ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:	)	
	)	
VILLAGE OF FOX RIVER GROVE,	)	
	)	
Petitioner,	)	
	)	
vs	)	PCB 97-156
	)	
THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY,	)	
	)	
Respondent.	)	

The following is the transcript of a hearing held in the above-entitled matter, taken stenographically by Geanna M. Iaquinta, CSR, a notary public within and for the County of Cook and State of Illinois, before Michael Wallace, Hearing Officer, at 408 Northwest Highway, Fox River Grove, Illinois, on the 17th day of September 1997, A.D., commencing at 9:30 a.m.

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

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

ILLINOIS POLLUTION CONTROL BOARD MEMBERS PRESENT:

Mr. Michael Wallace, Hearing Officer

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY MEMBERS PRESENT:

Ms. Margaret Howard

I N D E X

I N D E X (cont'd)

E X H I B I T S

I N D E X (cont'd)

E X H I B I T S

THE HEARING OFFICER: Pursuant to the direction of the Illinois Pollution Control Board, I now call docket PCB 97-156. This is the permit appeal of the Village of Fox River Grove versus the Illinois Environmental Protection Agency.

May I have appearances for the record, please?

MR. ROSENTHAL: My name is Peter Rosenthal. I'm with the firm of Rosenthal, Murphey, Coblentz and Janega of Chicago, Illinois. I'm appearing on behalf of the village of Fox River Grove.

THE HEARING OFFICER: For the Environmental Protection Agency.

MS. HOWARD: Margaret Howard. I'm the attorney for the Illinois Environmental Protection Agency.

THE HEARING OFFICER: Thank you.

Let the record reflect there are no other appearances at today's hearing.

The notice was given of this hearing in the Northwest Herald on or about August 8th of 1997. I also noticed that the notice was posted downstairs on the village hall board, and so I guess

we're ready to go.

Do you wish to make an opening statement?

MR. ROSENTHAL: Yes.

This matter is an appeal from conditions that were contained in the NPDES permit, which was issued to the village of Fox River Grove in December of 19 -- I believe it's -- sorry. February of 1997 is the actual date that the permit was issued.

The conditions that the village is appealing have to do with the effluent levels for CBOD5 and suspended solids, and the reason that the village is appealing is that the permit, the '97 permit, reduces the permissible effluent level for CBOD5 from what had previously been 25 milligrams per liter to 20 milligrams per liter.

It reduced the permissible effluent level for suspended solids from what had been 30 milligrams per liter to 25 milligrams per liter.

When I am referring to what had been before, I am referring to all of the NPDES permits that had been issued prior to December '97 for the Fox River Grove waste water treatment facility.

The facility has been in operation since approximately 1977, and during that time, the effluent levels have been 25 milligrams per liter for CBOD5. At some points that was expressed as 30 milligrams per liter of BOD5. They are equivalent measurements in terms of measuring impact of organic effluent on a stream, and they've been set at 30 milligrams per liter for suspended solids until the 1997 permit.

There has not been any change in the regulations that were existing when the prior -- between the time the prior permits were issued and the '97 permit was issued that would be the reason for this change -- for this imposition of the lower effluent levels.

There has not been any change in the manner in which the Fox River Grove plant processes waste water treatment or waste water or the equipment that is used, and that's the reason -- there's simply nothing that occurred that would prompt or require the lowering of the effluent levels.

We will also show -- present testimony indicating that the lowering of the effluent levels

will have a serious impact on the Fox River Grove facility in terms of the amount of waste water that it actually can treat, and that is because of where the plant is located and the difficulty and cost that would be involved in expanding that plant if the effluent levels -- effluent limitations rather were approached so as to avoid a violation.

That's the concern that the village has, and that's what we intend to show.

THE HEARING OFFICER: Thank you. Ms. Howard?

MS. HOWARD: Yes. Good morning. Pursuant to Section 39 of the Illinois Environmental Protection Act, the Illinois EPA has the duty to issue national pollution discharge elimination system permits upon proof by the applicant, in this case, the village of Fox River Grove, that such issuance would not cause a violation of the act or the applicable environmental regulations.

The Illinois EPA may include conditions such as effluent limitations in the NPDES permit which are required by the act. The Federal Water Pollution Control Act or better known as the Clean Water Act or the Pollution Control Board Regulations

also require or allow us to put effluent limitations in the NPDES permit.

On February 6th of 1997, the Illinois EPA issued NPDES permit number IL0020583 to the village of Fox River Grove. This permit provided an effluent limit for carbonaceous biochemical oxygen demand or CBOD of 20 milligrams per liter as a monthly average and an effluent limit for suspended solids of 25 milligrams per liter as a monthly average.

The effluent limits were established pursuant to the requirements found in the Board's regulations at 35 Il. Administrative Code 304.120 which sets effluent limits for deoxygenating wastes and 35 Il. Administrative Code 301.345 which defines the term pollution -- population equivalent.

The Illinois EPA will present two witnesses. First, Mr. Don Netemeyer, the permit reviewer, and Mr. Alan Keller, the manager of the northern municipal unit of the permit division.

These witnesses will explain how, based on the Board's regulations, they drafted and approved the village's NPDES permit with effluent limits of 20 milligrams per liter for BOD and 25

milligrams per liter for suspended solids.

In providing testimony, these two witnesses will demonstrate how these limits are consistent with the Board's regulations and any limits other than these would cause the Illinois EPA to issue an NPDES permit that would allow violations of the Board's regulation, which would put the Illinois EPA in a position of not complying with its duties under the act.

THE HEARING OFFICER: Thank you. All right.

Are you ready to call your first witness, Mr. Rosenthal?

MR. ROSENTHAL: The village of Fox River Grove will call Dan Hughes.

(Witness sworn.)

THE HEARING OFFICER: Please speak up so the court reporter can hear you and take down your testimony.

You may proceed.

WHEREUPON:

D A N I E L H U G H E S,

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

D I R E C T E X A M I N A T I O N

by Mr. Rosenthal

Q. Mr. Hughes, could you please state your name for the record?

A. Daniel Hughes.

Q. And who are you employed by?

A. The village of Fox River Grove.

Q. And what is your position with the village?

A. I am superintendent of water and sewer.

Q. And how long have you been superintendent of water and sewer?

A. For the past eight years.

Q. And could you briefly describe your duties as superintendent of water and sewer?

A. I'm responsible for the operation and maintenance of the waste water treatment facility, the stations, and two water treatment plants, and also the collection of distribution systems.

Q. Do you reside in the village of Fox

River Grove?

A. Yes, I do.

Q. For how long have you resided in the village?

A. For the past 17 years.

Q. And prior to being employed -- prior to your position as superintendent of water and sewer, were you employed by the village?

A. Yes, I was.

Q. And what position did you have with the village?

A. I kind of progressed from summer maintenance crew to equipment operator, water treatment plant operator, and currently water and sewer superintendent.

MR. ROSENTHAL: How do you want us to handle exhibits?

THE HEARING OFFICER: Have you marked them already?

MR. ROSENTHAL: I have tags and I'm --

THE HEARING OFFICER: I have some petitioner's tags.

MR. ROSENTHAL: Okay.

THE HEARING OFFICER: If you've already

tagged them, that's okay.

MR. ROSENTHAL: Well, I just had one.

THE HEARING OFFICER: Okay. You can hand them here, and I'll --

MR. ROSENTHAL: If I could have that marked as Petitioner's Exhibit No. 1.

(Petitioner's Exhibit No. 1 marked for identification, 9-17-97.)

BY MR. ROSENTHAL:

Q. Mr. Hughes, let me show what's been marked as Petitioner's Exhibit No. 1 and ask if you can identify that document?

A. Yes. That is a resume I put together.

Q. And you prepared that yourself?

A. Yes, I did.

Q. Does that accurately reflect your experience and your education and certifications?

A. Yes, it does.

Q. As superintendent of water and sewer, are you familiar with the way that the village of Fox River Grove's waste water treatment plant operates?

A. Yes.

Q. Could you describe the way that it operates?

A. Yes. Our waste water treatment plant is a 1.25 million gallon per day facility. Treatment consists of pretreatment with a bar screen, and then it goes in an aerated grid tank. The flow goes to primary clarifiers. We have sedimentation there. Then it flows into a biological treatment process with rotating biological contactors.

Then from there, it goes to the secondary clarifiers, and then the flow continues to our final chlorine contact chamber. The sludge is handled by aerobic digestion through a mechanical dewatering press, and from there the final solids are land applied in farm fields.

Q. You indicated that the plant uses biological contactors. Could you explain what those are?

A. Yeah. The RBCs or biological treatment process where the waste water stream flows through the bio-disc. The bio-disc create a media for microorganisms to grow on there. As the sewage comes through the bio-disc, the microorganisms use

the sewage as a food supply.

The media will coagulate the suspended solids and they will sluff off and settle off in secondary clarifiers.

Q. Does weather have any affect on biological contactors?

A. Yes, it does. During colder weather where the water is cold and the air temperature is cold, the metabolism of the microorganisms are slower, and the process is less effective during colder winter months.

Q. What is the -- after the waste water is treated in the Fox River Grove plant, where does the water go?

A. It discharges to the Fox River.

Q. Is that the only point of discharge in the Fox River?

A. Yes, it is.

Q. And how many points of discharge are there into the Fox River Grove -- into the Fox River from the plant?

A. Just one.

Q. Are you familiar with the village's sewer system?

A. Yes, I am.
Q. When was the sewer system initially constructed?
A. It was initially constructed in 1926, '27.
Q. And when was the current treatment facility -- the current treatment -- the existing treatment plant constructed?
A. In 1977.
Q. What did -- was that plant constructed on a new site or on an existing site?
A. No, that -- the 1977 plant was constructed in the same location as the previous plant. The previous plant was like an anaerobic digestion plant.
Q. Was that plant demolished?
A. Yes, it was.
Q. You indicated that the plant had a capacity of 1.25 MGD?
A. Right. That's the average design flow.
Q. And what does that refer to in terms of the flow of what?
A. That's the hydraulic capacity of the flow into the plant.

Q. When you say the hydraulic capacity, what do you mean by that?
A. The gallons. It's designed for an average flow of 1.25 million gallons per day.
Q. Are you referring to gallons of water?
A. Gallons of waste water.
Q. Okay. Now, does the plant have any other ratings?
A. Yeah. It does have a PE rating of 9900.
Q. And what does that rating refer to?
A. It's the population effluent.
Q. Okay. But the 9900 PE, what is that rating applicable to?
A. That's to the organic loadings of the plant.
Q. Has -- with regard to the -- when referring to the organic rating of the plant, are you referring to the materials, are you referring to BOD?
A. Right. I'm referring to the COB -- CBOD loadings and also total suspended solids.
Q. Has the plant ever come close to having

an average daily or average monthly capacity or come close to its limit of 9900 PE with regard to the amount of organic material CBOD5 or suspended solids that have been filling into the plant?

A. No, it hasn't.

Q. What is the typical range of the average daily amount of CBOD5 coming into the plant?

A. Our typical BOD loadings coming into the plant would be approximately 100. As it leaves the plant, we are looking at a CBOD of nine and total suspended solids of ten milligrams per liter.

Q. And what is the actual population -- let me -- what is the range of the average daily flow in regard to the amount of waste water coming into the plant?

A. We treat approximately 730,000 gallons on an average day. Our population is approximately 4,000.

Q. That's the actual population served by the plant?

A. Yeah, approximately.

Q. In addition to residents, does the plant serve any other facilities?

A. Yeah. We also serve Good Shepherd

Hospital, and that's it other than in town.

Q. Have you ever received any notice from the IEPA or from any agency for that matter that the plant's rating with regard to CBOD5 and suspended solids was being changed from 9900 PE?

A. From that existing 9900, no.

Q. Has the village entered into any agreements with any other entities pursuant to which it has agreed to provide waste water treatment in the future?

A. Yes. We entered into an agreement with the Lake Barrington Industrial Park.

Q. And what does that agreement provide, just in general?

A. It provides waste water treatment for an industrial park that's located outside of town. Approximately 98 new units would come out of that line.

MR. ROSENTHAL: If I could have this marked as Petitioner's Exhibit No. 2.

(Petitioner's Group Exhibit No. 2 marked for identification, 9-17-97.)

BY MR. ROSENTHAL:

Q. Mr. Hughes, let me show you what has been marked as Petitioner's Group Exhibit No. 2.

Can you identify that agreement --

A. Yes.

Q. -- or that document?

A. Yeah. This is the governmental agreement with Lake Barrington Industrial Park.

Q. And that consists of the agreement itself and five amendments?

A. Yes, it does.

Q. To your knowledge, is that the complete agreement as it now exists?

A. Yes, it is.

MR. ROSENTHAL: Could I have this marked as Petitioner's Exhibit No. 3.

(Petitioner's Exhibit No. 3 marked for identification, 9-17-97.)

BY MR. ROSENTHAL:

Q. Mr. Hughes, I'm showing you what's been marked as Petitioner's Exhibit No. 3.

Can you identify that document?

A. Yes, I can. This is a document for an

NPDES permit for the waste water treatment plant.

Q. Okay. The document consists of a letter dated February 6th, 1997, correct?

A. Yes, it does.

Q. And also enclosed is a copy of the -- it also consists of the village's current or 1997 final NPDES permit?

A. Yes.

Q. And was this -- there's also a fax cover sheet; is that correct?

A. Yes.

Q. And that -- it indicates that it's from Don Netemeyer --

A. Correct.

Q. -- to yourself?

Was this -- did you receive this fax on or about February 6th, 1997?

A. Yes, I did.

MR. ROSENTHAL: I'd ask that Petitioner's Exhibits 1, 2, and 3 be admitted into evidence.

THE HEARING OFFICER: Any objections?

MS. HOWARD: No objections.

THE HEARING OFFICER: Petitioner's Exhibits 1, 2, and 3 are admitted.

MR. ROSENTHAL: That's all that I have for this witness.

THE HEARING OFFICER: Ms. Howard?

C R O S S - E X A M I N A T I O N

by Ms. Howard

Q. Mr. Hughes, could you tell me, are you familiar with the -- you mentioned that the plant is not having right now any trouble meeting its permit limits in the wintertime; is that correct?

A. That's correct.

Q. Are you familiar with the actual discharge limits that they are putting on the DMRs? For example, December of 1996, do you know what was reported on the DMR for Fox River Grove to the agency?

A. I do prepare the monthly DMRs. I'd have to refer to them.

Q. Let's see. Let's start with December of '96.

MS. HOWARD: We can do this just by recollection, and if we want, we can make copies and enter them in as exhibits.

Do you have any -- we didn't bring extra copies of these actually. I'm referring to

exhibits. I'm sure we can make some copies.

MR. ROSENTHAL: If I could just see them?

MS. HOWARD: Sure.

MR. ROSENTHAL: Okay.

BY MS. HOWARD:

Q. Mr. Hughes, you mentioned that winter is a difficult time for the plant to meet its limits, correct?

A. Yeah. The --

MR. ROSENTHAL: I'm going to object. I don't believe that's what his characterization -- I think you're mischaracterizing his testimony.

BY THE WITNESS:

A. The bio-discs are less effective when it's colder.

BY MS. HOWARD:

Q. That's what I was -- I'm sorry. That based on the biological treatment plant, it is more difficult because of the bugs and so forth when the weather gets colder, sometimes the bugs have a hard time treating the waste and they do a lot better in --

A. Yeah. They do better in --

Q. -- warmer weather?

A. -- warmer conditions. Their metabolism is faster.

Q. Okay. I'd like to show you a discharge monitoring report that was submitted from the Fox River Grove -- village of Fox River Grove to the Illinois Environmental Protection Agency, and it's dated from December 1st, 1996, to December 31st, 1996, and I'd like you to take a look at the monthly average that was reported for BOD and for suspended solids.

A. Okay.

Q. Does that help you recall what the numbers were that you reported that month to the Illinois EPA?

A. Yes, it does.

Q. And what was the limit that you reported for BOD that month?

MR. ROSENTHAL: Which month are you referring to?

MS. HOWARD: This is December of 1996.

BY THE WITNESS:

A. For the CBOD or BOD?

BY MS. HOWARD:

Q. CBOD.

A. CBOD, seven milligrams per liter, and total suspended solids are nine.

Q. Okay. And the month of January of 1997, did you also submit and sign a discharge monitoring report and submit it to the agency?

A. Yes, I did.

Q. Okay. Take a look at that and tell me what the limit for BOD and total suspended solids was?

A. CBOD is reported as ten, and total suspended solids is also ten.

Q. Okay. In the month of February 1997, do you remember sending a discharge monitoring report for the village to the agency?

A. Yes.

Q. Would you take a look at that and tell us what the CBOD and the solids ratings were for that month?

A. A CBOD of ten and total suspended solids of 12.

Q. And the last one was for March of 1997. Do you remember submitting that DMR?

A. Yes.
Q. And could you tell us what the BOD or CBOD and TSS limits are for that?
A. CBOD is ten and total suspended solids is 11.
Q. Now, you would agree that those limits that you reported are well below the 20, 25 limits that we're discussing here today, correct?
A. Yes, they are.
Q. And that is during the colder months of the year, December say through March on average, here in the northern part of Illinois, correct?
A. Yes, it is.
Q. You testified that the loading of the plant was 9,900. That is really only the organic loading?
A. Correct. That's not the hydraulic.
Q. And hydraulic is 12,500; is that correct?
A. Yes, it is. The hydraulic capacity of the plant?
Q. Right, the hydraulic loading of the plant?
A. Twelve thousand five hundred, right.

MS. HOWARD: That's all I have.

THE HEARING OFFICER: Redirect?

MR. ROSENTHAL: Do you have the reports for April and May of '97.

MR. KELLER: Yes.

MS. HOWARD: Do you think it would be best maybe to make copies, if we can here, during a break or something of those and actually enter them into the exhibits? Would that help the board?

THE HEARING OFFICER: If either of you wish to introduce them, but --

MS. HOWARD: I think having the testimony of the actual limits is fine, but I just didn't know if that would be more helpful for the members.

R E D I R E C T E X A M I N A T I O N

by Mr. Rosenthal

Q. Let me show you the report for April 1997. Does that indicate what the average BOD5 is for that month?

A. Yes, it does.

Q. And what was it for April '97?

A. The CBOD for April is ten, and total suspended solids is 12.

Q. Okay. So the suspended solids went up

between April and May; is that correct?

A. That's correct.

Q. Let me -- I mean, between March and April.

A. I'm sorry, that's correct.

Q. Let me show you the permit for May. Can you indicate what the average was for CBOD5 for May?

A. CBOD is 11, and the total suspended solids is 17.

Q. And those were increases between April and May?

A. Yes, they are.

Q. Is there an explanation for the increases?

A. The treatment plant does tend to trend during colder weather to be less effective and less efficient in the long-term. That's really what I would...

Q. Does it take time for the organisms to warm up in the summer?

A. Yes, it does.

Q. So they wouldn't meet their peak operating efficiency until it's been warmed for some

months?

A. Yes. It does take a while for microorganisms to become more active.

MR. ROSENTHAL: That's all that I have.

THE HEARING OFFICER: Recross?

R E C R O S S - E X A M I N A T I O N

by Ms. Howard

Q. Just that for April and May, the BOD limits of ten and 11 milligrams per liter are below the limit in the permit of 20 milligrams per liter; is that correct?

A. Yes, it is.

Q. And the 12 milligrams per liter and the 17 milligrams per liter for total suspended solids for April and May, that's below the 25 milligrams per liter permit limit, correct?

A. Yes.

MS. HOWARD: That's all I have.

MR. ROSENTHAL: That's all that I have of this witness.

THE HEARING OFFICER: Okay. The numbers you were talking about there, the numbers you reported in the DMR correlate to the numbers in the permit conditions?

THE WITNESS: Yes, they do.

THE HEARING OFFICER: All right. Thank you. You may step down.

MR. ROSENTHAL: At this time, we would ask to call Mr. Al Keller pursuant to the rule -- I don't recall the exact citation there that allows the examination of adverse witnesses.

(Witness sworn.)

WHEREUPON:

S. A L A N K E L L E R, P. E.,

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

D I R E C T E X A M I N A T I O N

by Mr. Rosenthal

Q. Mr. Keller, could you please state your name for the record?

THE HEARING OFFICER: Before you get started, I will say that's Section 103.209, examination of an adverse party or agent, and you may proceed under that rule.

MR. ROSENTHAL: Thank you.

BY MR. ROSENTHAL:

Q. Would you please state your name for the record?

A. Alan Keller.
Q. And where are you currently employed?
A. The Illinois Environmental Protection Agency.
Q. And what is your position with the Illinois Environmental Protection Agency?
A. I'm the manager of the northern municipal unit in the permit section for the division of water pollution control.
Q. And how long have you been employed in that position?
A. In that position, approximately three years.
Q. And how long have you been employed by the IEPA?
A. Over 25 years. I started in June of '72.
Q. And in your current position, you are responsible for the issuance of NPDES permits in the northern sector of the state?
A. Yes.
Q. And that includes the NPDES permit that would be applicable to the village of Fox River Grove facility; is that correct?

A. Yes.
Q. And the permit that was issued in 1997, February of 1997, was that the first permit that you were involved -- NPDES permit that you were involved in for the Fox River Grove facility?
A. Yes.
Q. You were not involved in the issuance of any prior NPDES permit; is that correct?
A. No.
Q. Who was your predecessor in your current position?
A. Rick Lucas.
MR. ROSENTHAL: If I could have this marked.
BY THE WITNESS:
A. May I correct that? There was one other person in between Mr. Lucas and myself, and that was Dean Studer, however, he had no permit issuance with Fox River Grove. Mr. Lucas was the previous permit manager that dealt with Fox River Grove.
(Petitioner's Exhibit No. 4 marked for identification, 9-17-97.)

BY MR. ROSENTHAL:

Q. Mr. Keller, let me show you what has been marked as Petitioner's Exhibit No. 4. That document is a copy of the NPDES permit that was issued to the village of Fox River Grove in approximately July 1977 or June 1977?

A. Is that a question?

Q. Yes.

A. Yes, June 22nd, 1977.

Q. And then referring to Attachment A, that document sets effluent limitations; is that correct?

A. Yes, it does.

Q. And the effluent limitation for BOD5 on a monthly daily average is 30 milligrams per liter, is that correct, under that permit?

A. Yes, it is.

Q. And then the suspended solids -- the effluent limitation for suspended solids under the permit is 30 milligrams per liter; is that correct?

A. Yes, it is.

Q. You did not have any involvement in the issuance of this 1977 permit, did you?

A. I do not recall any involvement in it.

Q. But this is a copy of the permit?
MS. HOWARD: Go ahead. I'm sorry.
BY THE WITNESS:
A. It appears to be a copy of the permit, yes.
MR. ROSENTHAL: If I could have this marked as Petitioner's Exhibit No. 5.
(Petitioner's Exhibit No. 5 marked for identification, 9-17-97.)
BY MR. ROSENTHAL:
Q. Mr. Keller, I'm handing you what's been marked as Petitioner's Exhibit No. 5. That's a copy of a proposed draft NPDES permit for the Fox River Grove facility dated August 26th, 1986; is that correct?
A. Yes, it is.
Q. And referring to what would be the third page of this document, that indicates the proposed effluent limitations for BOD5; is that correct?
A. Yes.
Q. And the proposed effluent limitation is 30 milligrams per liter; is that correct?

A. Yes.
Q. And it also indicates the proposed suspended solid limitation for effluent limitation of 30 milligrams per liter; is that correct?
A. Yes.
Q. Again, you did not have any involvement in the issuance or the preparation of this draft permit; is that correct?
A. No.
MR. ROSENTHAL: Could I have this marked as Petitioner's Exhibit No. 6?
(Petitioner's Exhibit No. 6 marked for identification, 9-17-97.)
BY MR. ROSENTHAL:
Q. Mr. Keller, I've handed you a copy of what's been marked as Petitioner's Exhibit No. 6. That's a copy of a proposed -- of a draft NPDES permit for the Fox River Grove facility dated September 19th, 1986; is that correct?
A. Yes.
Q. And referring to page two of this document, that insert states a proposed effluent limitation for BOD5 of 20 milligrams per liter; is

that correct?

A. Yes.

Q. And it shows a proposed effluent limitation for suspended solids of 25 milligrams per liter; is that correct?

A. Yes.

Q. So there was a reduction of those numbers between the 19 -- between the August draft term and the September draft term of 1986, correct?

A. Correct.

Q. And, again, you were not involved in the preparation of that draft permit?

A. No.

MR. ROSENTHAL: If I could get this marked as Petitioner's Exhibit No. 7.

(Petitioner's Exhibit No. 7 marked for identification, 9-17-97.)

BY MR. ROSENTHAL:

Q. Let me show you what's been marked as Petitioner's Exhibit No. 7. This is a cover letter -- Petitioner's Exhibit No. 7 consists of a cover letter and a copy of the final permit or a final NPDES permit dated December 5, 1986, correct?

A. Yes.
Q. And this was sent out by the Illinois Environmental Protection Agency?
A. Yes.
Q. And this showed -- the NPDES permit shows a limitation for CBOD5 of 20 milligrams per liter; is that correct?
A. Correct.
Q. And it shows a suspended solids limitation of 25 milligrams per liter; is that correct?
A. Yes, it is.
Q. The letter that is attached, that was written on behalf of the IEPA; is that correct?
A. Yes.
MR. ROSENTHAL: If I could have this marked as Petitioner's Exhibit No. 8.
(Petitioner's Exhibit No. 8 marked for identification, 9-17-97.)
BY MR. ROSENTHAL:
Q. Petitioner's Exhibit No. 8 is a copy of a petition for review of the December 5, 1986, permit; is that correct?

A. Yes.
Q. And what's -- the -- what is being appealed there with the effluent limitations that were placed on CBOD5 and suspended solids; is that correct?
A. Under 1.5 on page two?
Q. Yeah, 1.5, 1.7.
A. Yes, that's true.
Q. Now, you are aware that there was an appeal in 1986 of the initial permit limitations that were placed on the effluent levels for CBOD5 and suspended solids in the December 1986 NPDES permit, correct?
A. Yes.
Q. Are you familiar with an individual by the name of Wayne Wiemerslage?
A. Yes.
Q. He was an attorney employed by the -- worked for the Illinois Environmental Protection Agency; is that correct?
A. Yes.
MR. ROSENTHAL: If I could have this marked as nine.
(Petitioner's Exhibit No. 9

marked for identification,
9-17-97.)

BY MR. ROSENTHAL:

Q. Let me show you what's been marked as Petitioner's Exhibit No. 9. That is a letter written on Environmental Protection Agency stationery, correct?

A. Yes, it is.

Q. And that is a letter from Mr. Wiemerslage to myself; is that correct?

A. Yes.

Q. And that is -- the letter confirms the settlement of the appeal in the 1996 permit; is that correct?

A. Yes.

Q. And that settlement indicates that there is a rating change for the village of Fox River Grove treatment plant from 10,000 PE down to 9900 PE?

A. Yes.

Q. And the letter in the next paragraph indicates that with the settlement there's no need for a hearing on the appeal; is that correct?

A. Correct.

Q. And that indicates that the IEPA will issue a new NPDES permit?

A. Yes, it does.

MR. ROSENTHAL: Could I have this marked as Petitioner's Exhibit No. 10?

(Petitioner's Exhibit No. 10 marked for identification, 9-17-97.)

MR. ROSENTHAL: I haven't been doing this, but would you want copies of the exhibits?

THE HEARING OFFICER: No.

BY MR. ROSENTHAL:

Q. Mr. Keller, I'm showing you what you have in your hand what's been marked as Petitioner's Exhibit No. 10. That is a letter written on Environmental -- Illinois Environmental Protection Agency stationery, correct?

A. Yes.

Q. And it was written by Mr. Wiemerslage?

A. Yes.

Q. And in that letter, he's asking the village of Fox River Grove to officially request that its plant be rerated to 9900 PE?

A. Correct.

MR. ROSENTHAL: If I could have this marked as Petitioner's Exhibit No. 11?

(Petitioner's Exhibit No. 11 marked for identification, 9-17-97.)

BY MR. ROSENTHAL:

Q. Mr. Keller, let me show you what's been marked as Petitioner's Exhibit No. 11. That is a cover letter -- Petitioner's Exhibit No. 11 consists of a cover letter signed by Mr. Lucas along with a draft NPDES permit dated June 18th, 1987, for the Fox River Grove facility; is that correct?

A. Yes.

Q. And Mr. Lucas was your predecessor in your current position?

A. Correct.

Q. And that proposed permit, I'm referring to the second page, indicates an effluent limitation for BOD5 25 milligrams per liter; is that correct?

A. Yes.

Q. And an effluent limitation for suspended solids of 30 milligrams per liter; is that correct?

A. Yes.
Q. So these are increases in the effluent levels from the December 1986 permit; is that correct?
A. Yes.
Q. And this was issued by the Illinois Environmental Protection Agency, correct?
A. Yes.
MR. ROSENTHAL: Could I have this marked as Petitioner's Exhibit No. 12?
(Petitioner's Exhibit No. 12 marked for identification, 9-17-97.)
BY MR. ROSENTHAL:
Q. I'll show you what's been marked as Petitioner's Exhibit No. 12.
Petitioner's Exhibit No. 12 is a permit issued by the Illinois Environmental Protection Agency; is that correct?
A. Yes.
Q. And the permit changes the rated capacity of the Fox River Grove waste water treatment plant to a design organic equivalent of 9900 PE; is that correct?

A. Yes.
Q. And this is dated July 27th, 1987?
A. Yes.
Q. To your knowledge, the plant's rated capacity has not changed since July 27th, 1987, has it?
A. No.
Q. The plant's capacity is still 9900 PE; is that correct?
A. Organically, yes.
Q. And the permit itself, this permit has never been revoked; is that correct?
A. Correct.
Q. Do you have any reason to believe that the village has ever exceeded the 9900 PE capacity for organics?
A. No.
MR. ROSENTHAL: Could I have this marked as Petitioner's Exhibit No. 13?
(Petitioner's Exhibit No. 13 marked for identification, 9-17-97.)
BY MR. ROSENTHAL:
Q. Mr. Keller, I've handed you

Petitioner's Exhibit No. 13. That is a -- the document consists of a cover letter signed by Mr. Lucas and a proposed NPDES permit for the Fox River Grove facility; is that correct?

A. This is a draft permit.

Q. It's a draft permit?

A. Yes.

Q. Not a proposed draft permit.

And that shows a -- referring to the first page or the second page rather, it shows a flow rate of 1.25 MGD; is that correct?

A. Which page? I'm sorry.

Q. The second page. Here (indicating).

A. A flow rate of 1.25?

Q. Yes.

A. Yes.

Q. And then it shows an effluent limitation for BOD5 of 30 milligrams per liter?

A. Yes.

Q. And it shows an effluent limitation for suspended solids of 30 milligrams per liter?

A. Yes.

Q. And this document was issued by the Illinois Environmental Protection Agency?

A. Yes.

THE HEARING OFFICER: What's the date on that?

THE WITNESS: July 30, 1987.

BY MR. ROSENTHAL:

Q. Now, you did not work on this particular permit?

A. No.

Q. Now, there's -- so the July 30th, 1987, permit increases the effluent limitation for BOD5 to 30 milligrams per liter from the limitation of 25 milligrams per liter that was stated in the June 18th draft permit; is that correct? If you want to take a look at it there.

A. Correct.

Q. I'll show you what's been marked as -- if I could have that marked, sorry, as Petitioner's Exhibit No. 14.

(Petitioner's Exhibit No. 14 marked for identification, 9-17-97.)

BY MR. ROSENTHAL:

Q. Petitioner's Exhibit No. 14 consists of a cover letter and a modified NPDES permit for the

Fox River Grove facility with an issue date of December 5, 1986, and an effective date of January 5, 1987, and a modification date of September 15, 1987; is that correct?

A. Correct.

Q. And this document, the cover letter was signed by Mr. McSwiggin; is that correct?

A. Correct.

Q. Who is Mr. McSwiggin?

A. He is the manager of the permit section.

Q. He's your boss?

A. Yes.

Q. Referring to the effluent limitation from the second page, I think it's on the back, that shows an effluent limitation of 30 milligrams per liter for BOD5; is that correct?

A. Part of it's cut off.

Q. Let me see that.

A. I don't know if it's CBOD or BOD.

Q. Okay. Let me show you another one. September 15th, 1987?

MR. THOMAS: It'S cut off too.

MR. ROSENTHAL: It's cut off on the one

that you have?

MR. THOMAS: Yes, yes. But it's lined up -- the B is lined up with the first letter in flow.

MR. ROSENTHAL: Okay. I'm not sure how you want to handle this. Here is the original. I think we can, perhaps, show him the original and ask him to compare it, and then I think he can then testify to that, but you can see it's cut off along the original.

MS. HOWARD: You've got on the second page of your influent monitoring reporting it's BOD and flow on there.

MR. ROSENTHAL: Yeah. It's BOD.

BY MR. ROSENTHAL:

Q. Let me show you what the original of that document is, and then let me ask you based on Exhibit No. 14 what the effluent level for BOD5 was on that modified permit?

A. Thirty.

Q. Thirty milligrams per liter?

A. Yes.

Q. And then the effluent limit for suspended solids on that modified permit was also 30

milligrams per liter; is that correct?

A. Yes.

Q. Again, you didn't have any involvement in the issuance of this modified permit; is that correct?

A. No.

Q. Now, this modified permit was issued following the rerating of the Fox River Grove treatment plant for organic levels to 9900 PE; is that correct?

A. The organic population was 9900. It was modified.

Q. Okay. To reflect that?

A. Correct.

MR. ROSENTHAL: Could I have this marked as Petitioner's Exhibit No. 15?

(Petitioner's Exhibit No. 15 marked for identification, 9-17-97.)

BY MR. ROSENTHAL:

Q. Let me just ask one other question that I forgot to about Exhibit No. 4. That was issued by the Illinois Environmental Protection Agency; is that correct?

A. Yes.

Q. Okay. Let me show you what was marked as Petitioner's Exhibit No. 15. Petitioner's Exhibit No. 15 consists of a cover letter dated August 27th, 1991, signed by Rick Lucas typed on Illinois Environmental Protection Agency stationery and a proposed NPDES permit for the Fox River Grove facility, correct?

A. Yes. This is a draft permit, not a proposed permit.

Q. Okay. Referring to the proposed permit, the second page, that shows a flow rate of 1.25 MGD?

A. Yes.

Q. And it shows a proposed BOD5 effluent limitation of 30 milligrams per liter; is that correct?

A. Yes.

Q. And it shows a proposed effluent limit for suspended solids of 30 milligrams per liter; is that correct?

A. Yes.

Q. You did not work on this 1991 draft permit, did you?

A. No.

MR. ROSENTHAL: If I could have this marked as Petitioner's Exhibit No. 16.

(Petitioner's Exhibit No. 16 marked for identification, 9-17-97.)

BY MR. ROSENTHAL:

Q. Let me show you what's been marked as Petitioner's Exhibit No. 16. Petitioner's Exhibit No. 16 consists of a cover letter dated January 14, 1992, on Illinois Environmental Protection Agency stationery signed by Thomas McSwiggin, and a reissued NPDES permit dated January 14th, 1992, for the Fox River Grove facility; is that correct?

A. Correct.

Q. And it shows a CB -- and effluent limitation for CBOD5 25 milligrams per liter; is that correct?

A. Correct.

Q. And an effluent limitation of 30 milligrams per liter for suspended solids; is that correct?

A. Correct.

Q. Now, the draft or the permit dated

August 27th, 1991, showed a BOD5 limitation of 30 milligrams per liter and this shows a CBOD5 limitation of 25 milligrams per liter; is that correct?

A. Yes.

Q. Those are the functional equivalents in terms of measuring impact on a stream; is that correct?

A. Measuring an effluent.

Q. Pardon?

A. Measuring an effluent, correct.

THE HEARING OFFICER: I'm sorry, Mr. Keller, I --

THE WITNESS: Measuring an effluent standard.

BY MR. ROSENTHAL:

Q. It's the same standard -- it's the same -- they're the same standard?

A. Same equivalent numbers, yes, they are.

THE HEARING OFFICER: Your voice trails off a little bit, and it's hard for her to pick it up.

THE WITNESS: Sorry.

THE HEARING OFFICER: I should correct

that. It's hard for me to pick it up. She may pick it up fine.

BY MR. ROSENTHAL:

Q. Now, you did not work on the 1992 reissue NPDES permit, did you?

A. No.

MR. ROSENTHAL: If I could have this marked as Petitioner's Exhibit No. 17.

(Petitioner's Exhibit No. 17 marked for identification, 9-17-97.)

BY MR. ROSENTHAL:

Q. Mr. Keller, let me show you what's been marked as Petitioner's Exhibit No. 17. That consists of a cover letter dated November 8, 1996, written on Illinois Environmental Protection Agency stationery signed by yourself along with what's entitled proposed reissued NPDES permit for the Fox River Grove facility; is that correct?

A. Correct.

Q. And this shows a CBOD5 limitation of 20 milligrams per liter; is that correct?

A. Yes.

Q. And it shows a 25 milligrams per liter

limitation for suspended solids; is that correct?
A. Correct.
Q. And you did work on this permit?
A. Yes.
Q. And this was the first Fox River Grove permit that you worked on, is that correct, NPDES permit?
A. Correct.
MR. ROSENTHAL: If I could have this marked I believe it's Exhibit No. 18.
I'm sorry. That's the wrong one. I apologize.
THE HEARING OFFICER: That's all right. Eighteen is the next number.
MR. ROSENTHAL: Eighteen is the next number. That one wasn't it. This is it.
THE HEARING OFFICER: This will be 18.
MR. ROSENTHAL: Eighteen, yes
(Petitioner's Exhibit No. 18 marked for identification, 9-17-97.)
BY MR. ROSENTHAL:
Q. Let me show you what's been marked as Petitioner's Exhibit No. 18. That is a cover letter

dated December 2nd, 1996, along with a proposed reissued NPDES permit dated December 6th, 1996, for the Fox River Grove facility; is that correct?

A. Yes.

Q. And this shows an effluent limitation of 20 milligrams per liter for CBOD5 and 25 milligrams per liter for suspended solids; is that correct?

A. Correct.

Q. And, again, you worked on this particular permit; is that correct?

A. Yes.

Q. Let me show you what has been marked as -- previously marked and admitted into evidence as Petitioner's Exhibit No. 3.

Petitioner's Exhibit No. 3 consists of a cover letter signed by Mr. Netemeyer and a reissued NPDES permit for the Fox River Grove facility; is that correct?

A. You said it's signed by Mr. Netemeyer?

Q. Yes.

I believe it's signed by Mr. McSwiggin. I'm sorry.

A. Prepared by Don Netemeyer.
Q. Don Netemeyer did prepare that letter though?
A. Correct.
Q. And Mr. Netemeyer -- your Mr. Netemeyer's supervisor; is that correct?
A. Yes.
Q. Were you aware that Mr. Netemeyer was preparing this letter?
A. Yes.
Q. Did you review it before it was sent out?
A. Yes.
Q. And you concur with the statements in the letter?
A. Yes.
Q. Now, that permit imposes an effluent limitation for CBOD5 of 20 milligrams per liter; is that correct?
A. Correct.
Q. And that imposes an effluent limitation of 30 milligrams -- I'm sorry, 25 milligrams per liter for suspended solids; is that correct?
A. Correct.

Q. And that's the permit that is being appealed from in this proceeding, correct?
A. Yes.
Q. Now, there's a flow rate, I believe, there of -- it's based on an average daily flow of 1.25 MGD; is that correct?
A. Design average flow of 1.25.
Q. That was the same design average flow that was applicable when the 19 -- the modified 1987 permit was issued, the 1977 permit was issued, and the 1992 permit was issued, correct?
A. Correct.
Q. And the organic limitation rating applicable at the time in February 1997 when that permit was issued was 9900 PE; is that correct?
A. That's correct.
Q. Now, Mr. Netemeyer's letter explains the agency's position as to why the 20 milligrams per liter limitation for CBOD5 and the 25 milligrams per liter limitation for suspended solids is applicable; is that correct?
A. Correct.
Q. And the agency's position is based on two regulations, 304.120 and 301.345; is that

correct?

A. Correct.

Q. Okay. The IEPA administers the NPDES permit program on behalf of the U.S. EPA; is that correct?

A. Yes.

Q. And the NPDES permit that the village -- permits that the village has been receiving since 1977 are permits that allow the village to discharge water into the Fox River; is that correct?

A. Yes.

Q. And the water that's being discharged is water that has been treated at the village's waste water treatment plant, correct?

A. Correct.

Q. Now, prior to this year or at least the 1997 permit, the U.S. EPA reviewed permit applications, is that correct, for NPDES permits?

A. Actually, it's been the last two years they have not reviewed permits --

Q. But they did review --

A. -- as far as reviewing all of the major permits. They never reviewed all permits, but all major permits.

MR. ROSENTHAL: If I can have this marked. I think we're up to 19.

(Petitioner's Exhibit No. 19 marked for identification, 9-17-97.)

BY MR. ROSENTHAL:

Q. Let me show you what has been marked as Petitioner's Exhibit No. 19. That is a letter written to Mr. Thomas McSwiggin at the Illinois Environmental Protection Agency by Kenneth Fenner, chief water quality branch of Region V of the U.S. Environmental Protection Agency, correct?

A. Correct.

Q. And this is regarding the -- this is dated December 16, 1991; is that correct?

A. Correct.

Q. And this was done in connection with the 1991, '92 reissuance of the Fox River Grove NPDES permit, correct?

A. Yes.

Q. And this indicates that the -- this indicates comments that the U.S. EPA had with regard to the draft permit for -- NPDES permit for the Fox River Grove facility?

MS. HOWARD: I object to the question. At this point, I would be willing to accept this letter as being -- the contents of the letter at a face value being taken, but as to whether or not Mr. Keller can attest as to whether or not, you know, what U.S. EPA's comments actually were other than reading the letter like the rest of us, I would say he's in a difficult position to be testifying to this.

MR. ROSENTHAL: That's fine. I'll withdraw the question.

THE HEARING OFFICER: All right.

MR. ROSENTHAL: Let me just ask if I can ask one question based on this.

BY MR. ROSENTHAL:

Q. Does this letter anywhere based on your reading of it, Mr. Keller, anywhere indicate that the U.S. EPA had a problem with the effluent limits that were proposed for BOD5 or CBOD5 or for suspended solids with regard to the 1991, 1992 reissue permit?

A. No, it does not.

THE HEARING OFFICER: Mr. Keller, would you spell the name of that letter writer for the record,

please?
THE WITNESS: The writer?
THE HEARING OFFICER: Yes.
THE WITNESS: Kenneth A. Fenner, F-e-n-n-e-r.
THE HEARING OFFICER: Thank you.
BY MR. ROSENTHAL:
Q. Now, let me see if I understand this. You indicated that the U.S. EPA now only reviews major permits?
A. No. They've only reviewed the major permits for a number of years, and in the last two years, they've not reviewed all major permits.
Q. Okay.
A. That was done by an agreement between the Illinois EPA and the U.S. EPA.
Q. Okay. I don't think -- this is just a regulation I'm handing to you since -- this is a copy of the regulation.
Mr. Keller, I've handed you a copy of 304.120 -- regulation 304.120. This is one of the regulations in which the effluent limitations in the 1997 permit was based, correct?
A. Correct.

Q. Now, this regulation is entitled deoxygenating waste, correct?
A. Correct.
Q. And that refers to waste that removes oxygen from water; is that correct?
A. Yes.
Q. And specifically you or the IEPA based its effluent limitation on 304.120(b), is that correct, paragraph B -- subparagraph B. I'm sorry.
MS. HOWARD: Objection to the question. Which permit are you talking about, the most recent --
MR. ROSENTHAL: I'm talking about the 1997 permit.
BY MR. ROSENTHAL:
Q. Is that correct?
A. Along with 301.345.
Q. Right. But in terms of this regulation, 304.120, the provision that the IEPA is relying on is subparagraph B; is that correct?
A. Yes.
Q. Now, this document says -- subparagraph B says no effluent from any sources untreated waste load is 10,000 population equivalents or more from

any source discharging into the Chicago River system or into the Calumet River system shall exceed 20 milligrams per liter of BOD5 or 20 milligrams per liter of suspended solids; is that correct?

A. I believe you said 20 milligrams per liter of suspended solids. It should be 25.

Q. Twenty-five.

A. Yes.

Q. It doesn't say what the design flow of a plant is, does it?

A. Well, let's see. Untreated waste load of 10,000 population equivalents.

Q. But it doesn't say in which from any source whose untreated waste load capacity is 10,000; is that correct?

A. Untreated waste load capacity?

Q. Right.

A. No.

Q. Okay. You're not looking at -- it doesn't talk --

A. It does not --

THE HEARING OFFICER: Wait, wait.

MR. ROSENTHAL: I'm sorry.

THE HEARING OFFICER: One at a time.

BY THE WITNESS:

A. It doesn't say that.

THE HEARING OFFICER: Well, let him -- you were rephrasing your question.

BY MR. ROSENTHAL:

Q. This regulation does not refer to the capacity of the plant; is that correct? There's nothing --

A. It does not use that specific word capacity of the treatment plant, correct.

Q. In fact, it doesn't use the word treatment plant at all, does it?

A. No.

Q. It doesn't use the word capacity at all, does it?

A. No.

Q. Is Fox River Grove in the Chicago River system?

A. I don't believe so.

Q. Is the Fox River in the Calumet River system?

A. No.

Q. Read literally, Mr. Keller, this regulation refers to what the waste load is at any

given time; is that correct?

A. You could read that literally, yes.

Q. And the IEPA chooses not to read it literally; is that correct?

A. Correct. We utilize the actual design permitting capacities is what we use.

Q. Now, when you say you utilize the actual design permitting capacities, this regulation, again, doesn't refer to the actual design rating capacities, does it?

A. It doesn't use that wording, correct.

Q. Nowhere in this regulation does it use that wording, does it?

A. No.

Q. Mr. Keller, I've handed you a copy of regulation 301.345. That is the other regulation on which the IEPA based its decision to impose the effluent limitations of 20 milligrams per liter for CBOD5 and 25 milligrams per liter for suspended solids in the 1997 permit, correct?

A. Correct.

Q. Now, this regulation indicates that the population equivalent is a term used to evaluate the impact of industrial or other waste on a treatment

works or on a stream, correct?

A. Correct.

Q. And it refers to three different factors; is that correct? The first factor -- is that --

A. Yes.

Q. The first factor being the amount of flow, 100 gallons of sewage per day; is that correct?

A. Right.

Q. The second factor being the amount of BOD5 being .17 pounds or 77 grams; is that correct?

A. Correct.

Q. And the third factor being .20 pounds of suspended solids; is that correct?

A. Correct.

Q. And then it goes on to say that the impact on a treatment works is evaluated as the equivalent of the highest of all three parameters, correct?

A. Correct.

Q. But then it draws a distinction with regard to measuring the impact on a stream; is that correct?

A. Yes.
Q. And when you're dealing with the impact on a stream, you deal with only two of the parameters; is that correct?
A. Correct.
Q. And those two parameters are the BOD5 and the suspended solids; is that correct?
A. Correct.
Q. And Fox River Grove's rating for BOD5 and suspended solids in terms of population equivalent is 9900; is that correct?
A. Correct.
Q. And the NPDES permit is a permit I believe as you stated is to -- it allows the discharge of water into the Fox River; is that correct?
A. Yes.
Q. So what you were talking about is a permit that allows discharge of water into a stream; is that correct?
A. Yes.
MR. ROSENTHAL: That's all that I have.
I'm sorry. I just want to clarify a couple of things.

BY MR. ROSENTHAL:

Q. One, there's been no changes that you were aware of in the provisions of Section 301.345 since 1977; is that correct?

A. Correct.

Q. And there have been no changes in any of the provisions of 304.120 since 1977, is that correct, that you're aware of?

A. Not Section B. There are other changes, but not Section B.

Q. Okay. Now, the IEPA does not have a practice of issuing permits when the provisions of the permits would violate these regulations; is that correct?

A. That's correct.

Q. Yet, in 1977, 1987, and 1992, the IEPA issued permits that had effluent limitations of either 25 milligrams per liter of CBOD5 or 30 milligrams per liter of BOD5 and 30 milligrams per liter of suspended solids; is that correct?

A. No. I think the 1977 permit was issued by the U.S. EPA, not Illinois EPA.

Q. But the U.S. EPA would not be violating these regulations either; is that correct?

A. No.
Q. Okay. So, therefore, the people employed by the IEPA who issued the permits in 1987 and 1991 either issued permits that were in violation of these regulations or they did not believe that the permits violated the regulation; is that correct?
A. Correct.
Q. Is it your testimony here today that the permits that were issued in 1987 and 1991 violated these two regulations with regard to the effluent limitations for suspended solids and BOD5 or CBOD5?
A. I believe there was an error made.
MR. ROSENTHAL: That's all that I have.
THE HEARING OFFICER: Cross?
MS. HOWARD: I don't have any cross, but I will be calling Mr. Keller in our case in chief.
THE HEARING OFFICER: All right.
MR. ROSENTHAL: Before we release this witness, I'd ask that Exhibits 4 through 19 be admitted into evidence.
MS. HOWARD: I don't have any objection to five through 19. I do have an objection with

Petitioner's Exhibit No. 4 only because of the lack of foundation.

Mr. Keller was not a party in receiving that permit or issuing that permit. It was from the United States Environmental Protection Agency to Mr. Lambert, who is the president of the village of Fox River Grove, and I just think there should have been better foundation laid for that.

MR. ROSENTHAL: I'll lay it with another witness.

THE HEARING OFFICER: Exhibits 5 through 19 are admitted into evidence, and we will hold up on -- it was No. 4?

MS. HOWARD: Right.

THE HEARING OFFICER: Thank you, Mr. Keller. You may step down for the time being. Let's take a short break.

(Break taken.)

THE HEARING OFFICER: Back on the record. You may proceed.

MR. ROSENTHAL: Petitioner will call our next witness, Lawrence Thomas.

(Witness sworn.)

MR. ROSENTHAL: Can I get

this marked as 20?

THE HEARING OFFICER: Twenty.

(Petitioner's Exhibit No. 20 marked for identification, 9-17-97.)

WHEREUPON:

L A W R E N C E E. T H O M A S, P. E., called as a witness herein, having been first duly sworn, deposeth and saith as follows:

D I R E C T E X A M I N A T I O N

by Mr. Rosenthal

Q. Would you please state your name for the record?

A. Lawrence Edward Thomas.

Q. And by whom are you employed?

A. Baxter & Woodman.

Q. And what is your profession?

A. I'm a civil engineer.

Q. And what is Baxter & Woodman?

A. Baxter & Woodman is a consulting engineering firm specializing in water and waste water designs.

Q. How long have you been employed by Baxter & Woodman?

A. I've been with Baxter & Woodman for over 20 years.

Q. And what is your current position with Baxter & Woodman?

A. I'm a vice-president with the firm.

Q. And does Baxter & Woodman hold any position with regard to the village of Fox River Grove?

A. We serve as Fox River Grove's village engineer providing them with the engineering services for water, waste water, streets.

Q. And let me show you what's been marked as Petitioner's Exhibit No 20. Can you identify that, please?

A. This is my resume.

Q. And does it set forth your educational background?

A. Yes.

Q. And does it set forth your professional association and registrations?

A. Yes.

Q. And your honors and experience?

A. Yes.

Q. And is it accurate?

A. Yes.
Q. Now, how long have you personally been involved in performing engineering services for the village of Fox River Grove?
A. Since 1977.
Q. Did you have any involvement with the village's waste water treatment plant?
A. I was the design engineer for the treatment plant that is currently out there now.
Q. And when you say you were the design engineer, what does that mean you did?
A. I did the layouts, the basic design of the treatment plant under the supervision of George Heck, who was the client manager at that time for Fox River Grove.
Q. Have you been involved in the NPDES permit process for the Fox River Grove plant?
A. Yes.
Q. Have you been involved with every -- the issuance of every NPDES permit?
A. With the exception of the first one, I have been involved with all of the subsequent ones, the '87 and the '92, and this last one.
Q. Can you identify the first one?

A. The first one was the U.S. EPA permit, which was issued in 1977. That was put together as I was working on the treatment plant, but I was not the one who actually took care of getting that taken care of.

Q. Would you recognize that permit if you saw it?

A. Yes. Oh, yes.

Q. You could identify the permit as the permit under which the village of Fox River Grove operated between 19 -- after 1977?

A. Yes.

Q. Let me show you what's been marked as Exhibit No. 4. Can you identify that document?

A. Exhibit No. 4 is the 1977 NPDES permit for Fox River Grove as issued by the United States Environmental Protection Agency.

MR. ROSENTHAL: I'd now ask that Exhibit No. 4 be admitted into evidence.

MS. HOWARD: No objection.

THE HEARING OFFICER: Exhibit No. 4 is admitted into evidence.

BY MR. ROSENTHAL:

Q. Mr. Thomas, are you familiar with the

term CBOD5, BOD5, and suspended solids?

A. Yes.

Q. Can you explain what CBOD5 is?

A. Waste water contains materials in it that have an oxygen demand when they're placed into a stream or into a body of water. That oxygen demand is created by microorganisms feeding upon that organic waste and converting that oxygen to carbon dioxide into more massive microbes.

Carbonaceous biological oxygen -- excuse me, biochemical oxygen demand refers to the portion that's tied to the carbon-based organic compounds. There is also nitrogen-based organic compounds that also have a biochemical oxygen demand.

So BOD refers to the combination of both the nitrogen and the carbonaceous oxygen demands. CBOD only refers to the carbonaceous.

Q. Is it possible to measure an equivalent number of BOD5 with CBOD5?

A. Yes. Basically, the CBOD5 is roughly about 80 percent of your total BOD5.

Q. Is there any number that -- would 30 milligrams per liter of BOD5 be the equivalent of

any particular number of CBOD5?

A. Yes. In a normal waste water, those two numbers would be equivalent, yes. The 30 BOD is equivalent to the 25 CBOD.

Q. Going back to the Fox River Grove waste water treatment facility, where is that located?

A. The treatment facility is located on the western end of the community adjacent to Shannon Creek.

Q. And is it located -- what type of neighborhood is it located in?

A. It's located in a residential neighborhood. The site itself is approximately one and a half acres. One side of it is bound by homes. The other side is a Commonwealth Edison right-of-way. The third side is Shannon Creek, and then the fourth side is a wetlands area.

Q. Is there anything that would -- any other factor that would limit construction on that site?

A. Construction on that site now would not be possible with the current regulations regarding wetlands and flood plans. The entire site now is in a flood plain, and it also is in an area that was

formerly considered to be a wetland area.

Q. Can you explain why the current plant is allowed to be located there?

A. The treatment plant was built in 1926, the original treatment, and it's subsequently been upgraded in the '30s. It was again upgraded in 1967, and then it was -- the last upgrade was in 1978.

So the treatment plant expansions all predated the regulations that affect construction and wetlands and flood plains.

Q. Would it be possible to construct a new plant on that location?

A. No.

Q. I believe you --

MR. ROSENTHAL: If I could have this marked as Exhibit No. 21. Sorry. I didn't mean to hand that to you.

(Petitioner's Exhibit No. 21 marked for identification, 9-17-97.)

BY MR. ROSENTHAL:

Q. Mr. Thomas, I'm handing you what's been marked as Petitioner's Exhibit No. 21. Can you

identify that, please?

A. This is the permit that Fox River Grove received for the construction of the waste water treatment plant in 1977.

Q. And if you look at the first page, it just says design. Could you indicate what was meant down there by those?

A. The design number has an abbreviation DAF. That stands for daily average flow equals 1.25 MGD, which is a million gallons per day. DMF is daily maximum flow equaling 3.5 million gallons per day. Influent pounds of BOD and total suspended solids, which is abbreviated BOD, slash, TSS per day of 1700, slash, 2200.

Q. Can you explain -- if you would please explain the reason for the 1.25 MGD?

A. The waste water treatment plant was designed in 1977 to handle 10,000 PE, population.

When the facility planning report was done in 1976, a distinction was drawn between the sewage loading on the waste water treatment plant and the infiltration between the treatment plant.

In that report, they clearly call out that the -- and I should back up. The facility

planning report was the basis of design for the waste water treatment plant. It served as the planning document, and it was accepted by the IEPA as the design basis.

The population equivalent was shown to be a residential population of 8,500 population equivalents, and then Good Shepherd Hospital at 1,500 for a total of 10,000 PE.

The waste water flow rates were based on a combination of sewage and infiltration. In the -- you know, I'd remark that in the regulation that we're dealing with, the population is based on the population equivalent is 100 gallons of sewage per day.

The facility planning report calls out the sewage as being 10,000 PE at 100 gallons per capita per day equaling one million gallons per day infiltration into the system 0.25 MGD, and the infiltration is clear water.

We had to make provisions for this so that the plant would not be hydraulically overloaded so that the water could get through the channels and so forth without backing up.

There was a sewer evaluation done as a

part of this facility planning effort. It was recognized that there was more than the normal amount of infiltration into the sewer system, but it was agreed by the IEPA that that infiltration was not excessive and that it was more cost-effective to treat that infiltration than it was to try and remove it. Hence, we came up with a total flow of 1.25, but, clearly, only 10,000 PE of that is sewage.

THE HEARING OFFICER: Ten thousand PE?

THE WITNESS: Yes.

BY THE WITNESS:

A. The peak daily dry weather flow was also based on a base infiltration rate plus a multiplication of the sewage for taking into account that you have flow variations.

BY MR. ROSENTHAL:

Q. Was there a reason for the high -- relatively high inflow infiltration?

A. The Fox River Grove sewer system was put in the ground in the mid-1920s. It's made up primarily of clay pipes using oakum as the joining materials, the gaskets between those pipes, which is not a very effective way of sealing the pipes.

Portions of the sewer system are below the river, and we have sewers that run along the streets that are parallel to the river and below the river level.

In order to hold those pipes down so they wouldn't float, they have a concrete cap poured over the top of them, but those pipes are very susceptible to infiltration inflow coming into them just during the normal course of -- even in dryer weather, we have infiltration coming into the system because the river maintains a high water level in these areas.

Q. You indicated that this was designed with a 10,000 PE. Has the rating -- has that 10,000 PE rating been changed?

A. Yes.

Q. In 1987 when we went for the NPDES renewal, the first drafts of that were calling the plant out to be a greater than -- were calling it a major facility, and, hence, the EPA was asking for lower limitations on our BOD and suspended solids in the effluent.

The village objected to those levels. The EPA reviewed the situation, agreed that a way to

resolve the issue was to rerate the plant for 9,900 so that we would be in compliance with the regulation, and that agreement was accepted by both the village and by the IEPA.

Q. What is the current rating of the plant?

A. The current rating of the plant is 9,900 PE with a flow capability of 1.2 million gallons per day.

Q. Is the 1.2 million gallon per day rating intended to take into consideration the inflow infiltration?

A. That is correct.

MR. ROSENTHAL: I'd like to have this marked. I believe this is Exhibit 21, 21 or 22.

THE HEARING OFFICER: Twenty-two.

(Petitioner's Exhibit No. 22 marked for identification, 9-17-97.)

BY MR. ROSENTHAL:

Q. Mr. Thomas, I'm showing you what's been marked as Exhibit No. 22.

Could you identify that document?

A. This is the renewal of an NPDES

application that was submitted to the IEPA by Fox River Grove, and it was received by the IEPA February 26th, 1981.

Q. Okay. Was the NPDES permit -- was this application ever acted on?

A. No, it was not.

MR. ROSENTHAL: Could I have this marked as Exhibit No. 23?

(Petitioner's Exhibit No. 23 marked for identification, 9-17-97.)

BY MR. ROSENTHAL:

Q. Mr. Thomas, I'm handing you what's been marked as Exhibit No. 23.

Can you identify that document?

A. This is a letter to Mr. Rick Lucas of the IEPA dated November 3rd, 1986, from the village of Fox River Grove.

Q. Okay. And it's signed by the village president; is that correct?

A. That is correct.

Q. Do you recognize that signature as being the signature of Dan Shea?

A. Yes.

Q. Was Dan Shea the village president at the time?

A. Yes, he was.

Q. Who drafted that -- was that letter drafted -- who drafted that letter?

A. This letter was drafted by Baxter & Woodman.

Q. Okay. What prompted Baxter & Woodman to draft that letter?

A. We had received a proposed NPDES permit in 1986, in September of 1986, which was lowering the effluent concentrations of the BOD and suspended solids from their what was then current levels or current level of 30 milligrams per liter BOD and 30 suspended solids down to 20 milligrams per liter of BOD and 25 of suspended solids.

We were concerned that if that was done that this would have a big impact on the ability of the waste water treatment plant to fully serve the facility planning area that it was intended to serve when it was built.

Q. Were the effluent levels that you were protesting -- limitation levels that you were protesting -- that that letter protests, did they

subsequently increase?

A. Yes. That was the results of -- the village's objection was that an agreement was reached with the IEPA prior to going to the Pollution Control Board that the rating of the treatment plant would be reduced from 10,000 PE to 9,900 so that we would conform with the regulations.

Q. Was an appeal filed with the Pollution Control Board?

A. An appeal was filed, but it was withdrawn after the agreement was reached with the IEPA.

Q. With regard to the village's waste water treatment plant, does the plant operate in the same way now as it did in 1977?

A. Yes. The plant's operation is still the same as it was in '77 when it was first -- well, it was first put on line in 1978.

Q. Have there been any changes in the way that the plant processes waste water since 1978?

A. No, no significant changes.

Q. Have there been any change in the type of equipment that is used to treat waste water at the plant?

A. No.

Q. Mr. Hughes testified that the plant uses biological contactors. Could you explain how those work?

A. After primary sedimentation, the sewage is fed into four tanks which operate as two parallel streams. In each of those tanks, there is what is referred to as a rotating biological contactor which is a steel shaft with plastic media attached to it, and the shafts are set parallel to the direction of flow.

So as the sewage moves through the tanks, it has to pass along the length of those contactors. Now, those contactors are turning as slow -- at a slow rate, a slow revolution rate, so that as the sewage goes by them, the discs are dipped into the sewage and then they're brought out into the air, and then it keeps doing this process over and over again, and by doing this, we create an environment that the microbes can attach themselves to the bio-discs and grow and eat the soluble organics in the waste water, create more microbes, and so you get more and more of a population growth on this media, and as the weight of the microbes

gets so high that they can't hang on any more, portions of them fall off and re-enter the waste stream, and those microbes are carried on to the secondary clarifiers where they then settle down to the bottom of the tank.

So we are basically in these tanks converting soluble organics into a microbial mass that then can be removed by settling.

Q. What is the reason for doing that?

A. If we put raw sewage into the river, it puts an oxygen demand on the stream. In other words, it will use up -- microbes in the stream itself will use that soluble organics and create more microbes. In doing that, they will deplete the oxygen supply in the river, and when the O2 drops too low in the river, then you have problems with maintaining fish because there's nothing for them to breathe.

What we do in the waste water treatment plant is we accelerate that natural process, and we take care of removing those soluble organics within the treatment plant before it has the opportunity to go out into the river. So we get rid of that demand so that it doesn't put that demand on the river

itself.

Q. When you're talking about the organic material, is that what's referred to as the BOD5 or CBOD5?

A. We quantify the organic load on a river or on a treatment plant in terms of we call it the carbonaceous biochemical oxygen demand. That's how we quantify how much there is of it, yes.

Q. Let me show you what's been admitted into evidence as Petitioner's Exhibit No. 17. That is the November 8, 1996, draft permit. Did you review that when it was received?

A. Yes, I did.

Q. And what did you do after you reviewed it?

A. I advised the village that the IEPA was proposing to reduce the effluent concentration limits in the permits from the 25 milligrams per liter for CBOD down to 20 and for suspended solids from 30 down to 25.

Q. And did you advise the village to take any action in regard to that?

A. I advised the village that they should object to that change because of the impacts it

would have on the waste water treatment plant and its ability to provide service for the facility planning area.

Q. With regard to -- and do you know if the village did take any action with regard to that?

A. Yes. They did file an objection, which has led to this hearing. I should back up. We did meet with the IEPA to discuss the permit before we filed the objection.

Q. And prior to -- okay.

Was there any -- did you have any telephone conversations or correspondence with representatives of the IEPA?

A. Yes. During the initial stages of the review when the first draft had been issued, I did talk to Don about the limitations on the permit and the fact that they had been changed. I was looking for the background for why the EPA was changing those limitations when in 1987 we had come to an agreement.

Q. When you refer to Don, who are you referring to?

A. Don Netemeyer.

Q. And who is he?

A. He is a staffer with the IEPA.

MR. ROSENTHAL: I'd like to have this marked as Exhibit No. 24.

(Petitioner's Exhibit No. 24 marked for identification, 9-17-97.)

BY MR. ROSENTHAL:

Q. Let me show you what's been marked as Petitioner's Exhibit No. 24. Can you identify that document?

A. This is a fax that I sent to Don containing several letters of correspondence regarding the 1987 permit renewal. This information he did not have it readily available, and he asked that I supply it to him.

Q. Can you explain what prompted you to send this fax?

A. Don asked me to. He asked that I provide him with some background information on the 1987 permit renewal. They did not have that easily available to them.

Q. Okay. Was this sent after the village received the initial draft permit in -- for the '96, '97 permit?

A. Oh, yes, yes.

Q. Let me show you what's been marked and admitted into evidence as Petitioner's Exhibit No. 3, and that is a -- referring to the second -- to the first -- well, to the second page of the document, the first page of the letter there's a statement that's made obligations in plants made to include additional unsewered areas and new developments will obviously increase suspended solids and organic loads on the plant. However, the agency believes that the plant as designed will meet the limitations in the permit until the above-designed capacities are reached.

Under the present operating conditions and effluent quality, the agency will be able to issue permits for additional waste loads tributary to the plant. Upgrades to the facility may be required if the facility approaches its design capacity.

Do you agree with that statement, the last statement?

A. The last sentence?

Q. Yes.

A. I agree that upgrades to the facility

may be required as the facility approaches its design capacity.

Q. To your knowledge, has there been any, I suppose, hazardous conditions created because the 25, 30 effluent limitations were in effect rather than the 20, 25 effluent limitations in the 1997 permit?

A. There has been no hazardous conditions caused by the operation of the treatment plant.

Q. Are you familiar with the village of Fox -- the Fox River Grove facility planning area, the waste water treatment facility?

A. Yes.

Q. What areas are serviced by the Fox River Grove treatment plant?

A. The Fox River Grove -- the facility planning area encompasses all of the incorporated portion of the village plus the Lake Barrington Industrial Park, Good Shepherd Hospital, and a couple of unincorporated subdivisions immediately to the west of the community.

Q. What are those unincorporated subdivisions referred to as?

A. Venetian Gardens is the main one.

Immediately to the west is an unsewered area, well and septic, many small lots, an area that was formerly cottages, which now people are living in those homes full-time instead of part-time.

Q. Had there been problems with the septic fields in that area?

A. Yes. There have been several cases of septic systems in that Venetian Gardens area failing. They're down close to the river. They have very high groundwater conditions. They're on very small lots, and there are a number of homes in there where the system simply does not work anymore, and those homeowners are having their septic systems pumped out on a regular basis.

The situation won't remain that way that long. The McHenry County Public Health Department will be eventually red tagging some of those homes in that area as uninhabitable because of the waste water situation.

Fox River Grove also has some areas in it which are not sewered which are alongside the river that we would like to be able to extend service to them in order to be able to take care of their septic problems.

Again, we have a situation in this area where we've got a lot of homes that were built along the river on very small lots, generally 40 to 45 feet wide lots, that were intended for use on a part-time basis coming out there in the summer, on the weekends, and people live in those homes full-time now, and what little septic system there are on those lots simply cannot handle the load.

Q. Would these be lots that if they are provided with sewer the Fox River Grove plant will be expected to provide treatment?

A. That is the intention, yes.

Q. Now, in your testimony, you've referred to a concern regarding the impact of the lower effluent limitations on the treatment plant and the ability of the treatment plant to provide service to the area. Can you explain what you mean by that?

A. The treat plant was designed to handle up to 10,000 population equivalents.

Q. Let me ask you --

A. Yeah. Repeat the question, please.

Q. Let me ask you why is the village concerned about the lower effluent limitations?

A. All right. The treatment plant is a

biological process designed to handle 10,000 population equivalents. What is being proposed is lowering the effluent quality having to go from 25 milligrams per liter down to 20 milligrams per liter, which is a 20 percent reduction in your allowable discharge of pounds per day of organic waste.

Because it is a biological process, it can only be so efficient in removing the influent -- reducing influent waste stream. As a result, we can't just arbitrarily say that I can meet that new limit because -- just because the treatment plant right now is operating below the 25, 30 standard that it has set for it right now doesn't mean that it will stay down there.

As the loading increases, the efficiency of the plant is going to decrease because of higher flow rates and because of the greater amount of soluble organics coming into the treatment plant, and we are going to reach a situation where we can't always guarantee that we're going to be able to hit that new effluent standard.

So to simply say that we're doing a great job now and we are expected to be able to

continue doing a great job, doesn't hold true in that as those flow rates increase as the loading increases, the treatment plant is going to be putting out a higher level of organics.

We've had some months that are very seldom, but it has gotten up, for instance, up to 17 milligrams per liter on effluent. What we have to protect the village from is from -- by changing these standards from what they are now, it would go to the tougher standard, which aren't warranted.

It puts the village at greater risk as the flows increase of going in violation of their NPDES permit; whereas, if the standards were held at where they belong, they would not be in violation.

That five milligrams per liter is a very important range that the treatment plant needs to have to be able to handle the waste loads that come into it because the waste loads are not constant. We have fluctuations. We have to be able to handle those fluctuations.

Q. In regard to the violations, what would be the problems if there were any violations aside from the fine in terms of correcting it?

A. Well, if we get into a situation where

we start having violations, then if we haven't fully served the area, we would have to stop extending service anymore in the facility planning area.

Fox River Grove would then have to enter into a compliance program to fix the problem so that they are not going out of compliance anymore, and so you get into a situation where you're looking at a very expensive proposition.

Q. Why is it an expensive proposition?

A. This is not just a simple case where we can add to the waste water treatment plant where we just add another unit next to the existing units that are out there.

Our cost for this upgrade would be exceptionally high in that we would be looking at potentially having to build a second treatment plant or replace the entire treatment plant that we have out there.

The site that we're on is very small. It's less than an acre and a half. It's down in a flood plain. It's in an area that --

MS. HOWARD: I object to the witness answering this question. The issue of economics is not an issue that is covered in the permit appeal.

I think that is something that is left to an adjusted standard or a variance type of proceeding, not a permit appeal case.

MR. ROSENTHAL: Well, I think that it has to do with the issue of whether or not these effluent standards are justified and the lower effluent should be applied, and what we're -- one of the reasons for not applying those lower effluent standards is the inhibiting factor that it would have on the willingness or ability of the Fox River plant to provide treatment service within its service area, and one of the -- and part of our whole point here is that because of the cost that would be incurred if we violate those limitations that we can't even run the risk of doing that because the penalties are so high so that we all automatically have to keep ourselves below in a self-policing manner, if you will.

THE HEARING OFFICER: The objection is overruled. The witness may continue.

BY THE WITNESS:

A. As I said, we can't just simply add another unit to the process. We are in a residential area in an area that's fully built up as

much as it can be. So there's no place for me to go other than to condemn property, knock down houses, and build on higher ground. That would be what I'd have to do to add additional capacity to this treatment plant.

If I wanted to look at using a chemical means of trying to deal with the problem and trying to improve my efficiencies by adding additional chemicals to the water, then I have to go from using a process that is basically all natural to one that I'm adding artificial chemicals to the water that then would lead to other environmental concerns such as increased volumes of sludges that have to be disposed of. Sludges that may not be able to be land applied, but rather would have to be landfilled at that point. Other chemicals, other metals that may end up in the stream.

If I use alum, then I have aluminum I added to the water. So I have other considerations here. I end up by trying to meet that what shouldn't be a problem, I'm creating other environmental problems.

So looking at this, our advice to the village has to be you can't go up to the 9900. If

the standard is changed, we cannot advise going to that level. That we're going to have to cut back and only serve those areas that we have solid commitments for, and other areas we're just going to have to let go, and that means that as a result, you have areas within our facility planning area that need waste water treatment. That certainly providing them with waste water treatment would do a whole lot more to help the river than changing our standard because we've got septic systems that aren't working out there that feed directly to the river.

So the biggest detriment of this changing of the standard is the fact that we can't solve -- we put ourselves in a box that we can't solve the real environmental problems that are out there.

MR. ROSENTHAL: I have no further questions.

THE HEARING OFFICER: Cross?

C R O S S - E X A M I N A T I O N

by Ms. Howard

Q. So right now the plant is not violating the limits of 30 BOD or 30 milligrams per liter of

solids, correct?

A. That's correct.

Q. And they're not violating the limits of 25 milligrams per liter of solids or 25 milligrams per liter BOD or 30 milligrams per liter of solids, correct?

A. Correct.

Q. And the plant is not violating at this time 20 milligrams per liter BOD or 25 milligrams liter per solids, correct?

A. Correct.

Q. You stated that if the plant starts getting close to violating these limits, you're going to be put in a very precarious position.

Isn't it true that that change is going to come not from the regulations, but that change is going to be due to something happening in the plant, for example, an increased loading, correct?

A. Could you repeat your question?

Q. You stated that if you start getting close to violating any of these standards, the regulations, the limits, any of these limits that I've already stated that that puts the village in a precarious situation.

What I'm asking you is that precarious situation is not going to be due to any of these limits, but it's going to be due to the fact that there's going to be a change in the plant, for example, an increase in loading, correct?

A. The treatment plant will be at greater risk of violating the lower standard, whereas it will not be at risk of violating the higher standard, the current standard.

Q. Right. But it is something that will happen because something is happening at the plant. It's not something that the Illinois EPA is doing. It's something that, for example, you have more residential -- residences being built so you're going to have an increased load to the plant, correct?

A. Yes.

Q. It could be due to increased business coming into the village, and, therefore, you're going to have an increase in load at the plant, correct?

A. Yes. Well, and that we monitor the loadings that come -- that are being planned to be added to the treatment plant, and we take a look at

what we believe that impact would be on our operations, and we self-police ourselves so that we don't violate those standards.

Q. Correct. Okay. And that's something that can continue in the future, the self-policing concept, correct?

A. Right. But the lower standards will reduce our ability to serve the entire facility planning area.

Q. Are you saying right now that the plant is designed in such a way that if you increase the load to the plant you are going to start approaching that design capacity, correct?

A. We will eventually approach the design capacity of the treatment plant, yes.

Q. Okay.

A. We will not exceed it though.

Q. All right. And if you don't exceed that design capacity, you will not violate even the lower limits because isn't it true that the design of a treatment plant -- a treatment plant is according to the regulations supposed to be designed in order to at its maximum capacity supposed to still meet the regulations? Isn't that your job as

a consultant is to make sure --

A. We will meet --

Q. Let me finish my question.

Isn't it correct that your job as a consultant is to design a plant that in such a way that it will meet the regulations as required by the agency?

A. That treatment plant will meet the 25 CBOD, 30 milligrams per liter suspended solids for 9,900.

I cannot assure them that it could treat that same population load with the lower effluent standards because that's not what it was designed for.

Q. But that design standard is an organic design. That PE is based on organic loading. It's not based on hydraulic, correct?

A. The PE loading that you're referring to there was -- in the original design, there was both a hydraulic component of that and there was also a suspended solids BOD component to it, and the hydraulic component was also identified as 10,000.

The additional flow that goes through that treatment plant is clear water. It's

infiltration.

MS. HOWARD: That's all.

MR. ROSENTHAL: No questions.

THE HEARING OFFICER: Before you take off there --

MR. ROSENTHAL: Before we go any further, I just want to make sure that I offer the last Exhibits 20 through 24.

THE HEARING OFFICER: Any objections?

MS. HOWARD: No objection.

THE HEARING OFFICER: Okay. Exhibits 20 --

MR. ROSENTHAL: Plaintiff's 20 to 23?

MS. HOWARD: Twenty-four.

THE HEARING OFFICER: Okay. Twenty is his resume.

MR. ROSENTHAL: Twenty through 24, yes.

THE HEARING OFFICER: Petitioner's Exhibits 20, 21, 22, 23, and 24 are admitted.

Mr. Thomas, would you either explain or define what you mean when you say the facility planning area.

THE WITNESS: The IEPA and the Northeastern Illinois Planning Commission established planning areas for each of the waste water treatment plants.

They designated a zone that when you design a treatment facility, you should take that area into consideration so that your facilities are large enough so that you've planned out how you're going to handle those areas in the future.

Maybe you don't build for all that area right at once, but you should know how you're going to deal with them in the future. Then if an area within that facility planning area wants to develop, they're required to come to you first for treatment, and if you are unable to serve them, then they have the right to change facility planning areas and go to another community if that other community is willing to serve them, but it's basically a system that was put in place to help try and regionalize as best as possible the provision of waste water treatment plant so we don't end up with a lot of little treatment plants scattered all over the place and there's no real good planning to it.

THE HEARING OFFICER: Has the area -- has the facility planning area changed since you designed the plant in 1977?

THE WITNESS: Yes, it has.

THE HEARING OFFICER: How did that -- how

does that affect the waste water treatment plant?

THE WITNESS: The treatment -- the facility planning area of the treatment plant has been increased in the subsequent years.

When we designed the treatment plant, it was anticipated that the facility planning area, as it existed at that time, would have a total loading -- would have 8500 population equivalents in it, plus 1500 population equivalents of the Good Shepherd Hospital.

Subsequent to that, with the actual development of the community, the densities came in considerably lower than what had been planned for, and so there was going to be excess capacity in the treatment plant, and then at that same time, it was found that there were septic systems failing in Lake Barrington Industrial Park. That's an existing industrial park that's on well and septic and it also happens to be down in a wetland area, which we have a lot of around here, and the septics for that area were failing.

So they needed a way to solve that problem, and so because we have excess capacity in the treatment plant because of the lower densities

within the existing facility planning area, we were able to offer service to Lake Barrington and put a limit on it though because we do have limitations on how much area that we can serve and then we've limited them to 1,500 population equivalents. They can't go over that. We can't provide them more treatment than that.

All right. Now, there has also been some small changes to the facility planning area along Route 22 where there was a subdivision that went beyond the McHenry county line. It incorporated a parcel of property that straddled the line, and so we did expand the facility planning area to pick up that entire parcel so that entire parcel would come into the village as a unit.

So, again, because of the lower densities that we had experienced in other locations in the community, we had that ability to do that.

THE HEARING OFFICER: All right. Thank you.

What is the effect if the plant was originally designed or designated at 10,000 PE --

THE WITNESS: Yes.

THE HEARING OFFICER: -- and through mutual

agreement, it was agreed to change it to 9900 PE?

THE WITNESS: Right.

THE HEARING OFFICER: What's the effect of that change.

THE HEARING OFFICER: There was no affect physically because of that change as far as plant operations or how well the waste water was treated or anything else.

The impact of that change was to deal with the problem that we're straddling a number in the regulations. The number was set at 10,000, and so the issue that came up in 1987 was well, you're rated for 10,000 and the regs say that if you're more than 10,000, we have to have a lower effluent standard, and so what it came down to is well, then if you design a plant for 9,900 in '99, I would be okay, and they said right, but we won't use that number. We'll go with 9,900, and, therefore, we take care of the regulation issue, and so there are other -- this problem of the flow rate being different than 100 gallons per capita today is not unusual.

Cary, for example, right across the river has an average daily flow design of one

point -- excuse me, of 2.0 million gallons per day, but has a PE rating of 18,000, again, because of the infiltration that comes in the system.

The only reason why we're running into a problem in this situation is because we're straddling the regulation. We're at that breaking point in the regulation where the smaller plants can be 25, 30, the larger plants have to be 20, 25, and what our point is is that we are staying. We're never going over that 10,000 number. We will always be less than that. So we should be rated as a smaller treatment plant.

MS. HOWARD: Can I ask one question just based on what he just said?

THE HEARING OFFICER: Yeah. Just a minute.

On the -- when you design a plant, do you design it with a certain PE in mind?

THE WITNESS: Yes. As part of the planning process when you do the facility planning report and so forth, you take a look at population projections. You look at the community's plans, its comprehensive plan, how they want to do it. What does everything look like 20 years from now type situation? So that's how you basically lay out what

the size of your treatment plant should be.

THE HEARING OFFICER: Now, if you say that the village is constrained in its current plant and neither expanding, you're also saying that it cannot rebuild on the same spot?

THE WITNESS: That's correct.

THE HEARING OFFICER: Because of the new wetlands and --

THE WITNESS: Wetlands and flood plain considerations.

THE HEARING OFFICER: But the '77 plant was rebuilt on the same --

THE WITNESS: That's correct. We used a lot of the existing tankage that was out there. We reused it. We changed it purposely. It was an activated sludge plant. We took those activated sludge tanks and made them into aerobic digesters.

We reused the primary clarifiers. We knocked the building off the foundations for the control building and built a new building on top of the existing foundations.

So it was a lot of -- we reused what we could and shoehorned in everything else because it's an extremely tight setup.

THE HEARING OFFICER: In your planning for the next 20 years, will the village either have to remain at the current 9900 PE or it will have to build a new plant at a new location?

THE WITNESS: We do not anticipate that Fox River Grove will ever exceed the 9900 PE because of the fact that it is completely hemmed in by its neighbors.

Their facility planning areas and their municipal boundaries completely surround the village at this point. So there is very little land that's unincorporated around the community.

So at this point, we don't have a lot of room for further growth. So I don't believe that we are looking at -- we don't need to worry about the situation in this case of going beyond the 9,900 because of the fact that we're tied down to where we can expand.

THE HEARING OFFICER: And on the septic systems that are failing, does that -- is that included in the infiltration?

THE WITNESS: No.

THE HEARING OFFICER: No?

THE WITNESS: No, that's not a component.

The infiltration is just clear water that enters into the pipes, the existing sanitary sewer pipes, because of the high ground water level.

THE HEARING OFFICER: But if the septic systems are failing in the subdivisions, that would not enter into the sewer system?

THE WITNESS: No, because we don't have any sewers in those areas.

THE HEARING OFFICER: I see.

THE WITNESS: That would just flow towards the river.

THE HEARING OFFICER: Directly to the river?

THE WITNESS: Yeah.

THE HEARING OFFICER: All right. Thank you.

Did you have any further questions?

MR. ROSENTHAL: I have no questions?

THE HEARING OFFICER: Ms. Howard?

MS. HOWARD: I'm fine.

THE HEARING OFFICER: All right. Thank you, Mr. Thomas.

Let's go off the record.

(Discussion had
off the record.)
THE HEARING OFFICER: Does the village have anything further at this time?
MR. ROSENTHAL: No, we do not.
THE HEARING OFFICER: All right. Thank you. We will take a lunch break at this time. We will be back, say, in 30 minutes.
(Whereupon, further proceedings were adjourned pursuant to the lunch break and reconvened as follows.)
THE HEARING OFFICER: Let's resume in the afternoon. Ms. Howard?
MS. HOWARD: The agency would like to call Mr. Alan Keller back to the stand.
THE HEARING OFFICER: Mr. Keller, would you please take the chair again. You are still under oath from earlier.
THE WITNESS: Okay.
THE HEARING OFFICER: You may proceed.

D I R E C T E X A M I N A T I O N

by Ms. Howard

Q. Mr. Keller, could you tell the board

how the issue of the Fox River Grove permit came to your attention with respect to the BOD or the CBOD and TSS limits?

A. It first came to my attention when one of my employees, Don Netemeyer, was reviewing the project and he came to me and pointed out the discrepancy between the BOD standards and suspended solid standards.

Q. A discrepancy -- where was the discrepancy?

A. Between what the existing permit -- then existing permit read as far as the BOD -- the CBOD being 25 and suspended solids being 30 versus the usual 20, 25 effluent standard.

Q. When you say the usual 20, 25, why did you use the word usual in your description?

A. That is the effluent of standard that was placed on all facilities that have a design capacity of 10,000 population equivalents.

Q. When the discrepancy was brought to your attention, how did you try to address that discrepancy? What did you do first?

A. First, we reread the regulations with respect to 301.345, the definition of population

equivalents. We also read the regulation of 304.120 on deoxygenating waste.

Q. Well, let's start with 304.120. Which subsection of 304.120 does the Fox River Grove treatment plant fall under?

A. Section B.

Q. And why do you say it falls under Section B?

A. I like to first state, and then I'll answer the question if I could, Section B states no effluent from any source whose untreated waste load is 10,000 population equivalents or more or from any source discharging into the Chicago River system or into the Calumet River system shall exceed 20 milligrams per liter of BOD5 or 25 milligrams per liter of suspended solids.

Upon reviewing this project, we determined that the untreated waste load was 25 or 10,000 population equivalents or more based on a hydraulic basis.

Q. Okay. So with that subsection B, there's basically three -- well, there's -- it's actually the first part of B that applies to Fox River Grove, the no effluent from any source whose

untreated waste load is 10,000 population equivalents or more, correct?

A. Correct.

Q. So it's not a source discharging in the Chicago River system or into the Calumet River system?

A. Correct.

Q. What's the significance, first of all, of hydraulic loading versus the organic loading? What's the difference between hydraulic and organic loading of a plant?

A. Well, the plant is designed based on various design parameters. Two of those parameters are the hydraulic loading and the organic loading, and the consulting engineer will evaluate the system hydraulically and organically and choose his design accordingly.

Q. And what did the design consultant for the Fox River Grove plant represent to the agency was the design average flow of the plant?

A. 1.25 million gallons per day.

Q. And what is that used to determine?

A. That is the design average flow of the treatment plant.

Q. So that determines the basis for your flow?

A. Yes.

Q. Okay. And what was represented as being the hydraulic load of the plant? How do you determine what is the hydraulic load of the plant?

A. The hydraulic population equivalents or the hydraulic -- actual hydraulic load?

Q. The hydraulic population equivalent.

A. That is based upon the definition of population equivalent in subtitle C, which is 100 gallons per capita per day.

Q. Okay. And before we jump over to that then, what is the significance of the state of the word untreated in subsection B where it talks about the untreated waste load?

A. That is what the actual design parameters are for the treatment plant being the design average flow or the design organic loading or design solids loading -- suspended solids loading.

Q. Okay. If you're looking at untreated waste load, would you look at the flow?

A. The design flow?

Q. Uh-huh.

A. Yes.
Q. All right. If we -- so in your valuation, you found that Fox River Grove fell under subsection B.
Now, I assume you have to determine whether or not it's a 10,000 population equivalent or more, correct?
A. Correct.
Q. And to do that, what did you say you looked at?
A. We looked at the definition of population equivalent.
Q. Which is found at --
A. Which is found in 301.345 of subtitle C.
Q. Okay. Now, remind me again, what is the population equivalent used to determine?
A. It's the term used to evaluate the impact on a treatment plant or a stream.
Q. Okay. And how do you determine which impact you want to evaluate in any given case?
A. Well, we evaluate all three, those being flow, BOD, and suspended solids, and for the impact on a treatment plant, it is the highest of

the three.

Q. How did you know you wanted to determine the impact on the treatment plant in this case, the flow's impact on the treatment plant rather than the impact on the stream itself? What made you look at the impact on the treatment works rather than the stream?

A. Basically, that was looking at the untreated waste load.

Q. Back in Section 304.120(b) where it talks about no effluent from any source whose untreated waste load is 10,000 population equivalents or more?

A. Correct.

Q. All right. So you determined you have to look at the impact of the waste on a treatment works. So explain to us again, you look at three factors?

A. Yes. We look at three factors, those being flow, pounds of BOD, and pounds of suspended solids for what the plant was designed for.

Q. And what do you do with those three factors?

A. We divide each one by the corresponding

value to determine a population equivalent to determine whether or not 304.120(b) applies.

Q. Okay. And according to 301.345, the impact on a treatment works is evaluated as the equivalent of the highest of those three parameters, meaning between flow, the BOD, or TSS, you take the highest of those to determine its impact on the treatment works; is that correct?

A. Yes.

Q. And what did you determine to be the highest of those three factors?

A. We determined the flow to be the highest.

Q. And what was the flow? You're looking at it from a hydraulic perspective or an organic perspective?

A. I looked at the flow from a hydraulic perspective, and the design average flow was 1.25 million gallons per day, which equates to 12,500 organic -- hydraulic PE. I'm sorry.

Q. What was that again, 12,000 --

A. Twelve thousand five hundred.

Q. Organic or hydraulic?

A. Hydraulic PE.

Q. I think that's one of the places where we're having our confusion is between hydraulic and organic. I'll try to keep those two straight.

Okay. So you have 12,500 PE of hydraulic flow. Is that more than 10,000?

A. Yes.

Q. So what do you do with that information then?

A. We utilize Section B of 304.120 in subtitle C and apply an effluent standard of 20 milligrams per liter of BOD and 25 milligrams per liter of suspended solids.

Q. What if you wanted to do this from an organic perspective, what would be the organic -- the PE based on an organic load?

A. We would go back to the original permit or the most recent permit, state construction permit, that the plant had received, and then we would -- that's usually -- add the number in there which states the organic loading in terms of pounds of BOD per day. We would divide that by 0.17 pounds of BOD per day per PE.

Q. So if the plant's PE was at 9,900

according to organic flow, would the limits 30 milligrams per liter for BOD or 30 milligrams per liter TSS or even 25 milligrams per liter BOD or 30 milligrams per liter TSS be correct?

A. That was -- could you repeat that? I'm sorry.

Q. If the plant's PE was 9,900 according to an organic flow, would the correct effluent limits for BOD be 30 milligrams per liter or 25 milligrams per liter?

A. It would be 30 milligrams per liter BOD or 25 CBOD.

Q. Okay. But we do this --

A. If you looked at just the organic.

Q. If you look at just the organic flow?

A. Correct.

Q. And what was the reason, again, that we looked at the hydraulic flow?

A. We looked at the impact on the treatment plant for the three parameters that the plant is designed on; flow, BOD, solids.

Q. But that had to -- that went back to the Section 304.120(b), which required looking at the untreated waste load, correct?

A. Correct.

Q. Now, you worked on this permit that's actually under -- that is actually the basis of this appeal that was issued in 1996.

From the very first draft permit, which was entered as Petitioner's Exhibit 17 on November 8th of 1996, what did you authorize to be the limits that were established for BOD and total suspended solids?

A. We established the limits for CBOD to be 20 milligrams per liter and suspended solids to be 25 milligrams per liter.

Q. And that was following the Section 301.345 and Section 304.120(b), correct?

A. Yes.

Q. Did that evaluation change when you actually issued the permit on -- let's see. This is Petitioner's Exhibit No. 18.

When it went on public notice on December 2nd, 1996, did we change the limits that we had originally drafted in that permit?

A. No.

Q. And when we eventually issued the permit, did we change those BOD or TSS limits?

A. No.

Q. When we issued the permit, this is referring to Petitioner's Exhibit No. 3, there was a cover letter that was dated February 6th, 1997, and in the second -- well, third paragraph, there seems to be an explanation, and I was wondering if you could -- this is starting with although -- this is the third sentence in that third paragraph, although the facility has been rerated for a 9,900 PE organic rating, it is hydraulically rated at 12,500 PE. For this reason, the agency must rate the plant at 1.25 million gallons per day and the associated 20 milligrams per liter CBOD5 limit, the 25 milligrams per liter suspended solids limits must be incorporated pursuant to Section 304.120(b) of subtitle C.

The facility was designed for 10,000 PE organic loadings and 20, 25 BOD TSS effluent limits and should be capable of meeting these limitations.

Would you like to comment on the next several sentences, and you can go ahead and read which ones you would like to...

A. Comment on the sentence starting with obligations in bold, correct?

Q. Whatever you feel that you wanted to make sure that it was clear on the record for the board. I think they had referred to that sentence earlier in their testimony.

A. Okay. We had received a letter from the applicant December 19th of 1996, which led to this paragraph being placed in here. We do have to respond to all letters during the public notice period, and the letter -- this paragraph responds to approximately six issues, I think, in that letter, and some of the issues were that the permittee stated that there were unsewered areas and some new developments that they wanted to connect to the system and that they didn't feel they could meet their effluent limits that were placed in the permit of 20 and 25 versus the previous limits of 25, 30.

We looked at a lot of the past operating data submitted through the DMRs. We looked at some of the flow data also and didn't feel that they could still serve these areas like they wanted to and had planned to and still meet the effluent limits pursuant to 304.120(b).

Q. So I think there's been some evidence entered here, and would you agree with that evidence

that they are presently meeting the permit limit that is being appealed at this time of 20 milligrams per liter BOD and 25 milligrams per liter TSS?

A. Yes. I would also like to point out that we did state that we would be able to issue permits for those additional waste loads. We did have to issue construction permits for sewers and additional waste load treatment plants, and we were going -- we were basically obligated to do that under the present conditions the way they were.

Q. So are you saying that the way the plant is right now, they can go ahead and have some increase in their load or they would be able to add additional flow to their plant as it is designed right now?

A. Yes. They're presently under the design flows and design organic loadings that would be required.

Q. Is it possible that as the loads increase eventually the plant may have a problem meeting the 20, 25 limit of BOD and solids in your opinion?

A. It's possible. Supposing you do approach your design capacities, the closer you are

going to be to the actual design effluent limitation.

Q. In general, when somebody designs a treatment plant, what is the design life of that treatment plant? How long do you expect that that design would last?

A. Normal designs are usually with a 20 year design life. There are also a lot of phase expansions in fast-growing communities where they may only expand for a five or ten year design life.

Q. And the design of this particular treatment plant was put together in 1977?

A. Yes.

Q. So we're coming close to what would normally be expected to be the end of its -- of what it was originally designed to be able to handle?

A. Based on the projections from 1977, yes. However, the flows are not approaching the 1.25 figure, and the design organic loadings are not approaching the actual design of the plant.

Q. So, in your opinion, this plant, as it is right now, does have room to grow, so to speak?

A. It has room to receive additional waste load, yes.

Q. If the Fox River Grove -- village of Fox River Grove were to eventually have problems meeting, say, a permit limit of 20 milligrams per liter BOD and 25 milligrams per liter of TSS, what type of recourse does the village have?

A. Well, they would have to evaluate the situation. They would -- one recourse would be to expand the plant, upgrade the plant. They could possibly go for an additional standard before the Pollution Control Board, but they would have to basically evaluate what the actual problems are and go from there really with the design.

Q. In general, does the Illinois EPA issue permits according to a plant's performance in terms of an effluent limit? Do we look at how well the plant is doing, or do we actually look at what the regulations provide as to what should be the effluent of limit, for example, for BOD or suspended solids?

A. We look first at what the actual standards are with respect to BOD and suspended solids. There is some provision for existing effluent quality standards for some of the water quality standards.

Q. Okay. But in this particular case, are we under an obligation to issue the permit according to the regulations or according to the plant's performance?

A. According to the regulations.

Q. So how does the Illinois EPA explain the fact that we've had permits that have been issued in the past to the village of Fox River Grove with a limit that was based on an organic load rather than a hydraulic load?

A. I believe it was just an oversight or an error in the past, and they did not read -- whoever did not read the definitions close enough with respect to the hydraulic PE.

Q. And since you have taken over the unit and you've been involved in this Fox River Grove permit, do you feel that you have accurately interpreted the regulations in 304.120(b) and 301.345?

MR. ROSENTHAL: Objection. I don't think that his feeling as to whether he's interpreted the regulations correctly is relevant or material.

THE HEARING OFFICER: I would sustain that.

BY MS. HOWARD:

Q. Do you believe you issued a permit that follows the regulations?

MR. ROSENTHAL: Again, objection. His belief as to whether the permit follows the regulations is irrelevant and immaterial.

MS. HOWARD: I think if he's making the decision as to what was in old permits versus what's in a new permit and that he had to make a decision as to what was the correct permit limit to put in there.

THE HEARING OFFICER: Overruled. You may answer the question.

BY THE WITNESS:

A. Would you repeat it, please?

MS. HOWARD: Could you read that back, please?

(Record read.)

BY THE WITNESS:

A. Yes.

MS. HOWARD: That's all I have.

THE HEARING OFFICER: Cross-examination?

C R O S S - E X A M I N A T I O N

by Mr. Rosenthal

Q. Mr. Keller, you indicated that you believe that your predecessors misinterpreted the regulations; is that correct?

A. Yes.

Q. And so it's your belief that your predecessors misinterpreted the regulations both in 1987 and in 1992; is that correct?

A. Yes.

Q. And it's your belief that when the IEPA agreed that the rating was reduced to 9900 PE, the higher effluent standards would apply that that was a misinterpretation of the regulations at the time?

A. To strictly look at the organic PE, yes.

Q. The people who held your position at that time had the authority to interpret the regulation; is that correct?

A. Yes.

Q. Have you ever visited the Fox River Grove waste water treatment plant?

MS. HOWARD: Objection. I think this is beyond the direct examination.

MR. ROSENTHAL: Your Honor, he testified as to what the potential future capacity would be of the Fox River Grove plant. I believe I have the right to examine what the basis of his knowledge would be for that.

THE HEARING OFFICER: Overruled.

BY THE WITNESS:

A. I believe I visited the plant in the '80s. We were looking at the efficiency and life cycles of the RBC system.

BY MR. ROSENTHAL:

Q. You have not visited the plant in connection with the issuance of the 1997 permit, did you?

A. No.

Q. No one at your staff visited the plant, did they?

A. No.

Q. And when the February 6th, 1997, letter was written, that was not based on a visit to the plant, correct?

A. No.

Q. And it was not based on any data that was provided to you by the village, was it?

A. Yes.

Q. Was it -- it was just based on -- that data then was simply the monthly reports that were filed, correct?

A. Yes.

Q. It was not based on any subsequent conversations with any village official; is that correct?

A. There were conversations concerning the point of appeal, but the information that we placed in the letter was based more on the discharge monitoring reports that were submitted by the village.

Q. Let me ask you this. Isn't it true that Mr. Thomas is more familiar with the operations and capacity and potential future capacity of the Fox River Grove plant than either you or Mr. Netemeyer?

A. He should be as the design engineer.

Q. And when you -- prior to issuing the November 18th, 1996, proposed permit, did you or, to your knowledge, did Mr. Netemeyer review the facility's planning report that was prepared in connection with this facility?

A. No.
Q. So you did not look at how the 1.25 MGD was arrived at, did you?
A. No. However, it was placed in the application that the village submitted.
Q. You did not determine how much of that 1.25 was based on infiltration and inflow, did you?
A. No.
Q. And you made no attempt to do that, did you?
A. We reviewed information afterwards, which delineated what Mr. Thomas said concerning the 125 gallons per capita.
Q. And what Mr. Thomas said was correct?
A. Yes.
Q. But that was after you issued the permit, correct?
A. That was --
Q. After.
A. -- after the public notice was issued.
Q. And after you had made your determination that the proper effluent limitations should be 20, 25; is that correct?
A. Correct.

Q. The heading on Section 304.120 is entitled the deoxygenating waste; is that correct?
A. Correct.
Q. And CBOD5, what you're doing there is you're measuring the amount of organic waste; is that correct?
A. The carbonaceous amount, correct.
Q. And with suspended solids, that is considered to be waste; is that correct?
A. Correct.
Q. Okay. And 304.120, paragraph B, states no effluent from any source whose untreated waste load is 10,000 population equivalent; is that correct?
A. Yes.
Q. It uses the word waste, correct?
A. Waste load, yes.
Q. And it doesn't use the word hydraulic load, does it?
A. No.
Q. And if you read waste as being -- and it sets limits for CBOD5 and for suspended solids, correct?
A. Could you repeat that, again, please?

Q. 304.120(b) sets effluent limits for BOD5 or CBOD5 and suspended solids, correct?

A. Correct.

Q. And if you read waste and the term waste load as being BOD5 and suspended solids, what you would have is no effluent from any source whose untreated BOD or suspended solid load is 10,000 population equivalents, correct?

MS. HOWARD: I'm going to object to the question. I think we should take the regulation as it's actually written rather than somebody's interpretation as to what the word waste means, whether we should replace that word with BOD and TSS. That's not what the regulation says. It's untreated waste load.

MR. ROSENTHAL: Well, I think that we can examine what waste means. They seem to consider it to mean hydraulic load, and I believe that if waste is shown as Mr. Keller just testified and is entitled -- this section refers to BOD and suspended solids, then the waste load that you're talking about is the organic waste load, which is 9900 PE, which is what this case is about.

THE HEARING OFFICER: Objection overruled.

Mr. Keller?
BY THE WITNESS:
A. Can you ask that again, please?
BY MR. ROSENTHAL:
Q. If you replace the word waste with the word BOD5 and suspended solids, this regulation would read no effluent from any source whose untreated BOD5 or suspended solid load is 10,000 population equivalents or more; is that correct?
A. That's true.
Q. And the population equivalents with regard to BOD5 and suspended solids for the Fox River Grove plant is 9900 PE; is that correct?
A. Correct.
Q. Now, the NPDES permit I believe you testified is a permit that allows the village to discharge into the Fox River; is that correct?
A. Correct.
Q. So what that permit does is the limits in that permit places a limit on the impact that that discharge can have on the Fox River; is that correct?
A. Correct.
Q. So that what you're looking at there is

the impact on the stream, in other words, the Fox River; is that correct?

A. Or the effluent, correct.

THE HEARING OFFICER: I'm sorry. You're looking at the impact on the Fox River, and you said the --

THE WITNESS: The impact of the effluent on the Fox River.

THE HEARING OFFICER: All right.

BY MR. ROSENTHAL:

Q. The effluent from the plant on the Fox River?

A. Correct.

MR. ROSENTHAL: That's all that I have.

THE HEARING OFFICER: Redirect?

R E D I R E C T E X A M I N A T I O N

by Ms. Howard

Q. Can you give me some idea of how many permits your unit issues where we don't -- you don't have anybody go out and see the facility either on a monthly basis, maybe, some idea?

A. I would say the majority of the plants are not visited before the permit is issued. We only visit the major facilities, those designed, for

example, with greater than 20 million gallons per day after or during our additions, one of the two.

Q. And --

A. We're not obligated to visit. We do have field staff in Maywood, which we do review the files from their field visits.

Q. That's what I was going to ask you next is without going to these plants, these facilities, when they send you an application to receive a permit or to modify or to renew their permit, what information are you given to work with?

A. We're given a permit application package usually with a letter explaining the modification order for renewal.

Q. And where does that permit package come -- that permit application package come from?

A. We supply those to the applicants, and they fill them out, and they send them back in.

Q. Okay. So the information contained in that package is actual information that's given by the facility itself?

A. Correct.

Q. You were asked about whether or not you looked at how the 1.25 million gallons per day was

arrived at, whether it was based on inflow or infiltration. How is that applicable in this case, if at all?

A. In the permit, we do place load limits on the treatment plant, and we use the design average flow for calculation of the load levels.

Q. How does that impact the determination of what the BOD of its suspended solids limits should be?

A. That is one of the factors that impacts the design of that treatment plant and, again, the flow rate and organics and they determine whether or not it's over 10,000 population equivalents based on that figure and BOD and suspended solids.

Q. So it's used to determine the flow, which is one of those three factors you have to look at to the impact on the treatment works?

A. Correct.

Q. And the treatment works you're looking at the impact on the treatment works due to the fact that 304.120(b) specifically says that you have to look at the untreated waste load; is that correct?

A. Correct.

MS. HOWARD: That's all I have.

THE HEARING OFFICER: Recross?

MR. ROSENTHAL: Yes.

R E C R O S S - E X A M I N A T I O N

by Mr. Rosenthal

Q. Mr. Keller, inflow and infiltration is not waste, is it?

A. No, but it affects the design of the treatment plant.

Q. But it's not waste?

THE HEARING OFFICER: I'm sorry. I can't hear you. It's not what?

MR. ROSENTHAL: Waste.

THE HEARING OFFICER: All right. And your answer was?

THE WITNESS: It's not waste by itself, no.

MR. ROSENTHAL: That's all that I have.

THE HEARING OFFICER: Mr. Keller, would you go back, and is there a definition of hydraulic loading in the regulations?

THE WITNESS: Hydraulic loading is --

THE HEARING OFFICER: Well, is there --

THE WITNESS: -- only associated with the design and population equivalents.

THE HEARING OFFICER: Then what is

hydraulic loading?

THE WITNESS: Hydraulic loading? Hydraulic loading is a design basis of what the consultant has designed.

THE HEARING OFFICER: No. What is hydraulic loading?

THE WITNESS: Hydraulic loading it's the amount of flow that is received at the treatment plant and treated.

THE HEARING OFFICER: Okay. It's the amount of --

THE WITNESS: Waste water that's received at the treatment plant and must be treated.

THE HEARING OFFICER: All right. And what's the definition of organic loading?

THE WITNESS: It is also the amount of, in this case, biochemical oxygen demand material or BOD influent to the treatment plant.

THE HEARING OFFICER: Okay. I can't hear you. Into -- you said something --

THE WITNESS: Influent to the treatment plant.

THE HEARING OFFICER: Influent?

THE WITNESS: Right. That they, again,

have to treat.

THE HEARING OFFICER: Thank you, Mr. Keller. You may step down.

MS. HOWARD: That's all that we have.

THE HEARING OFFICER: No further witnesses?

MS. HOWARD: No further witnesses.

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

(Discussion had
off the record.)

THE HEARING OFFICER: The agency has rested. Does the village have any rebuttal that they wish to provide?

MR. ROSENTHAL: No.

THE HEARING OFFICER: We've had an off-the-record discussion on a briefing schedule. The village has agreed to waive the decision deadline to December 18th, '97. Therefore, the briefs will be due -- the village's brief will be due October 21st, 1997, and the agency's brief will be due November 12th of '97, and that the board decision date will be the second meeting in December, which would be December the 18th also.

All right. Does anybody have anything further? Mr. Rosenthal?

MR. ROSENTHAL: I have nothing further on the record.

THE HEARING OFFICER: All right. Ms. Howard?

MS. HOWARD: No.

THE HEARING OFFICER: All right. Thank you. The exhibits have all been admitted, and I will tender those to the board.

Let the record reflect that there were no members of the public in attendance at today's hearing, and pursuant to the rules of procedure, the hearing officer does not find any credibility issues with any of the witnesses that appeared today or that testified today.

All right. There being nothing further, this hearing is closed.

Thank you.

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

STATE OF ILLINOIS)
) SS.
COUNTY OF C O O K)

I, GEANNA M. PIGNONE-IAQUINTA, do hereby state that I am a court reporter doing business in the City of Chicago, County of Cook, 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.

_____
Geanna M. Pignone-Iaquinta
Notary Public, Cook County, IL
Illinois License No. 084-004096

SUBSCRIBED AND SWORN TO
before me this_____day
of_____, A.D., 1997.

_____
Notary Public