ORIGINAL

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

August 30, 2004

IN THE MATTER OF:	)	
	)	
INTERIM PHOSPHORUS EFFLUENT	)	
STANDARD, PROPOSED 35 ILL. ADM.	)	R04-26
CODE 304.123 (G-K)	)	(Rulemaking-Water)

Transcript of proceedings held in the hearing of the above-entitled matter, taken stenographically by Stacy L. Lulias, CSR, before John Knittle, Hearing Officer, at the Michael A. Bilandic Building, 160 North LaSalle Street, Room N502, Chicago, Illinois, on the 30th day of August, A.D., 2004, scheduled to commence at 9:30 a.m., commencing at 9:43 a.m.

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

ILLINOIS POLLUTION CONTROL BOARD,
James R. Thompson Center
100 West Randolph Street
Suite 11-500
Chicago, Illinois 60601
(312) 814-3956
BY: MR. JOHN KNITTLE, Hearing Officer
MR. ANAND RAO, Board Member
MS. ALISA LIU, P.E., Board Member

-AND-

ILLINOIS POLLUTION CONTROL BOARD,
1021 North Grand Avenue East
P.O. Box 19274
Springfield, Illinois 62794
(217) 524-8500
BY: MR. G. TANNER GIRARD, Ph.D., Board Member

-AND-

ILLINOIS POLLUTION CONTROL BOARD,
2125 South First Street
Champaign, Illinois 61820
(217) 278-3109
BY: MR. THOMAS E. JOHNSON, Board Member

-AND-

ILLINOIS POLLUTION CONTROL BOARD,
James R. Thompson Center
100 West Randolph Street
Suite 11-500
Chicago, Illinois 60601
(312) 814-3932
BY: MR. NICHOLAS J. MELAS, Board Member

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

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY,
1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794
(217) 782-5544
BY: MR. SANJAY SOFAT
MR. TOBY FREVERT
MR. ROBERT MOSHER
MR. PAUL TERRIO

HEARING OFFICER KNITTLE: Hello. My name is John Knittle. I am an attorney assistant with the Illinois Pollution Control Board. I'm serving as hearing officer of this rulemaking proceeding. It is R04-26 in the matter of Interim Phosphorus Effluent Standard, Proposed 35 Ill. Adm. Code 304.123, Sections G through K.

If I'm not speaking up in the back row, feel free to give me a wave and I'll try to do better. And also, we want to ask you to turn off all the cell phones, if you can, appreciate that.

I'm joined at this rulemaking by Tom Johnson, who is the presiding Board member. We also have Board Member Tanner Girard and Board Member Nick Melas with us, as well as members of our technical staff, Anand Rao and Alisa Liu.

I'm going to give you a little background on the proposal and then we'll get started after we handle some preliminaries. I don't know if you've heard, but we're waiting on an Agency witness, who should be

here momentarily. We wanted to get started just to get things moving before he showed up.

In this rulemaking, the Agency asserts it's in the process of developing the State numeric nutrient standards pursuant to its triennial water quality standards review and expects to file a nutrient standards petition with the Board in early 2007.

The Agency is proposing this effluent standard for phosphorus to limit the higher concentrations of phosphorus that may result in detrimental plant levels and algae growth. The agency want the interim effluent standard to apply until the Board adopts a numeric water quality standard for phosphorus.

The proposed phosphorus effluent limit of one milligram per liter as a monthly average would apply to new or expanded discharges from treatment works with a designed average flow over one -- excuse me. Receiving municipal or domestic wastewater or a total phosphorus effluent load of 25

pounds per day or more.

However, if the source can demonstrate that phosphorus is not limiting nutrient in the receiving water or that the alternative phosphorus effluent limits are warranted by the aquatic environment in the receiving water, the one milligram per liter limit would not apply.

Also, in its petition, the agency noted there are currently 10 to 12 NPDES permit holders for new or expanded wastewater treatment facilities that are going to be affected by the phosphorus limit uncertainty therein. The Agency has provided us the names of these permit holders. I'm going to read them right now as provided by the Agency.

Village of Hampshire, Lake in the Hills, Bloomingdale, the City of Plano, Village of Minooka, City of McHenry, the Village of Manhattan, City of Joliet, Stable Creek Basin, Village of Algonquin, Village of Lakemore, City of Peru, Coyne, Frankfort North, Wauconda, and East Dundee.

We've also heard from the City of Pana, the Northshore Sanitary District, and the Illinois Association of Wastewater Agencies.

We've taken steps to have all of these entities added to the notice list. I don't know -- we had people working on trying to notify them prior to this hearing. If not everybody was notified or if not everyone is able to attend, they will be on the notice list for the next hearing. It will be down in Springfield. We'll talk about that later.

The Agency also projected that approximately 20 permits will be impacted by this proposed rulemaking on an annual basis.

This hearing was properly noticed pursuant to the Act and the Board's procedural rules. Also, Section 27(b) of the Act requires the Board to request the Department of Commerce of Economic Opportunity to conduct an economic impact study on certain proposed rules prior to the adoption of those rules.

If the DCEO chooses to conduct the economic impact study, they have 30 to

45 days after the request to produce a study of the economic impact of the proposed rules and the Board must make this study open to the public so they can take a look at it. If they choose not to conduct the study, we have to make their explanation for not conducting the study available to the public at least 20 days prior to the rulemaking hearing in question.

In this rulemaking, we've requested by a letter dated June 15th, 2004, that the DCEO conduct an economic impact study for the above-referenced rulemaking. The Board received a response from DCEO indicating that it will not perform an economic impact study on this rule.

This has been available to the public and the Board's Chicago office since August 2nd of 2004. I also have a copy of it sitting right there (indicating) if anyone wants to take a look at it.

This hearing, then, is also being held to fulfill the requirements of Section 27(b) of the Act. And at this point,

I want to ask if anybody has comments or testimony or questions regarding the decision not to conduct the study?

I see nobody indicating that they have any questions, so that fulfills a portion of the rulemaking here.

As far as today, I want to note that we do have sign-up sheets for the notice and service list over there (indicating), the side of the room. Those on the notice list will receive only Board opinions and orders and the hearing officer orders. Those on the service list will also receive these documents plus other filings, such as public comments. And I also placed the Agency's prefiled testimony there as well. If anybody needs a copy of that, they should go up there and grab one and take a look.

Besides the witness for the parties, if anyone wants to testify today, they would have to sign in on the appropriate sign-up sheet here at the front of the room or just wave your hand at me and identify yourself and I'll make sure you have a chance

to testify.

Please note that a written public comment period will be set. If anyone doesn't want to testify today, they can always provide public comments at a later point in time.

Part 102 of the Board's procedural rules govern this hearing. All information that is not relevant and not repetitious or privileged will be admitted. All witnesses will be sworn and subject to cross-questioning.

After all testimony is complete, we will allow the parties to provide any closing statements that they wish to make. It probably will not happen in this case as we have a second hearing that we're going to schedule for Springfield at a later point in time. But they will have that opportunity, if they so desire.

Again, anyone can ask a question. Just raise your hand and let me know. We ask that you speak one at a time. And if you speak over each other, the court reporter is

not going to be able to get what you're saying, so we want to do it that way.

Also, please note that questions asked by anyone with the Board are intended to help build a complete record for this Board's decision and not to express any preconceived notion or bias.

After all that is said, I want to introduce Board Member Johnson and see if he has any remarks he'd like to make at this time.

BOARD MEMBER JOHNSON: Thank you.

John's preliminary explanation, and I'm not sure there's any need to conduct this hearing, but as long as they're all here, we'll go ahead.

I want to welcome everyone and thank you for coming to this first hearing on Interim Phosphorus Effluent Standards and assure you that we take this and all the rules very seriously. We'll give this proceeding, this rulemaking, all the careful consideration it deserves and issue an order in a timely fashion. Thanks.

HEARING OFFICER KNITTLE: Thank you, Member Johnson.

I want to introduce the parties and have the attorneys introduce themselves starting with Mr. Sofat.

MR. SOFAT: I'm Sanjay Sofat. I'm an attorney with the Illinois EPA. And to my left is Toby Frevert. He's the manager of the division of the water pollution. And to my right is Paul Terrio, who is a hydrologist with the U.S. Geological Survey. And we are waiting on one person, Bob Mosher, who is the manager of the water quality standards here at the IEPA.

HEARING OFFICER KNITTLE: We have a couple of attorneys who have been involved with the proceedings to this point, Mr. Harsh?

MR. HARSH: I'm Roy Harsh with the law firm of Gartner, Carton & Douglas on behalf pf the Illinois Association of Wastewater Agencies.

HEARING OFFICER KNITTLE: And Mr. Ettinger?

MR. ETTINGER: I'm Albert Ettinger, Environmental Law and Policy Center on behalf of the Environmental Law and Policy Center here at Club and Prairie Rivers Network.

HEARING OFFICER KNITTLE: Thank you, sir. Mr. Sofat, if you want to make your opening statement and introduce any witnesses you have?

MR. SOFAT: Can we go off the record for a moment?

HEARING OFFICER KNITTLE: Sure.

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

HEARING OFFICER KNITTLE: We're back on the record.

Mr. Sofat, you can make an opening statement or present any witnesses.

MR. SOFAT: Good morning. I'm Sanjay Sofat. I'm an assistant counsel with the Illinois Environmental Protection Agency. With me today are three agency witnesses.

To my left is Toby Frevert, who is the manager of the division of water pollution within the bureau of water of the

Illinois Environmental Protection Agency. Mr. Frevert is here to respond to the policy and later questioning.

To my immediate right is Paul Terrio, who is a hydrologist with the U.S. Geological Survey and has served as a water quality specialist for the Illinois district of U.S. Geological Survey. Mr. Terrio will testify regarding the rationale behind the proposed phosphorus effluent standard.

To Mr. Terrio's right is Bob Mosher, who is the manager of the water quality standards unit within the division of water pollution at the Illinois Environmental Protection Agency. Mr. Mosher will testify regarding the Agency's interpretation of the proposed language for the phosphorus effluent standard.

We are here today to testify in support of our proposal that amends Part 304 of the Board regulations. The basic intent of the proposal is to propose an effluent standard for phosphorus until a numeric water quality standard is adopted by the Board.

The Agency believes that this interim standard for phosphorus would allow the Agency to effectively address the Board regulations regarding the offensive conditions at 35 Ill. Adm. Code 302.203.

This proposal is consistent with Title VII requirements of the Illinois Environmental Protection Act. We think this is a good proposal and one that deserves to be adopted without substantial changes.

With that, I think we are ready to present our proposal. And I think we are ready to swear in the witnesses.

(Witnesses sworn.)

HEARING OFFICER KNITTLE: We swore in the three witnesses. They're all agency witnesses Mr. Sanjay identified earlier.

MR. SOFAT: I think at this time we'll start with Paul Terrio. Mr. Terrio, I'm going to hand you this document. Please look it over for a few moments.

(Document tendered to Mr. Terrio.)

MR. SOFAT: Mr. Terrio, do you

recognize this document that I have handed to you?

MR. TERRIO: Yes, I do.

MR. SOFAT: Would you please tell us what this document is?

MR. TERRIO: This is the testimony that I have filed for today.

MR. SOFAT: Is that a true and accurate copy of your testimony that was filed before the Board?

MR. TERRIO: Yes.

MR. SOFAT: Would you please present your testimony to the Board.

MR. TERRIO: Again, my name is Paul Terrio. I'm a hydrologist at the U.S. Geological Survey in Urbana, Illinois. I've worked with the USGS for just over 20 years. The majority of that time has been here in Illinois.

For the past 12 years, I've served as the water quality specialist for the Illinois district of the USGS. I hold a degree in hydrology from the University of Arizona.

My testimony today will consist of brief statements regarding the rationale for the proposed interim phosphorus standards, including the role of phosphorus in the aquatic environment, the reasoning behind proposing for total phosphorus, and the basis for the proposed effluent standard of one milligram per liter.

Nitrogen and phosphorus are the primary nutrients required for virtually all plant life on Earth, both terrestrial and aquatic, references Hem 1982, American Public Health Association 1998, Terrio 1995.

These nutrients are each available to water bodies naturally, as well as through anthropogenic inputs to watersheds such as commercial fertilizer and wastewater effluent. Other elements, such as carbon and potassium, are also required for biological organisms, but are generally present in natural waters in amounts sufficient to support biological growth and are seldom limiting nutrients.

A limiting nutrients is a nutrient

present in shortest supply and that which will be exhausted first, limiting further potential growth. The reference there, O'Shaughnessy and McDonnell, 1973.

Nitrogen is also typically present in concentrations sufficient to support algal and plant growth, but might be the limiting nutrient in some locations or at some times, such as during low-flow periods when the supply of soluble nitrogen is exhausted from the water column. The reference is American Public Health Association 1998, Dodds and Welch 2000, Francoeur et al. 1999.

Because of its soluble nature and plentiful sources, nitrogen concentrations in Illinois water bodies are virtually sufficient for aquatic plant growth. The reference is Terrio 1995.

Concurrent non-limiting levels of nitrogen and phosphorus can result in excessive and problematic plant and algal growth, a condition known as eutrophication. In most fresh water environments, phosphorus is considered to be the limiting nutrient or

the nutrient in shortest supply. And references being American Public Health Association, Hem 1982, and U.S. Geological Survey 1999.

Because the available supply of phosphorus in water bodies is typically less than that of nitrogen, further reductions in the sources of phosphorus might prevent the occurrence of problematic or eutrophic conditions in water bodies receiving wastewater treatment effluents.

The presence and behavior of phosphorus in the aquatic environment is complex. Reference, Hem 1985, U.S. Geological Survey 1999. Phosphorus can be present in organic and inorganic form, in plant and animal matter, absorbed to particulate material, sequestered in benthic sediments, or in the water column in particulate and dissolved form.

Phosphorus is transformed and cycled between organically bound forms and oxidized inorganic forms and occurs in natural waters and wastewater primarily as

phosphate. References American Public Health Association 1998 and Hem 1982.

Orthophosphate, often referred to as soluble reactive phosphorus, is the form most readily available for incorporation by organic life forms. However, because of the continual cycling of phosphorus and the presence of organic, inorganic, soluble, and absorbed phosphorus forms in water bodies, the orthophosphate form alone does not provide an accurate and complete assessment of phosphorus in an aquatic environment.

Total phosphorus analysis provides a more comprehensive quantification because it incorporates phosphorus present undissolved, particulate and biological forms.

Several investigations regarding the practicality, feasibility, and economics of treating municipal wastewater to low levels of phosphorus have been or are being conducted, including studies by the Illinois Association of Wastewater Agencies (IAWA) and the Water Environment Research Foundation. A

report commissioned by the IAWA titled "Techinical Feasibility and Cost to Meet Nutrient Standards in the State of Illinois" states that most existing treatment facilities in Illinois could be retrofitted or augmented with biological or biological and chemical processes to achieve monthly average effluent total phosphorus concentrations of 0.5 milligrams per liter on a reliable and consistent basis.

Most existing wastewater treatment facilities would need additional tankage to incorporate anaerobic and anoxic systems into the treatment process to increase phosphorus removal.

Many Midwestern states (Indiana, Wisconsin, Michigan, Kentucky, Ohio) have some form of a 1.0 milligram per liter total phosphorus effluent standard in place, while other states, preferably, Minnesota, have pending revisions to incorporate such a standard. Reference USEPA website, http:/www.epa.gov/waterscience/wqs.

The costs of achieving an average

of 1.0 milligrams per liter total phosphorus in affected sewage treatment plant effluents may be estimated from recent examples.

Two principal methods for phosphorus removal, biological removal and chemical precipitation are available. While biological phosphorus removal may be a superior method in terms of lower final effluent concentrations and minimal operations and maintenance costs, this method would probably entail higher capital costs, would not be compatible with all existing plant configurations and will not be necessary to meet the proposed effluent standard.

Biological phosphorus removal may become the method of choice for new or extensively updated plants looking to future nutrient removal requirements beyond the proposed effluent standard. These facilities would be designed with additional tankage and related needs. Many existing plants would have to add tankage to achieve biological phosphorus removal, thus accounting for the

higher cost.

An estimate of costs of this method of phosphorus removal combined with nitrogen removal is available, reference Zenz, 2003, but this estimate is not specifically relevant to the instant proposed phosphorus effluent standard.

The chemical precipitation method will therefore usually be chosen for expanded treatment plants. The capital improvements for chemical precipitation equipment at recently designed treatment plants in the 1 to 5 million gallon per day design average flow range would cost $50,000 to $60,000 if an existing building is available for chemical storage tank and equipment housing, and $200,000 to $300,000 if a new building must be added.

Additional wastewater treatment tankage is usually not required to install this equipment, which consists of chemical storage tank for the precipitation chemical, secondary tank containment and a chemical feed pump.

Yearly chemical costs will vary based on plant flow and phosphorus concentration in the pre-phosphorus removal final effluent. For an existing 5.9 million gallon per day plant required to meet the 1.0 milligram per liter effluent standard, with average operating flows at the design capacity and using ferric chloride as the precipitation chemical, the chemical cost is approximately $50,000 per year.

Approximately 15 to 30 percent more sludge by weight is generated when chemical precipitation phosphorus removal is applied. The increased amount and physical characteristics of the sludge following phosphorus removal may require an upgrade of sludge handling facilities as well as slightly increased sludge handling operations and maintenance costs.

MR. SOFAT: Thank you.

Mr. Mosher, I'm going to hand you this document. Please look at it for a few moments.

(Document tendered to Mr. Mosher.)

MR. SOFAT: Mr. Mosher, do you recognize this document that I have handed to you?

MR. MOSHER: Yes, I do.

MR. SOFAT: Would you please tell us what this document is?

MR. MOSHER: The testimony I prepared for this hearing.

MR. SOFAT: Is it a true and accurate copy of your testimony that was filed before the Board?

MR. MOSHER: I believe it is.

MR. SOFAT: Would you please present your testimony to the Board?

MR. MOSHER: My name is Robert Mosher and I have been employed by Illinois EPA for almost 19 years. I have been assigned to the Water Quality Standards Unit for 18 of those years and have participated in the development and adoption of numerous water quality and effluent standards.

Prior to my employment by the

Agency, I worked for Montano Company in the development of laboratory toxicity tests using aquatic organisms and the determination of aquatic toxicity values for individual chemicals and industrial wastewater effluents.

I hold a Master of Science degree in zoology from Eastern Illinois University where I specialized in the effects of wastewater discharges on stream ecology.

My testimony today will describe the proposed changes to the phosphorus effluent standard. Underlying principles behind the rule brought forth in Subsection (g) are that certain wastewater discharges are significant sources of phosphorus and that facilities that are new or undergoing expansion are opportune venues for building in phosphorus removal capabilities.

Costs for the addition of phosphorus removal equipment will be most reasonable when they can be designed into the original construction. Therefore, only new or expanding municipal wastewater treatment

facilities with a design average flow of one million gallons per day are subject to the proposed phosphorus effluent limit of 1.0 milligrams per liter total phosphorus on a monthly average basis.

Likewise, other types of new or expanded wastewater treatment facilities are subject to a limit if they would discharge phosphorus at the same pound loading as a one million gallon per day municipal sewage treatment plant. The value of 25 pounds per day was determined from the pound loading of a typical municipal wastewater effluent that contains, with no special phosphorus removal equipment in place, on average about 3.0 milligrams per liter total phosphorus. Both the size of facilities covered and the concentration of phosphorus to be met in subject effluents have precedent in the existing phosphorus effluent standard.

Subsection (h) recognizes the fact that sometimes the generally prescribed phosphorus effluent limit will be either unnecessarily stringent or not protective

enough depending on the nature of the receiving water body. Phosphorus is generally believed to be the nutrient in shorter supply in freshwater ecosystems, that is, the limiting nutrient factor, and, therefore, its concentration may often limit plant growth. If it can be demonstrated that a water body receiving an effluent has algae or noxious aquatic plant growth that is not limited by phosphorus but rather another nutrient or water quality factor, then no phosphorus effluent limit must be imposed.

On the other hand, if it is demonstrated that one milligram per liter total phosphorus will be inadequate to control noxious plant growth in the receiving water and further phosphorus control below a monthly average of 1.0 milligram per liter is feasible at a facility, the Agency may impose a lower phosphorus limit to protect that water body.

Subsection (i) is intended to clarify which wastewater treatment facilities are not subject to the phosphorus effluent

limitation.

Subsection (j) stipulates that compliance with the effluent phosphorus standard fulfills the obligation of the discharger to meet water quality standards, specifically, the narrative standard prohibiting offensive conditions that includes a statement on unnatural plant or algal growth.

Subsection (k) recognizes that the phosphorus effluent standard will likely someday be supplemented by water quality standards for phosphorus that may dictate the removal of these proposed effluent limits or other effluent phosphorus limits or water quality based effluent limits. At such time, the phosphorus standard will probably be reworked to compliment the new water quality standards.

MR. SOFAT: Thank you, Mr. Mosher. That concludes the Agency's presentation.

HEARING OFFICER KNITTLE: Mr. Sofat, do you want to offer those into evidence, especially because of the references

contained?

MR. SOFAT: Sure.

HEARING OFFICER KNITTLE: Terrio will be Number 1.

(Documents marked as Terrio Exhibit No. 1 and Mosher Exhibit Number No. 2 for identification, 8/30/04.)

HEARING OFFICER KNITTLE: Any objections to that?

Those will be admitted.

(Whereupon, Terrio Exhibit No. 1 and Mosher Exhibit No. 2 were received in evidence by Hearing Officer Knittle.)

HEARING OFFICER KNITTLE: Mr. Sofat, you say you have no further testimony to present?

MR. SOFAT: Yes, that concludes the Agency's presentation. And we are ready for any questions.

HEARING OFFICER KNITTLE: Does anybody have any questions for these witnesses?

We can start with Board questions,

if you like? Mr. Harsh, would you like to start?

MR. HARSH: Defer to the Board.

HEARING OFFICER KNITTLE: I think we prefer that you ask questions now. The technical unit is still pondering.

MR. HARSH: I think we all are still pondering.

I'd like to note for the record that we received this testimony last week late, have really not had a chance to sit down and discuss it at any great length. It's very brief, surprisingly brief, and we probably will have additional questions for these witnesses and the Agency at the next hearing. You mentioned that we have to schedule a hearing in Springfield?

HEARING OFFICER KNITTLE: Correct.

MR. HARSH: Will the three Agency witnesses be available at the next hearing?

MR. SOFAT: Yes.

MR. HARSH: With that, we'll try to begin.

MR. JOHNSON: I got one quick

question.

MR. HARSH: Sure.

MR. JOHNSON: And just for Mr. Mosher, the testimony indicating that if it can be demonstrated that this is not a limiting factor, that it's another nutrient and water quality factor, then the phosphorus effluent limit -- no phosphorus effluent limit will be imposed, how do you anticipate doing that, by way of an adjusted standard or -- what procedure have you contemplated making that demonstration?

BY MR. MOSHER:

A. Well, there is a scientific procedure that would demonstrate that phosphorus is or isn't a limiting nutrient, and that test has been around for a long time. It's a USEPA method that came out in the 1970s. And once the Agency saw the results of that kind of a test, we feel that this rule would allow us to make that decision just as an NPDES permit decision.

MR. FREVERT: I can even supplement that, if you don't mind.

BY MR. FREVERT:

A. I think it's important to have that provision as an escape valve to deal with a situation to where we truly understand the science and what's going on in that particular stream, what role that particular source played in that regard, whether it demonstrates that it's a significant source or insignificant source.

In actual practice, I don't anticipate there being many opportunities for that to take place, and indeed, if we had a wholesale way of doing that, we wouldn't be here today. It's more of an escape valve. But if somebody has the data that can demonstrate it definitively, then we need to make a different decision for that action, and we can extend that decision.

BY MR. JOHNSON:

Q. Well, that was my question. Is the demonstration going to be made to you during the permitting process, and the answer to that is yes.

BY MR. FREVERT:

A. We're the ones that have to defend that. If we're convinced that that's sound science and we can defend it, whatever the decision is,

we'll deviate from this generic approach.

MR. THOMPSON: Thank you.

BY MR. GIRARD:

Q. Can I just clarify though? But still it would be the applicants who would bring forward the information and make the demonstration to you?

BY MR. FREVERT:

A. Somebody has to persuade us.

Q. Right. You will not --

A. In most cases, motivation to persuade us to do something different is going to be the applicant that demonstrates that the phosphorus is not a parameter that shouldn't have money for additional approval to the extent that there's a special study suggesting that even more extreme control will be over one milligram per liter technology, and that may come from other sources.

But ultimately, when we draft public notice to permit, we then get technical information from both permit applicants and members of the public. So in this circumstance, I would see a case where if somebody truly understands the stream and understands the effect of the discharge on the stream wall enough to demonstrate either

something more is needed or something less is warranted, it can go either way. And that provision in the standard is intended to allow us to go either way when we feel that the science and knowledge of that particular restraint warrant something different. By practice, I don't see that happening very often.

Q. But primarily, in either case, it would be the responsibility of an outside group, either the applicant or some group challenging the NPDES permit, to bring that information before the Agency?

A. I think probably that's the case.

Q. So the Agency would not be making that determination on its own on every NPDES permit?

A. I would assume not, but as stated, to make that kind of a decision lapse, we would react to it.

MR. GIRARD: Thank you.

BY MR. RAO:

Q. Just as a follow-up, the language that you have proposed states that treatment works qualifying under Subsection G1 and G2 may demonstrate. So if some other group wants to bring

information to the Agency, does the language in any way limit them from doing so.

BY MR. FREVERT:

A. Again, my understanding of the real world and how we operate is we take an application and we take this information and we make our best judgment as to what that opinion should look like and the applicability of these provisions. That goes out to public notice. In that time, any citizen in the state can come in and say, well, here's some information to suggest your decision is incorrect.

So I would assume in most cases a permit applicant is going to be the party who utilized this provision. The provision is there for any citizen of the state that wants to tell us to consider another approach.

BY MS. LIU:

Q. Mr. Mosher, could you cite the USEPA measure that you were talking about or making that demonstration?

BY MR. MOSHER:

A. We can give you an exact citation later, but it's called the selinastrum kepercranutum

(phonetic) bottle test. It's been around a long time and has been used for several different things. One of which is toxicity testing of algae, and the other is a procedure to decide the limiting nutrient in a given water sample.

BY MR. RAO:

Q. Will the Agency be opposed to having the citation, you know, that uses the amended reference in the rules so that if any questions come up from the JCAR (phonetic) or somebody saying how to demonstrate is going to be made, would you reference with a citation?

BY MR. MOSHER:

A. Our thinking is that there might be more than one valid method to do that. That citation would be one way, but there could be others, so if we reference that in the rule, that might limit unnecessarily.

HEARING OFFICER KNITTLE: That might be something for you guys to think about and get back to us on.

MR. SOFAT: Will do.

HEARING OFFICER KNITTLE: Anything further?

MR. GIRARD: I do have a question.

BY MR. GIRARD:

Q. Let me go ahead and ask mine because I'm curious, and I don't see the information here on this, but you made reference to the fact that phosphorus compounds are used to treat drinking water, and what are the ranges of concentration in phosphorus, you know, total phosphorus principles that we see in drinking water systems throughout the state now, can we just have some ballpark figures?

BY MR. MOSHER:

A. I hesitate to go off the top of my head on that, but we do have some data that was provided to us by Dennis Stryker not too long ago. And Dennis is a member of IAWA, and he runs the Elmhurst Sanitary District, City of Elmhurst, and that was really interesting data, and we could just provide that to you as an exhibit.

Does that sound okay, Sanjay?

MR. SOFAT: Yes.

MR. GIRARD: Thank you. That's all.

HEARING OFFICER KNITTLE: Mr. Harsh?

MR. HARSH: We'll start with Mr. Terrio, but if there's other -- if Mr. Mosher

or Frevert are better equipped to answer the questions, that's fine with me.

BY MR. HARSH:

Q. This is intended to be an interim standard, is it not, Mr. Terrio?

A. That's correct.

Q. With a final water quality standard to be proposed at some point in time in response to USEPA's draft criteria document; is that correct?

A. That's right. I'm working with the Illinois EPA on trying to determine what those final nutrient standards and certain water, what those numbers should -- what standard is applicable.

Q. What is the applicable draft water quality criteria number that would be applicable to the State of Illinois that the USEPA has come up with?

A. The phosphorus standard in surface waters, is that what you're asking?

Q. Yes.

A. The USEPA's criteria divides the nation into different eco regions. There are three eco regions -- the State of Illinois has portions of three eco regions so that those numbers vary

depending what eco region you're in.

For total phosphorus, the three eco regions are eco regions 6, 7 and 9. Eco region 6, the USEPA's criteria is .076 milligrams per liter for total phosphorus, for ego region 7 it's .033, and for eco region 9, it's .037.

Q. Can you describe those regions generally?

A. If I get them straight.

I believe eco region 6 is the southern part of the state. The --

BY MR. MOSHER:

A. That's the corn belt eco region, northern two-thirds of the state. I guess I can testify.

To the best of my knowledge, region 6, eco region 6, is the northern two-thirds of Illinois, eco region 9 is the southern part, and eco region 7 is just a very small part -- very little identifying -- very northern, northwest.

BY MR. HARSH:

Q. You testified that you're working on that. Can you describe -- I withdraw that question.

Did the State of Illinois request

additional time from USEPA to develop and finalize water quality standards in response to this USEPA draft criteria?

BY MR. MOSHER:

A. In a way, we did.

States all across the country made that request, and then the EPA changed its policy to allow each state to come forth with a plan for nutrient standards adoption. And each state could name a time frame that they thought they would need, and so the end result was that instead of having to meet a federal deadline of 2004, Illinois said in our plan that we would meet the deadline in 2008.

Q. And was that approved by USEPA?

A. Yes, it was.

Q. Is Illinois one of the first states, in fact, to make such a submittal?

A. I believe our nutrient standards adoption plan was one of the first approved by the USEPA across the nation, yes.

Q. And Mr. Terrio or Mr. Mosher, can you describe what Illinois EPA has done to date in general terms in carrying out this program?

BY MR. TERRIO:

A. Well, I think there are a variety of activities that we're undergoing. Through a cooperative agreement with the Illinois EPA, I am now working on this issue almost full time. I'm down at the Illinois EPA office a couple days a week. We're trying to analyze existing data that's available for either Illinois EPA or other data sources.

There are four Council on Food and Agricultural Research projects that have been funded to look, specifically, phosphorus in the aquatic environment, phosphorus cycling, its sources, transformation and the role that it plays in aquatic environments. Those four projects are ongoing. We won't get the results of those until shortly before we hope to have our standard developed. But the results of those are going to be very important.

We've organized an Illinois Nutrient Work Group, which is a large work group comprised of government agencies, environmental advocacy groups, acedamia. We're looking at kind of the big picture of nutrient standards in the state and out of that we'd form a nutrient science

committee, which is a smaller subcommittee where we're trying to look at the cause and effect relationships of nutrients, algae growth, dissolved oxygen in the environment. That's a smaller group -- or it started as a smaller group but it's expanding as we go because of the interest. We hold approximately quarterly meetings of the group.

We're participating in the USEPA region 5 regional technical advisory group for nutient standard development. They hold a couple meetings a year, as well as conference calls approximately on an monthly basis.

The Illinois EPA and USDS cooperated on a study to implement some continuous monitoring of dissolved oxygen, chlorophylls, humidity, pH, temperature of eight sites throughout the state from 2001 to 2003 that provided valuable information on the diurnal changes and fluctuations, as well as seasonal and year round concentrations. Monitoring like that had not been down to that extent in the state.

Prior to that, we tried to select sites that would give us a wide variety of stream types; land use conditions as far as, also, quality

of waters.

The Illinois EPA is doing some additional diurnal monitoring of oxygen, 72-hour studies, about 15 to 18 sites this summer so that we can try to get a better handle on diurnal variations during the warm, summer months which are often considered to be a critical period for their aquatic streams as far as dissolved oxygen levels go.

And we're also undergoing a couple studies in a couple treatment plants where phosphorus removal is going to be implemented trying to do some before and after studies to see what effects of that removal may be in the stream itself.

Q. Part of that effort looks at the existing water quality data for total and dissolved and biological phosphorus that existed across the state?

A. That data is available at the data sets that will be analyzed, that's correct.

Q. There's reference in both your testimonies to phosphorus being the limiting nutrient.

In general, what is the level of which phosphorus becomes limiting?

A. I don't think we can give a number. Various numbers have been mentioned in the literature. It varies too much with the different -- the geographical location, the type of water body, the habitat that's present. I don't think that's -- we're working on trying to develop that. That's what we're trying to come up with for water bodies in Illinois. That's what our target is for our standards we're equality trying to develop.

Q. So presently, IEPA cannot state what the limiting phosphorus value is for eco region 6, eco region 7 or eco region 9?

BY MR. MOSHER:

A. No, we're not there yet. We can't say that.

BY MR. HARSH:

Q. Have you reviewed, Mr. Mosher, the data that's being collected and publically available by the Fox River study group on water quality in Fox River?

A. I personally have not.

Q. Have you, Mr. Terrio?

BY MR. TERRIO:

A. No, I haven't.

BY MR. HARSH:

Q. Would it surprise you, Mr. Mosher, if that data showed total phosphorus values at the uppermost sample location, which is just at the -- Chain of Lakes as the values were always greater than 0.706?

A. That wouldn't surprise me.

Q. Would you expect to see similar levels in other streams?

A. Yes. You know, we do have extensive monitoring networks across the state, and, you know, I have seen that data, and, yes, often you see phosphorus values higher than the national criteria.

Q. Is that data summarized anywhere?

A. Well, that data is in a data storage network call Storette (phoentic). We periodically come out with reports and so on, and it's public data. You can get it through contact with the Agency, if nothing else.

Q. If I understand it correctly, the interim proposal is designed to prevent nuisance algae growth problems; is that correct?

A. Well, that's the basis anytime you regulate phosphorus or have a water quality standard

for phosphorus. Algae growth is the underlying bad thing that happens in the environment.

Q. Has the Agency determined the locations in Illinois where such levels of algae growth currently exist in rise to a nuisance?

A. Well, we have assessment programs at the Agency and often our biologists will make note of that condition of unnatural algae growth. I don't believe there's any central list of those waters. You'd have to go to different documents that pertain to water quality assessment, such as the 305(b) report, to find those incidences.

Q. So the Agency is not submitting in this record any evidence regarding where those conditions exist?

A. No, we haven't provided any of that water quality data, and we note that what we're proposing is an effluent standard and not a water quality standard at this time.

Q. An effluent limitation is designed to prevent that kind of problem from arising, is it not?

A. That's correct.

Q. Do you have a list of waters where you

expect this type of problem to occur in the future should the standard not be adopted by the Board?

A. No, we don't.

Q. How will the Agency determine that there is excessive algal growth?

MR. FREVERT: Maybe I can help by supplementing your answer to some of these questions.

BY MR. FREVERT:

A. And I want to start by making it clear that we are proposing the technology-based effluent standard because we don't have the wherewithal now to analyze a very specific water quality basis of the nutrient limitation or practically any discharge in the State of Illinois.

We know in the State of Illinois, as we do in most of the country, that nutrients are aquatic R and D elevated in places where we have measurable deterioration of other water in aquatic communities.

We have an obligation under existing NPDES regulations to establish permit discharge limitations sufficient to make sure water quality standards are nonexisting. And in this

case, the real crux of the problem is our standards addressing unification in regarding narrative standards. The science is not there either at the state level or the national level. So we're constantly encountering situations where there's a stream that may have an existing detrimental impact on the aquatic community based on -- while the stream may be in pristine shape, on the threshold it could possibly spill over into impact of the stream with the addition of a larger nutrient discharge that currently exists.

In that regard, it's very perplexing to make a permitting decision if you know the nutrients are a significant environmental factor, you don't know the end point. And you can't derive the water quality based standard. But you know there is readily available and reasonably affordable technology to limit the existence of nutrient discharge. That's the primary driving rationale. That's how it evolves behind this proposal.

If we could carry it everywhere in the State of Illinois where there was a nutrient problem and exactly what we had to solve that

nutrient problem or address it, we wouldn't be here with an interim standard. We're here with an interim standard because we cannot answer those questions. And those questions are the burden we fact every time we make a permitting decision.

We trying to establish an interim or incremental step that says in those places, there's going to be a significant loading increase or a large facility where technology is readily available. We're saying the potential to aggravate an existing problem or the potential to create a nutrient-based aquatic community. Based on that new loading is significant enough to warrant that relatively -- expenditures currently available --

We had no intent of saying we can definitively say this is an exact answer to everything. But it's a prudent policy decision on our part which lead to new and expanding facilities. They have the economics of being able to incorporate the additional treatment in the design of their expansion. We're specifically saying we're not ready to require that expenditure of money on people that have existing infrastructures adequate and --

There are a few places that are

increasing when we knew nutrients are a significant problem. We know there's a major international spotlighted focus on nutrients. And nutrient reduction is, I believe, being implemented throughout the Midwest.

It is prudent and responsive, which would make this kind of a proposed -- gives us latitude in making the permitting program work rather than intentionally being in the state where we ask the next question and we can't answer it.

I cannot tell you in any particular discharge that I have a numeric end point to phosphorus target in the stream. And I can't tell you exactly what that translates into. But I can tell you that it is prudent in the limited standard facility whether it's prudent technology and reasonably affordable. We should be doing that consistent with the basis of environmental perspective.

In that regard, I appreciate what Roy is asking, and we're studying it as diligently as we can in understanding and quantifying exactly what's necessary in every place.

In those places where there aren't

critical decisions being made, our proposal is to maintain the status quo. Don't make people spend money. You don't know if it's going to be a significant change or you don't know what it will do. In those places where there's significant interest, a new load, let's do what we can to manage that load.

In that regard, again, we're diligently trying to get to the point we can make a more definitive affirmative answer. Today we feel it's a serious interim policy where everybody -- what people's expectations are to a --

Q. I appreciate the policy response to the question, but the -- and the quandary of the Agency is for additional permits, and IAWA members appreciate that as well, but we're here in a rulemaking where there are certain burdens that have to be met, so I'm going to continue with the list of questions.

Mr. Mosher, you testified that the Agency could impose more stringent interim limitations under this rule; is that correct?

A. Yes.

Q. How would the Agency make a

determination that a more stringent interim effluent limitation is required?

A. Well, I think we would use our existing anti-degradation standard to look at the receiving water body or one of these cases where there's a new or expanded loading increase and if that receiving water appears to be extremely sensitive, potentially extremely sensitive to phosphorus, and the facility were such that they were a new facility or a significantly redesigned facility where they could build in easily more phosphorus controls, such as the biological phosphorus removal method, in those cases then we would ask for that and possibly get a limit down to 0.5 milligrams per year.

BY MR. HARSH:

Q. So I take it then that you expect all new and expanded plants to make that showing as part of their anti-degradation?

A. They have to now. That's part of the existing standard.

Q. So to that extent, this proposal doesn't add anything over the current available regulatory tool that the Agency has?

A. Well, the proposal in numeric terms, in certain terms, does provide a guideline and -- not a guideline, but a standard, and Toby said a little while ago that we didn't anticipate there would be too many instances where we would have to deviate from the 1.0 effluent standard that we're proposing. But if there is a special case, we have existing standards that can guide us.

MR. RAO: May I ask a follow-up question?

BY MR. RAO:

Q. With regard to the anti-degradation evaluation, if there's an existing plan which is not expanding but it's going through a permit renewal or an anti-degradation analysis for some other reason and there is a problem in the receiving screen for phosphorus, could the Agency then ask the existing plan to address phosphorus?

MR. FREVERT: I'd be happy to answer.

BY MR. FREVERT:

A. If there's an existing water quality problem that is turning the nutrient factor into a safety factor, then we're obligated to look at it irrespective of that opinion.

Our first chore is to protect the stream and the eco system. Anti-degradation in the federal model is sort of an older but a traditional model over and above what's necessary -- your example suggests a restraining of that problem.

Anti-degradation comes in where strength does not have a problem. It is better than what's necessary to support all the -- the concept here is you don't want to allow your various streams to deteriorate down to the point they just barely support. And in that regard, that's a blind new low. Prior to them re-permitting an existing low, we already authorized that, unless there's reason to believe that load is causing a problem, essentially, they should be entitled to retain that. Anti-degradation plans were going beyond -- then you're trying to speculate if this is not going to deteriorate the condition of that system down to either below or near the minimum necessary projectives.

Q. That brings me to Subsection (j) where the appropriate language that cites compliance with Section 304.123 meets applicable requirements of Section 304.105 and 302.203. So any existing

treatment plant which is exempt from the proposed sections, can they assume there is compliance with 304.105 and --

A. I'll try to tell you in very common lay terms. It's our understanding to mean -- to interpret the narrative standard in an individual burden or responsibility under that narrative standard in a rational way during the interim period until the signs developed so we can have a more accurate, prudent standard. We're basically saying to you no expanding issue, one that is currently available for technology, and that seems to me to be the reasonable level of occurred toward complying with that narrative standard.

If you've got an existing facility that's functioning perfectly well and you don't have any major capital improvements new construction necessary, I don't want to have to speculate, but somewhere in that narrative standard is going to be some additional burdens incorporated this time. I think that's just a little premature.

Three or four years from now when not only what we're doing but -- virtually every other state in the union is doing to understand the

science a little bit better and we can quantify because, in fact, relationships are better now, I want to go back and re-interpret was an interim proposal reasonable or not. And I'm comfortable. I think I have a responsibility to apply that interim requirement. Some level of phosphorus reduction to meet that narrative standard for new and expanding sources. For existing sources, I think it's premature to speculate and make them spend a significant amount of money to put into something that I think would be inadequate or overkill.

So the fundamental concepts of this, I mean, probably, in my mind, maybe that's one of the more important paragraphs of the entire proposal in saying, under law, we cannot issue a permit which violates -- that we think will result in violations that aren't warranted. Our water quality standard here is the narrative standard that hasn't been given much quantification. We're, unfortunately, trying to speculate.

Maybe in some areas we can speculate on a narrative standard where we understand the science. In the case of nutrient, we don't understand the science well enough, our peers

in our neighboring states don't understand the science well enough. Federal people who are supposed to give us leadership don't under the science well enough to give us any more than -- so we're operating a little bizarre.

And we're saying, based on that, this is what we think makes sense to proceed now. The new sources are going to get to apply the technology. Existing sources are being given some assurance. We're not going to make them do anything. Keep your powder dry until we understand what, if any, needs you're going to have.

Q. Now, just for purposes of clarification, is it okay with the Agency if that particular language is limited to phosphorus at the start? Right now, is there something in compliance with 304.105?

A. Well, you say now is one of them to any -- yes, that's the intent that -- we thought it was covered in that this was a phosphorus sub unit it was incorporated in, but no problem making that a clear indication. That's an issue that ultimately will be evaluated to make sure we get the right line and the tweaking necessary. We would advise you

later. But I'm comfortable with it. I don't want anybody to misunderstand what I'm saying.

Q. Your explanation helps.

A. We're here because you don't understand the science. It's an unusual ruling. The interim effluent standard proposal in lieu of the water quality standards we will propose so you understand the science.

Q. And we are just trying to understand what you don't understand.

BY MR. JOHNSON:

Q. Well, it seems to me, Toby, like there's a real potential here for whatever you do when you're not working on solid science, then there's a potential that what you're requiring here is you're requiring the permittees to install more than they need to, and then there's also the potential that you're requiring them to install less than what they're ultimately going to need. And that might be more problematic for the treatment plants. If they go and they spend the money now and then when the science is available 18 months from now they find out that they've installed equipment that is not going to be able to get them up to what

the permanent -- not the interim, but the permanent standards are going to be. I'm sure you guys have contemplated that.

A. And that's the primary emphasis why our proposal is restricted to those people that are in the immediate expansion development stage, they're putting in new systems. There's a certain cost savings, economics incorporated into their designs. To the extent that it's determined later on they are necessary, I don't believe there's been any --

And probably the bulk of the municipal and industrial facilities in the state can have measurable phosphorus under this proposal are not being asked to do anything at this point in time other than follow the science and understand the requirements in the future.

HEARING OFFICER KNITTLE: Mr. Harsh, do you have any conclusion?

MR. HARSH: I'd like to follow up on that line of questions.

BY MR. HARSH:

Q. Is it the Agency's intent then that Subsection (j) means that a new and expanding plant

greater than a million gallons, POTW (phonetic) or industrial plant more than 25 pounds prior to putting in phosphorus control that that plant would also receive protection from 302.203 and be deemed to be in compliance?

BY MR. FREVERT:

A. That is my intention.

Q. For those plants that are not undergoing expansion, the existing facility, it's the Agency's intent for the adoption of this rule means that either the plant is in compliance with the numeric water quality standard or that doesn't apply somehow; is that correct?

A. Could you repeat that?

Q. How does this language provide the protection that an individual facility is not causing a violation of the narrative water quality standard?

A. I think I understand what you're saying.

The intent here is that in those cases where there may be violations of that narrative water quality standard it's an existing facility and applies to all other permit provisions.

There's no special study, no maximum daily load or any other basis to conclude definitively that that one source is a significant and causative agent to a violation. They are protected. And we believe until such time of a narrative standard or -- I'm sorry. A numeric standard or additional things are in place, they're not eligible for permit limit based on the narrative water quality standard.

Q. So if an environmental group comes in and comments on a draft NPDES permit renewal and says this facility needs to put nutrient control in, the Agency would cite this rule and say no additional nutrient control is needed at this time because of this provision because the plant is not expanding?

A. I think my answer to that question -- my reaction to that would be I'm going to evaluate that environmental group search paragraph (h). And if I'm not persuaded under paragraph (h), their petition doesn't hold water, then I'm not going to put the phosphorus limit.

Q. So it's not a blanket pass from the interim standard, and the application of the narrative water quality standard, you're still going

to have to make permit decisions?

A. If you come to me with that position, my role is to determine whether or not there's a phosphorus limit necessary in your parameters.

Q. Does that mean --

A. If I have reviewed all the information and I've concluded that this does not warrant the limit because it complies with all other provisions, I'm going to issue that permit without that -- and I'm going to conclude that all my responsibilities to ensure any requirements other than narrative standard for your discharge had been met. But any other party to this agreement, I guess, would appeal that. That's the Board's decision. My decision is what's put in the permit and what I contend. But you understand my policy. Unless that study telling me definitively that that one source is significant enough to contribute to the need for the limit, I don't intend to give them a limit. I intend to say no. This is premature. They should not be changing or disrupting their process in the interim with additional needs until such time as this science gets worked out. If they come in the next week and say they need to expand, they're going to get an

entirely different answer.

And we're essentially doing that now. We get a lot of back and forth and a lot of public comment and a lot of hearings based on this information. But ultimately, we decide whether or not to put a phosphorus limit in. And we're trying to give some direction and structure to that on a wholesale basis.

Q. Has the Agency developed any guidance or internal rules, some rulemaking, for how an applicant should show or how the Agency would determine that a discharge is causing a violation of the narrative water quality standards?

A. No, we have not. And I'll restate that I believe that that particular provision states -- should be open minded and receptive to information with respect to these people, but I don't anticipate that much, if at all, because I don't know how to do it.

Q. Toby, since the original adoption of the narrative water quality standards, has the Agency adopted any?

A. Not that I'm aware of, no.

BY MR. MOSHER:

A. I should add that developing a water quality standard for algae through a chlorophyll measurement is one of the goals that we are working on for nutrient standards. And, in fact, that's one of the parameters that USEPA would like states to have eventually in their compliment of standards dealing with nutrients. So again, we don't know what that algae or chlorophyll standard should be for Illinois right now. We're working on it.

Q. Probably out of order, but, I think, Toby, you're -- and maybe Mr. Mosher as well -- talked about sensitive streams that might be in need of more protection or might be on an imminent crusp (phonetic) of needing more protection. Do you have a list of those sensitive streams?

BY MR. MOSHER:

A. No, we don't. Not at this time.

BY MR. FREVERT:

A. I wouldn't know how in terms of a phosphorus interim in general, I don't even know how to -- to get a guidance for that. I think that's why we're investing significant time and effort in some basic research in trying to develop the science

to support the standards.

Unfortunately, the USEPA, who normally does a good job in developing science behind national criteria missed the mark a little bit in the case of nutrients, and sometimes it's a statistical approach not a science approach.

So the states right now are kind of struggling developing science. There's a fairly good communication right now between the states that we're sharing information, we're all learning from one another. But as long as I've been in this business, everybody knew nutrients was a significant factor in aquatic eco systems but they didn't understand them well enough to quantify criteria like the substances that are toxic.

Q. Doesn't the State of Illinois have a phosphorus limitation at one time, effluent limitation on the Fox River of one milligram per liter?

A. That's correct.

Q. What happened to that phosphorus limitation?

A. Well, eventually, there was another rulemaking where that phosphorus limitation was

appealed.

Q. Was that R87-6 adopted on April 12th, 1990?

A. My recollection is that whole thing took place somewhere in the '80s. It may have culminated in the 1990s.

Q. What was the reasoning or rationale behind the repeal of the existing phosphorus effluent limitation on the Fox River discharge?

A. It's itching me a little. I believe I was involved in that rulemaking, but I believe it's probably been 15 years or plus.

Certainly, the POTW, the treatment authority in the Fox Valley were not particularly receptive to spending money on phosphorus in that era from an economic perspective. I believe part of the argument was there's significant phosphorus loading from other sources which may be sufficient to cause existing conditions of events, any measurable improvement.

Q. I would suggest maybe we should review it. Wasn't the determination made that there was enough phosphorus present in the water from Fox River so that phosphorus would not be a limiting

nutrient even if all of the point sources were eliminated.

A. Again, I thought my earlier comments indicated that POTW perception and perhaps even the Agency's at that time perception there was significant phosphorus coming out of the Chain of Lakes and other sources such that there really was no limitation. There was always fertilizer that the system could support and whatever the level of plant and algae growth is going to be produced, I believe that the case is ongoing.

As a matter of fact, my Agency has put substantial money into the Fox River study to address that today. USEPA's made available, I think, in excess of $1 million, and I would say the Fox River is a special case, probably the single most important thing we're looking at on Fox is going to be nutrients.

Q. At the present time, does the Agency have any information to counter the previous Pollution Control Board determination that the phosphorus limitation of 1 milligram per liter should not apply to the Fox River?

A. That's a question to me I'd be happy

to comment on.

This proposes we're treating them like the rest of the state, the existing sources. We're not asking for phosphorus at this time, new and expanding sources we will possible.

Q. For new and expanding sources, what evidence is the Agency presenting in this rulemaking to counter the prior Pollution Control Board determination based on the rulemaking record that lifted that limitation?

A. Well, again, the yardstick we're up again -- the rules have said we cannot authorize discharge of contaminants contribute toward the water quality violation.

In the case of the recent facility we dealt with in the Fox River Valley, the discharge to the tributary to the Fox River, so we're looking at the potential not just for everybody's contributaries as well.

Q. If I recall language, in looking at it, the existing phosphorus limitation, effluent limitation in 304.123, Subparagraph (f), Subparagraph (7), a natural plant or algae growth means the occurrence of the violation of the natural

sludge standard applicable to a lake or -- is that type -- when you talk about nuisance algae growth, are you pleading that to the same type of growth that's referenced by this existing word rule?

BY MR. MOSHER:

A. I think that passage is not yet updated in the narrative standards at 302.203 were updated a few years ago. And that's why the language is a little different. I'm making a note right now that we should modernize that language in paragraph (7).

BY MR. FREVERT:

A. I'll just add to that.

If I'm reading this correctly, that plant or algae growth may be violation of the sludge standard, even if it's restricted to the lake already where there are multiple detrimental affects, including from plant and algae --

Q. When the Pollution Control Board rejected the Agency's request in R87-6 and the Board's language deregulate phosphorus discharges upstream of the lakes and reservoirs and continued to impose the rule of sources over 25 miles away, the Board noted that there would be relief

potentially available in the form of an adjusted standard or regulatory relief, are you aware of any municipality that's come in and asked for such relief?

A. No, I'm not. I know there's some down state communities that -- phosphorus reduction and that they may be in excess of 25 miles from the reservoir.

In the 1980s, quite frankly while the science may have been understood the role in the potential impact of nutrients in streams, all the attention was given to lakes and reservoirs and it's not what it -- either regulatory or scientific focus on the effect of the stream situation.

My recollection is back in that era we made our recommendations evaluating phosphorus purely from the impact we were looking for.

Q. You're not aware of any municipality that availed itself the relief mechanism that the --

A. No, I know Champaign, Urbana, Southwest Tributary, Lake Shelbyville and many more 25 miles away, they are practicing phosphorus removal. Mt. Vernon tributary, they're practicing

phosphorus removal, and I don't remember the distance. Chamber (phonetic) is another down state community that's practicing phosphorus removal. I believe their tributary to Lake Shelbyville. There may be others. Those are the three that come to mind.

Q. I've asked the question do you have a -- I guess in response to the hearing officer's request to identify the communities that you would anticipate that would be growing in the future, the Agency provided that information and that was read into the record. Do you have a list of industrial dischargers that may be impacted by this rule?

A. I don't believe we do. Typically, industrial facilities don't go to the classic facility planning process to identify their growth or development needs early on and share that information with the Agency. Almost to the contrary, industries sometimes like to keep it fairly confidential in terms of expansions of facilities.

Q. Does the Agency know or have a list of industrial dischargers that are greater than 25 pounds per day loading?

A. Existing sources?

Q. Yes.

A. I don't. I'll leave that question to Bob. He can tell you that.

BY MR. MOSHER:

A. There are some power plants or similar industries that have an extensive piping for cooling purposes that use phosphorus as a way to prevent corrosion of those pipes. And the concentration of the phosphorus that's maintained in those systems about a -- in my experience, one particular power plant recently permitted -- it was something like three and a half million gallons a day of cooling water in the discharge would have an equivalent phosphorus concentration to a 1 million gallon a day sewage treatment plant. So that's one example of an industry. And that issue was of concern for us from an anti-degradation viewpoint. And the industries were asked to look for alternatives to using phosphorus for that purpose. And I think that industry at least is aware of this situation developing, and I believe they will be seriously looking at replacement chemicals for that purpose.

Q. Mr. Terrio, in your direct testimony,

you seem to be inferring that the choice of treatment to meet the interim rule would be chemical addition, not biological treatment; is that correct?

BY MR. TERRIO:

A. For some plants, right, but there's stages in the construction code.

Q. How did you determine that that would be the case?

A. My statement there was placed largely on talking with design engineers at the Agency.

BY MR. MOSHER:

A. We interviewed some design engineers for consulting engineering firms that are doing work of this nature right now, and it seems to be the trend that they will go with biological phosphorus removal when designing a new facilities or extensive expansion.

For other reasons also, but certainly, to anticipate standards that may come down the road in the next three or four years. And they seem to have some good reasons to go with the biological phosphorus removal at those plants.

Q. There was reference in the -- towards the end of your testimony, I think, on Page 7 to the

cost estimate from the Zenz study. What was that cost estimate, the Zenz study?

BY MR. TERRIO:

A. Oh, boy. Going from memory, I want to say that the numbers were, I think, about 5 billion for capital and construction costs and 500 million per year for operation and maintenance for the 800-plus given statewide. And again, that's -- I have the numbers before me.

BY MR. MOSHER:

A. And we need to point out that those estimates were for many, many treatment plants that aren't covered by our phosphorus effluent standard proposal. In other words, existing, non-expanding treatment plants, and also, that those figures were for nitrogen removal also. Nitrogen and phosphorus removal.

Q. A little later in your testimony you talk about the additional generation of 15 to 30 percent more sludge with chemical precipitation and that that increase in amount and physical characteristics might require an upgrade of sludge-handling facilities, but yet you don't provide any cost associated with that. What portion

of the communities that you believe would have to comply with this interim proposal would be faced with upgrading their sludge-handling facility?

BY MR. MOSHER:

A. Well, we don't have any breakdown of number of facilities. We were just pointing out that depending on what kind of sludge-handling that facility currently has or might have designed into the new plant in the absence of phosphorus removal that there could be some changes at some plants that would result in additional costs. But we have no further breakdown. I think we're going to find that everything is very plant specific.

Q. You don't have the list of any specific facilities or the costs associated with those facilities?

A. No. Again, this was information gleaned from interviewing design engineers and them telling us about their experiences with recent projects that they have had. And so as far as the sludge, they're telling us some facilities they're working with existing facilities have adequate sludge-handling facilities, so there isn't any additional costs for capital improvements.

Q. There would still be additional operating costs, correct?

A. Yes. Again, that could vary from a very little bit of extra cost to somewhat more depending on what they have already.

Q. But the Agency doesn't have that figure?

A. No attempt was made to try to add all the costs up for all the facilities that we know are undergoing plans or current expansions, no.

Q. How many facilities are currently upgraded or expanding and constructing with phosphorus control?

(Brief pause.)

BY MR. MOSHER:

A. I think we'd like you to repeat that question.

Q. How many plants are currently undergoing construction to -- either they're expanding, new facilities, or existing facilities are putting in phosphorus control at the present time?

A. I believe we talked with our permit section and came up with a number of seven or eight,

and that really is kind of a rolling figure. As facilities get completed and permitted, they drop off that list, of course, and new facilities are constantly being proposed, so I would make a safe guess that in a given year recently, we may have ten to 12 facilities like that.

Q. Would those ten to 12 facilities be facilities that would be greater than one million gallons per day and less subject to this interim rule, or were some of them smaller facilities?

A. We believe those would be greater than one million gallons a day.

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

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

HEARING OFFICER KNITTLE: Is there anyone out there in the audience that has any desire to ask any questions aside from Mr. Harsh and Mr. Ettinger?

I'm not seeing that anyone else has any questions, so it looks like it's just Mr. Harsh. Mr. Ettinger, you said you're not

going to have any at this point?

MR. ETTINGER: I don't think so.

HEARING OFFICER KNITTLE: The Board has some questions but they're fairly limited in nature so we're just going to push forward and finish this off and not take a lunch break.

That being said, Mr. Harsh? I'll remind you three that you are under oath and still, and you may proceed.

BY MR. HARSH:

Q. I don't know who the appropriate person is. Page 15 of the proposal under the stakeholder public participation section, I note that you stated that you provided -- the Agency provided this to the Illinois Association of Wastewater Agencies. The IAWA, as well as the Illinois Municipal League request a stakeholder meeting with the Agency prior to the filing of this rulemaking proposal formally in writing?

BY MR. FREVERT:

A. I remember you asked for a delay in the filing. I don't remember you asking for a letter at the meeting.

Q. Was such a meeting held?

A. We had a meeting with the IAWA sometime subsequent to the filing, I believe, not prior to.

Q. Nor did you have a meeting with the municipal league?

A. I have yet to hear back from the municipal league.

Q. If a sore subject to this interim rule installs chemical addition and then it proves that biological treatment will be the treatment necessary to meet whatever the final is, what will be the savings or impact on that community?

A. I don't think I can answer that, and I doubt that any design engineer could answer that without more specifics of the individual situation you're talking about.

Q. If chemical is not adequate to meet the final nutrient regulation that comes out of our ongoing effort and is necessary to install biological treatment, doesn't that mean that the POTW will have installed chemical addition, capital costs that will have to be replaced?

BY MR. MOSHER:

A. I think I can give a little insight on that.

The design engineers that we talked to were telling me that even with biological phosphorus removal designed into a plan that they like to have the ability to also add chemical to polish that process, and so it may turn out -- and I don't know that those statements were covering 100 percent of facilities, but it may turn out at least in some cases that the chemical addition will still be desired in addition to biological phosphorus removal.

Q. Mr. Mosher, based on those discussions, would it be the same size chemical addition facilities?

A. They have told me that the amount of chemical added would be less if done in tandem with biological phosphorus removal. But I don't think that means that the larger size equipment couldn't still be used.

Q. If a stream has phosphorus levels that are currently above the limiting value, then what is the environmental benefit to be derived if POTW that

discharges to that stream is required to put in interim phosphorus control under this rulemaking?

A. Well, I think we testified that we don't know everything yet. We're working on it. But we do have an example that's been with us for many, many years, and that is limiting phosphorus at Great Lakes tributary dischargers. And the idea there was that you were protecting a water body downstream by removing phosphorus in that basin. And so even though we may not be able to say whether or not we'll get improvement in the receiving stream directly discharged into, there may be bodies of water further downstream that may benefit and would fall under that success story that we had for the Great Lakes in phosphorus control.

Q. Mr. Mosher, are there any POTWs in Illinois that discharge directly to Lake Michigan other tributaries to Lake Michigan?

A. Ordinarily, no.

Q. This is designed to be an interim proposal until such time as Illinois adopts -- or the results of the nutrient task force that's been testified to is finalized and comes up with a water quality standard proposal and adopted by the Board;

is that correct?
BY MR. FREVERT:
A. That's correct.
Q. What is the Agency's current time frame for completing this work and being in a position to propose a water quality standard to the Board?
BY MR. MOSHER:
A. Well, I mentioned our nutrient standards plan that we prepared for USEPA and that the time frame was that by 2008 we would have water quality standards in Illinois for nutrients.
Q. That would be ready to propose or through the process?
A. We think the 2008 date is for adopted standards. At least that was our prediction.
BY MR. FREVERT:
A. Let me just comment here that we have a nutrient standard development plan that we submitted to USEPA and got approval for that one, and that has those dates in there. We will make that available so Bob doesn't have to speculate on those dates.
Q. Thank you.

Has the Agency given any consideration or would it consider putting a sunset provision in this interim rule then?

A. I think I'm receptive to discussions or something of that nature. Certainly, it's -- I mean, the impetus for this is we're partway through a very important study and we don't want to prejudge too much. But we need some guiding line to get us through the next few years of a lot of permitting complexities and possible situations where we simply are not issuing any kind of proposal.

So in the spirit and the nature of an interim proposal, we will entertain concepts on how to make that interim thing clearer and more comfortable to everyone.

Q. That might be helpful because you are proposing an interim standard based in large part on a justification that is available technology. Other states have a similar limitation. You're currently requiring, through the permitting process, a number of POTWs to impose or install phosphorus limitations.

How do you avoid this rulemaking, essentially, coming up with an establishing best

available technology for the POTW industry if it doesn't have a sunset provision in it, I guess, is our question?

A. Well, I'll be happy to answer that question, if I fully understood what you --

Q. Aren't you by the fact, though, running a risk of establishing if the Board enacts this interim rule a best available control technology level for phosphorus treatment in Illinois?

A. Let me give you what I see as the big picture response. I hope it will give you an answer that you're looking for. It's the best answer that I can give you.

On this interim basis, there's an obvious issue with Illinois streams. It's not quite so obviously exactly why and how to deal with the POTWs and industrial wastewaters in mass.

It's clear there's technology available, and I would say relatively affordable technology available to move forward. There is some salvage benefit to that, and it does enhance other performance capabilities to the POTW and industrial wastewater facilities over and above phosphorus

removal, and recognizing there may be some potential that is not necessary everywhere we've posed an interim standard that only requires this technology for large, new expansions.

So we've tried to restrict the potential downside of this while moving forward with the program. And I think perhaps what's as important as anything, you know, is the Agency's ongoing effort to understand the science of nutrients better coupled with our commitment to do some before and after study of these facilities to demonstrate what, if any, measurable impact it has on the stream. So five years from now, we will all be able to issue more knowledge, and in the meantime, a vast majority of public and industrial facilities are not being required to expend money that perhaps isn't 100 percent guaranteed with the outcome of the interim and take a major step, learn from that, and that's a broader policy based on that knowledge.

Q. This concept of interim limitation was not in the Illinois EPA request for additional time when it submitted it's nutrient work plan to the USEPA, was it?

A. This particular proposal is separately from and in no way in the nutrient standards development proposal. The proposal is here to address a real world problem we have today with existing standards, the obligation of the Agency to assure NPDES standards and protect against those standards not knowing how to interpret those standards. The purpose of the interim standard so to allow the NPDES program to continue to function.

Q. To repeat my question, it's not contained in the Illinois EPA response to the USEPA?

A. That's correct.

Q. Has anyone on the IEPA nutrient science work group suggested an interim standard was needed and should be proposed to the Board?

A. I don't know about that, but I know the interim standard was the collective decision of the Agency itself.

Q. Did USEPA indicate in their approval of the Illinois submittal that an interim standard was necessary?

A. Again, I don't know that I can comment directly on that, but I can assure you the USEPA staff will reinforce with me their belief that is a

positive step forward and they're supportive of it.

Q. What apart from the environmental law and policy letter dated February 2nd, 2004 to the director of Illinois EPA has prompted this rulemaking?

A. Probably hours and hours of scratching our heads trying to address the narrative standards and probably five to ten critical permits which will last two to three years. Just the recognition of the internal conflict we have with the existing regulations and the ever increasing data that shows phosphorus limits are elevated in many streams in Illinois where the aquatic indexes are believed to be less than it should be.

MR. HARSH: We'd like to make the environmental law and policy letter I've referenced an exhibit.

HEARING OFFICER KNITTLE: Any objection from anybody?

MR. ETTINGER: I would like to comment it's an excellent letter.

HEARING OFFICER KNITTLE: Duly noted, Mr. Ettinger.

What do you want to call it, Mr.

Harsh?

MR. HARSH: The next exhibit number is fine.

HEARING OFFICER KNITTLE: I will call it Exhibit 3. It's admitted.

MR. ETTINGER: If he's done, I do have a question now, I'm sorry, to follow up on Mr. Harsh's -- are you done, Mr. Harsh?

MR. HARSH: I am subject to being able to ask additional questions of these witnesses, if necessary.

MR. ETTINGER: I'm just trying not to -- you're done today is all I'm saying?

MR. HARSH: Yes.

BY MR. ETTINGER:

Q. Mr. Frevert, Mr. Harsh asked you questions about a sunsetting provision which confused me in that the question implied that there isn't one in the rule currently. Reading the language in front of me in (k) it says the provisions of Subsection (g), (h), (i) and (j) of this section applied until such time as the Board adopts a numeric water quality standard for phosphorus. Is that a sunsetting provision?

A. It certainly is. And, you know, that was there from day one. To the extent people want to work on that and give it more definition, we're open to working with other people.

That was our intent from day one when we proposed this interim standard, not a permanent standard. So that being said, we continue to take any input or recommendations on how better to word that.

Q. So when you said that you wanted to perhaps improve this language, you weren't trying to imply that there isn't a sunsetting provision now, you're just saying that you're open to improvements in the wording of this sunset provision?

A. Thank you. My lawyer told me the same thing you just told me off the record.

HEARING OFFICER KNITTLE: Thank you.

Mr. Harsh, do you have a copy of this letter that you want us to see?

MR. HARSH: Yes, I do.

HEARING OFFICER KNITTLE: Just for the record, I think we had originally called the prefiled testimony Agency Exhibit 1 and 2. We're just going to call it -- Exhibit 1 is

Terrio's testimony, Exhibit 2 is Mosher's testimony and Exhibit 3 is now this letter.

MR. HARSH: Okay.

HEARING OFFICER KNITTLE: Anything further, Mr. Harsh?

MR. HARSH: No, sir,

MR. GIRARD: I have a question.

BY MR. GIRARD:

Q. And this is for the panel, although it will be probably be Toby that answers it.

Page 16 of the proposal, we were talking about adopting the 1.0 milligram per liter phosphorus concentration standard, but then you also talk about how the Agency fully expects actual performance levels to be incrementally better than 1.0 milligrams per liter, and even in the 0.5 milligram per liter range for extended periods.

How would that expectation be carried out in the permitting process?

BY MR. FREVERT:

A. I'm surprised this didn't come up earlier because I noticed Paul had it in his testimony too.

In reality, these systems probably

would routinely perform most of the time much better than the 1 milligram per liter as the ultimate ceiling measurement performance. I would assume over the long period of time you're going to have some blips here and there, but by and large, long-term averages, you're going to be significantly lower than the one point. You look like that wasn't an answer so maybe I didn't understand your question.

Q. Well, I can understand, you know, you're looking at a monthly average, but I was just wondering how that expectation would be carried out? I mean, I understand the variability, but it almost sounds like a standard within a standard.

A. What you would see was routine forms from those facilities. And I think from my understanding and experience with my counterparts around the Midwest, I'm not aware of any state, Michigan, Ohio, Wisconsin, any of them, that give limits other than 1 milligram per liter. Most of those people say their facilities are indeed performing within that 1 milligram per liter and significantly lower than 1 milligram per liter.

So the technology, while it will

have blips and you may brush up against the 1 milligram per liter, over the long haul, you're going to be well under that effluent limitation.

Q. But in terms of enforcement, there would be no difference between someone that had a monthly average consistently 0.9 milligrams per liter and someone else who had a monthly average consistently of 0.4 milligrams per liter?

A. That's correct. And indeed, when we're at inspections and any of our technology and systems programs, there's somebody that's got a system that's operating in compliance with the limit, but he has a potential to do even better when we work with them to reach the better attainment. You wouldn't establish it an enforcement requirement.

My experience over the years has been treatment plant operators take pride in what they're doing. Number one, they've got to stay in compliance and they have to keep their job, number two, probably they're able to do the best they can for you. So most of these facilities that have phosphorus removal we're probably going to see DMRs routinely come in with numbers measurably lower.

Not always, but most of the time measured lower.

MR. GIRARD: Thank you.

HEARING OFFICER KNITTLE: Mr. Rao, Ms. Liu, do you have anything?

BY MS. LIU:

Q. I have some clarifying questions just on the language that you've proposed. The new Subsection (g) refers to newer expanded discharges not covered by Subsections (e) through (f), and I notice that Subsection (c) through (f) contained definitions in compliance states and adjustment standards procedure and I was wondering if you would clarify whether any of the provisions of (c) through (f) would be applicable to these treatment works?

BY MR. FREVERT:

A. It's been some time since I've reviewed this draft and it's been my recollection that what the perception was all those other subsections apply to facilities discharging tributary or lake or river, and we're not proposing any change. What we're doing is adding in addition to that another list of requirements that protect the stream itself.

So if somebody has a requirement

to remove phosphorus to protect the river, they have to meet that irrespective of whether or not there's a secondary requirement to meet.

Q. Wouldn't some of those definitions -- when you refer to federal compliance and adjusting standards kind of cross over into this new section?

A. If somebody is looking for an adjusted standard from this, I would think they'd go to the Board's procedural rules. I don't know why we would instructions for the adjusted standard regarding the actual standard itself.

The other thing is, quite frankly, right or wrong, we tend not to fuss around with -- regarding the regulation. So we don't want to touch it even though -- some of these things is probably old language. We're just -- we're not trying to bog down the hearing re-visiting what we're doing at length. We're just trying to add a new policy.

BY MR. RAO:

Q. One specific term that you have -- there's a definition for under (f)(6) is the limiting nutrient. And that term has been used in Subsection (g) also. Would it be all right for the Agency if a similar definition is put down in

Subsection (g)?

BY MR. FREVERT:

A. Quite frankly, I think scientists around pretty well gel around the motion that a fresh water aquatic systems, phosphorus is almost always the limiting nutrient. You're dealing with a little bit of archaic language. Maybe in the mid '90s or early 1980s we thought possibly there was a system in Illinois where nitrogen was the limiting nutrient. In reality, they're all -- so to the best of our knowledge, it's all going to be phosphorus. And that's unnecessary language as to the statement.

Q. An another question relating to Subsection (g), and already you have made some references as to how Subsection (g) would apply -- that Subsection (g)(1) would apply to municipal and our wastewater treatment works, and Subsection (g)(2) to industry of this progress.

That's not very clear from the rule itself. Is that something that the Agency wants to take a look at to see if anybody can make the rules clearer?

A. What do you mean?

Q. The way I was looking at it --

A. You mean this language isn't clear?

Q. Yes.

A. What are you recommending?

Q. I'm not recommending anything. I'm just asking you that supposedly the municipal treatment plants, which doesn't, you know, trigger the 1 million gallon per day flow under (g)(1), but it's still discharging more than 25 pounds per day. Would that be subject to Subsection (g), if they're expanding?

A. I know of -- well, that wouldn't be domestic wastewater, I guess, is the answer. There's no way to plan that 1 million gallons per day can have that much phosphorus dominated by some industrious source. Towns that small usually don't have -- we can go back and look --

Q. We have submitted language in our ammonia nitrogen rules because phosphorus -- it depends on how you put those rules because the language is not clear?

A. Well, you think something like -- roughly the 25 pounds per day is our rule of thumb equivalent to a million gallons per day. If you want us to say a treatment -- you want us to

consider proposing a treatment works with the design average flow of 1 million gallons per day or more, or from the treatment works less than a million gallons per day in excess of 25 pounds of phosphorus. We'll take that back and think about it.

Q. Just take a look at that language.

BY MS. LIU:

Q. Along those earlier lines, another possible scenario, if you do have a municipal treatment works discharging a million gallons a day and you return 1 million gallon per liter, when you do the calculations, I ended up with about 8.3 pounds of phosphorus, does that sound right to you?

BY MR, FREVERT:

A. Yes.

Q. But under Subsection (g)(2), you have 25 pounds per day limit, and I was wondering --

A. It's 25 pounds per day untreated. Your 8 milligrams per liter, I believe, equates to -- your 8 pounds equates to 1 milligram. Without the phosphorus treatment, the discharge would be close to 3 milligrams.

Q. So is it true that 25 pounds refers to

untreated?

A. It refers to the untreated waste. Without phosphorus removal, it would be 25 pounds. If it progresses to the threshold of 25 pounds per day or more without treatment, then you have to provide treatment to bring them down. So if you provide that treatment, you're going to bring it down to the 8-pound range.

Q. Maybe we should make some sort of clarification?

A. Yeah, we'll look at that language.

I think the important thing at this stage is to understand. If our words didn't communicate it properly, we'll absolutely work through that.

Q. Another situation were how the treatment works municipal -- but one that is very low, just under the 25-pound per day limit, going to a -- is that something that would be permitted?

A. Well, you know, paragraph 2, we're implying that those are industrial sources. I suppose they could be non-industrial, non-municipal, some miscellaneous-type source, but I believe the language -- a significant source of

phosphorus.

Q. Significant being 25 pounds?

A. Significant being 25 pounds if you're non-domestic waste. If you're domestic waste, you add 25 pounds. So 25 pounds will be the threshold for everybody.

And just to supplement while you're looking for more questions, part of our logic by the 1 million gallons per day, that's significant enough waste -- you're going to have -- you're going to need fairly sophisticated technology for phosphorus removal.

BY MR. RAO:

Q. And regarding the threshold language, the way we're now -- only expanding facilities would be -- newer expanding would be subject to the rule, but, you know, if there's a facility that is not increasing its design flow but making a wholesale, you know, greater than a treatment plant?

A. Major rehab?

Q. Yes. That would be covered by this rule or --

A. Well, it extends to the point that a significant capital investment is required. It

would be compatible with our logic of spend a lot of money now. Now is the time to do it. If you don't have significant needs, we don't want you to invest the money because you won't have the time to do a better job of analyzing the situation. I don't know if you're getting any major rebuilding or not, but we'll take that under advisement, if you want.

BY MS. LIU:

Q. In the sunset provision under Subsection (k), it refers to a future time when the Board might adopt a numeric water quality standard for phosphorus. There are actually already numerical water quality standards for phosphorus under 302.205 and 203.504 for certain water bodies.

A. Lake Michigan.

Q. Lake Michigan and --

A. I don't get it --

Q. I was just wondering under Subsection (k) here it doesn't mention that there are others -- but you just added in the water quality standards for phosphorus for general use waters?

A. Keep in mind that sunset is only for the provision we're adding. It doesn't cover the phosphorus requirement for the lake. It's already

in place, so...

Q. Right. That's what I was mentioning, maybe we should just add --

A. Well, I guess what I'm saying is the existing phosphorus control requirement for a lake and the water quality standard for lakes I don't believe are affected by paragraphs (g), (h), (i), (j) and (k).

Q. While we're on the subject, I was wondering if you could identify the body, besides Lake Michigan, that would fall under the criteria of greater than 20 acres of water, whatever that is?

A. Well, Shelbyville -- well, there's hundreds of lakes.

Q. Maybe this is a historical question, but I was wondering if you could explain the different water quality standards for reservoirs and for Lake Michigan with more than 5 milligrams per liter and Lake Michigan is 7 micrograms per liter?

BY MR. MOSHER:

A. Yeah, I think I can answer that one.

Lake Michigan standards were adopted long ago at the background level, and the

intent was let's not make it any worse. And that's how we got that seven microgram value for Lake Michigan. And other standards are similar. You'll see like the chloride and sulfate and some others. They're set really low. And that's just under what the lake was and is for those substances.

The .05 milligram per liter phosphorus for down state lakes greater than 20, that was a stab many years ago at what a protective value would be. In other words, if we keep phosphorus at or below that level, then we probably won't have algae booms and other noxious conditions from algae plants.

Q. Mr. Mosher mentioned the power plant industry perhaps being involved in this. I was wondering if you had an industry contact that we might include on our notice so that we're aware of this?

A. Alec Messina,

MS. LIU: Thank you.

HEARING OFFICER KNITTLE: Are there any questions from anybody else out in the greater audience?

Seeing none, let's go off the

record a second.

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

HEARING OFFICER KNITTLE: We are back on the record after a short recess. After talking to the court reporter, we found out that the transcript will be ready on September 10th. We're going to have a status conference on September 9th at 9:30 a.m. to discuss the time for the second hearing and we'll pick a date and time thereafter.

I did get a question from somebody out in the audience earlier about the notice and service list of who's on there. I don't have a printed copy of that right now, but I would note that on the Board's website, you can access the notice and service list and check for yourselves.

If you have any trouble, give me a call. I'd be happy to talk with you any time. My number is (217) 278-3111. That's all I have.

Mr. Johnson, anything further?

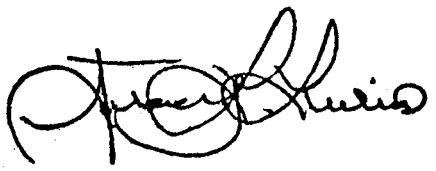
MR. JOHNSON: Nothing.

HEARING OFFICER KNITTLE: Thank you all very much for your time.

(Which were all the proceedings had in the above-entitled cause on this date.)

STATE OF ILLINOIS)
) SS.
COUNTY OF DUPAGE)

I, STACY L. LULIAS, CSR, do hereby state that I am a court reporter doing business in the City of Chicago, County of DuPage, and State of Illinois; that I reported by means of machine shorthand the proceedings held in the foregoing cause, and that the foregoing is a true and correct transcript of my shorthand notes so taken as aforesaid.



Stacy L. Lulias, CSR
Notary Public,
DuPage County, Illinois

SUBSCRIBED AND SWORN TO before me this 17th day of September, A.D., 2004.

Kimberly A. Meeks
Notary Public