It's not a policy question that Midwest Generation should be addressing.

MR. FOX: Anything further Ms. Roccaforte.

MS. ROCCAFORTE: Yes, I have some more questions.

MS. ROCCAFORTE: On page 4 of Mr. Wanninger's testimony, you describe the costs of SCR and you provide a figure called the I H I C ERA power capital cost index. There are two lines and just to clarify we would use the lower of the two lines on that figure, the overall without nuclear, is that correct?

MR. WANNINGER: That figure was to demonstrate the trend in the industry for capital costs for all industry going up. The trend shows that there is a variable between different industries, but there is definitely a trend in that direction driving up costs across the industry.

MS. BASSI: And to clarify, this is

Exhibit 14 that we handed out?

MR. FOX: Correct, Ms. Bassi?

MR. WANNINGER: It's not just the power industry or the fossil industry experiencing cost run-ups. In fact, if you look at the website, you'll find there's one for petrochemical refineries following the same general trend.

MS. ROCCAFORTE: In using this to project costs, would you escalate costs based upon a factor of the index?

MR. WANNINGER: It's more complicated than that. We've done some initial cost estimates in 2005. We updated some of those numbers in 2006. We saw a significant run-up in that one-year period. From that point on I would take these costs and say they are continuing to increase to 2009.

MS. ROCCAFORTE: So is it correct that if you had a cost of a project in the year 2000 and wanted to know how much it would cost in 2007, you would multiply the 2000 cost by 171 and divide it by 100, is that correct?

MR. WANNINGER: 182 I think it is.

MS. ROCCAFORTE: For 2007?

MR. WANNINGER: Oh, I'm sorry, 2007, yes. That would be a simplified way of doing it, yes. If you have a cost estimate that's more site specific and more recent, you would apply the appropriate correction to get you in the ballpark. But the idea of this draft or the intent of this draft was to indicate that there was a significant cost increase going on with power prices, and that you need to be aware of that when looking at today's prices versus even three or four years ago.

MS. ROCCAFORTE: So is it correct that when someone makes a projection of a project going into the future, say in 2011, he or she would have to assume some sort of escalation factor since this figure only provides historical information?

MR. WANNINGER: That's correct.

MS. ROCCAFORTE: Is it possible that someone who had a project for 2011 might just extrapolate the line on this figure out to 2011?

MR. WANNINGER: That's a -- it would be dangerous to do that, trying to predict the future. Anyone that would be developing a project

cost, would be going at a much greater detail and to cost escalators, what other reasons for it. Also as costs, as a project is designed, equipment is ordered in this four-year window, some of that equipment is ordered in year two, year three, year four, so those costs would be escalated throughout that full four-year period. But really what you'd be looking at is what other drivers would continue this rise or might taper off. And it's a much more indepth review. There are consultants out there that do those types of forecasts. They look at market trends. And it has to be worldwide market trends. A lot of this cost run-up is believed to be caused by the huge growth in China where they are building a power plant a week. India is building power plants, driving up the demand for raw materials. So you really have to have an understanding of what the worldwide markets are doing to project how these costs are going to go up.

MS. ROCCAFORTE: So it wouldn't be until 2011 that he or she would know what that extrapolaiton was, correct?

MR. WANNINGER: Yes, that's true.

That's a fair statement. It's always difficult to predict the future. If I could, I'd be rich.

MS. ROCCAFORTE: Would it be fair to say that building a real SCR or other project, would you know for sure what it costs before it is done?

MR. WANNINGER: It depends on the level of -- if you've gone on for bids for the equipment and you got firm bid prices, as you start bidding on major pieces of equipment, those costs become more firm. And typically those are done long before the project is completed.

MS. ROCCAFORTE: Is it fair to say though that there is a certain degree of uncertainty until the project is completed?

MR. WANNINGER: As I said, until you get firm bids on every piece of equipment and the construction is final, as you move towards getting firm bids, the level of uncertainty goes down. And typically you will see contingencies reduced once that level of uncertainty goes away. Normally you cover that, try to anyway.

MS. ROCCAFORTE: So depending how close reality reaches the projection costs, might

be under-predicted or over-predicted?

MR. WANNINGER: It could be, yes.

MS. ROCCAFORTE: I notice that the data here on this figure only goes through the first quarter of 2008. Do you have a more recent figure?

MR. WANNINGER: No, that's the most recent we have. I've had other chemical engineer index. There's some others out there trending the same thing, but they only went through 2007.

MS. ROCCAFORTE: Are the escalation of construction costs strongly impacted by escalation of steel and other commodity construction materials used to build power plants?

MR. WANNINGER: That's one of the confluences. Labor, availability of labor, which drives, is driven by what's happening in the marketplace. There are a number of factors, but, yes, definitely commodities, steel, concrete, copper, all those different commodities. I'm sure you are familiar with what's going on with the economy today?

MR. WANNINGER: Yes.

MR. ROCCAFORTE: Are you aware there

has been a drop in commodity prices including steel over the last few months?

MR. WANNINGER: I've seen some prices tapering off. We've tracked that because we are in the process of engineering some NCRs, and we are constantly trying to track where the prices are going. Right now I believe our procurement groups feel that at best it's going to slow down at this rate of climb that it's curved.

MS. BASSI: Could I do a follow-up question here, please?

MR. FOX: Please go ahead, Ms. Bassi.

MS. BASSI: Does the idling of plants such as the Granite City Steel Works have an affect on what's going to happen to steel prices in your estimation?

MR. WANNINGER: That's a good question because one of the things we've seen, and we have a procurement consultant that we've hired specifically to track commodity prices, and they've indicated that because of the slow down in the economy, prior to that, there was a lot of capacity addition to meet this demand for these

particular commodities, metals, copper in particular, a lot of that capacity that was planned to meet this future growth has been canceled or postponed. So whether or not that, you know, the question then comes in, if you kept building that capacity, yes, I would expect pricing to continue to drop. But once the industry reacts and they back off on that extra capacity, I think our experts think that it's going to tend to stabilize it, but not bring the prices down. Also what we found, too, is that typically when the raw materials do start coming down, the finished products take a year or two lag before we see them respond to that.

MS. ROCCAFORTE: I have some Bureau of Labor statistics here from the U.S. Department of Labor. I'd like to move that they be introduced as an exhibit.

MR. FOX: Thank you. That would be great.

MS. BASSI: Do we have an extra copy we can look at?

MS. ROCCAFORTE: I don't. I apologize for that.

MR. FOX: If you have a single copy now, and, Ms. Bassi, you'd like to examine it now, we could deal at the conclusion of admitting it as an exhibit.

MS. ROCCAFORTE: Would you be surprised if these statistics demonstrated a decline in the price of various metal and metal products, hot rolled bars, plates and structural shapes?

MR. WANNINGER: I think in short term, I think there has been some decline, yes.

MS. ROCCAFORTE: Going back to Exhibit 14, say someone made a projection of a cost of a project out to 2011 and extrapolated this line as if it were ever increasing out to 2011, but it actually dropped off, wouldn't that mean that they likely over-estimated the cost?

MR. WANNINGER: Yes, I would say so, hindsight is always 20-20.

MS. ROCCAFORTE: On page 8 of your testimony you describe projected costs at Midwest Generations Powerton Station and at Wisconsin Light and Power's Edgewater station.

MR. WANNINGER: Yes.

MS. ROCCAFORTE: What is the start-up date?

MR. WANNINGER: In time for the CPS agreement, 2012, January 1st.

MS. ROCCAFORTE: Have you started construction on it?

MR. WANNINGER: We are in the engineering phase right now.

MS. ROCCAFORTE: Would it be fair to say that you really won't know the final cost of the Powerton SCR until the plant it completed?

MR. WANNINGER: Without absolute certainty, we won't know, that's correct. As far as using the data on page 7, again, that is historical, that is reflecting that cost estimates of just three or four years ago and need to be taken into the right context. The costs have continued to go up. As far as projecting those feature costs, as I said earlier, it would be, probably dangerous to say that this rate of increase is going to continue.

MS. ROCCAFORTE: So your estimate could be high or low?

MR. WANNINGER: If you follow that

increase. I am not saying we follow that increase. In fact, in my analysis of our 2005 and 2006 numbers, I do not use that beyond the time frame of 2008. We had a much more conservative increase than we expect in the future years, but we do not see it dropping.

MS. ROCCAFORTE: How did you project the cost using this index for the year 2012?

MR. WANNINGER: For?

MS. ROCCAFORTE: For the Powerton?

MR. WANNINGER: We had a $240 kilowatt number that was updated in 2006. In that period of time there was about a 30 percent increase in the numbers from, based on the SERA report, then we reduced the forecast rate to I think a number of three percent per annum, which right now we would have said a higher number two months ago, but again, with the change in the economy. And, again, when is that going to turn around? That gets us in the ballpark of the price that we just saw in this recent Edgewater announcement of an SCR.

MS. ROCCAFORTE: Do you know the plan to start the update for that Edgewater SCR?

MR. WANNINGER: It's in their report. I can't remember. I think it's the end of 2011 or somewhere like that. In this time frame, 2012, somewhere around there.

MS. ROCCAFORTE: So if costs do drop over the next few years as they have in the next few months, doesn't that increase the chance that your projected costs for the Powerton SCR and Edgewater's SCR may be high?

MR. WANNINGER: As I said, we do not expect the rates to go up like they have historically. We are expecting something much slower of an increase. Labor is a big part of the costs of a plant. Typically over half the costs. And labor rates are not going down. Union labor rates are what they are. They are going -- they are negotiating increases every year. So those costs will not go down. And depending on the -- one of the problems we are running into is manpower. We're coming up into a period in this time frame where a large part of the construction work force is retiring, and there are not a lot of people getting into the building trades, and because of that and the competition for labor with

the steel industry, with the refinery industry, with other utilities in the region, we have what we thought travelers -- we bring them in over the country to staff our major outages. Those people get paid premiums to come in. So we see the labor is definitely not going down. If anything, it's getting tighter. Materials we think, it's a short thing to decline. If the economy recovers, we don't think it's going to continue to drop.

MS. ROCCAFORTE: Do you have a sense of what it will cost Midwest Generation to comply with the NOx and SO2 requirements of the combined pollutant standards?

MS. BASSI: Can I ask how that's defined to NOx RACT?

MS. ROCCAFORTE: Discussing cost compliance options to comply with NOx RACT.

MR. WANNINGER: I don't have the number at my fingertips, and part of the issue is variable because as you are aware of probably the CPS agreement had some options for early retirement versus retrofit. We haven't made those decisions yet. So I don't know how in the future years what units will be retrofitted or retired.

I think if, you know, if you look at our 10-K there were some figures of what we said and beyond that I can't say. I'm not familiar with what's in there off the top of my head.

MS. ROCCAFORTE: And will Midwest Generation be making substantial reduction of NOx in complying with the pollutant standards?

MR. WANNINGER: Yes.

MS. ROCCAFORTE: I have nothing further.

MS. BASSI: I have a couple follow-ups. Can SCR be installed at each of the Chicago plants for between $2500 to $3,000 a ton?

MR. WANNINGER: I really haven't run the calculation. I was more focused on the ability to get down to .09, which according to our Fuel Tech proposal says they can't get there. They can't get close, which is one of the things that we did include in the testimony. One of the things we found in talking to field techs. And of course the amount of reduction affects whether or not it gets TIF on a dollar per ton basis. The denominator is how many tons you remove. 30 percent reduction would get more reduction than 15

percent. And one of the things they've told us is they never worked on a unit with this low a NOx rate. They have indicated that 15 percent is their target. In fact when we first solicited their input, they said 10 to 15 percent was more likely. As you can see, they only gave us a target. They didn't give us a guarantee.

MS. BASSI: Is that for SNCR?

MR. WANNINGER: For SNCR, yes.

MS. BASSI: Okay. So the cost of SCR, is it the case that the cost of SCR would be considerably more than the cost of SNCR?

MR. WANNINGER: Oh, yes, definitely.

MS. BASSI: Would the cost of SCR at the Fisk Station for example fall in the range of $2500 to $3,000 a ton for NOx removal?

THE WITNESS: No, not even close.

MS. BASSI: How many units are there at Fisk?

MR. WANNINGER: One.

MS. BASSI: That would be the worst case?

MR. WANNINGER: Yes.

MS. BASSI: A better case might be

one of the other stations would it fall into the range of $2500 to $3000 per ton?

MR. WANNINGER: No, it wouldn't.

MS. BASSI: Are you aware of that news, all the news talks about the unemployment rate increasing?

MR. WANNINGER: Yes.

MS. BASSI: With the unemployment rate increasing, would this have an affect on the availability of construction workers for your industry?

MR. WANNINGER: You know, construction workers are a trained work force. Various building trades, apprentice programs, they have to go through and they are fairly lengthy in terms of years. Plus you have to attract that work force to the construction industry. Then construction industry is typically a very vagabond type work force. And not a lot people like to be moving around for eight weeks, twelve weeks to go to Iowa for eight weeks or twelve weeks. They tend to be a specialized group. Not everyone is going to want to go into that business. And even if they did, they would have to go through a

significant amount of training.

MS. BASSI: That's all I have.

MR. FOX: Did the Agency, Ms. Roccaforte, have any additional questions?

MS. ROCCAFORTE: Has Midwest Generation conducted an analysis to determine whether SCR is required on all of its units?

MR. WANNINGER: Conducted an analysis?

MS. ROCCAFORTE: Whether SCR would be required?

MR. WANNINGER: Would be, we conducted a cost estimate for technology or I'm not sure -- well to reach the .09 rate, yes, we feel SNCR is insufficient, and if we had to get there we believe we would have to go with an SCR.

MS. ROCCAFORTE: On all units?

MR. WANNINGER: We do it plantwide so you might be able to do one unit at a plant, at a two-unit plant. Because our emission rates are fairly low, even if you overcomply with one unit, but even with that, the dollar per ton numbers are still well above the $3,000 range.

MS. ROCCAFORTE: Are you aware of

any other tangential units operating in Illinois at or below the 0.09 pound per MMBTU unit with only combustion controls?

MS. BASSI: Do you mean this as EGU's?

MR. WANNINGER: I'm aware that Baldwin III has a very good NOx rate in the .09-.1 pound range, yes.

MS. BASSI: Why is that?

MR. WANNINGER: What I've looked at, there are several reasons why this appears to be the case. One is the age of the unit. Baldwin III is a 600 megawatt unit. It's a newer unit from CE now Alstom. It's a single furnace design, which is a much more open furnace design that leads to better low NOx firing, better staging with their state of the art, what they call TFS 2000 system. That's low NOx burners. Our units are probably roughly ten-year old or vintage, which are older CE units. They are typically twin furnace set-ups. They are not the big open furnace, which tends to concentrate heat more and heat creates NOx. We have retrofitted all of our units with the TFS 2000. So we put the state of

the art technology that Alstom provides. I might add they have a NFLCS I, II, III and the top of the line is the TFS 2000. We have retrofitted our units with that. I think it's the size of the unit and the age of the unit, it doesn't allow it to get to those levels. If you look at some of the other units on the Dynagy (sic) system that owns Baldwin, you will see that some of the units do not get down to that level. Another reason is if you look at how Baldwin III is dispatched, in the southern part of the state, that is in the Midwest ISO (phonetic). In the northern part of the state we're dispatched through PJM. So we dispatch in different, independent, system operations. In the northern part of the state we're heavily nuclear base loaded. So our fossil units cycle load daily, and we also regulate load, meaning as you turn the light switch on, somebody has to crank up a load another half a megawatt or something. Hopefully not a half a megawatt. Somebody has to raise the load to cover that because we don't have storage capacity so, it's just a comment on it. So we end up regulating loads and cycling loads with our units here in

Northern Illinois.

In southern Illinois there's only one nuclear unit, Clinton. It's a small unit, a single unit. And the rest of it is base loaded with coal. And of course your large coal, such as your Baldwin's, units 1, 2 and 3 are the units that become base loaded. When you are -- base loaded -- and it's a long introduction -- but when you are base loaded, those units, if you look at their dispatch, you will see that they spend the vast majority of their time at full load. Very rarely do they even come down to low load, and you don't see the constant load swinging that you see on our units to try and regulate voltage control. As a result, you are able to tune NOx much more precisely when things aren't moving. The analogy is your car. If you take it up to 65 miles an hour and put it on cruise control, versus if you accelerate 75 to 55 down to 55, where do you get the better gas mileage? Steady state. You are able to fine tune everything. Baldwin is that type of operation. In fact, I ran some curves, and I don't know if these -- I took information off the part 75 CEM data base and I

don't know --

MS. BASSI: Where is the part 75 CEM data base located?

MR. WANNINGER: It's in the USEPA website.

MS. BASSI: And do you have an address for it?

MR. WANNINGER: Scott could provide it I'm sure. What I plotted was load versus time and I took a month, the month of July 2007. And you can see it sits at full load almost all the time on Baldwin. Then I compared it to one of our units, a Joliet unit. Now, the megawatts on the side is, one boiler, our unit having a twin boiler. So that's why it's half a unit, but the trend is the same. You can see the seesaw motion of the data. And that seesaw motion makes it very difficult to control NOx. When you are constantly ramping load, what you have to do is you have to over-fire to raise load, to build up pressure to raise load, you under-fire to drop load, and when you do that, you always add air a little bit more of the fuel in order to avoid getting fuel rich. So it makes it much more difficult to control NOx.

Again, Baldwin is the flat line where it virtually sits at full load. That's a month's worth of data. Those are the two main reasons. There may be some other tweaks that have been done. I know they installed a neuro net to optimize their control.

MS. BASSI: What is a neuro net?

MR. WANNINGER: A neuro net is an artificial intelligent system that evaluates a plethora of operating parameters and tries to optimize every damper and every control linkage that you have to control combustion and optimize NOx. They sit there constantly learning, and then they eventually come back and say, I figured out that by operating these dampers in this arrangement -- and we are talking a hundred dampers -- maybe that can be tweaked between all the corners and all the elevations of coal dampers, coal burner nozzle tilts, coal burner over air, separate over air, show there is a lot of adjustments that can be made. And this thing can sit there and continuously relearn and optimize to the tenth degree.

We've tried neuro nets on our

system, on a T-fired unit, and what we found is that the systems need to have steady state operation to really optimize. They stopped learning when the unit stops ramping, and they don't stop learning until it stops ramping for so many minutes. We never stopped long enough for it to learn. So they've been able to -- that's probably more information than I needed to say.

MR. FOX: The record is richer. Ms. Bassi, you had handed me, and I believe you notified me a copy of them, as well to the Agency two documents, one regarding the Baldwin III, one regarding Joliet 71 boiler that, I believe, Mr. Wanninger from a USEPA source. Did you have a motion for that or any other?

MS. BASSI: What I propose to do is take those back from you or you can keep those, but to submit these to the docket and propose that, they be admitted as an exhibit. And what I will also provide when I submit it to the docket is the EPA address, you know, to give it a citation.

MR. FOX: And that would help to make it clearer. I will agree that makes a great

deal of sense. The Agency had a chance to look at it, if not, obtain a copy of this.

MS. BASSI: If you could close the record in that fashion.

MR. FOX: Did you indicate that?

MS. BASSI: I was going to scan them into my PDF system so I can have them. He can send me new ones. So would this be admitted as Exhibit 15, is that what it is?

MR. FOX: The next two would be 15 and 16.

MS. BASSI: Those would be separate?

MR. FOX: I think it would be helpful because they deal with two separate numbers.

MS. BASSI: And which did you want to be which?

MR. FOX: Why don't we make Baldwin the first, out of alphabetical order if nothing else.

MS. BASSI: And what about Ms. Roccaforte, the Bureau of Statistics?

MR. FOX: That was my next question. Let me see, Ms. Roccaforte, did you or anyone else

from the Agency have any further questions for Midwest Generation?

MS. ROCCAFORTE: No.

MR. FOX: Then Ms. Roccaforte, Ms. Bassi has lead me right to the issue, I think you said they were Bureau of Labor Statistics data, and you had shared those I'm sure with Ms. Bassi and Mr. Wanninger. Did you have a motion with regard to those?

MS. ROCCAFORTE: Yes, I'd like to move these charts be admitted as exhibits.

MR. FOX: Why don't I identify them? I'm trying to distinguish the two of these so they can be submitted separately. Can you eliminate that for me in any way?

MS. ROCCAFORTE: One states Scrap Metal and the other one lists out the finished product.

MR. FOX: The one that refers to the item "Hot rolled bars, plates and structural shapes," would be then admitted as No. 17. And that is a single-page document, and just in the interest of clarifying that, no. 18 then would be then, as you referred to it, that is the two-page

document. And, Ms. Roccaforte, forgive me if I've forgotten, did you have a specific motion that you'd offer or did you wish to do so now?

MS. ROCCAFORTE: I did it, yes.

MR. FOX: You made it. My memory is lapsing. Was there any objection to admitting these two documents from the Bureau of Labor Statistics as Exhibits Number 17, 18? Neither hearing nor seeing any, they will be marked and admitted in that fashion.

Did the Agency have any further questions for Midwest Generation?

MS. ROCCAFORTE: No.

MR. FOX: Very well, that wraps up, I believe, any questions for the witnesses by Midwest Generation and concludes the questions based on the five sets of pre-filed testimony that the Board received on November 25th in this docket.

We did have, as I mentioned, I think, at the conclusion of the day yesterday, a single person who indicated that wished to testify, but I think you clarified that you wished to make a public comment to the board that would

be unsworn. I think Mr. Urbaszewski that you wished to make a comment to the board unsworn. We've come to a point, if you are prepared, it's probably most appropriate to do that.

MR. URBASZEWSKI: My name is Brian Urbaszewski. I'm the director of Environmental Health Programs for the Respiratory Health Association of Metropolitan Chicago.

I want to say thanks for allowing me to speak. We advocate on behalf of the hundreds of thousands of people in Illinois who live with lung disease every day. We do educational programs in schools. We support medical research. And we advocate for clean air. We've been working on lung health issues in the metropolitan Chicago area since 1906.

I first wanted to state that setting good RACT and RACTM limits is critical for public health. We agree with IEPA that strong NOx limits from the affected categories are needed to reduce both Ozone and PM2.5. I also wanted to reiterate that standards are getting tighter and we will still have nonattainment issues going forward. While it appears that the Agency may

apply for redesignation with the 0.08/8hr ozone standard in the near future, the state is now facing a new tighter ozone standard and the current nonattainment areas are expected to be designated as nonattainment areas with the new standard as well. Also, the Agency has also been notified by USEPA that final NAAs for the 2006 PM2.5 NAAQS will occur on or before December 18th.

Not only has the federal government stated that the current PM2.5 NAAs are not expected to meet this tighter, though still inadequate standard, but that two additional areas in the state, Rock Island and Massac County, will also likely be classified as NAAs.

Even the new standards are inadequate. It is important features in the news coming out just yesterday and today in the Philadelphia Enquirer. It is important to note that the USEPA has essentially ignored the advice of its own experts in setting NAAQS for both ozone and PM2.5. By this I mean for Ozone, the new standard 0.075 is higher than the range of 0.06-0.07 that was recommended by Agency's own advisor. Likewise, the annual 15um is higher than

the 13-14 um recommended by its advisors. It was complained loudly that the advice given over the past years based on medical and scientific evidence is being ignored. Likely current reviews will result in tighter standards that will be adopted by the EPA under an Obama Administration, if tighter standards are not adopted through legal action first.

Based on the preponderance of medical evidence and expert scientific opinion, we continue to believe the levels of the new standards are insufficient, do not comply with the requirements of the Clean Air Act to provide a reasonable margin of safety when setting NAAQS.

While the State has made progress in lowering ozone levels, and credit is deserved for implementing regulations and programs that have helped achieve these lower levels, it must also be noted that the region has also benefited from unusually cool summer weather in 2006 and 2008 that greatly diminished ground level ozone formation.

I'm referring to this because people have been mentioning that we are close to

achieving ozone standards. Mr. Tom Skilling noted in the 8/13/08 Chicago Tribune, "There have been only 162 days 90 degrees or warmer at Midway Airport over the period from 2000 to 2008. That's by far the fewest 90-degree temperatures in the opening nine years of any decade on record here since 1930."

This summer's highest reading to date was just 91 degrees in August. That's unusual. Since 1928, only one year, 2000, has failed to record a higher warm season temperature by August 13th. Other than one 95 degree day in September 2008, there were no days higher than 91 degrees this year at Midway Airport. Only 10 days were recorded at 90 degrees or above. In 2006 only 16 such days were recorded. This is compared to 21 in 2007 and 35 in 2005. The long-term average is nearly 24 days per year reaching 90 degrees or above.

In regards to Midwest Generation's written testimony, Midwest Generation says it believes it can meet 0.15 lbs/MMBtu at all of its plants, and in fact is at or near this level in several cases. It also claims that it

doesn't believe 0.09 is RACT. They claim that since their emissions are already low, SNCR can only get a 15 percent reduction. Likewise they claim SCR is too expensive.

We think that due to worldwide economic conditions and falling prices for labor and materials, that the Company has vastly overstated the cost per ton of removing NOx from potentially affected plants in the Chicago metropolitan area. We would strongly encourage the Agency and the Board to consider the strictest possible emission limits at the plants, which remain among the single largest source of NOx in the metropolitan area.

Although we have concerns about the legality of claiming that CAIR fulfills, or the Illinois rules designed to fulfil the requirements of CAIR/CAMR fulfill the requirements for RACT/RACM, we support the Agency's efforts to reduce NOx from various sources in Illinois as proposed in the rule. Time is of the essence. Because of health damage from high ozone and PM2.5 levels is ongoing, we encourage the Board to move forward as quickly as possible to implement the

Agency's proposal.

MR. FOX: Thank you, Mr. Urbaszewski, for your comment in this proceeding. Is there any additional person who wishes to offer a comment? Seeing no indication that there is, we can move on then to some of the housekeeping details.

The first of which is that we do have to address the issue of an Economic Impact Study. Since 1998 section 27(b) of the Environmental Protection Act has required that the Board request that the department now known as the Department of Commerce and Economic Opportunity conduct an Economic Impact Study of proposed rules before the Board adopts them. The Board then must make either the impact study, Economic Impact Study or the Department's explanation for not conducting and make one available to the public at least 20 days before a public hearing. In a letter dated June 6, 2008, which is listed on the Board's clerk's office on line under this docket number R08-19, the Board requested that the Department conduct an Economic Impact Study on this rule making proposal. To date the Board has

received nothing from the Department responding to that request, and my question is to the applicants, as to whether anyone would like to offer testimony regarding the request from the Board to the Department of Commerce and Economic Opportunity at this time? Seeing none, we will move on then.

And specifically we've come to the point where we can address the issue of the third hearing that was raised at the very beginning of the hearing yesterday. Ms. Roccaforte, I think I remember your comment accurately, but please correct me if I'm not. The Agency was not opposed to scheduling a third hearing in this docket, and we will see if that continues to be the Agency's position at this point.

MS. ROCCAFORTE: Yes, that's correct.

MR. FOX: Do any of the other participants wish to?

MS. BASSI: May we go off the record for just a moment.

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

MR. FOX: Ms. Bassi, did you wish to offer any further comment on that issue?

MS. BASSI: I was just raising a question of whether because this rule is limited to the two nonattainment areas, if one hearing has to be held in a nonattainment area as opposed to Springfield where it was held before. I was just raising the question.

MR. FOX: Just so I may deal with that and move on, do any of the other participants wish to be heard on the issue of a third hearing? Seeing that there is certainly no strenuous objection, I believe to conducting a third hearing, it's my intent specifically to issue a hearing officer order that would schedule one and what I would like to do, again, Madam court reporter, is go off the record for a moment to discuss the procedural details of when we will have that.

(Whereupon an off the record discussion was had.)

MR. FOX: We will continue this

hearing to a date February 3, 2009, at a location to be determined. Please check the website for further information.

(End of proceedings.)

STATE OF ILLINOIS)
) SS.
COUNTY OF COOK)

I, DENISE ANDRAS, being a Certified Shorthand Reporter doing business in the City of Des Plaines, Illinois, County of Cook, certify that I reported in shorthand the proceedings had at the foregoing hearing of the above-entitled cause. And I certify that the foregoing is a true and correct transcript of all my shorthand notes so taken as aforesaid and contains all the proceedings had at the said meeting of the above-entitled cause.

_____

DENISE ANDRAS, CSR
CSR NO. 084-0003437