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ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF: ) As 02-5  
) (NPDES  
PETITION OF NOVEON, INC., FOR AN ) Adjusted Standard)  
ADJUSTED STANDARD FROM 35 ILL. ) (Not consolidated)  
ADM. CODE 304.122 )  
) VOLUME III

THE following is the transcript of a hearing held in  
the above-entitled matter, taken stenographically by  
Jennifer E. Johnson, CSR, RMR, CRR, License No.  
084-003039, a Notary Public in and for the County of  
Tazewell and the State of Illinois, before Bradley P.  
Halloran, Hearing Officer, at 122 North Prairie Street,  
Lacon, Illinois, on the 19th day of February, A.D. 2004,  
commencing at 9:00 a.m.

1 PRESENT:

2

HEARING TAKEN BEFORE:

3 ILLINOIS Pollution Control Board  
4 100 West Randolph Street  
5 James R. Thompson Center, Suite 11-500  
6 Chicago, Illinois 60601  
(312) 814-8917  
BY: MR. BRADLEY P. HALLORAN, ESQUIRE

7 APPEARANCES:

8

GARDNER, CARTON & DOUGLAS

9 BY: RICHARD J. KISSEL, ESQUIRE  
10 MARK LATHAM, ESQUIRE  
11 SHEILA H. DEELY, ESQUIRE  
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14 Chicago, Illinois 60606-1698  
15 (312) 569-1442  
16 On Behalf of the Petitioner.

17 ILLINOIS ENVIRONMENTAL PROTECTION Agency  
18 BY: DEBORAH J. WILLIAMS, ESQUIRE  
19 Attorney at Law  
20 1021 North Grand Avenue East  
21 Springfield, Illinois 62794  
22 (217) 782-5544  
23 On Behalf of the Respondent.

24

ALSO PRESENT:

19

20 Anand Rao, IPCB Technical Unit  
21 Alisa Liu, P.E., IPCB Technical Unit  
22 Members of the public and press.

23

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13 Halloran.

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1                   HEARING OFFICER HALLORAN: We are on the  
2 record. Good morning again. My name is Bradley Halloran.  
3 I'm a hearing officer with the Illinois Pollution Control  
4 Board. I'm also assigned to this matter entitled Adjusted  
5 Standard 02-5. It's in the matter of petition of Noveon,  
6 Inc., for an adjusted standard from 35 Illinois  
7 Administrative Code 304.122. This matter is continued  
8 from yesterday, February 18th, 2004.

9                   And my understanding, I think we were -- see,  
10 Noveon was about to rest its case in chief, but we have  
11 some preliminary matters.

12                   Mr. Kissel?

13                   MR. KISSEL: Yes. First, in -- I think in  
14 Mr. Flippin's testimony or somewhere along the line, there  
15 was a question of some math calculations done by the  
16 Agency to get to the number of 265,000, having to do with  
17 PE.

18                   I believe our stipulation at that time, in  
19 order to avoid having to go back and look at it, was we  
20 would agree with the math. And for the record, I just  
21 want to state that what we agree with is that if you take  
22 53,000, divide it by .2, you get 265,000, whether it's PE  
23 or apples or oranges or whatever. So, we agree that that  
24 calculation is correct.

1                   The second thing is we offered Exhibits Number  
2 36 and 37 -- Petitioner's Exhibits 36 and 37, and I would  
3 like to move that they be admitted into the record. I'm  
4 not sure they were.

5                   HEARING OFFICER HALLORAN: I think they were.  
6 I have written down they were.

7                   MS. WILLIAMS: Which ones were those?

8                   HEARING OFFICER HALLORAN: 36 and 37.

9                   MS. WILLIAMS: I think we said we would take  
10 it up today. I don't have a copy yet. I mean, I don't  
11 have an objection.

12                  HEARING OFFICER HALLORAN: So, as far as  
13 Exhibit 36 and 37, you have no objection? Now I recall,  
14 you wanted to take a look at them because we didn't have  
15 enough copies.

16                  MS. DEELY: Do you want a copy?

17                  HEARING OFFICER HALLORAN: I'll just take the  
18 exhibit.

19                  MS. WILLIAMS: I told Mr. Kissel I felt he  
20 would have an opportunity to enter them in  
21 cross-examination and stuff, but I don't have a problem  
22 with the documents.

23                  HEARING OFFICER HALLORAN: Okay. Then I don't  
24 think I have the exhibits themselves.

1                   Ms. Deely, you're going to -- oh, there they  
2 are. Thank you.

3                   MR. KISSEL: We just have a very short series  
4 of questions for Mr. Corn.

5                   HEARING OFFICER HALLORAN: Okay. Before we  
6 get started -- again I'm remiss -- we do have Anand Rao  
7 and Alisa Liu from our technical unit, and they may or may  
8 not ask questions after the direct and cross are finished.

9                   Also, to the members of the public -- it looks  
10 like there's a few out there anyway -- as before, we'll  
11 try to accommodate you. If you do want to make a  
12 statement or comment, just raise your hand, and I'll get  
13 to you at the next break.

14                   Mr. Corn, could you please raise your right  
15 hand, and Jennifer will swear you in?

16                   MR. KISSEL: I think he's been sworn.

17                   HEARING OFFICER HALLORAN: I think that was  
18 yesterday. I would probably like to be overly cautious,  
19 Mr. Kissel.

20   (Witness sworn.)

21                   MICHAEL R. CORN, P.E.,  
22 called as a witness, after being first duly sworn, was  
23 examined and testified upon his oath as follows:

24   \* \* \* \* \*



## 1 FURTHER DIRECT EXAMINATION

2 BY MR. KISSEL:

3 Q. Would you identify yourself for the record,  
4 please?

5 A. My name is Michael R. Corn.

6 Q. Have you testified in this proceeding before?

7 A. I have.

8 Q. All right. And I take it what you said  
9 yesterday is still true and correct; is that correct?

10 A. That is correct.

11 Q. Mr. Corn, have you done any work over the  
12 evening about looking at the current discharge from the  
13 single port diffuser and the mixing that goes on  
14 downgradient of that?

15 A. Yes, I have.

16 Q. What did you do?

17 A. I went back and looked at the information that  
18 we had developed when the Henry POTW became part of the  
19 Noveon discharge; so, the combination of the Noveon  
20 discharge and the Henry POTW discharge has a joint  
21 discharge into the river with a dispersion from that  
22 plume.23 And I went back and looked at the original  
24 study that was completed in 1999, using basically salt as

1 a conservative tracer, and I looked at the combination of  
2 the two discharges to determine what types of  
3 concentrations would be allowed with that joint discharge  
4 from Noveon.

5                   Basically, at the ZID as defined at 66 feet,  
6 based on 50 times the square root of the cross-sectional  
7 area of the port, which is one and a half feet in  
8 diameter, I calculated an ammonia concentration that could  
9 be discharged from Noveon to meet the acute standard of  
10 right at 220; I think it was 224 milligrams per liter.

11                   Now, if you look at the original study and  
12 take that same concentration of 224 milligrams per liter  
13 of ammonia that could be discharged with a ZID at 66 feet,  
14 the chronic ammonia standard would be met at about 550 to  
15 600 feet downstream from the existing single port  
16 diffuser, at that same concentration in the range of 220  
17 milligrams per liter.

18                   Q. Mr. Corn, just for clarification of the  
19 record, when you refer to acute standard here, you're  
20 referring to what?

21                   A. I am referring to the acute ammonia standard.

22                   Q. Is that the most recent standard adopted by  
23 the Pollution Control Board?

24                   A. That is correct.

1 MR. KISSEL: That's all I have.

2 HEARING OFFICER HALLORAN: Thanks, Mr. Kissel.  
3 Ms. Williams?

4 FURTHER CROSS-EXAMINATION

5 BY MS. WILLIAMS:

6 Q. And what flow figures did you use for Noveon  
7 versus Henry?

8 A. I used .8 million gallons per day for Noveon,  
9 and I used .3 million gallons per day for the City of  
10 Henry.

11 Q. And what ammonia concentration can the City  
12 discharge based on your --

13 A. I used a concentration for them of 8  
14 milligrams per liter ammonia.

15 Q. Just a minute. Let me just check and see if I  
16 have any other questions. Okay.

17 Mr. Corn, are you aware if the Henry plant is  
18 a nitrifying facility?

19 A. Nitrifying facility?

20 Q. Yes.

21 A. I believe Mr. Flippin has testified that it is  
22 not.

23 I'm sorry. Are you talking about the Noveon  
24 plant or the --

1 Q. No, the -- I'm sorry, the Henry municipal  
2 sewage treatment plant, POTW?

3 A. I do not know that.

4 Q. Why did you choose 8 milligrams per liter  
5 then?

6 A. That's a number that is pretty typical of  
7 municipal plants, small municipal plants.

8 Q. So, it's not based on actual figures from that  
9 facility?

10 A. I have not seen those numbers.

11 MS. WILLIAMS: That's all I have for this  
12 witness.

13 HEARING OFFICER HALLORAN: Thank you.  
14 Mr. Kissel?

15 MR. KISSEL: Nothing.

16 HEARING OFFICER HALLORAN: Mr. Rao, Miss Liu?

17 MS. LIU: Good morning. How are you?

18 THE WITNESS: Good morning.

19 MS. LIU: I was wondering what options might  
20 Noveon have to actually reduce the reach of the ZID or the  
21 mixing zone?

22 THE WITNESS: The, the mixing zone with the  
23 existing diffuser I've shown you in some figures, the  
24 mixing zone with the multiport diffuser basically reduces

1 that, I would say, on the order of a half of that size.  
2 And I think I've testified that I believe that the chronic  
3 standards would probably be met within 200 to 250 feet  
4 from that zone versus the 500 to 550.

5           The ZID, from a diffuser -- the rule of thumb  
6 for diffusers where you reach that ZID is on the order of  
7 one diffuser length. That's from the literature. One  
8 diffuser length, in this case for a 15-foot long diffuser,  
9 is a pretty small area, would be anywhere from a half of  
10 that to one and a half times that or 7-1/2 to 22-1/2 feet,  
11 for a distance from the diffuser. So, that's a -- that's  
12 a fairly small area.

13           MS. LIU: Could you shorten the reach by just  
14 adding more ports to the diffuser at all?

15           THE WITNESS: You can, but because the flow is  
16 pretty small, we can do that by using smaller port sizes.  
17 But the smaller you get, the more potential you have of  
18 clogging the ports so we like to use something on the  
19 order of a three-inch port or larger.

20           MS. LIU: Would there be any benefit to  
21 splitting the flow to two outfalls instead of one?

22           THE WITNESS: Not really. You're trying to  
23 use that energy coming out. You're really trying to  
24 maximize that energy in that zone which is -- helps us mix

1 with the river very rapidly.

2 MS. LIU: I'm not aware of the logistics of  
3 the site along the river and where the outflow is located.  
4 Is there a reasonable way to perhaps move it upstream  
5 further?

6 THE WITNESS: Move it upstream? Yes, the  
7 location right now is physically just where the existing  
8 diffuser is, but the final location would be based on, you  
9 know, some geotechnical borings and things like that. You  
10 really have to look at where you can anchor the diffuser  
11 in the river.

12 MS. LIU: So, there is some flexibility as to  
13 where this mixing zone might be located along the river  
14 depending on where the final outfall is chosen?

15 THE WITNESS: That is correct.

16 MS. LIU: Okay. Thank you.

17 THE WITNESS: Thank you.

18 HEARING OFFICER HALLORAN: Anything further?  
19 Thank you. Any follow-up?

20 MR. KISSEL: None.

21 HEARING OFFICER HALLORAN: Mr. Corn, you may  
22 step down again.

23 THE WITNESS: Thank you, sir.

24 HEARING OFFICER HALLORAN: Thank you.

1                   MR. KISSEL: We have, in our part of this  
2 matter, we have one other thing to talk about, Mr. Hearing  
3 Officer, and that is the record and/or the testimony in  
4 PCB 91-17 which we completed the other day.

5                   I think where that stands is you had made a  
6 ruling that the record would not be incorporated in that,  
7 and you indicated that that would stand. We have  
8 offered -- we've offered and taken out of that record the  
9 testimony of the various witnesses with regard to  
10 ammonia-nitrogen and offered that as an exhibit -- or  
11 would offer it as an exhibit, if acceptable to this  
12 hearing officer. And I think that's where we are.

13                   And Miss Williams was going to look at it  
14 and -- let's put it this way: The Agency has not yet made  
15 a comment as to whether they will agree to that or not.

16                   HEARING OFFICER HALLORAN: Miss Williams?

17                   MS. WILLIAMS: Report on my homework you gave  
18 me a couple nights ago. I did make an effort to look at  
19 what they provided. Obviously, it's fat; I didn't read  
20 everything. But, in summary, it presents about 160 --  
21 well, out of a total of 160 pages in the deposition, there  
22 are about 29 that they've taken out. It wasn't entirely  
23 clear to me from reviewing it exactly, you know, how they  
24 did that. I'll take Mr. Kissel at his word that the

1 attempt was anything related to ammonia is left in. I  
2 can't say for sure if that's 100 percent the case.

3 In addition, they've attached all 15 of the  
4 exhibits that were offered and entered into evidence in  
5 that proceeding. It's hard for me to understand how the  
6 Board would want to wade through decades' worth of old  
7 permit applications in determining this case. I don't  
8 really feel that most of these exhibits have really any  
9 value to the Board in looking at these cases.

10 So, I mean, my basic position is I, I don't  
11 see the value, still. I feel like because the Hearing  
12 Officer ruled, I did rely on that ruling; and I do think  
13 it does prejudice the Agency's case to some extent to have  
14 been presented this at this point in time. It's certainly  
15 information that's available to the Board. You know,  
16 unlike a permit appeal case, the Board is free to go out  
17 and solicit things that they want to look at. This is  
18 public information, the Board's information. But I just  
19 disagree with Petitioner that this stack of paper is going  
20 to help the Board at all in making its decision in this  
21 case, so --

22 HEARING OFFICER HALLORAN: Do you have  
23 anything quickly to add, Mr. Kissel, before I make my  
24 ruling?



1                   MR. KISSEL: What we want is the Board -- we  
2 want to be -- we want that information to be available to  
3 the Board in this proceeding. If it's an exhibit or if  
4 you, as the hearing officer, or the Board says, "We're  
5 going to look at that," and we can rely on it in our  
6 briefs, that's all I care about. I'm not -- you know, we  
7 are not trying a criminal case here.

8                   HEARING OFFICER HALLORAN: I tell you what  
9 I'll do. We will mark it as Exhibit -- what do you think  
10 -- 38?

11                  MR. KISSEL: Yeah. Yes.

12                  HEARING OFFICER HALLORAN: And I am going to  
13 stand on my previous ruling. I have every confidence in  
14 the world -- and I'll take it as an offer of proof -- the  
15 Board will take a look at it, and I'm confident that they  
16 will overrule me if they see fit. But I will take it with  
17 the case as an offer of proof as Exhibit 38. Is that  
18 fine?

19                  MR. KISSEL: That's fine. I just wanted to  
20 make sure that it is as an offer of proof. It is -- if we  
21 were called to introduce that as an exhibit, we could lay  
22 the foundation and so forth that it is a valid excerpt of  
23 the transcript of the PCB 91-17.

24                  HEARING OFFICER HALLORAN: You think it would

1 be wise to do that now or --

2 MR. KISSEL: No, no. I'm saying I want the  
3 record to show that if -- as an offer of proof, if we were  
4 called upon to introduce it, we could lay the proper  
5 foundation.

6 HEARING OFFICER HALLORAN: So noted. So  
7 noted. Thank you. And then when you get a -- so, you do  
8 have one, Miss Deely, a copy?

9 MS. DEELY: Yes.

10 HEARING OFFICER HALLORAN: Thank you.

11 MS. DEELY: Thank you.

12 MR. KISSEL: With that, we rest our portion of  
13 this matter at this time.

14 HEARING OFFICER HALLORAN: The only other  
15 thing we have there -- or at least I did briefly allude to  
16 it was the Petitioner's Exhibit Number 11. I admitted  
17 that, but I also requested -- I granted Miss Williams'  
18 request to also submit the data underlying, and I don't  
19 know what table it is.

20 MS. WILLIAMS: I believe it was table 1 and  
21 table 11. Is that right?

22 HEARING OFFICER HALLORAN: Table 1?

23 MS. WILLIAMS: I think so.

24 HEARING OFFICER HALLORAN: I don't know what

1 the best way of doing that is. You don't have any  
2 documents or pages that that entails, the data supporting?

3 MR. KISSEL: No, I do not at this time. Why  
4 don't we go forward and reserve this, and I'll have  
5 somebody -- we'll have somebody take a look at it.

6 HEARING OFFICER HALLORAN: Okay. Terrific.  
7 Thank you.

8 Petitioner has rested its case in chief. The  
9 IEPA is now on.

10 MS. WILLIAMS: Good morning. For those of you  
11 who missed introductions yesterday, my name is Deborah  
12 Williams; I'm assistant counsel with Illinois EPA. And  
13 here with me I brought Bob Mosher from our Standards unit  
14 and Rick Pinneo from our Permit section as well as  
15 Lorraine Robinson from Division of Legal Counsel.

16 I also want to thank the Board for showing so  
17 much interest in this matter and coming and showing the  
18 patience, and also, for the record, thank the hospitality  
19 of the folks here at the courthouse.

20 The proceeding that we're engaged in here  
21 today is rather unique under Illinois law as opposed to  
22 other states. The adjusted standard proceeding is  
23 provided for under the Environmental Protection Act, and  
24 that Act provides that the Board can grant individual

1 site-specific relief from standards of general  
2 applicability when the Board determines, upon adequate  
3 proof by Petitioners -- I'm quoting now -- that the  
4 factors relating to the petitioner are substantially and  
5 significantly different from the factors relied upon by  
6 the Board in adopting the general regulation applicable to  
7 that petitioner, the existence of those factors justifies  
8 an adjusted standard, the requested standard will not  
9 result in environmental or health defects substantially  
10 and significantly more adverse than the effects considered  
11 by the Board in adopting the rule of general  
12 applicability, and finally, the adjusted standard is  
13 consistent with federal law.

14           The Agency has recommended to the Board that  
15 we felt the petitioner had not met its burden in the  
16 petition submitted of demonstrating the substantially and  
17 significantly different factors than what the Board  
18 considered in adopting the rule of general applicability  
19 that we're discussing here which is 35 Illinois  
20 Administrative Code 304.122.

21           In addition, the Agency has maintained that  
22 the petitioners have not met their burden of proving that  
23 the standard will not result in substantially and  
24 significantly more adverse environmental impacts that the

1 Board considered in adopting the general rule.

2           And finally, depending how broadly the request  
3 for relief is interpreted, I will suggest today that if  
4 read too broadly, an argument can be made there's some  
5 issues with consistency with federal law. I believe if  
6 you read their request narrowly, that's not an issue in  
7 this case.

8           Simply stated, the Agency believes Noveon's  
9 facility is exactly the type of facility the Board  
10 considered when adopting the rule of general applicability  
11 which, in this case, is an effluent limit applicable to  
12 large discharges of ammonia on the Illinois River.

13           That applicability is expressed two ways.  
14 First, in subsection A of 304.122, the Board initially  
15 adopted a rule in 406 that looked at dischargers who had a  
16 PE value of greater than 50,000. About a year later than  
17 that, the Board adopted a second rule, which the Agency  
18 states is the rule applicable to this facility, to cover  
19 facilities not covered in A, which would be large  
20 dischargers of ammonia, over 100 pounds per day, and for  
21 whom the -- let me -- whose untreated waste load cannot be  
22 computed on a population equivalent basis comparable to  
23 that used for municipal waste treatment plants.

24           Testimony from Mr. Flippin was provided

1 yesterday that the PE from this facility is less than  
2 50,000 and that it's his belief that subsection A clearly  
3 applies. The Agency will present some testimony disputing  
4 those calculations, and that it has consistently, for 15  
5 years, applied subsection B to Noveon's facility. But we  
6 also maintain that it's really not key to the Board's  
7 ruling in this case whether A or B applies because relief  
8 has been requested from both sections, whichever one the  
9 Board wants to determine applies. Presumably they're  
10 agreeing that B applies because if A applied, under their  
11 theory, they wouldn't need to be here today.

12           We'll also present testimony from Mr. Pinneo,  
13 the permit engineer, who has worked on this matter since  
14 he was a brand-new permit writer in the mid '80s until  
15 currently when he's among our most senior environmental  
16 permit engineers in the Industrial Permit unit. He'll  
17 attempt to give some perspective to the Board and some  
18 critique of Mr. Flippin's testimony on the alternatives  
19 evaluated, the treatability of Noveon's waste, and the  
20 cost of treating that waste. His testimony will show that  
21 there are technically feasible alternatives for meeting  
22 the effluent standard, some of those which reach the  
23 actual limit in that standard and some of which come  
24 closer to reaching that but not quite to actually reaching

1 it.

2                   In addition, we'll present testimony from Bob  
3 Mosher where he will critique some of the testimony  
4 presented from two of Noveon's experts, Mike Corn and Bill  
5 Goodfellow. He'll discuss the toxicity of Noveon's  
6 effluent and whether water quality standards are met now,  
7 by appropriate mixing zones and ZIDs as they exist, and  
8 whether they will be met with the proposed multiport  
9 diffuser.

10                   I'd like to point out a couple pieces of  
11 confusion about the relief requested that will -- that can  
12 be developed more fully later, but it is not entirely  
13 clear to the Agency whether Petitioners are also  
14 requesting relief from the remaining subsection 304.122,  
15 which is subsection C. That provision provides that the  
16 discharges subject to 304.122 are also required to comply  
17 with 304.105, which is a provision that requires  
18 discharges to meet water quality standards regardless of  
19 what effluent limits are applicable to their discharge.

20                   It's the Agency's position that the Board has  
21 clearly established, as recently finally as its ruling in  
22 the City of Effingham, that relief from 304.105 is in  
23 effect, relief from water quality standards and, as such,  
24 requires a change to water quality standards that must be

1 approved by U.S. EPA before it can be effective.

2           So, it's our position that depending on  
3 exactly what relief is requested, would depend on whether  
4 the relief requested is consistent with federal law or  
5 not.

6           In addition, in Noveon's petition they have  
7 stated that Noveon also seeks relief from the Board as  
8 part of this proceeding a determination that the ammonia  
9 water quality standards will be met with the ZID and  
10 mixing zone calculated in Exhibit 1 and 3 as discussed  
11 above for the Henry plant discharge. This is on page  
12 eight. Later, when they actually present their language  
13 for their relief, they don't repeat that requirement, so  
14 it's a little bit unclear to us whether they're actually  
15 asking the Board to determine a mixing zone for them or  
16 not. But to the extent that that is what they're asking,  
17 the Agency will give the Board information on whether  
18 that's -- whether the mixing zone proposal is appropriate,  
19 but also whether we consider that relief appropriate to  
20 request from the Board.

21           Finally, we believe the evidence will show  
22 that Petitioners have not met its burden to demonstrate  
23 the substantially and significantly different factors. We  
24 believe there's technically feasible alternatives and that



1 the question here today for the Board is to determine  
2 whether those alternatives are economically reasonable.

3 The Agency has attempted to give the Board  
4 information on which to objectively look at that and not  
5 require it to rely solely on what's been provided by  
6 Petitioners, but ultimately that is the question for the  
7 Board to decide today.

8 We do believe that Noveon, as the largest  
9 remaining ammonia discharger in the state of Illinois, is  
10 exactly the type of facility the Board was looking at when  
11 this rule was adopted, and that we don't feel the relief  
12 requested is appropriate in this case. Thank you.

13 I would like to start by calling Bob Mosher as  
14 my first witness.

15 HEARING OFFICER HALLORAN: While Mr. Mosher is  
16 getting ready, I do want to note, if I haven't already,  
17 that this Board was previously scheduled to be held in the  
18 board room downstairs; I have put a note outside the board  
19 room indicating that the hearing is upstairs now in the  
20 courtroom. Thank you.

21 Miss Williams.

22 (Witness sworn.)

23 ROBERT MOSHER,  
24 called as a witness, after being first duly sworn, was

1 examined and testified upon his oath as follows:

2 DIRECT EXAMINATION

3 BY MS. WILLIAMS:

4 Q. Could you state your name and occupation for  
5 the record, please?

6 A. Robert Mosher. I'm the manager of the Water  
7 Quality Standards unit at Illinois EPA.

8 Q. What do those duties include, Mr. Mosher?

9 A. They include development of new and updated  
10 water quality standards for eventual adoption by the  
11 Illinois Pollution Control Board, and the other part of  
12 the job is to implement existing water quality standards  
13 in NPDES permits and 401 certifications.

14 Q. And how long have you held that position?

15 A. About 16 years in that capacity and 2  
16 additional years at the Agency for a total of 18 total  
17 years at the Agency.

18 Q. And what is your educational background?

19 A. I've got bachelor of science degrees in  
20 environmental biology and zoology from Eastern Illinois  
21 University. I also have a master of science degree in  
22 zoology from that same university.

23 Q. I'd like to ask you briefly also about your  
24 involvement with ammonia water quality standards. Can you

1 describe that for us?

2 A. Yeah. I've worked on two water quality  
3 standards rule makings before the Board for ammonia; one  
4 of those was in 1996 and the other in 2001. I did the  
5 Agency's testimony and position on those water quality  
6 standards and suggested numeric limits for adoption in  
7 Board regulations.

8 Q. And how about any other regulations involving  
9 implementing those water quality standards?

10 A. Yeah, we -- I was involved in putting together  
11 35 Illinois Administrative Code Part 355. That's the  
12 Agency rule for implementing ammonia water quality  
13 standards in NPDES permits as permit limits.

14 Q. And what was your most recent involvement with  
15 that?

16 A. That was not too long ago. I believe just  
17 last year it was finalized.

18 Q. Have you been involved in any other seminars  
19 or work groups related to ammonia?

20 A. I participated, in the late '90s, in a U.S.  
21 EPA team that updated the national ammonia water quality  
22 criteria. I was a state participant, acting as a sounding  
23 Board for the federal employees that were putting that --  
24 those standards together.

1 Q. Do you consider yourself an expert in ammonia  
2 water quality standards and toxicity?

3 A. Yes, certainly from the State perspective, I  
4 do.

5 Q. Has the Board recognized you as such in the  
6 past?

7 A. I, I believe --

8 Q. You don't have to answer if you're too shy.

9 A. Okay. Thank you.

10 Q. I'd like to talk to you a little bit now about  
11 mixing zones. There has been quite a bit of discussion so  
12 far about mixing zones.

13 And I guess my first question is, is there a  
14 prerequisite requirement before you look into implementing  
15 mixing zones?

16 A. Yeah. The Board's water quality standard for  
17 mixing zones dictates that best degree of treatment be  
18 provided to the effluent before mixing be considered.

19 Q. And is it your role to determine best degree  
20 of treatment?

21 A. No, that would be an engineer's role.

22 Q. You heard Mr. Corn's testimony yesterday about  
23 his calculations for the current and proposed mixing zones  
24 and zones of initial dilution?

1           A.    Yes, I did.

2           Q.    I believe he calculated a current zone of  
3 initial dilution of 66 feet, I believe?

4           A.    I believe that's true, yeah.

5           Q.    Do you agree with that calculation?

6           A.    Well, no, I don't.  Mr. Corn seems to be using  
7 a formula to arrive at the dimensions of the zone of  
8 initial dilution that, as far as I know, is unique to him.  
9 It's definitely not the formula that the Agency uses in  
10 determining the size of the ZID.  We have been very  
11 consistent in our interpretation of what the size of the  
12 ZID can be for the last 12 years.  That's basically when  
13 the U.S. EPA Technical Support Document was published.  We  
14 use that document to guide us in interpreting the Board's  
15 regulation that says zones of initial dilution must  
16 provide rapid and immediate mixing to effluents in the  
17 receiving water.

18                       We use a formula that says the width of the  
19 river dictates the size of the ZID.  By that, 2.5 percent  
20 of the width of the river can be interpreted as the ZID.  
21 That means that 2.5 percent is the maximum length to the  
22 edge of the ZID from the edge of the outfall pipe for that  
23 effluent.

24                       This formula allows slightly larger ZIDs for

1 larger rivers. So, in other words, in Illinois, the  
2 Mississippi River has the largest potential ZID size; and  
3 as rivers get smaller, the maximum allowable size of the  
4 ZID gets smaller.

5 I should add, Mr. Corn's formula does the  
6 exact opposite of that. The smaller the river, the larger  
7 the ZID could be, using his way of doing things.

8 Q. And you heard him testify that there were  
9 several facilities that had -- that he knew of that either  
10 had or had requested ZIDs of this size?

11 A. Yes.

12 Q. And do you know where they discharge to?

13 A. Yes. He mentioned the -- well, the Village of  
14 Sauget, which is now the American Bottoms treatment plant;  
15 that's on the Mississippi River. He mentioned the 3M  
16 Company mixing zone and ZID; that is also on the  
17 Mississippi River.

18 Q. I'm going to show you now what I've marked as  
19 Illinois EPA Exhibit 1.

20 MS. WILLIAMS: I hope that's okay with  
21 Mr. Hearing Officer, that we start with 1 again? Is  
22 that --

23 HEARING OFFICER HALLORAN: Sure. Thanks.

24 BY MS. WILLIAMS:

1 Q. Can you identify that document for us?

2 A. Could you hand me my glasses, please?

3 Q. Yes.

4 A. Thanks. Okay. This document is dated  
5 November 2nd, 1994. It's a memo from me to Rick Pinneo.  
6 The subject is, "Comments on ammonia limits and allowable  
7 mixing at BF Goodrich, Incorporated, NPDES Number  
8 IL0001392." This is a memo summarizing our calculations  
9 of the size of the ZID that would be allowed at this  
10 facility and comments about what ammonia limits would be  
11 appropriate given that size ZID.

12 Q. And you prepared this document?

13 A. Yes.

14 MS. WILLIAMS: At this time, I would like to  
15 move for its admission into evidence.

16 MR. KISSEL: No objection.

17 HEARING OFFICER HALLORAN: IEPA's Exhibit  
18 Number 1 is admitted.

19 BY MS. WILLIAMS:

20 Q. Bob, now I'm going to show you what I've  
21 marked as IEPA Exhibit 2. Can you identify that document  
22 for us?

23 A. Yes. This is an April 4th, 1997, memo from  
24 myself to Joel Cross. It's entitled, "Additional comments

1 on ammonia limits and allowable mixing at BF Goodrich,  
2 Incorporated, NPDES Permit Number IL0001392." And this is  
3 a memo I wrote, again, summarizing what we have calculated  
4 the allowable ZID to be at this facility and again  
5 commenting on what ammonia permit limits would be given  
6 that ZID.

7 Q. And you prepared the document?

8 A. Yes.

9 Q. And the exhibit is an accurate reflection of  
10 what you prepared?

11 A. Yes, it is.

12 MS. WILLIAMS: At this time, I would move to  
13 have that document entered into evidence as Exhibit  
14 Number 2.

15 MR. KISSEL: No objection.

16 HEARING OFFICER HALLORAN: Admitted.

17 BY MS. WILLIAMS:

18 Q. Do these memos, Bob, summarize your current  
19 position regarding the existing --

20 A. Yes, they do. Our, our position hasn't  
21 changed. We calculated the maximum extent in any spatial  
22 direction from the end of the pipe of this Noveon outfall  
23 to be 22.5 feet. That's contrasted with the 66 feet that  
24 Mr. Corn calculated.



1 MR. KISSEL: What was the footage? I'm sorry.

2 I didn't --

3 THE WITNESS: We calculated 22.5 feet.

4 MR. KISSEL: Thank you.

5 BY MS. WILLIAMS:

6 Q. In your opinion, based on that size of the  
7 ZID, would the acute water quality standard be met at the  
8 edge of that ZID now?

9 A. No, it would not. The mixing that we would  
10 predict to occur with the current outfall would exceed  
11 that 22.5 distance. In other words, the acute water  
12 quality standard for ammonia would not be met outside that  
13 region, nor would the acute water quality standard for  
14 whole effluent toxicity.

15 Q. I think you talked about the fact that you and  
16 Mr. Corn have a different interpretation of the phrase  
17 "any spatial direction" as it's used in the Board's rules?

18 A. That term -- terminology, "any spatial  
19 direction," comes from the Technical Support Document from  
20 U.S. EPA.

21 Q. Thank you.

22 A. You could say, though, that our definition of  
23 rapid and immediate is quite a bit different. We feel  
24 that our definition of the ZID using the Technical Support

1 Document is in keeping with the Board's wording in the  
2 standard.

3 Q. Were you involved in the development of the  
4 mixing zone regulations?

5 A. Yes, I was.

6 Q. Do you have an opinion on the policy and basis  
7 for those regulations?

8 A. Well, yes, I do. Zones of initial dilution  
9 are a subarea within mixing zones, where acute water  
10 quality standards do not have to be met. That's a  
11 condition that we don't want to occur in our waters.  
12 Acute toxicity, as well as chronic toxicity, is not a  
13 desirable thing.

14 The mixing zone standard is intended, I  
15 believe, to put a limit on what part of a river or other  
16 body of water that can have violations of acute standards.  
17 So, it's very important that the zones of initial dilution  
18 be as small as possible, as the Board dictates in their  
19 standard. And U.S. EPA has, has helped us define that  
20 further from the wording provided by the Board.

21 There was a necessity to put the limits of a  
22 ZID into dimensions that can be measured and can be  
23 calculated; and again, the U.S. EPA Technical Support  
24 Document was the information, the guidance that we used to

1 do that.

2 Q. Mr. Corn testified yesterday that he believed  
3 it was consistent with the Board's regulations for there  
4 to be no mussels or clams or other aquatic life within  
5 both the ZID and the mixing zone. Do you agree with that?

6 A. Well, when a --

7 MR. KISSEL: I'm going to object to the  
8 characterization of the testimony. I don't think that was  
9 the testimony at all.

10 HEARING OFFICER HALLORAN: I don't recall that  
11 being the testimony at all, Miss Williams.

12 MS. WILLIAMS: That's fine.

13 HEARING OFFICER HALLORAN: Objection  
14 sustained.

15 MS. WILLIAMS: Go back to the transcript when  
16 they're done, but --

17 BY MS. WILLIAMS:

18 Q. Do you agree that it's acceptable to have --  
19 is it acceptable to you to have an area within a ZID and  
20 mixing zone where there's no mussels or clams, under the  
21 Board's regulations?

22 A. Well, the, the mixing zone is a legal  
23 construct as we use in regulation of NPDES permitted  
24 discharges. It's, it's a regrettable thing. We wish

1 there were no ZIDs or mixing zones. There, in fact, are  
2 many, and we use the regulation to follow the guidance and  
3 -- more than guidance, follow the regulation that the  
4 Board's provided --

5 MR. KISSEL: I'm going to ask -- object to  
6 this. I realize we need prefatory remarks, but I don't  
7 think -- the question was pretty specific, was -- and I  
8 think he's gone far beyond that in trying to answer.

9 MS. WILLIAMS: I gave Mr. Flippin lots of  
10 leeway yesterday.

11 MR. KISSEL: This is not a balancing effect.  
12 I'm saying in this particular case, he's going far beyond  
13 the question. If you want to ask him a question about his  
14 theories, fine; but we're about (sic) mussels and clams.

15 THE WITNESS: I'll try to be more succinct.

16 MS. WILLIAMS: I would like a ruling, though,  
17 still.

18 HEARING OFFICER HALLORAN: Well, this is sort  
19 of a balancing act, Mr. Kissel. We did give Mr. Flippin a  
20 little leeway, and I will give Ms. Williams a little  
21 leeway and a little latitude as well. So, you may  
22 proceed, Mr. Mosher.

23 A. Well, the bottom line is that when a mixing  
24 zone and ZID are granted to an NPDES discharge, that means

1 that the standards won't be met. The standards are based  
2 on toxic effect to aquatic life, and that includes fish,  
3 that includes mussels and clams that live on the bottom.  
4 And when you allow those areas in the river to not meet  
5 the standards, it may be consistent with the Board's  
6 regulation, but it does mean that there is an impact to  
7 that aquatic habitat. Within that mixing zone and ZID,  
8 aquatic life is not expected to thrive as it should  
9 elsewhere.

10 Q. So, do you agree that there will be no harm or  
11 impairment to aquatic life?

12 A. I disagree with that wholeheartedly. There --  
13 the larger the mixing zone, the more impact there will be  
14 to aquatic life. You will exclude aquatic life from those  
15 areas. You will prevent clams and mussels and other  
16 organisms from living on the bottom within the mixing zone  
17 because they can't tolerate the toxicity. You'll keep  
18 fish from that area, from using that area as habitat, as  
19 feeding grounds, as spawning grounds because they can't  
20 tolerate the conditions in those areas.

21 Q. Well, I think that creates a transition to the  
22 toxicity of Noveon's discharge. I believe there's a  
23 statement in our recommendation that I'd like to read to  
24 you that has come up a couple of times. "In addition,

1 it's the Illinois EPA's opinion that Noveon's discharge is  
2 the single most toxic" --

3 MR. KISSEL: I know what the statement is. It  
4 has to do with toxicity of this effluent. I strongly  
5 object to this being read into this record for a couple of  
6 reasons: One is that it is inflammatory; secondly, it may  
7 or may not be true; thirdly, it will bring into effect a  
8 requirement that we bring all of the discharges, because  
9 it compares -- attempts to compare this discharge to all  
10 the discharges in Illinois, of which there are hundreds,  
11 thousands. So, I don't think this is a proceeding to  
12 compare this discharge against other discharges in the  
13 state.

14 This -- if the Hearing Officer or the Board  
15 allows that testimony, I would then say this proceeding  
16 should be abandoned or -- not abandoned, but stopped, and  
17 we can then do discovery on the whole issue of what other  
18 discharges there are, how toxic they are and the like.

19 So, I think that the statement is inflammatory  
20 and irrelevant to this proceeding.

21 HEARING OFFICER HALLORAN: Miss Williams?

22 MS. WILLIAMS: I was just trying to read from  
23 the recommendation that's been on file since May of 2002.  
24 Discovery was done since that time. I'm not sure how --

1 you know, I was attempting to provide some support for  
2 that. I'm not sure --

3 HEARING OFFICER HALLORAN: This is in the  
4 recommendation?

5 MS. WILLIAMS: Yes. I was reading from page  
6 18, I believe, page 18, paragraph 42, the first sentence.  
7 I mean, I -- it seems like Mr. Kissel's objections are  
8 based more on what he doesn't like than what's a  
9 legitimate objection.

10 HEARING OFFICER HALLORAN: Well, I don't think  
11 you need to add that, Miss Williams.

12 MS. WILLIAMS: I'll withdraw the statement.

13 MR. KISSEL: Let me say that --

14 MS. WILLIAMS: I've never had --

15 HEARING OFFICER HALLORAN: Go ahead,  
16 Mr. Kissel.

17 MR. KISSEL: As I said before, the  
18 recommendation of the Illinois Environmental Protection  
19 Agency is not evidence in this proceeding. If they want  
20 to produce evidence to support it and it is relevant to  
21 this proceeding, that's perfectly acceptable to us and  
22 should be to the Board.

23 What our discharge is as compared to the other  
24 discharges in the state or the country or the county is

1 irrelevant to this proceeding, whether it was in the  
2 recommendation or not.

3 HEARING OFFICER HALLORAN: I mean, it has been  
4 in the recommendation, and Noveon has been fully aware of  
5 this since May 22nd, 2002. You know, if there's any  
6 problem with it, then there could have been discovery or  
7 other motions, you know. Here we are February 19th at,  
8 you know, five till 10, and there's an objection.

9 So, what I'm going to do, I'm going to allow  
10 Miss Williams to read the statement from the  
11 recommendation of the IEPA that was filed May 22nd, and  
12 you may appeal my ruling if you so choose, Mr. Kissel.

13 MS. WILLIAMS: I think I did read it, right?  
14 Was I done?

15 HEARING OFFICER HALLORAN: That was page 18.  
16 I think you started, and I think Mr. Kissel stopped you.

17 BY MS. WILLIAMS:

18 Q. Are you familiar with the statement I was  
19 reading from the recommendation?

20 A. Yes, I am.

21 Q. Did you write that, Bob?

22 A. Yes, I think I did.

23 Q. You did? I was -- I was going to take credit,  
24 but I was going to ask you if you reviewed it?



1           A.    I either wrote it or approved someone else.

2           Q.    You agree with that statement?

3           A.    Yes, I do.

4           Q.    Can you tell us a little bit about why you  
5 agree with that statement?

6           A.    Well, this is an extremely toxic effluent, and  
7 it was, in years past, one of several very toxic effluents  
8 that we had in the state.  And it, it now is the single  
9 remaining effluent of this degree of toxicity.

10          Q.    And explain what the degree of toxicity you  
11 mean (sic).

12          A.    Well, it's consistently in the single-digit  
13 percentage whole effluent toxicity LC 50, meaning acute  
14 test.  And, you know, I review -- have reviewed every  
15 single toxicity report ever done by Illinois EPA.

16          Q.    Personally you've reviewed every one?

17          A.    Personally.  And every toxicity report done as  
18 a permit requirement has been done in my shop at Illinois  
19 EPA, and I have supervised the people reviewing those  
20 reports.  And this, this effluent is the most toxic in the  
21 state.

22          Q.    Thank you.  Did you also review the test that  
23 Mr. Goodfellow submitted?

24          A.    Yes, I did.

1           Q.    And there were two tests, I believe, that he  
2 discussed yesterday?

3           A.    Correct.

4           Q.    Can you briefly explain to us what they did or  
5 didn't include?

6           A.    Well, they did chronic whole effluent toxicity  
7 tests on two species, fathead minnow and Ceriodaphnia.  
8 And the interesting thing about those tests was that they  
9 were not carried out to discover the full extent of the  
10 chronic toxicity, which I found pretty unusual.  When you  
11 do that kind of testing, you take the trouble to do a  
12 definitive test; you always bring the dilutions down to  
13 the level of disappearance of toxicity.  In other words,  
14 you keep diluting the effluent until the organisms don't  
15 have an adverse effect to it any longer.

16                     In these tests, they ended the dilution at  
17 6.25 percent, I believe, and didn't attempt to discover  
18 exactly how toxic those effluents were.

19           Q.    Do you agree that salinity or TDS might be a  
20 component of that toxicity?

21           A.    Yeah, I think there's enough salinity in this  
22 effluent to be toxic.  The question is, is the ammonia in  
23 the effluent going to kill the organisms first?  I believe  
24 it does.  If you remove the ammonia from the effluent,

1 salinity would, would exert some toxicity, yes.

2 Q. Do you know whether Mr. Goodfellow's studies  
3 show if anything else is toxic in Noveon's discharge?

4 A. Well, he did some toxicity identification  
5 evaluation on the effluent; and given the nature of this  
6 effluent, that was an extremely difficult task for him to  
7 try to do. When you have such an extremely toxic effluent  
8 as this, it's difficult to separate out and remove  
9 toxicity from one source so you can see if there are other  
10 sources also contributing toxicity.

11 This is of concern to the Agency because once  
12 the ammonia is removed from this effluent, as we hope it  
13 will be, we need to know what else there is to worry about  
14 there and if further treatment or further investigations  
15 need to be conducted to, to remove all the toxicity  
16 possible.

17 Q. Do you have an opinion whether the failure of  
18 these tests to determine the precise toxicity has any  
19 impact on Mr. Corn's findings regarding the ZID and mixing  
20 zone?

21 MR. KISSEL: I object to the characterization  
22 of the testimony. That's not what was said.

23 HEARING OFFICER HALLORAN: Miss Williams?

24 MS. WILLIAMS: Do you -- I'll rephrase the

1 question. That's fine.

2 BY MS. WILLIAMS:

3 Q. Is there any -- what -- explain the tie-in  
4 between these two studies for us, please.

5 A. Well, Mr. Corn testified that 100:1 dilution  
6 will be adequate to address the chronic toxicity issues in  
7 this effluent. And on the basis of Mr. Goodfellow's  
8 tests, which did not definitively identify the threshold  
9 of chronic toxicity in this effluent, Mr. Corn had no  
10 basis to make his estimate. You can't determine the  
11 dilution ratio necessary to render an effluent non-toxic  
12 in the river until you know how toxic it is.

13 Q. Is there a stream survey conducted in this  
14 matter?

15 A. The only stream survey I'm aware of is the  
16 conductivity survey done by Mr. Corn.

17 Q. And do you believe there are any other studies  
18 that would have provided information the Agency would have  
19 found useful?

20 A. Well, Mr. Corn made some statements about the  
21 effect on aquatic life at the edge of the mixing zone.  
22 And again, if you don't know how chronically toxic the  
23 effluent is, it's very difficult to make statements like  
24 that because you don't know how far down the river you

1 need to look. And there wasn't any evidence provided that  
2 -- such as mussels or fingernail clams were doing well in  
3 the river or fish were frequenting the area. There was  
4 really a -- just the conclusion appeared to me to be made  
5 on the lack of any reports of adverse conditions and not  
6 reporting actual conditions.

7 Q. Mr. Corn testified this morning that he chose  
8 a figure of 8 milligrams per liter for the concentration  
9 of ammonia in Henry's POTW discharge. Do you agree with  
10 that being a proper figure to choose?

11 A. Well, I wondered about that figure because if  
12 a municipal wastewater treatment plant is not nitrifying,  
13 the ammonia content in that effluent will be about 25  
14 milligrams per liter, more or less. That means that no  
15 ammonia is being removed essentially.

16 If an effluent is being nitrified, if the  
17 treatment plant is advanced and is providing  
18 nitrification, the level of ammonia will be 1, 2, 3 parts  
19 per million level, much lower than 8; so, the figure of 8  
20 is kind of an in-between number, and that's kind of  
21 curious to choose that number.

22 Q. I'd like you to take a look at what has been  
23 entered by Petitioners as Exhibit 37. Bring it up to you,  
24 let you look at my copy. And I'd like you to explain for

1 the Board what that is, what it concludes.

2 A. This is a memo dated February 5th, 2001, from  
3 Scott Twait to Rick Pinneo. The subject is, "Ammonia  
4 water quality based effluent limits for BF Goodrich, NPDES  
5 Number 0001392, Marshall County."

6 Scott Twait -- Twait is an engineer who works  
7 in my unit at Illinois EPA, and he provided an analysis of  
8 ammonia limits that would be applied to the NPDES permit  
9 under two scenarios of discharge, one being the existing  
10 single port diffuser, and the other being a multiport  
11 diffuser that has been proposed.

12 Q. And what did he conclude?

13 A. He concluded that the existing condition of  
14 discharge with the single port low-rate diffuser would  
15 require daily maximum effluent limits for ammonia.

16 Do you want me to read those numbers?

17 Q. I don't think it's necessary.

18 A. Okay.

19 Q. But they would require, based on the --

20 A. Yeah, numeric limits in the NPDES permit to  
21 limit ammonia. The predicted scenario of kind of a  
22 what-if situation, if a multiport diffuser was  
23 constructed, Scott concluded that no ammonia limits would  
24 be necessary in the permit. And he makes that assumption

1 -- he makes the assumption that a mixing zone could be  
2 granted in that case which, in the Agency's opinion right  
3 now, of course, that mixing zone cannot be granted.

4 Q. And does he -- well, that's good. Thank you.

5 I would like to have you take a look at  
6 another exhibit.

7 HEARING OFFICER HALLORAN: While you're taking  
8 a look at it, I want the record to reflect I stand  
9 corrected. The IEPA's recommendation was filed June 18th,  
10 2003, and not May 22nd, 2002. That was when the petition  
11 was filed. But my ruling still stands.

12 MS. WILLIAMS: If I can get Petitioner's  
13 agreement here, all I've done is copied the pages from  
14 their petition where they list their request for relief.  
15 I can have Bob identify it, but I think it speaks for  
16 itself.

17 Showing you what -- I've marked this IEPA  
18 Exhibit 3.

19 HEARING OFFICER HALLORAN: Thanks.

20 MS. WILLIAMS: Do you have an objection to  
21 this, Dick?

22 MR. KISSEL: No. I haven't looked at it; you  
23 just gave it to me. I assume you've copied it. If it's a  
24 copy, I have no objection.

1 MS. WILLIAMS: Then I would like to have it  
2 admitted into evidence.

3 HEARING OFFICER HALLORAN: IEPA's Exhibit  
4 Number 3 is admitted into evidence.

5 BY MS. WILLIAMS:

6 Q. Do you want to sort of describe what these  
7 couple pages are?

8 A. Well, if -- I believe they are proposed  
9 adjusted standard language for the Board to grant to  
10 Noveon, and there are three alternatives presented.

11 Q. Let's talk about alternative one for a second.  
12 Can you tell us what alternative one provides as  
13 concentration limits in subsection A there?

14 A. Yeah. It gives limits in terms of un-ionized  
15 ammonia-nitrogen.

16 Q. And do you have an opinion as to whether  
17 that's an appropriate alternative based -- I mean whether  
18 using -- excuse me. Let me strike that.

19 Do you have an opinion regarding whether  
20 basing the limit on un-ionized ammonia is appropriate?

21 A. Well, limits in terms of un-ionized ammonia  
22 are very ungainly as far as monitoring and reporting  
23 because un-ionized ammonia can't be measured directly in  
24 the laboratory, at least not very easily. And so the



1 Agency almost always refrains from establishing ammonia  
2 limits using un-ionized ammonia. And, in fact, given the  
3 recent water quality standards for ammonia, we are  
4 specifically instructed that we must not use un-ionized  
5 ammonia; we must use total ammonia for the permit limits.

6 Q. And do the current ammonia water quality  
7 standards say anything about the division of the year into  
8 a summer or winter period?

9 A. Yes, they do. March is now defined as a  
10 summer month, whereas before it was not.

11 Q. In your duties at the Illinois EPA, have you  
12 had the opportunity to be involved in other -- in the  
13 review of other requests for relief from 304.122(b)?

14 MR. KISSEL: I'm going to object to that as  
15 totally irrelevant to this proceeding.

16 HEARING OFFICER HALLORAN: I'm sorry.  
17 Jennifer, could you read the question back, please?

18 (The preceding question was read back by the  
19 reporter.)

20 HEARING OFFICER HALLORAN: You know, that's  
21 kind of a 'tweener. I'll allow him to answer if he's  
22 able.

23 A. Yes, I am.

24 MS. WILLIAMS: I think at this time maybe it's

1 worth just discussing what the Hearing Officer will accept  
2 as far as testimony in this area rather than having him  
3 object to my next question. You know, we think it will be  
4 helpful to the Board to help summarize for them what  
5 they've done in the past with regard to this rule. If  
6 that's going to be overruled, that's fine.

7 I think it's able -- something that we're able  
8 to argue in our post-hearing briefs and provide cites to  
9 rules and cases and that sort of thing, but Bob is here  
10 and he's able to explain what the Board's done in the  
11 past, to summarize that for the Board. But, obviously,  
12 the Board is able to look at it itself, too, so it's  
13 really what the Board wants to hear today.

14 MR. KISSEL: I object. First of all, it's  
15 irrelevant. We can't bring in all these proceedings -- to  
16 the extent there were any; I have no idea whether there  
17 were or there weren't. But if there were -- and I assume  
18 there are since she's asked that question.

19 Secondly, I think it is disingenuous for the  
20 Agency to say we've brought a witness here to tell the  
21 Board what they did. If the Board doesn't understand  
22 that, I would be totally surprisingly shocked. So, it's  
23 irrelevant. It will extend this hearing because, again,  
24 this is a total surprise to me.

1 HEARING OFFICER HALLORAN: Well, you know, I  
2 agree with you, Mr. Kissel. You know, I -- again, as I've  
3 stated three or four times, I have full faith and  
4 confidence that the Board knows regards its prior  
5 proceedings, and --

6 MS. WILLIAMS: Yep.

7 HEARING OFFICER HALLORAN: -- they can take a  
8 look at that time. It's gracious of you to, to offer to  
9 summarize; however, I would have to sustain Mr. Kissel's  
10 objection. I don't think it's relevant to this particular  
11 case. It may assist the Board in its decision --

12 MS. WILLIAMS: Well --

13 HEARING OFFICER HALLORAN: Miss Williams,  
14 please. However, I'm between a rock and a hard place.  
15 And what I'm going to have to do is take it as an offer of  
16 proof because I don't want to come back here if the Board  
17 overrules me without hearing the testimony and be back  
18 here in 30 days. So --

19 MS. WILLIAMS: Well, and I -- you know, as I  
20 said, I really am not going to strenuously object. I  
21 think I'm more than capable of presenting this evidence in  
22 the form of a brief.

23 HEARING OFFICER HALLORAN: That would be  
24 terrific.

1                   MS. WILLIAMS: The reason I, I -- and the  
2 other reason I bring -- the only line of questioning that  
3 I have remaining for this witness is twofold; one was to  
4 provide some evidence about what other types of relief  
5 have been granted, what the Agency's position was in those  
6 cases, which I admit is arguably not appropriate. But the  
7 Board did express an interest yesterday in understanding  
8 some of those type of questions.

9                   Bob -- the only other question I have for Bob  
10 is if the Board is interested in him explaining somewhat  
11 what goes into a recommendation, as they had asked  
12 questions yesterday regarding what might or might not have  
13 changed the outcome of our recommendation in this case.  
14 And again, I think those kind of questions maybe are also  
15 not going to be acceptable to Mr. Kissel, and we leave it  
16 to the Board. So, maybe we should just turn the  
17 questioning over to the Board at that point and see what  
18 they want to ask Bob, but those are the only two lines of  
19 questioning I have remaining for this witness.

20                   HEARING OFFICER HALLORAN: Yes, I do remember  
21 -- what goes into the recommendations, I do remember that  
22 line of questioning from the Board yesterday. You know,  
23 I, I guess, Mr. Kissel, what's your thought on that?

24                   MR. KISSEL: I mean, I, I think that the line

1 of questioning or -- not the questioning, but the issue  
2 was whether or not there was any way of resolving this  
3 matter, was there any interim technology that would be  
4 acceptable to us and that the Agency would accept as well.  
5 And that's how I remember the context of it -- correct me  
6 if I'm wrong -- which I suppose goes into what goes in the  
7 recommendation and doesn't.

8                   And there was an indication that from the  
9 Agency's point of view, whether it was in the hearing or  
10 afterwards, that they were going to bring Mr. Frevert here  
11 to, to testify about what was acceptable, what wasn't. I  
12 assume he's not going to be here.

13                   HEARING OFFICER HALLORAN: I assumed he was.

14                   MS. WILLIAMS: I talked with them about  
15 what -- I'm sorry. I talked with the technical staff, I  
16 thought about whether our feelings had -- Bob had talked  
17 to Toby and --

18                   MR. KISSEL: No, wait.

19                   HEARING OFFICER HALLORAN: I was there during  
20 that conversation, but then I approached you and we -- it  
21 was after the hearing.

22                   We can go off the record.

23                   (A discussion was held off the record.)

24                   HEARING OFFICER HALLORAN: We're back on the

1 record. It appears that Mr. -- we were talking about  
2 testimony of Mr. Frevert, I believe, from the IEPA; he's  
3 not going to be in today. But Mr. Mosher will testify as  
4 to what Mr. Frevert was going to say.

5                   Secondly, Mr. Kissel's objections I have  
6 sustained. However, I'm going to allow Miss Williams to  
7 proceed with the questions to Mr. Mosher under an offer of  
8 proof.

9 BY MS. WILLIAMS:

10                   Q. Can you name for us the other site-specific  
11 relief from 304.122(b) which has been granted?

12                   A. Yes, those were --

13                   MR. KISSEL: Mr. Hearing Officer, in order to  
14 expedite this, I would have no problem in the offer of  
15 proof not, not being done in something other than voir  
16 dire and just a statement as to what the Agency would  
17 prove if Mr. Mosher were allowed to testify. And if that  
18 were done, we --

19                   MS. WILLIAMS: By me?

20                   MR. KISSEL: Yes.

21                   MS. WILLIAMS: Okay.

22                   MR. KISSEL: And in order also to expedite,  
23 that we not be -- have to cross-examine him on the offer  
24 of proof at this time.

1                   HEARING OFFICER HALLORAN: I'm all for  
2 expediting these matters, so I would agree.

3                   Miss Williams, you may proceed. Thank you.

4                   MS. WILLIAMS: Thank you. Were I able to  
5 present testimony from Mr. Mosher on this issue, he would  
6 testify that he has participated in two separate  
7 site-specific rule-makings for relief from this provision.  
8 Those were both for oil refineries, Mobil Oil and Union  
9 Oil, which has changed names a few times.

10                   The ultimate relief granted by the Board in  
11 those rule-makings can be found in 304.213 and 304.214.  
12 And in each of those cases, the Board granted relief to  
13 the petitioner in which an effluent limit was required for  
14 Union Oil of 9.4 milligrams per liter and for Mobil of 9.0  
15 milligrams per liter of a monthly average; and for Union  
16 of 26.0 milligrams per liter and for Mobil of 23.0  
17 milligrams per liter of a daily maximum. And each of  
18 those requests for relief involved sunset provisions of  
19 ten-year limitations. And that's it; that's the end of  
20 that.

21                   MR. KISSEL: If cross-examining on this issue,  
22 amongst other things, Mr. Hearing Officer, I would show  
23 that the discharges and what creates the ammonia limit,  
24 the problem that they had or effluent limitations that

1 they had is totally different than this proceeding. It's  
2 absolutely -- it's an oil refinery. This is not an oil  
3 refinery. This is -- the technology here and the cost of  
4 the treatment are totally different.

5 That ends my objection to what I would  
6 cross-examine the witness about.

7 HEARING OFFICER HALLORAN: Okay. Thank you  
8 both, and the record will show such.

9 Miss Williams, do you have anything else?

10 MS. WILLIAMS: Yes. That concludes my  
11 testimony. I think I would prefer to leave it to the  
12 Board to ask Bob whatever they want to ask him remaining.

13 HEARING OFFICER HALLORAN: Well, Mr. Kissel  
14 gets a chance to --

15 MS. WILLIAMS: No, no, no. I mean I'm done  
16 rather than me ask him about policy and recommendations.

17 HEARING OFFICER HALLORAN: Okay. Does anybody  
18 need a two-minute break?

19 Off the record.

20 (Whereupon, a recess was taken.)

21 HEARING OFFICER HALLORAN: All right. We're  
22 back on the record. Sorry for the call -- for the delay.  
23 Work called again, an emergency everywhere.

24 In any event, we're back on the record, and I



1 think Ms. Williams was -- oh, I'm sorry, Mr. Kissel was  
2 going to cross Mr. Mosher.

3 MR. KISSEL: Before the cross-examination,  
4 I -- it's a hard thing for me to say on the record, and I  
5 don't want to infuriate either the Board, the Hearing  
6 Officer or anyone else, but I am concerned, and I have to  
7 put it as -- representing my client, I have to put -- not  
8 that they've asked me to do it, but because I believe it's  
9 necessary -- into the record the conversation that existed  
10 between the Board staff, Hearing Officer, and the Illinois  
11 EPA concerning what witnesses will be produced without my  
12 presence. It seems to me that, at least from my  
13 perspective -- and I hope I haven't violated that rule --  
14 that I would think in talking to either the technical  
15 staff or the Hearing Officer I would not talk to them  
16 about the substance of my case unless I had the other  
17 attorney present or unless the attorney agreed.

18 I'm not trying to be critical here, I'm not  
19 trying to infuriate anybody, but I think that it is  
20 important to keep these proceedings in mind. It is a  
21 regulatory proceeding, and there is an ability to talk to  
22 people, but I would have liked to have participated,  
23 frankly, in the conversation regarding Mr. Frevert and his  
24 position here. I would have wanted him here. We took his

1 deposition in this case; I know what he's going to say; I  
2 know what he has done. And I don't think Mr. Mosher --  
3 again, this is my view -- is an adequate substitute for  
4 Mr. Frevert in this matter, no matter what Mr. Frevert  
5 said.

6                   Again, I'm trying -- I'm not -- I'm just  
7 saying it because I believe it's important for the record,  
8 Mr. Hearing Officer.

9                   HEARING OFFICER HALLORAN: All right. And I,  
10 I do take a bit of an umbrage to your statement,  
11 Mr. Kissel. The discussion talk and when -- while we were  
12 on record even about Mr. Frevert coming or not, whether he  
13 can come, there was discussion. And if the transcript --  
14 I'm sure the transcript will reflect whether Mr. Frevert  
15 could come yesterday or today and that was yet to be seen.

16                   My understanding off the record -- and there  
17 was at least Mr. -- I believe Latham sitting there. I  
18 don't know if you were there or not. I merely asked  
19 Miss Williams whether Mr. Frevert was coming today, and I  
20 understood that he was.

21                   MR. KISSEL: Well, I just want to make my  
22 point. Again, I'm not trying to have anybody take --

23                   HEARING OFFICER HALLORAN: Okay. You made  
24 your point, Mr. Kissel. Thank you. Would you prefer to

1 have Mr. Frevert in if he can come?

2 MR. KISSEL: That's up to the Agency. I mean,  
3 they have to make the judgment.

4 HEARING OFFICER HALLORAN: Well, you stated  
5 you would rather have Mr. Frevert.

6 MR. KISSEL: No, I said -- if I meant --  
7 whatever they need to prove their case, whatever they need  
8 to prove their side of what they're doing. It's up to  
9 them. I guess maybe I expressed it badly. I would not  
10 have anywhere near objected to having Mr. Frevert come,  
11 and I would object to Mr. Mosher testifying as to what  
12 Mr. Frevert might say.

13 My understanding was that the request, the  
14 whole concept or whole thought was about some resolution,  
15 some technology that was between what we said was  
16 available and the standard. Is there some -- the standard  
17 that we don't say is applicable. But is there some  
18 technology there, and that was the issue that was raised.

19 HEARING OFFICER HALLORAN: So, you would  
20 prefer, if Mr. Mosher starts talking --

21 MR. KISSEL: If --

22 HEARING OFFICER HALLORAN: I can order  
23 Miss Williams to get Mr. Frevert up here in the next two  
24 hours. I believe that's what it takes to get from

1 Springfield, because I understood that he was going to be  
2 here this morning. There must have been some  
3 miscommunication.

4 MR. KISSEL: It doesn't matter to me whether  
5 he's here or not. I don't --

6 HEARING OFFICER HALLORAN: Well, will you  
7 object to Mr. Mosher? It sounds like you will, giving --

8 MR. KISSEL: Well, it depends on what the  
9 question is.

10 HEARING OFFICER HALLORAN: Well --

11 MR. KISSEL: It depends on what the question  
12 is. Mr. Mosher is not a technical expert. I don't think  
13 he would -- I'm speaking for him here, but he has clearly  
14 said on many occasions before he is not involved in the  
15 technology here, and I don't know how I can cross-examine  
16 him if he's going to propose -- now, maybe Mr. Pinneo is  
17 going to propose some technology. I don't know what  
18 Mr. Frevert is going to testify to.

19 HEARING OFFICER HALLORAN: He's not going to  
20 propose any technology?

21 I guess we can proceed and see what happens.  
22 You can get on the horn and call Mr. --

23 MR. RAO: Mr. Hearing Officer?

24 HEARING OFFICER HALLORAN: Yes, sir.

1                   MR. RAO: Since this all started with our  
2 questioning, I just want to clarify what the question was  
3 and what we thought would help, you know, the information  
4 that would be helpful for the Board and the record. In  
5 the Agency's recommendation, they said even if Noveon  
6 could not achieve full compliance, they would support this  
7 request for relief if they implemented certain technology  
8 to reduce the amount of ammonia-nitrogen being discharged.

9                   And my question was, you know, if they don't  
10 achieve full compliance, is there a target number that the  
11 Agency is comfortable with? And that's when Miss Williams  
12 said Mr. Frevert will be able to answer that question. Or  
13 if you say it's okay, then Mr. Mosher would answer it.

14                   So, from our perspective, all we want is some  
15 information to elaborate a little bit more on what the  
16 Agency's recommendation was saying.

17                   HEARING OFFICER HALLORAN: So, where does that  
18 leave us?

19                   MS. WILLIAMS: I mean, I think I can maybe  
20 simplify and -- the reason that we don't feel it's  
21 necessary to have Toby here is his testimony, we believe,  
22 would be very brief and very basic, not involving any  
23 specific technology, just simply a statement of Agency  
24 policy regarding recommendations generally and how they're

1 approached.

2                   And the question in my mind when I prepared  
3 the witnesses was whether Bob would be in a position to  
4 present the Agency's testimony on that, and I think we're  
5 all comfortable that he has the authority now to do that,  
6 and that bringing the witness up here to testify for five  
7 minutes was not an efficient use of the State's resources,  
8 as simple as that.

9                   I don't want Bob to testify to what Toby would  
10 have said. I just felt it was necessary to be sure he had  
11 the support of his superiors in giving the Agency's  
12 position.

13                   MR. KISSEL: I guess the position is what?

14                   HEARING OFFICER HALLORAN: Yes, I --

15                   MR. KISSEL: What position are you talking  
16 about?

17                   HEARING OFFICER HALLORAN: I guess -- you  
18 know, I guess we won't know until we cross that bridge,  
19 so -- and Mr. Kissel can do what he likes, and we may have  
20 to call Mr. Frevert up, and we can make it day four. I  
21 don't care. We can stay here as long as we want. We have  
22 it through tomorrow.

23                   So, I just -- and again, for the record, again  
24 this hearing has been noticed for 90 days, this matter has

1 been hanging out there for two years, as far as adjusted  
2 standard. And for a regulatory proceeding which is pretty  
3 much any relevant information to come in, it seems to be a  
4 bit contentious because I don't think the groundwork was  
5 laid. And I'm not placing blame; it might just be the  
6 nature of the beast.

7                   But I guess for now, we can -- we can question  
8 Mr. Mosher regarding what Mr. Frevert would say. If  
9 Mr. Kissel has an objection, then we'll have to deal with  
10 it.

11                   MR. KISSEL: My question still is,  
12 Mr. Halloran, what did he testify -- this witness testify  
13 that Mr. Frevert would have said about some other  
14 technology or some number -- excuse me -- maybe not  
15 technology, some number that the Agency would accept. Did  
16 he -- I don't know if he said that.

17                   MR. RAO: Not yet.

18                   HEARING OFFICER HALLORAN: Not yet. That's  
19 what we're --

20                   MR. KISSEL: I thought she was -- I was ready  
21 to cross him. I thought she had completed her testimony,  
22 her examination. Had you?

23                   MS. WILLIAMS: I'm done, yes.

24                   MR. KISSEL: She's done.

1 MS. WILLIAMS: I don't think any of that's  
2 necessary to prove our case, so I think we're done.

3 MR. KISSEL: So, it's a moot point, I guess.  
4 There's going to be no evidence brought before the Board  
5 by the Agency as to what number they would accept.

6 MR. RAO: Yes, that's fine. All we wanted to  
7 know is whether they would answer the question.

8 HEARING OFFICER HALLORAN: I'll take moot any  
9 day.

10 MR. KISSEL: I don't -- I don't have -- I feel  
11 like Don Quixote, I guess, done some windmill spurring,  
12 and somewhat successful in that the Agency is not going to  
13 do anything.

14 Anyhow, do you want me to cross-examine?

15 HEARING OFFICER HALLORAN: Yes, sir, please.

16 CROSS-EXAMINATION

17 BY MR. KISSEL:

18 Q. Mr. Mosher, when you talked about establishing  
19 a mixing zone and so forth, were you talking about what  
20 actually happens in the river in terms of a mixing zone or  
21 what you would define as a regulatory mixing zone?

22 A. Regulatory mixing zone.

23 Q. So, all of your testimony with regard to  
24 mixing zones had to do with calculations based upon using



1 TSD Board regulations as though a mixing zone were to be  
2 granted under the regulations; is that correct?

3 A. Yes.

4 Q. So, do you know or -- strike that.

5 Did you hear Mr. Corn's testimony with regard  
6 to the actual mixing zone and what -- and the mixing that  
7 goes on in the river?

8 A. Yes, I heard it.

9 Q. All right. And do you agree that -- strike  
10 that.

11 Do you -- do you agree with what he calls the  
12 current jet entrainment zone?

13 A. I agree that that's a physical characteristic  
14 of mixing.

15 Q. And do you agree with Mr. Corn that aquatic  
16 life does not live or stay in an aquatic -- in a jet  
17 entrainment zone?

18 A. It all depends on velocities.

19 Q. We're talking not on what depends, Mr. Mosher.  
20 We're talking about a specific situation, the discharge  
21 from the Noveon-Henry facility and its defined jet  
22 entrainment zone.

23 A. I would say that different people call the jet  
24 entrainment zone by different descriptors, and I would

1 agree that certain velocities are avoided by fish and  
2 other aquatic life, but I think you want me -- I -- it's  
3 obvious I don't agree with Mr. Corn's package for the ZID,  
4 so it's difficult to answer your question.

5 Q. Well, I thought that I was relatively clear in  
6 my own mind, at least, that I am not talking about a  
7 regulatory zone now, which you discussed in your  
8 testimony. I'm talking about the testimony of Mr. Corn  
9 with regard to what actually is happening in the river.  
10 And so that -- that's what I'd like you to focus on, and I  
11 would like you to focus on not only what's -- not only  
12 that, but actually the data, velocities and the like that  
13 Mr. Corn testified to. That's, that's the premise of  
14 these -- this set of questions.

15 Based upon that, I think you agree -- I think  
16 you said this, and I'll ask it again -- that there is a  
17 jet entrainment zone; there is a -- there is a place  
18 downgradient from the single port diffuser which has a  
19 velocity that is called a jet entrainment zone. Is that  
20 correct?

21 A. That's correct.

22 Q. All right. And Mr. Corn gave that jet  
23 entrainment zone a number or a time; is that correct?

24 A. That's correct.

1 Q. And my question to you is, with that jet  
2 entrainment zone, does aquatic life live in that zone in  
3 the Illinois River downgradient of the Noveon discharge?

4 A. And your question means at the present?

5 Q. Yes.

6 A. I believe that the velocities exiting the  
7 existing port are relatively low; and within a few feet of  
8 that outfall, velocities are such that aquatic life would  
9 have no problem inhabiting that area.

10 Q. All right. And what do you base that  
11 conclusion on?

12 A. U.S. EPA Technical Support Document  
13 establishes a category of zone of initial dilution  
14 essentially, based on a high rate of effluent discharge,  
15 and they -- and they define what that rate is coming out  
16 of the port. This existing discharge at Noveon doesn't  
17 meet that definition.

18 Q. What, what is that -- what is that rate?

19 A. The book sitting there on my briefcase, I can  
20 -- I can look it up. I would only -- I could -- I think  
21 we best look it up.

22 MS. WILLIAMS: Do you want me to give it to  
23 him?

24 BY MR. KISSEL:

1 Q. Are you looking at page 72? Is that where we  
2 are?

3 A. It's page 71. And it says high velocity  
4 discharge with an initial velocity of three meters per  
5 second.

6 Q. And that is what's called the alternative --  
7 second alternative, is that true, by the TSD?

8 A. Yes.

9 Q. And you believe that applies to the Henry  
10 discharge and not the third alternative?

11 A. I believe the existing Henry discharge is not  
12 a high rate diffuser. It's a low rate diffuser.

13 Q. All right. So, the third alternative says,  
14 "is not to use a high velocity discharge." Wouldn't that  
15 be applicable to it?

16 A. Correct.

17 Q. Okay. So, it's -- the three meters per second  
18 really doesn't apply; it's what's contained in the third  
19 alternative that applies. Is that correct?

20 A. That's correct.

21 Q. Okay. So, you're recanting your prior  
22 testimony about the three meters per second?

23 A. You asked me if aquatic life could inhabit  
24 what Mr. Corn says should be the zone of initial dilution.

1 Q. Okay.

2 A. My answer was most of it. There may be  
3 sufficient velocity within a few feet of that existing  
4 pipe that would keep away a fish. But that velocity is  
5 reduced greatly, and even though it may be a higher  
6 velocity than the surrounding river for many feet  
7 downstream, that velocity doesn't keep a fish away.

8 Q. And the velocity you're using is three meters  
9 per second?

10 A. That's what U.S. EPA recommends for high  
11 velocity discharge and using that set of assumptions and  
12 way of establishing a ZID.

13 Q. Okay. What is -- what is the discharge from  
14 the Henry facility velocity?

15 A. Offhand, I don't know.

16 Q. Is it above or below three meters per second?

17 A. I would say it's below.

18 Q. So, your testimony on whether aquatic life  
19 could live in the actual jet entrainment zone is based on  
20 the three meters per second; is that correct?

21 A. It, it wouldn't necessarily have to be three  
22 meters per second, but it's a relative thing. I mean, the  
23 velocity decreases as you go downstream. And Mr. Corn's  
24 definition of the jet momentum zone doesn't, in my mind,

1 include velocities in that whole area that will exclude  
2 aquatic life.

3 Q. With the current diffuser?

4 A. Correct.

5 Q. And my -- I'm just trying to get the basis of  
6 why you say that. Is it -- is your testimony that at  
7 three meters per second aquatic life can't live, but at  
8 2.9 meters per second they can?

9 A. No, I think U.S. EPA is drawing a line in the  
10 sand here and saying if you can achieve three meters per  
11 second at the ports of your diffuser, then you figure the  
12 allowable size of the ZID by a certain set of  
13 instructions.

14 Q. Okay. Again, I'm not into figuring here, but  
15 what -- is it three meters per second or isn't it? That's  
16 all I want to know. What is the basis of your saying that  
17 aquatic life can be in part of the jet entrainment zone at  
18 the Henry facility?

19 MS. WILLIAMS: I think he's answered this  
20 question.

21 MR. KISSEL: I don't think so.

22 HEARING OFFICER HALLORAN: I'll let him ask it  
23 one more time. If Mr. Mosher can answer it to the best of  
24 his ability, he may do so.

1           A.    I agree with the principle that a high rate of  
2 discharge will create an area in the river below that  
3 outfall pipe that will exclude aquatic life. They will  
4 avoid it because they don't like swimming in a high  
5 current.

6                    It's my belief that the present condition at  
7 Henry does not have a very high velocity and, therefore,  
8 the area in the river that is excluded from aquatic life  
9 is extremely small, in the neighborhood of a couple of  
10 feet.

11           Q.    And all I want to know is, is that velocity  
12 three meters per second, or what is it?

13           A.    I don't believe EPA was trying to define the  
14 velocity a fish could survive in when it came up with the  
15 three meters per second.

16           Q.    I'm not asking what EPA is (sic). I want  
17 your -- just a very simple question. What is the velocity  
18 downgradient of the discharge that aquatic life cannot  
19 live in?

20           A.    I don't believe any of our calculations at EPA  
21 and the way that we determine the size of the ZID has  
22 anything to do with that, so my answer then is it's not a  
23 necessary thing for me to know. I don't know the precise  
24 velocity. I'm sure we could look up reports in papers

1 about what fish can and can't swim in if you like.

2 Q. But you've made the conclusion -- I apologize  
3 for going over this, but you're -- I feel like I'm going  
4 around in a circle here.

5 You've made the conclusion that aquatic life  
6 can live two feet downgradient of this discharge. What's  
7 the basis of that? What's the volume of that discharge  
8 that, that allows that to happen, or do you know?

9 A. I have to answer I don't know the precise  
10 velocity that a fish can or can't live in, other than in  
11 general terms and my familiarity with this discharge.

12 Q. So, you really don't know whether aquatic life  
13 live in the jet entrainment zone or not?

14 A. From my understanding of that -- Mike Corn's  
15 definition of the jet entrainment zone in this case, I am  
16 quite certain that aquatic life can live in most of it  
17 because the velocities toward the tail end of that  
18 approach the velocity of the river itself.

19 Q. All right. The tail end is downgradient of  
20 it, right? It's not --

21 A. No.

22 Q. -- two feet downgradient. The tail end of the  
23 jet entrainment zone is not two feet downgradient of the  
24 discharge, is it?



1 A. No, he's got -- he's proposed a large --

2 Q. Okay. Define the tail end of the jet  
3 entrainment zone. How far downgradient is that?

4 A. I'd have to go back to Mike's diagrams. I  
5 believe he's --

6 Q. Approximately. 10 feet, 20 feet, 30 feet?

7 A. Well, he said 66 feet is an allowable ZID in  
8 this case, so I'm --

9 Q. The end of the trail of that is like 50 feet?

10 A. I'm testifying that fish could swim in much  
11 more of that than only that 16 feet.

12 Q. We all hear the conclusion, and I think at  
13 least I am curious to get the basis of the conclusion.  
14 And I gotta tell you, I still don't understand it. Now,  
15 maybe the members of the Board staff and the Hearing  
16 Officer and the Agency understand it. I don't. I don't  
17 know the basis of your conclusion that aquatic life can  
18 live in what Mr. Corn has defined as the actual jet  
19 entrainment zone.

20 You said three meters per second, but that's  
21 not right, and then it's the tail end of the jet  
22 entrainment zone. That's all I'm asking. It's a very  
23 simple question.

24 MS. WILLIAMS: I think the question has been

1 answered. It's clear to me. If they're not clear to  
2 you --

3 HEARING OFFICER HALLORAN: Yes, I think so,  
4 too. I think it's been asked and answered to the best of  
5 his ability, and I think the record will reflect the  
6 answer for what it was. And you may proceed.

7 MR. KISSEL: I disagree, but perhaps everybody  
8 else has got this. Okay.

9 BY MR. KISSEL:

10 Q. Now, you talked about BDT; is that right?  
11 What is that?

12 A. Best degree of treatment. That's the level of  
13 treatment that Agency engineers consider to be the  
14 appropriate treatment in each individual case.

15 Q. Are you the person within the Agency who makes  
16 determinations on what is and what is not best degree of  
17 treatment?

18 A. No.

19 Q. Did you do that with regard to the current  
20 technology used for treating waste at the BF  
21 Goodrich/Noveon facility?

22 A. No.

23 Q. Now, talking about the -- what I will call as  
24 a regulatory mixing zone, which is what the force of your

1 testimony was about in terms of that, you used the term  
2 rapid and immediate. Where is that from?

3 A. It's from 35 Illinois Administrative Code  
4 302.102, the mixing zone standard.

5 Q. And how is that defined in your view?

6 A. We use the Technical Support Document from  
7 U.S. EPA to define an area that we believe constitutes  
8 rapid and immediate mixing.

9 Q. And what part of the TSD do you use to do  
10 that?

11 A. It's the same part that we were just  
12 discussing, page 71, 72.

13 Q. All right. And so if it -- if it fits the  
14 definition of the TSD in those alternatives, it is  
15 automatically rapid and immediate; is that correct?

16 A. That's correct. Maybe we should specifically  
17 go to the, the item there. On page 72, the first bullet  
18 point --

19 Q. Now, this -- we're now talking about the third  
20 alternative; is that right?

21 A. Right.

22 Q. Okay.

23 A. And that first bullet point is the -- what the  
24 Agency uses to establish the dimensions of the ZID.

1 Q. The CMC -- I'm reading from this, if I can --  
2 what is CMC in this regard?

3 A. Criteria maximum concentration, and that's --

4 Q. That's the acute standard?

5 A. Synonymous with the acute standard, yes.

6 Q. For ammonia in this case?

7 A. Yes, or whole effluent toxicity.

8 Q. Okay. "CMC should be met within 10 percent of  
9 the distance from the edge of the outflow structure to the  
10 edge of the regulatory mixing zone in any spatial  
11 direction." Is that what you're referring to?

12 A. Yes.

13 Q. And if it meets -- if it meets that, it is  
14 then rapid and immediate under Illinois law?

15 A. That's how we've interpreted it for the last  
16 12 years.

17 Q. Okay. Then you indicated that the ZID is  
18 limited to 2.5 percent of the river. What, what -- 2.5  
19 percent of what?

20 A. Illinois mixing zone regulation says that  
21 mixing zones can only take up to 25 percent of the width  
22 of the river. So, using this guideline in the TSD, taking  
23 10 percent of the 25 percent, you end up with 2.5 percent  
24 of the width of the river.

1           Q.    So, let me -- let me sort of see if I can  
2 figure this out.  You say 25 percent of the width of the  
3 river.  So, if the river is 100 feet wide, the mixing zone  
4 cannot take more than 25 feet of that; is that correct?

5           A.    That's correct.

6           Q.    And that's -- that has to do with the width of  
7 the river?

8           A.    That's correct.

9           Q.    Okay.  Now, you say that the CMC under this,  
10 what we quoted, must be 10 percent with -- of the distance  
11 from the edge of the outfall structure, right?

12          A.    Correct.

13          Q.    And that 10 percent, does that apply  
14 downgradient of the --

15          A.    It applies in any spatial direction; could go  
16 upstream, outward, downstream.

17          Q.    Okay.  So that what you're doing is taking a  
18 width, the 25 percent, and multiplying that by 10 percent  
19 which is a length, right?  You're converting a width to a  
20 length, if I understand it correctly?

21          A.    Converting a width to a distance that applies  
22 in an arc from the end of the outfall pipe.

23          Q.    But basically you're talking about the  
24 10 percent, multiplying the 25 percent to, to, to say you

1 can't go farther than 2.5 percent downgradient of the  
2 discharge?

3 A. Downgradient or any direction.

4 Q. Or any direction. Okay. But downgradient is  
5 part of this?

6 A. It's a direction, yeah.

7 Q. All right. And the basis on that is the use  
8 of the word "spatial," any spatial direction?

9 A. That's correct.

10 Q. Is it -- is there any language in the TSD or  
11 otherwise which says, in your view, that you're not to  
12 multiply the 10 -- you're not to go in any spatial  
13 direction, you're only supposed to go downgradient -- or  
14 width-wise, excuse me. Width-wise. That the 10 percent  
15 should apply only to the width?

16 A. My interpretation of any spatial direction was  
17 that it meant width in our case, in Illinois. And I  
18 checked on that with U.S. EPA; I talked to their experts  
19 in Washington, and they were -- their opinion was  
20 consistent with mine, that it could be the width.

21 MR. KISSEL: I'll move to strike that as based  
22 on hearsay testimony.

23 HEARING OFFICER HALLORAN: Miss Williams?

24 MS. WILLIAMS: He asked if there was anything

1 it was based on.

2 HEARING OFFICER HALLORAN: You know, I agree.  
3 I'm going by the more relaxed rulings in the Board regs,  
4 and I'll overrule your objection, Mr. Kissel.

5 MR. KISSEL: Okay.

6 BY MR. KISSEL:

7 Q. Have you looked at Mr. Corn's analysis with  
8 regard to that regulation?

9 A. Yes.

10 Q. And what does he say?

11 A. He says you can use the length rather than the  
12 width.

13 Q. Okay.

14 A. And, of course, length is a -- is a relative  
15 parameter to the mixing zone. It depends on the size of  
16 the river. As I said earlier in my testimony, the smaller  
17 the river, the longer the length that could be enclosed  
18 within the 26-acre maximum mixing zone size.

19 Q. We're not talking about mixing zone now, are  
20 we? We're talking about a zone of initial dilution; isn't  
21 that correct?

22 A. But the rule -- the guideline that we're  
23 referring to in the federal document refers to the entire  
24 mixing zone to get the bearing on how big the zone of

1 initial dilution is.

2 Q. But the CMC or acute standard is met at the  
3 edge of the zone of initial dilution; is that correct?

4 A. That's correct.

5 Q. And that's what the 10 percent applies to,  
6 right?

7 A. You determine the maximum dimension of the ZID  
8 by taking 10 percent of the dimension of the entire mixing  
9 zone, that being 25 percent of the width of the river.

10 Q. But I'm trying to get to the point, that  
11 applies to the zone of initial dilution, not to the mixing  
12 zone itself, the 10 percent part?

13 A. That's how you calculate the size of the ZID.

14 Q. Okay. Thank you.

15 You mentioned other mixing zones in Illinois  
16 that have been allowed and zones of initial dilution; is  
17 that correct?

18 A. I did mention some, yes.

19 Q. Do any of those exceed the 2.5 percent?

20 A. The ones we were discussing were high-rate  
21 diffusers, so they were determined based on a different  
22 part of this federal guidance.

23 Q. So, they do exceed -- they do exceed the 2.5  
24 percent is what I'm saying?



1           A.    That's a good question that I could not answer  
2 across the board right now.

3           Q.    So -- okay.

4           A.    I would have to go back and look at each  
5 individual case to tell you that.

6           Q.    I think we'll probably find that out, but --  
7                 Calling your attention to Petitioner's Exhibit  
8 Number 37. Do you have that?

9           A.    Yes, I do.

10          Q.    Okay. I take it -- strike that.

11                 I take it that your view would be that to meet  
12 water quality standards you could use a high-rate diffuser  
13 here, right?

14          A.    That's correct.

15          Q.    And I take it also you agree, as you have told  
16 me before, that you agree with Scott Twait's memo, which  
17 is Exhibit 37, that if Noveon were to install a high-rate  
18 diffuser and if the mixing zone were calculated under the  
19 regulation, they would meet the water quality standards  
20 for ammonia and other things downgradient of the  
21 discharge; is that correct?

22          A.    That's correct, if Noveon meets all provisions  
23 of the mixing zone regulation.

24          Q.    You're talking about BDT?

1 A. Yes.

2 Q. That's the only one you're talking about,  
3 right?

4 A. Well, that's one that I'm aware of right now.  
5 Each time we get a proposal for a high-rate diffuser, we  
6 run that through the entire mixing zone regulation. We  
7 haven't done that yet in this case.

8 When Scott Twait did this calculation, he was  
9 using the assumption that everything else would be okay  
10 with the regulation.

11 Q. What other things would you expect would not  
12 be okay, based upon your knowledge of the Henry facility?

13 A. Well, the, the design of the high-rate  
14 diffuser has to meet the, the guidelines in the TSD.

15 Q. That's a pipe with some holes in it, right?

16 A. Yes.

17 Q. Okay.

18 A. But there are some provisions that we would  
19 have to --

20 Q. Okay. What else?

21 A. That ZID could not extend more than 25 percent  
22 of the width of the river.

23 Q. Based on Mr. Corn's calculations, would you  
24 agree that it will not exceed 25 percent?

1           A.    If, if he said so, I'll take his word on that.

2           Q.    Okay.

3           A.    Again, I, I, I would do a complete review.

4   Right at the moment, I can't think of another thing we  
5   would look at.

6           Q.    At the moment you can't. Okay. So, we're --  
7   the Board is entitled to rely on the statements made by  
8   Mr. Twait in his February 5th memo to Rick Pinneo marked  
9   as Exhibit 37, correct?

10          A.    With the cautions that I mentioned, yes.

11          Q.    And we have talked about?

12          A.    Yes.

13          Q.    Cautions you mentioned and we talked about?

14          A.    Yes.

15          Q.    Okay. In terms of the Henry facility, do you  
16   know what -- are you familiar with the term limiting  
17   factor or limiting water quality or whatever? Do you know  
18   what that means?

19          A.    Well, limiting factor means something to me,  
20   yes.

21          Q.    Do you have any idea what limiting factor  
22   would be in this -- with regard to the ammonia issue and  
23   the discharge of the Henry plant?

24          A.    Maybe you better describe that a little more

1 for me.

2 Q. Well, there are -- there are -- there are  
3 acute and chronic water quality standards for ammonia,  
4 both for winter and summer, right?

5 A. That's correct.

6 Q. You're familiar with those, I take it?

7 A. Yes.

8 Q. And based upon your review of the current  
9 discharge and the representations made by Mr. Corn, will  
10 any of those standards -- assuming that there was a  
11 regulatory mixing zone, would any of those standards be  
12 met?

13 A. We're talking about the existing discharge?

14 Q. Yes, sir.

15 A. We've concluded that the acute water quality  
16 standards for ammonia would not be met, and the acute  
17 whole effluent toxicity standard would not be met.

18 Q. Both summer and winter?

19 A. I believe that's true, yes. Scott Twait  
20 calculated -- of course, this is based on the previous  
21 ammonia standard, but it's -- the numbers I would say are  
22 going to be in the ballpark, and he concluded that a  
23 winter limit had to be imposed also. So, we would -- we  
24 would limit ammonia, summer and winter, on a daily maximum

1 basis reflecting the acute water quality standard.

2 Q. And this calculation that he did with regard  
3 to the current discharge has that 10 percent times 25  
4 percent issue; is that right?

5 A. Yes.

6 Q. Okay. And it's not a -- it's not a reflection  
7 of what actually happens in the river but, rather, the  
8 regulatory part of it; is that correct?

9 A. That's correct.

10 Q. Okay. Do you believe that the Pollution  
11 Control Board can establish a mixing zone for -- or,  
12 excuse me -- can tell Noveon in this proceeding what its  
13 effluent ammonia ought to be?

14 A. Yeah, I believe in an adjusted standard or  
15 site-specific regulation the Board can pretty much do  
16 whatever they want to do.

17 Q. All right. I wouldn't say "whatever they  
18 want," but, but -- and that would include their analysis  
19 and the determination of what a mixing zone is or what  
20 actually occurs in that river; is that correct?

21 A. Yes.

22 Q. Do you have any idea what the ammonia toxicity  
23 is with regard to mussels and clams?

24 A. I've some idea. And a lot of the work on

1 ammonia toxicity in mussels is experimental at this stage,  
2 but some of that experimental -- the experimental findings  
3 indicates that Unionidae mussels are --

4 Q. What mussels?

5 A. Unionidae; that's the family of mussels that  
6 inhabits the river, native mussels. Unionidae is  
7 U-n-i-o-i-d (sic).

8 Q. Do you know if there are mussels downgradient  
9 of the -- of the Noveon discharge?

10 A. Mussels are native to the river.

11 Q. They are there?

12 A. They are native to the entire Illinois River.  
13 I don't know specifically a given spot on that river,  
14 whether mussels are there or not, but they are native to  
15 the entire river.

16 Q. Do you know what the requirements are before  
17 getting Corps of Engineers' approval for a multiport  
18 diffuser in that regard?

19 A. Well, we would want to --

20 Q. I'm talking about the Corps now. Are you  
21 involved in that?

22 A. See, I do reviews of those types of Corps  
23 projects, and I assess water quality standards  
24 containment, so I know what I would ask for in that kind

1 of a permit application. I would require that a mussel  
2 survey be conducted on the river where the construction is  
3 intended to take place.

4 Q. So, before a high-rate diffuser would be  
5 installed, which Noveon has proposed here, they would, in  
6 your view, have to do a mussel study for the Corps of  
7 Engineers?

8 A. That's correct.

9 Q. And that would include analysis of those  
10 mussels; is that what it would do? Or what would --

11 A. They would count and identify the mussels in  
12 the area.

13 Q. Do they get to keep them after they identify  
14 them or --

15 A. Some are -- some would be legal to keep;  
16 others would not.

17 Q. They keep it for the celebration when they get  
18 the Corps permit; is that right?

19 You made an interesting comment to me, I guess  
20 it's -- the critters who are subjected to some of these  
21 aquatic toxicity tests are either smart or whatever, but  
22 you said that ammonia kills them first, and then the salts  
23 kill them. Is that a -- where did you get that?

24 A. Well, given the nature of the effluent, it's

1 extremely high in ammonia. The ammonia would be the first  
2 thing, in my opinion, to exert a toxic impact. The salts  
3 would --

4 Q. What is your opinion based on?

5 A. I've got some experience in toxicity test  
6 labs, and I've observed ammonia toxicity in organisms,  
7 and, you know, kind of a -- it's my own experience from  
8 conducting those kinds of tests.

9 Q. And when -- if you took the ammonia out, you'd  
10 still have the salt toxicity there, wouldn't you?

11 A. Yes, but not at nearly as great a level.

12 Q. So, does it matter -- does it matter -- why  
13 does that matter?

14 A. Well, we'd like to see the ammonia removed in  
15 this effluent; and once it is removed, then we're  
16 interested in what else is toxic in it.

17 Q. We'll get to that in a point -- in a little  
18 bit, but what does it matter if it's a toxicant, whether  
19 you die with carbon monoxide or whether you die with some  
20 other thing or whatever happens?

21 A. Well, to the organism I guess it doesn't  
22 matter, but to the regulatory people it does.

23 Q. That's fine. It matters to you?

24 A. Well, yeah, because part of our job is to



1 investigate what appropriate treatment is, and we do  
2 toxicity reduction evaluations that is part of this permit  
3 we wanted to issue in this case, and that would give us  
4 some information to go on, once ammonia is gone, what else  
5 needs to be worked on.

6 Q. Okay. The point being, though, that salts are  
7 toxic, and there's really no treatment for salts that's  
8 required in Illinois; is that correct?

9 A. That's correct.

10 Q. I am still a little confused about your  
11 analysis of Mr. Goodfellow's work, and you -- how far down  
12 in dilution should he have gone?

13 A. As far down as it would have taken to  
14 definitively describe the level of chronic toxicity of  
15 that effluent.

16 Q. And what relevance would that have?

17 A. If, if you are doing an investigation, it  
18 would be good to know that that -- the precise level of  
19 toxicity to be able to say, when you did your TIE, that  
20 this investigation was done on an effluent with X amount  
21 of toxicity.

22 Q. Would the -- would going down below 6.25  
23 percent in the dilution chain have any impact on the  
24 setting of a water quality-based effluent limit for

1 ammonia?

2 A. Not for ammonia.

3 Q. Would it have any basis for setting a water  
4 quality-based effluent limit for any other parameter?

5 A. Yes, whole effluent toxicity is a parameter to  
6 be regulated in and of itself; and when a mixing zone is a  
7 defined area, as we apply at the Agency, it's important to  
8 know when that effluent would violate that allowed mixing  
9 area, and --

10 Q. Has --

11 A. -- do we --

12 Q. I'm sorry. I don't mean to interrupt.

13 A. Well, we, we want to know what the toxicity is  
14 to know if we need to regulate it.

15 Q. What the toxicant is?

16 A. Toxicity is. What the chronic level of  
17 toxicity or the acute level of toxicity.

18 Q. Is there -- has there ever been a whole  
19 effluent toxicity limit imposed on the discharge from BF  
20 Goodrich/Noveon facility that you know of?

21 A. No.

22 Q. And just so we can clarify this, the U.S. EPA  
23 uses a whole effluent toxicity of .3. Are you in  
24 agreement with that?

1           A.    I think you're referring to the number of  
2 acute toxic units.

3           Q.    Okay.

4           A.    I'm not -- I'm not in agreement with that.  
5 Illinois EPA would, would have its own method of  
6 determining what would be the allowable level.

7           Q.    The allowable level gets no lower than 1;  
8 isn't that correct?

9           A.    That's correct, for Illinois.

10          Q.    All right. Did you have occasion to review  
11 Mr. Goodfellow's work prior to his testimony today?

12          A.    I did.

13          Q.    Did you offer any comments on that?

14          A.    To Mr. Goodfellow?

15          Q.    To anybody, outside of the Agency.

16          A.    Oh. I don't recall that I did.

17          Q.    You didn't -- did you offer them to us,  
18 Noveon, or any consultant at Noveon?

19                MS. WILLIAMS: I object to the relevance of  
20 this.

21                HEARING OFFICER HALLORAN: Mr. Kissel?

22                MR. KISSEL: Well, he's had -- we've had  
23 situations where people have held documents for a while,  
24 and no comments have come. I just -- all I want to know

1 is if all of a sudden we've got somebody testifying, and  
2 they've got comments when they've had the document for two  
3 years.

4 HEARING OFFICER HALLORAN: If Mr. Mosher can  
5 answer, he may do so.

6 A. I don't recall making the comment. I don't  
7 have enough hours in the day to let everybody know  
8 everything I don't like about what they submit. I guess  
9 that's an unfortunate limitation, but that's the way it  
10 is.

11 HEARING OFFICER HALLORAN: Mr. Kissel, with  
12 that, I'm afraid I'm going to have to suspend your cross  
13 for a couple minutes. A gentleman in the audience said he  
14 had to leave at 11:30 and --

15 MR. KISSEL: I'm almost done, got 10 minutes,  
16 but go ahead.

17 HEARING OFFICER HALLORAN: I thought we'd be  
18 finished in time.

19 MR. KISSEL: I was going to take a little  
20 break.

21 HEARING OFFICER HALLORAN: I apologize.

22 Sir, step on up. Would you like to give  
23 public comment or public statement? And the difference  
24 is, public statement you're under oath and subject to

1 cross, and the Board will give more weight to it.

2 Public comment, the Board will weigh it  
3 accordingly, and you're not under oath.

4 MR. MAUPIN: Public comment. Do I need to  
5 give my name?

6 HEARING OFFICER HALLORAN: You need to sit up  
7 here on the stand, and you can just give the court  
8 reporter your name and spell it, and you can proceed.

9 MR. MAUPIN: My name is Bill Maupin,  
10 M-a-u-p-i-n, and I want to make a public comment. On the  
11 Illinois River -- I heard a lot of testimony here that the  
12 river has been cleaned up a lot, that the ammonia --  
13 ammonium contamination over the last few years, the rate  
14 has been lowered, which I'm happy to see. I'm a Marshall  
15 County resident, near the Henry area all but two years of  
16 my life. One point I'd like to bring up, I know that  
17 Noveon is asking for an adjusted standard, and I don't  
18 feel that adjusted standard should be warranted here.  
19 Your other businesses and industries, obviously, has had  
20 to comply to the standards to lower the amount of ammonia  
21 in the river system.

22 To me, a parallel can be drew on a simple  
23 tone. If you go to enter a public restaurant, there's a  
24 sign up that says, No Smoking. So, ten people want to

1 smoke; they see the sign. Nine people put out their  
2 cigarettes. The tenth one wants to go on in with a  
3 cigarette.

4           So, in all fairness, I think they should be  
5 upheld to the same standard as any other industry has had  
6 to upheld to bring this compliance on the toxicity of the  
7 river.

8           If you allow the adjusted standard, I feel  
9 you're going to open the door for other people to come in  
10 on a future date and compare that. Now, some leniency  
11 would probably be warranted as far as a phase-in zone or  
12 some timetable or something in that order; I'm not out to  
13 close their door. But I do feel that they should be  
14 upheld the same as any other business has had to comply.

15           The next thing I wanted to bring in to point  
16 here, the City of Henry passed a Water Source Protection  
17 Ordinance, Number 1479, which includes a two-mile zone  
18 around the City of Henry water wells for protection. The  
19 discharge of this ammonium nitrate obviously suspends  
20 (sic) out into the river as it flows south, but would flow  
21 down the Illinois River, which the City of Henry has some  
22 water wells approximately 300 foot from the riverbank,  
23 okay? I am concerned that -- here today with this  
24 industry north of Henry and this proceeding going on

1 there's not one single representative here from the City  
2 of Henry, its mayor or any of the council members. I  
3 thought they could at least show some interest here today.

4 That's about all I have, so I thank you for  
5 your time.

6 HEARING OFFICER HALLORAN: Thank you very  
7 much, sir. I told you we'd get you on.

8 MR. MAUPIN: There you go. I've been patient  
9 the last couple minutes. I wanted to learn before I  
10 talked.

11 HEARING OFFICER HALLORAN: Anybody else, since  
12 we're taking up public comment?

13 Yes, sir. Would you like to give comment or  
14 statement?

15 MR. GILLFILLAN: Just a comment, please.

16 HEARING OFFICER HALLORAN: Just a comment.  
17 You may step up, tell the court reporter your name, and  
18 spell it for her.

19 MR. GILLFILLAN: Okay. My name is Richard  
20 Gillfillan, G-i-l-l-f-i-l-l-a-n. I live approximately one  
21 and a half miles from the Noveon plant, and I appreciate  
22 what EPA has done to protect our water, our air, our  
23 groundwater. And I also appreciate what Noveon has done  
24 for our community in the way of jobs, many indirect

1 spin-offs, and local property taxes.

2                   But as a farmer, I must say that I have used  
3 large amounts of ammonia as an essential source of  
4 nitrogen, and although I try to use the best management  
5 practices, we farmers certainly have done our share of  
6 contamination of ammonia by-products through -- we have  
7 lost ammonia as it has leached and run off and through  
8 natural degradation of organic matter; but we are trying  
9 to use practices to improve our run-off and, over time, I  
10 think we are being successful. And I think Noveon is  
11 trying to do the same thing, and, given time, I think  
12 Noveon can solve the problems that are unique to their  
13 effluent.

14                   But listening to Mr. Flippin's testaments of  
15 treatment costs using current technology and the enormous  
16 amount of energy needed to remove the 900 pounds of  
17 ammonia makes me wonder if the coal burned to produce the  
18 electricity and the natural gas burned to operate this  
19 machinery will lead to more pollution damage than the 900  
20 pounds of ammonia.

21                   I appreciate EPA's concern for our living  
22 conditions, and I only ask that the Board use some degree  
23 of reasonableness in deciding how much time to give  
24 Noveon; otherwise, I'm afraid the cure may do more harm to



1 our community than the disease.

2 Thank you.

3 HEARING OFFICER HALLORAN: Thank you, sir.

4 I'm sorry, Mr. Kissel, to suspend your cross.

5 MR. KISSEL: That's okay. This way I won't  
6 have to take a little time for the final.

7 HEARING OFFICER HALLORAN: Okay. So,  
8 Mr. Mosher can take the stand, and he's reminded he's  
9 still under oath.

10 CONTINUED CROSS-EXAMINATION

11 BY MR. KISSEL:

12 Q. Mr. Mosher, have you ever done a TIE?

13 A. Not personally, no.

14 Q. For purposes of the record, will you tell us  
15 what a TIE is?

16 A. Toxicity identification evaluation. And  
17 that's where it's attempted to discover the components of  
18 the -- of an effluent that are behaving as toxicants to  
19 aquatic life.

20 Q. And are there U.S. EPA guidelines about how to  
21 do that?

22 A. Yes.

23 Q. Are you familiar with those?

24 A. Yes.

1           Q.    Did you -- you have heard the testimony of  
2 Mr. Goodfellow, and you have read his reports, as you  
3 indicated. Did Mr. Goodfellow perform the TIEs which were  
4 performed and reported in that study in accordance with  
5 the guidelines of U.S. EPA regarding TIEs?

6           A.    I have no -- I have no doubt that he used  
7 proper methods. My comment was that this was a  
8 particularly difficult case; and that didn't mean to  
9 reflect on his abilities, but just rather that this  
10 effluent is, is a tough problem to do a TIE on.

11          Q.    Do you agree with his conclusions with regard  
12 to what is contained in that effluent and what is toxic in  
13 that effluent?

14          A.    Well, I agree with some of them. I certainly  
15 agree that ammonia is a toxicant in this effluent and that  
16 salinity is a toxicant in this effluent, but I may differ  
17 with him in that I don't believe it's possible, again,  
18 given the nature of that effluent, with such highly toxic  
19 levels of ammonia present, to really know for sure that  
20 you understand that is all that is there, is ammonia and  
21 salinity.

22                    In other words, I, I believe there is a chance  
23 there may be something else, and I don't really believe he  
24 proved that there was nothing else.

1 Q. And what would you have done differently than  
2 he did to identify those additional toxicants?

3 A. I don't know what I would have done  
4 differently other than attempt some day to obtain a sample  
5 of the effluent that has had the ammonia reduced  
6 substantially through a treatment process. And really  
7 that's beyond, you know, the scope that he, he was under  
8 in his assignment, I believe. What I'm saying is it's  
9 just darn hard to really do a complete TIE on the effluent  
10 as it exists now.

11 Q. What does Zeolite do in that treatment -- in  
12 that TIE?

13 A. That's a way to try to remove the ammonia from  
14 the effluent, get it down such that it's no longer toxic;  
15 and then you can conclude -- you know, that if you remove  
16 the ammonia and it's no longer toxic, then you conclude,  
17 Well, it must have been ammonia that was the toxicant.

18 I am a little skeptical that Zeolite might  
19 remove a lot more than just ammonia, and it's, it's not a  
20 for-sure type of conclusion that you would make from that.

21 Q. But in terms of, of taking out the mask of  
22 ammonia as a toxicant, isn't Zeolite the recognized way of  
23 doing that in today's TIE?

24 A. Yeah, I believe it is one of the ways you can

1 do that.

2 Q. It's the recognized way, is it not?

3 A. I believe there are other ways. You can  
4 manipulate pH and -- also, but Zeolite is certainly a way.

5 Q. So, my understanding of your testimony is that  
6 in order to really find out what's in that effluent that's  
7 other than ammonia and other than salts what we do is to  
8 totally treat the ammonia, get that down to some level,  
9 and then test the effluent again; is that what you're  
10 saying?

11 A. That would be, yeah, you know, kind of a  
12 sure-fire way of determining that.

13 Q. Is that the only way to do it other than  
14 what's been done?

15 A. I, I don't know of another alternative.

16 Q. You testified -- over my objection, but you  
17 did -- that this was the most toxic effluent in the state;  
18 and I don't want to go into how you did that analysis  
19 because you and I would be here a very long time. But  
20 when you're -- so that the public understands, the Board  
21 and the Hearing Officer and the Agency understand what you  
22 say, because sometimes those of us -- this was true of me  
23 many years ago -- who aren't involved in environmental  
24 matters, when you talk about toxicity, you're talking

1 about what's in the effluent, not what's in the river; is  
2 that correct?

3 A. Yeah, that's why they call it whole effluent  
4 toxicity.

5 Q. I'm just trying to clarify for the public and  
6 others that when you say the most toxic effluent in the  
7 state, you're talking about what is in the effluent  
8 itself, not what conditions exist downgradient in the  
9 river?

10 A. That's correct.

11 MR. KISSEL: Okay. That's all I have.

12 HEARING OFFICER HALLORAN: Miss Williams?

13 MS. WILLIAMS: I just have one quick redirect.

14 REDIRECT EXAMINATION

15 BY MS. WILLIAMS:

16 Q. Bob, could you take a look at what I believe  
17 is Exhibit 3?

18 A. Okay.

19 Q. Is that the alternatives --

20 A. Yes.

21 Q. -- presented by Noveon?

22 And I would like you to look over in the  
23 alternative -- or the proposed language that Noveon has  
24 presented to the Board, I would like you to take a look at

1 paragraph B. I believe it's the same in all three  
2 alternatives.

3 A. Okay.

4 Q. Just to, you know, be clear for the Board,  
5 when you read that, do you read that they're asking the  
6 Board to determine a mixing zone?

7 There's no right or wrong answer, Bob.

8 A. Well, it seems that they're asking for 43:1  
9 dilution factor, and that's a component of a mixing zone.  
10 So --

11 Q. Do they come out and say that they would like  
12 the Board to set specifically a mixing zone?

13 A. Not in so many words I guess, no.

14 Q. So, is it clear to you one way or another  
15 whether they've asked the Board to set a mixing zone or  
16 not?

17 A. It's not real clear.

18 Q. And within the relief requested, could you  
19 just clarify for us whether that relief requested is  
20 permanent relief or whether it contains a duration?

21 A. I don't see a sunset provision, so it looks  
22 like permanent relief.

23 MS. WILLIAMS: Thank you. That's all I have.

24 HEARING OFFICER HALLORAN: Mr. Kissel, any

1 recross?

2 MR. KISSEL: No.

3 But for the record, we filed the petition for  
4 adjusted standard a couple years ago. We have provided a  
5 lot of testimony, and what we intend to do in the briefing  
6 schedule is if we believe this alternative should be  
7 amended, we -- as is typical with matters of this kind, we  
8 would present that to the Board.

9 But the Board will have what we really want --  
10 not that this isn't, but we will look at that. So, it  
11 will be presented in our closing briefs.

12 HEARING OFFICER HALLORAN: Thank you.

13 Miss Liu, Mr. Rao?

14 MR. RAO: Yeah, we have a few questions for  
15 Mr. Mosher.

16 Mr. Mosher, you explained how you go about  
17 recommending the zone of initial dilution, using the U.S.  
18 EPA's Technical Support Document. Is this -- the IEPA's  
19 interpretation of how it should be calculated, has that  
20 been adopted by the Agency as part of its regulations for  
21 implementing ammonia standards, or do you have any  
22 regulations that deal with mixing zones of initial  
23 dilution?

24 THE WITNESS: We have a mixing zone document

1 at the Agency. This has not gone before Board rule making  
2 or any other kind of rule making, but it has been approved  
3 by U.S. EPA Region 5 as consistent with what they think we  
4 should be doing for mixing zones.

5 MR. RAO: Is it possible for you to provide  
6 that document into the record?

7 MS. WILLIAMS: It's possible.

8 THE WITNESS: It's possible. I have a copy in  
9 my briefcase.

10 MS. WILLIAMS: Is it an extra copy?

11 THE WITNESS: I believe it's my original so we  
12 should xerox it. But put it in the record.

13 MS. WILLIAMS: We'll submit that with our  
14 briefs.

15 MR. RAO: Talking about the mixing zone, in  
16 response to Mr. Kissel's questioning you said that one of  
17 the things that you look at when, you know, deciding  
18 whether a discharge or mixing zone is -- whether best  
19 degree of treatment is being provided at the facility; so,  
20 has the Agency made a determination as to whether Noveon  
21 is providing best degree of treatment?

22 THE WITNESS: That's a question that's  
23 probably better referred to Rick Pinneo who's an engineer  
24 and who makes best degree of treatment type decisions.



1 It's my understanding that we do not recognize what they  
2 are doing now as best degree of treatment.

3 MR. RAO: Okay. Then I'll save my questions  
4 for Mr. Pinneo.

5 And just a related question. If the Board  
6 acts on the adjusted standard as requested, then there  
7 won't -- then the condition will not become an issue --

8 THE WITNESS: The --

9 MR. RAO: -- the best degree of treatment  
10 requirement?

11 THE WITNESS: Well, the Board can grant a  
12 larger mixing zone, if they want to, in this case than the  
13 Agency would -- believes it can do under its authority;  
14 so, the Board could circumvent the issue of best degree of  
15 treatment.

16 MR. RAO: No, I'm not talking about the Board  
17 setting the mixing zone. If the Board grants an adjusted  
18 standard from 304.122(a) and (b) as requested, then will,  
19 you know, the Agency be in a position to grant the mixing  
20 zone, or will this issue of best degree of treatment come  
21 up again?

22 THE WITNESS: Well, in my mind, it does come  
23 up again because unless I'm instructed by the Board on how  
24 to do the mixing zone in this particular case, I have to

1 go to the rule itself. The rule itself says there must be  
2 best degree of treatment, and then I must rely on what  
3 Agency engineers tell me is best degree of treatment. So,  
4 that would be kind of a problem there, I guess.

5 MR. RAO: Thank you.

6 MS. LIU: Good morning, Mr. Mosher. Could you  
7 please provide a cite to the Technical Support Document  
8 that you used under U.S. EPA?

9 THE WITNESS: Okay. The full name is  
10 Technical Support Document for Water Quality Based Toxics  
11 Control. It's U.S. EPA Publication Number  
12 EPA/505/2-90-001, and the date is March 1991.

13 MR. KISSEL: We have an extra copy we can put  
14 in the record if you like.

15 MR. RAO: That would be great.

16 MR. KISSEL: I don't know --

17 HEARING OFFICER HALLORAN: Sure. What are we  
18 at?

19 MR. KISSEL: Hearing Officer exhibit?

20 HEARING OFFICER HALLORAN: I'll make it HO,  
21 Hearing Officer exhibit.

22 MR. KISSEL: You can ask. I think that's what  
23 our people say the TSD is, but --

24 This is it, Robert?

1 THE WITNESS: Yeah, that's it.

2 HEARING OFFICER HALLORAN: I don't think I've  
3 had a hearing officer exhibit in this case.

4 MR. KISSEL: There was --

5 HEARING OFFICER HALLORAN: Was that in the  
6 permit appeal?

7 MS. DEELY: Yes.

8 HEARING OFFICER HALLORAN: We'll make this  
9 Hearing Officer Exhibit Number 1. Thank you.

10 MS. LIU: Mr. Mosher, has the Agency done any  
11 toxicity tests of its own on Noveon's effluent to  
12 determine the no observed effect concentration?

13 THE WITNESS: No, to the best of my knowledge  
14 -- and I'm pretty sure about this -- we've only done acute  
15 tests; and to get an NOEC value, you have to do a chronic  
16 test.

17 MS. LIU: If you were to use your method to  
18 calculate a mixing zone in a zone of initial dilution, and  
19 you were to calculate it at the maximum potential size,  
20 could you back-calculate what an appropriate effluent  
21 limit would be?

22 THE WITNESS: Yes. And that's what Scott  
23 Twait did in his memo which is Petitioner's Exhibit 37.  
24 Scott did that very thing. And that's a common occurrence

1 at the Agency to do just that kind of calculation, and  
2 that sets a limit at the maximum amount that we believe is  
3 allowed to achieve compliance with the standard on the  
4 outside edge of that zone of initial dilution.

5 MS. LIU: I'm sorry if you had mentioned it  
6 before, but was there a number?

7 THE WITNESS: Oh, yeah, there's a number, and  
8 I don't think I did mention it. And I have to preface  
9 this. This was done on January 30th, 2001, and I believe  
10 that was before the newest water quality standards for  
11 ammonia was adopted.

12 Deb, is that -- that's correct, isn't it?

13 MS. WILLIAMS: That's correct.

14 THE WITNESS: Okay. So, we're, we're -- we  
15 don't have a number for the standards -- the water quality  
16 standards for ammonia in force right now, but there is not  
17 a great deal of difference. And if you would like, I  
18 could do that calculation and provide it in the record.  
19 But -- so at that time, we -- Scott had calculated, for  
20 the existing effluent outfall at Noveon, the summer daily  
21 max would be 24.9 milligrams per liter total  
22 ammonia-nitrogen; the winter would be 42.7 milligrams per  
23 liter.

24 MS. WILLIAMS: Is that for the -- with the --

1 MR. RAO: That's for the existing?

2 THE WITNESS: The existing.

3 MS. LIU: I'm not sure if you're the best one  
4 to ask this question; it's about an engineering method. I  
5 was wondering what engineering methods you've seen  
6 dischargers employ to reduce the size and the stretch, the  
7 reach of the mixing zone.

8 THE WITNESS: Well, that type of engineering I  
9 guess I'm familiar with, at least that I've reviewed all  
10 of the plans for high-rate diffusers in Illinois to this  
11 point. But what they are doing -- and that's reflected  
12 also in Scott's memo.

13 If you improve the characteristics of the  
14 outfall structure, you increase the velocity through  
15 multiple ports, instead of a lower velocity out of one  
16 port; you mix the effluent with the river more efficiently  
17 in a shorter time and in a smaller area.

18 And we've approved probably ten high-rate  
19 diffuser structures, different discharges around the  
20 state. And in this particular case, Scott concludes that  
21 if they do build that structure, they, they do not have to  
22 have ammonia limits in the permit, again, provided all the  
23 other aspects of the mixing zone standard are met.

24 MS. LIU: Under the definition of the best

1 degree of treatment, what does the Agency use to decide?  
2 Do they look at removal potential, reliability, cost  
3 figures? Could you give us a little more background?

4 THE WITNESS: That's a better question for  
5 Rick Pinneo.

6 MS. LIU: I'll do that. Thank you very much.

7 HEARING OFFICER HALLORAN: Any follow-up,  
8 Mr. Kissel?

9 MR. KISSEL: Just one, an area.

10 RE-CROSS-EXAMINATION

11 BY MR. KISSEL:

12 Q. You were asked about whether there was a  
13 calculation of water quality based effluent limit done,  
14 and you cited to Mr. Twait's memo. Did Mr. Corn also do  
15 that in his testimony and in his studies?

16 A. I, I believe he did, but not in the same  
17 manner as Mr. Twait.

18 Q. All -- I'm not asking you to agree with him.  
19 I just wanted the Board to understand that that is in  
20 Mr. Corn's testimony for both the current discharge, the  
21 current discharge with the Henry facility, and the  
22 multipoint diffuser; is that correct?

23 A. I believe so.

24 MR. KISSEL: Thank you.

1 HEARING OFFICER HALLORAN: Miss Williams?

2 FURTHER REDIRECT EXAMINATION

3 BY MS. WILLIAMS:

4 Q. I'll just ask one clarifying question. Bob,  
5 the Board asked you about whether best degree of treatment  
6 would have to be revisited after this proceeding. Would  
7 you agree that the Board is able to determine in this  
8 proceeding that no treatment is best degree of treatment?  
9 Is it within their authority to do that?

10 A. I believe it is.

11 MS. WILLIAMS: Thank you. That's all I have.

12 HEARING OFFICER HALLORAN: Okay. You may step  
13 down, Mr. Mosher. Thank you very much.

14 Let's go off the record for a second.

15 (A discussion was held off the record.)

16 (Whereupon, a recess was taken.)

17 HEARING OFFICER HALLORAN: All right. We're  
18 going back on the record. And I think Miss Williams was  
19 going to call her second witness.

20 MS. WILLIAMS: Yes, I call Rick Pinneo to the  
21 stand.

22 HEARING OFFICER HALLORAN: Raise your right  
23 hand, and Jennifer will swear you in, please.

24 (Witness sworn.)

1                                   RICHARD PINNEO,  
2 called as a witness, after being first duly sworn, was  
3 examined and testified upon his oath as follows:

4                                   DIRECT EXAMINATION

5 BY MS. WILLIAMS:

6                   Q.    Could you state your name -- please state your  
7 name and occupation for the record.

8                   A.    My name's Richard Pinneo. I'm with the  
9 Illinois EPA, Division of Water Pollution Control Permit  
10 Section, Industrial Unit. I'm an environmental engineer,  
11 and I've served in that capacity in that unit for 20  
12 years.

13                  Q.    And what do your duties consist of in that  
14 position?

15                  A.    My duties consist of reviewing construction  
16 permit applications, NPDES permit applications, and State  
17 operating permit applications, and writing applicable  
18 permits in accordance with the state rules and regulations  
19 and federal rules.

20                  Q.    And what is your educational background?

21                  A.    I have a bachelor's in science in chemical  
22 engineering from the University of Illinois.

23                  Q.    And do you hold any additional degrees or  
24 licenses?



1           A.    I'm a Licensed Professional Engineer.

2           Q.    Can you tell us a little bit about what your  
3 specific duties are in relationship to the Noveon-Henry  
4 plant?

5           A.    The Noveon-Henry plant, formerly BF Goodrich,  
6 was originally assigned to me back in 1984 when I first  
7 started working for the Agency. My original duties  
8 included writing an NPDES permit for that facility and  
9 then subsequent construction permits and then the 1990  
10 NPDES permit and then additional construction permits  
11 after that 1990 or '91 NPDES permit.

12          Q.    Have you been responsible for all permits  
13 issued to Noveon since you were assigned to work on that?

14          A.    Since, yes.

15          Q.    I'd like to start off with an issue that was  
16 the subject of Mr. Flippin's testimony, going to get  
17 through that as quickly as possible.

18                Mr. Flippin talked about the -- his  
19 calculations of the population equivalent value of the  
20 Henry plant. Did you -- have you ever had cause to  
21 calculate the PE for this plant or attempt to calculate  
22 it?

23          A.    Yes, I was requested to calculate the  
24 population equivalents as part of interrogatories for this

1 adjusted standard hearing.

2 Q. I'm showing you what I've marked as Illinois  
3 EPA Exhibit 4 for identification. Are those the responses  
4 you're referring to?

5 A. Yes, they are.

6 Q. And those are an accurate reflection of the  
7 responses to interrogatories filed by the Illinois EPA in  
8 this matter?

9 A. Yes.

10 MS. WILLIAMS: I would like to move to have  
11 Exhibit 4 entered into evidence.

12 MR. KISSEL: I object to any part of that.  
13 This is a whole set of interrogatories which we propounded  
14 requesting answers on a variety of subjects, most of which  
15 this particular witness has no -- I would guess not an  
16 opinion about.

17 I have no problem with introducing or having  
18 him testify about PE since that is an issue in this  
19 proceeding, but I, I object to the wholesale introduction  
20 of the answers to interrogatories.

21 MS. WILLIAMS: I just want to clarify for the  
22 record that they are 15 pages relative to other documents  
23 that have been presented. It's not that it's a voluminous  
24 issue. If he has some problems with portions of their

1 relevance, I guess we can discuss why, but this discovery  
2 wasn't served upon the Board in this case, and it's very  
3 short and it seems relevant, but --

4 HEARING OFFICER HALLORAN: Discovery was  
5 served upon the Board?

6 MS. WILLIAMS: No, was not. Notice of  
7 discovery was, but not the actual document so they don't  
8 have these documents.

9 HEARING OFFICER HALLORAN: Well, it looks like  
10 based on Mr. Kissel's objection, we're going to have to go  
11 through, one by one, regarding the relevancy.

12 MS. WILLIAMS: Okay. I mean, is that -- we  
13 don't -- he can use it to reflect his recollection on what  
14 he answered, right?

15 MR. KISSEL: Refresh --

16 MS. WILLIAMS: Refresh his recollection.

17 HEARING OFFICER HALLORAN: Sure, sure.

18 MS. WILLIAMS: That's fine.

19 MR. KISSEL: I have no objection to that, as  
20 long as he identifies it and it's his, which I think it  
21 is, on that particular issue.

22 BY MS. WILLIAMS:

23 Q. Can you describe for the Board a little bit  
24 how you went about trying to calculate a PE value?

1           A.    Yes.  There are three population equivalent  
2 values that are defined within the state rules and  
3 regulations under 35 Illinois Administrative Code Section  
4 301.345, and it's defined in there as a flow value of  
5 BOD 5 value and total suspended solids value.

6                    And as I calculated them, there was a flow  
7 value that I utilized from the Noveon's NPDES permit  
8 renewal application received by Illinois EPA on August  
9 31st, 1989.  That flow value that I utilized was 916,000  
10 gallons per day.  And there's a typo in this; it says that  
11 there's only a PE value of 916, but that should be 9,160.

12           Q.    Okay.  That's a typo?

13           A.    Yes.  The BOD 5 population equivalents  
14 utilized a figure of 3,300 pounds of BOD, and that was  
15 divided by .17 pounds of BOD 5 per population equivalents,  
16 and resulted in a value of 1,900 -- or, excuse me, 19,412  
17 for the population equivalents.  That information was  
18 obtained from a construction permit application that was  
19 submitted July 24th, 1997.

20                    And a total suspended solids population  
21 equivalent was calculated based on a suspended solids  
22 value of 53,000 pounds per day, divided by .2 which  
23 resulted in a PE value of 265,000.  That information was  
24 obtained through a Baxter and Woodman report entitled

1 "Wastewater Treatment Plant, June 1994, Report for BF  
2 Goodrich Henry, Illinois, Plant."

3 Q. I'm going to show you what we've marked  
4 Exhibit 5 for identification. Is this the report you're  
5 referring to?

6 A. Yes, it is.

7 Q. Go on. Well, I guess we can -- this is the  
8 report that you're referring to, and is this also -- does  
9 it look like an accurate reflection of the report that you  
10 used?

11 A. Yes, is it.

12 Q. Represents an accurate reflection?

13 And did Mr. Flippin also rely on some of this  
14 in making his alternative calculations yesterday, do you  
15 believe?

16 A. He used the same flow and BOD PE at least  
17 initially, I believe. I'd have to take a look at  
18 Mr. Flippin's --

19 MS. WILLIAMS: Does Petitioner have any  
20 objection to these being entered into evidence?

21 MR. KISSEL: No, not if it's a true and  
22 correct copy. It's our report.

23 MS. WILLIAMS: It hasn't been already admitted  
24 as an exhibit, has it?

1 MR. KISSEL: Not that I know of.

2 MR. LATHAM: No.

3 MS. WILLIAMS: Thank you.

4 HEARING OFFICER HALLORAN: Petitioner's  
5 Exhibit Number 5 is admitted.

6 BY MS. WILLIAMS:

7 Q. And I guess, could you sort of repeat for me  
8 what your calculations were?

9 Did you already tell us the TSS PE?

10 A. Yes, I did.

11 Q. Did you do that for me?

12 A. It was 265,000.

13 Q. Has anything you've heard this week caused you  
14 to reconsider whether that was an appropriate, credible  
15 way to calculate PE?

16 A. Yes, there's been a number of different  
17 testimonies that would lead me to believe that that  
18 calculation was not correct. That there are some recycled  
19 streams that would enter into what Baxter and Woodman  
20 collected in that particular document that would cause me  
21 to reduce my particular calculation.

22 Q. Do you know by how much?

23 A. I can't determine that.

24 Q. What are some of the other discrepancies? Are

1 there any other things that would cause you to question  
2 whether you can calculate an accurate PE?

3 A. Well, based on testimony provided by Houston  
4 Flippin, what's in the petitioner's -- or in the petition  
5 itself for adjusted standard and exhibits that have been  
6 entered into the record, the flow values that were  
7 utilized by Houston I find rather questionable.

8 There's a discrepancy in the petition at page  
9 nine where it identifies a flow value for the PVC tank at  
10 360,000 gallons per day, where Houston's was considerably  
11 less. 265 -- or 360 gallons per day roughly translates to  
12 265 gallons per day, and -- or 250 gallons per day, excuse  
13 me, and the --

14 MR. KISSEL: If I can, 260 --

15 THE WITNESS: 250 gallons --

16 MR. KISSEL: 265,000, right?

17 THE WITNESS: No, 265 gallons per minute.

18 MR. KISSEL: Okay.

19 THE WITNESS: Thank you for correcting me,  
20 Dick.

21 MR. KISSEL: I'm not -- I just wanted to make  
22 sure the record's right.

23 THE WITNESS: No, but you are correct, it  
24 should be gallons per minute.

1           A.    And the flow rate that Houston used for the  
2 PVC tank discharge was just a total of 165.6 gallons per  
3 minute.  So, there's, there's a difference there.  There's  
4 also a difference in the PC tank identified, but not as  
5 great.

6                    And, and plus there's some other waste streams  
7 that really haven't been identified as part of Houston's  
8 calculation.  There's approximately, oh, about 200 gallons  
9 per minute that's unaccounted for as to the influent to  
10 the plant.

11                   And then in addition to that, when the Board  
12 asked -- when the board members asked Houston about that  
13 discrepancy, he identified that one of the effluent values  
14 was a -- a 70-gallon-per-minute filter backwash, but  
15 that's just an internal recycled stream that isn't  
16 discharged.  So, there's a whole question as to, you know,  
17 the flow values to utilize.

18                   And then, then there's also missing gallonage  
19 that wasn't even utilized in calculating the population  
20 equivalents.

21                   In addition to that, there's also estimated  
22 values used by Houston for total suspended solids, and we  
23 just don't have the available information to make a  
24 reasonable calculation of the population equivalents of



1 suspended solids.

2 Q. Does Noveon's permit require influent  
3 monitoring?

4 A. No, it does not.

5 Q. Would a municipality's permit require that?

6 A. Yes, it would.

7 Q. What is the explanation for that difference?

8 A. The municipalities are required under federal  
9 regulation to achieve 85 percent reduction, and so they  
10 have to do influent values to show or verify that they are  
11 reducing the influent values 85 percent -- by 85 percent.  
12 There is no regulatory requirement for industrial  
13 facilities to achieve that percentage removal, so it's not  
14 contained within the BF Goodrich requirements or Noveon's  
15 requirements.

16 Q. If you had the data available to make a PE  
17 calculation in this case, would you agree that that was  
18 comparable to the calculation for municipal waste  
19 treatment plant?

20 MR. KISSEL: I object to the hypothetical  
21 nature of the question, and I really don't understand it  
22 as well.

23 HEARING OFFICER HALLORAN: I don't really  
24 understand the question.

1 MS. WILLIAMS: Okay. I was merely trying to  
2 refer back to the requirement in 304.

3 HEARING OFFICER HALLORAN: I don't mind the  
4 hypothetical part of it, but if you could rephrase it?

5 MS. WILLIAMS: Sure.

6 HEARING OFFICER HALLORAN: So, I guess your  
7 objection is overruled.

8 BY MS. WILLIAMS:

9 Q. Now, how is -- relief is being sought today  
10 from 304.122 of the Board's regulations, correct?

11 A. Yes.

12 Q. And which, which provision of that regulation  
13 is applicable to Noveon?

14 A. 304.122(b).

15 Q. And why is that regulation applicable?

16 A. Because a -- because the, the waste stream  
17 just isn't comparable to a municipality's waste stream.

18 Q. If you were to calculate --

19 MR. KISSEL: I'm sorry. Could you read that  
20 last -- I apologize. Could you please read the last  
21 answer for me?

22 (The preceding answer was read back by the  
23 reporter.)

24 BY MS. WILLIAMS:

1 Q. And why not?

2 A. Because the COD to BOD ratio would suggest  
3 that the waste stream isn't as treatable as a  
4 municipality's waste stream would be.

5 Q. And does that have any impact on your use of  
6 the PE calculation?

7 A. Yes, it would. The BOD values obtained by  
8 Noveon in their BOD testing would be lowered because of  
9 the resistance to degradability over the five-day test  
10 period.

11 Q. So, would you -- strike that.

12 Is it part of your duties to determine whether  
13 facilities you permit are implementing the best degree of  
14 treatment?

15 A. Yes, it is.

16 Q. In your opinion, is Noveon implementing the  
17 best degree of treatment for ammonia?

18 A. I do not believe that to be the case.

19 Q. Why not?

20 A. Because they're only achieving incidental  
21 removal that would be achieved at any activated sludge  
22 plant.

23 Q. Did you review the alternative nitrification  
24 methods presented in Mr. Flippin's testimony -- well, did

1 you review the alternatives presented by Mr. Flippin in  
2 Noveon's adjusted standard petition?

3 A. Yes, I did.

4 Q. Do you have an opinion as to which of these  
5 are technically feasible?

6 A. Yes, I do.

7 Q. Can you name some of those for us?

8 A. Alkaline, there's stripping of the PVC tank of  
9 the combined effluent as well -- alkaline air stripping of  
10 that. Break-point chlorination, but we wouldn't  
11 necessarily recommend that because of the potential of  
12 chlorinated organics being formed. Ion exchange is a  
13 potential. Single-stage nitrification and second-stage  
14 nitrification of the combined effluent.

15 Q. You mentioned, I believe, break-point  
16 chlorination and some of the environmental effects of  
17 that. Were there any other alternatives like that that  
18 you felt would have too negative of an environmental  
19 effect to be considered?

20 A. No.

21 Q. Were there any alternatives that Noveon didn't  
22 consider that you would recommend they had considered?

23 A. I, I believe that an investigation of the  
24 costs associated with granular-activated carbon should be

1 considered. Powder-activated carbon was investigated  
2 initially, and it was determined that 5,000 milligrams per  
3 liter would have to be used within the, the treatment  
4 system itself, the activated sludge system. And a  
5 granular-activated carbon column doesn't -- or it isn't  
6 introduced into the activated sludge system. Plus,  
7 powder-activated carbon has a tendency to have a higher  
8 usage rate than what granular-activated carbon would be.

9 Q. Did you look to any sources that recommended  
10 this alternative?

11 A. Yes. There was U.S. EPA document regarding  
12 carbon absorption, and the inhibitor that has been  
13 identified by Noveon to nitrification process is  
14 identified within that document as being something that  
15 can be removed.

16 Q. Did you also review the cost information  
17 provided in Noveon's adjusted standard petition?

18 A. Yes, I did.

19 Q. Can you give the Board just a basic feel for  
20 what you were looking for and how you went about doing  
21 that?

22 A. Well, basically, I, I took a look at the costs  
23 that were identified by the petitioner for the  
24 alternatives that were identified; and then utilizing the

1 pounds per -- the pounds of ammonia removed per day, took  
2 the cost figure and divided it by the pounds of ammonia  
3 removed per day.

4 Q. And why did you do that?

5 A. For comparison purposes with costs that we  
6 have in regard to municipal plants and some recent  
7 construction activities that have taken place as allowed  
8 under -- or as suggested under 40 CFR 125.3.

9 Q. Okay.

10 A. I believe that's the cite.

11 Q. I think so.

12 Well, go ahead and continue, follow through  
13 with what the rest of your calculations were.

14 MR. KISSEL: I'm going to object to any  
15 introduction of anything regarding municipal facilities  
16 unless the Agency is agreeing that they are comparable to  
17 ours. I think the Agency's argument is that -- and  
18 Mr. Pinneo has just stated -- that municipal facilities  
19 are not comparable; and now, when it becomes convenient or  
20 whatever you want to call it, they are comparable and you  
21 can compare them. That's what comparable means.

22 So, which way does the Agency want to go here?  
23 Are they comparable, or is it not comparable?

24 MS. WILLIAMS: I think we're talking about two

1 separate things, and we're talking about PE calculations  
2 versus this. But I really believe that this line of  
3 testimony will answer that question, and I think Rick will  
4 be able to update it with some ways they're also  
5 different; the costs are also different, too, so --

6 HEARING OFFICER HALLORAN: Yes, you know, I'm  
7 going to overrule Mr. Kissel's objection. I think it may  
8 assist the Board in its final determination, and I think  
9 it is or could be relevant, so you may proceed.

10 BY MS. WILLIAMS:

11 Q. I mean, explain for the Board a little bit  
12 just generally what you were trying to express.

13 A. Well, as I said before, as allowed under or  
14 even recommended under 40 CFR 125.3, that in determining  
15 what can be a reasonable cost that comparisons to other  
16 facilities up to and including municipalities should be  
17 considered when making a determination as to whether or  
18 not it's considered best degree of treatment. And these  
19 municipal costs were determined based upon values that  
20 were identified in grant and loan applications to the  
21 Agency.

22 Q. Do you have similar figures for industrial  
23 facilities?

24 A. No, we do not. We do not have any similar

1 figures because they basically don't provide us with that.  
2 They don't go and get loans or grants.

3 Q. Were you trying to do a rigorous economic  
4 analysis here, Rick?

5 A. No, I was not. I was --

6 Q. What were you trying to do?

7 A. Just doing a very simple, basic calculation to  
8 just give us an idea as to whether or not the costs that  
9 were identified in the Noveon petition were in the  
10 ballpark of a municipality's costs.

11 Q. Thank you. Can you give us some examples of  
12 ways that a municipality's costs might be more  
13 expensive -- or an industrial facility's cost might be  
14 more expensive than a municipality's? Excuse me.

15 A. Well, chemical addition is certainly something  
16 that may be needed by an industrial facility. I have  
17 permitted other facilities that, that have required the  
18 use of chemical addition.

19 Houston's testified that chemical addition  
20 would be necessary for a single-stage nitrification and  
21 other treatment requirements as well -- or other treatment  
22 technologies as well. And I believe that to be the major  
23 difference in cost, in operation and maintenance.

24 Q. Can you think of any other differences?



1           A.    No, I cannot.

2           Q.    And based on your review of Mr. Flippin's  
3 figures, can you tell us about what portion of the  
4 operating and maintenance costs the chemical addition  
5 consists of?

6           A.    Well, for single-stage nitrification, that was  
7 about 20 percent.  In other words, I would expect the  
8 O & M costs for single-stage nitrification for a  
9 municipality be at a value of 20 percent less than what  
10 the Noveon cost would be.

11          Q.    Thank you.

12          A.    Or 20 percent of, of the costs that Noveon's  
13 would be.

14          Q.    Can you summarize for the Board what your  
15 conclusions were in comparing the costs for Noveon's  
16 treatment technologies with municipalities you looked at?

17          A.    Essentially that there were some -- there were  
18 some technologies that were within what I would consider a  
19 comparable cost.

20          Q.    Can you expand a little bit more specifically  
21 for the Board on what you mean by comparable cost?

22          A.    Well, the dollar amount per pound of ammonia  
23 removed per day was within 10, 15 percent of each other,  
24 and some even for the Noveon facility were less.

1           Q.    Were there actually some facilities that were  
2    spending more money per pound -- municipal facilities that  
3    were spending more money per pound of ammonia removed than  
4    Noveon's alternatives?

5           A.    Yes.

6           Q.    Would that be true even taking into account  
7    the additional operating and maintenance costs or not?

8           A.    Yes, it would.

9           MR. KISSEL:  I guess I'm going to have to  
10   really object to this whole line of questions.

11          MS. WILLIAMS:  Just look at -- I'm done.  I'm  
12   looking to see if I have anything else to ask this  
13   witness, so I think it's inappropriate to object at this  
14   point.

15          MR. KISSEL:  This requires us to go back and  
16   take a substantial amount of time, if necessary, to go  
17   back to where he got this information, what he concluded  
18   on each of the facilities he concluded.  I can't do that  
19   today.

20          MS. WILLIAMS:  Mr. Halloran, that information  
21   is provided in our recommendation.

22          HEARING OFFICER HALLORAN:  That is correct,  
23   and I think that kind of dovetails into my prior ruling  
24   that it was in the record, in the recommendation filed

1 June of 2003. So, in my mind it's -- it was out there to  
2 be questioned.

3 And that's fine if you need more time,  
4 Mr. Kissel. I'm willing to go tomorrow as well or just  
5 continue this hearing for 30 days.

6 MR. KISSEL: We'll consider that.

7 HEARING OFFICER HALLORAN: And we'll do that.

8 MR. KISSEL: We'll consider that.

9 HEARING OFFICER HALLORAN: I understand your  
10 concern and your client's concern, but here we are.

11 MS. WILLIAMS: That's all I have for this  
12 witness at this time.

13 HEARING OFFICER HALLORAN: Thank you.

14 Mr. Kissel?

15 MR. KISSEL: Yes. Thank you.

16 CROSS-EXAMINATION

17 BY MR. KISSEL:

18 Q. Mr. Pinneo, we went through your background a  
19 little quickly. I just wanted to know whether, have you  
20 ever designed, constructed or operated a wastewater  
21 treatment plant?

22 A. No, I have not.

23 Q. Have you ever been involved in the design,  
24 construction or operation of any treatment plant that

1 treats ammonia-nitrogen?

2 A. No, I have not.

3 Q. You indicated that as of today there is  
4 insufficient information to calculate a population  
5 equivalent on this waste for total suspended solids; is  
6 that correct?

7 A. I believe so.

8 Q. So that as of today, looking at, I think it's  
9 304.122, the Agency could not make a determination whether  
10 population is above or below 50,000 PE; is that correct?

11 A. That's correct.

12 Q. That's different than was said before. Is  
13 that what you're saying?

14 MS. WILLIAMS: I object. I don't think that's  
15 true.

16 MR. KISSEL: Well, he --

17 MS. WILLIAMS: He never testified to PE in our  
18 recommendation or any other testimony.

19 MR. KISSEL: I think he said the total  
20 suspended solids was 265.

21 MS. WILLIAMS: In the document you would not  
22 allow admitted into evidence, so that's not been admitted  
23 into evidence.

24 MR. KISSEL: He testified to that.

1 HEARING OFFICER HALLORAN: One at a time,  
2 please. The court reporter is only human.

3 BY MR. KISSEL:

4 Q. You testified that that's what you had  
5 calculated, right? So, we're talking about something  
6 that's different; we don't know whether it's above or  
7 below 50,000 PEs?

8 HEARING OFFICER HALLORAN: I will overrule  
9 your objection, Ms. Williams. He can answer if he's able.

10 A. The calculation I made showed it was 265,000  
11 PE for total suspended solids.

12 Q. And you're saying that's not correct now?

13 A. I'm saying that is not correct, yes.

14 Q. And we don't know what it is. Okay.

15 A. And I'm also saying that Houston's testimony  
16 doesn't identify that it's not above 50,000 either.

17 Q. I think Houston's testimony will stand on its  
18 own. I think you've testified enough about that.

19 A. I'd also like to say that I --

20 Q. There's no question pending.

21 HEARING OFFICER HALLORAN: Sir --

22 THE WITNESS: Oh, I'm sorry.

23 HEARING OFFICER HALLORAN: Just only when  
24 there's a question pending you can go ahead. Thank you.

1 THE WITNESS: Oh.

2 BY MR. KISSEL:

3 Q. I think you testified that you have made a  
4 determination that Noveon is not providing best degree of  
5 treatment with regard to ammonia at the Noveon facility;  
6 is that correct?

7 A. Yes.

8 Q. When did you make that determination?

9 A. Well, it seemed rather apparent to me some  
10 time ago back in 1990.

11 Q. Okay.

12 A. 1989.

13 Q. Let me -- let me read you a question and an  
14 answer, okay?

15 "Question: Did you" --

16 MS. WILLIAMS: Can you identify where you're  
17 reading from, please?

18 MR. KISSEL: I will in a minute.

19 BY MR. KISSEL:

20 Q. "Did you -- did anyone make a BDT  
21 determination with regard to ammonia at the Noveon  
22 facility?"

23 "Answer: No."

24 Did you make that statement?

1 A. That's entirely possible.

2 Q. Do you recall having your deposition taken in  
3 this matter?

4 A. Yes.

5 Q. And did you make that statement in the  
6 deposition?

7 A. I -- if you're asking me, I'm assuming that I  
8 did.

9 Q. I mean, it's up to you. I can show you the  
10 transcript or we can get the court reporter. I just want  
11 to know whether you made the statement.

12 A. It's entirely possible that I did, yes.

13 Q. So, when were you telling -- you were under  
14 oath at that time?

15 A. Yes, I was.

16 Q. Okay. So, were you telling us the truth then,  
17 or are you telling us the truth now?

18 A. Well, I, I would have to say that it's kind of  
19 a little bit of both.

20 Q. So, you were lying both times?

21 A. No. I'm telling the truth both times.

22 Q. So, you didn't, and now you did?

23 A. It's a yes and no question as far as -- I  
24 mean, I can answer the question in, in both ways and

1 support both answers. I, I mean, in looking at the, the  
2 treatment itself that's being provided and saying, Is it  
3 the best degree of treatment? you look at the percentage  
4 removals, I can say no, it's not. But whether or not  
5 we've actually made a determination as to whether best  
6 degree of treatment is, is being made, it takes a lot more  
7 analysis than that.

8 Q. Well, then --

9 A. And in that reason I said no, that there  
10 wasn't.

11 Q. So --

12 A. So, I mean, I'm, I'm trying to answer your  
13 question to the best of my abilities here, Dick, and --

14 Q. I understand. But the technical advisors of  
15 the Board are -- were going to ask you that question, and  
16 I just wanted to point out that you told us a few months  
17 ago in November, I think, November or October when your  
18 deposition was taken that it hadn't been determined.

19 A. In, in respect to the Board regulation  
20 regarding what is best degree of treatment, you, you need  
21 to take a look at not only whether a technology is, is  
22 feasible but whether it's economically reasonable or not.

23 Q. So, so --

24 A. And so at that point in time, no, we didn't do



1 any type of economic analysis as far as I know. And --

2 Q. Has something been --

3 A. Except for this, this little bit of, of, of  
4 cost comparison that I did. Now, in that respect, I, I  
5 also believe that it's part of the Board's responsibility  
6 to make that determination as to what is economically  
7 reasonable.

8 Q. We'd all like to judge what the Board's  
9 responsibility is. I know if I were on the Board, I would  
10 certainly appreciate your telling me what it was, but the  
11 fact is I'm just getting to the point of the statement.  
12 That's all I want to know.

13 A. Okay.

14 Q. And the fact is that you said one thing a few  
15 months ago, and you're saying something different now.

16 A. Well, okay. Let's just say -- give an answer  
17 right now that I don't believe that they're providing any  
18 treatment for ammonia.

19 Q. So, when you --

20 A. And, and, and if you don't provide treatment  
21 for ammonia, how can that be best degree of treatment?

22 Q. So, your -- it is your position that the  
23 facility as currently configured at the Noveon plant does  
24 not treat ammonia at all?

1           A.    I haven't been given anything that would  
2 indicate that.

3           Q.    Is it possible that during the -- that during  
4 BOD removal that some ammonia is removed?

5           A.    And there is incidental removal of  
6 ammonia-nitrogen for any activated sludge plant that  
7 successfully treats BOD.

8           Q.    So my point is then, is what you said wrong  
9 just a little while ago?

10          A.    No.

11          Q.    Well, is there treatment for ammonia, or is  
12 there ammonia being removed?

13          A.    There isn't -- there isn't any ammonia being  
14 removed above what would normally be removed because of  
15 the treatment of BOD.

16          Q.    But there is ammonia being removed at that  
17 plant, is there not?

18          A.    Yes.    Incidental amounts.

19          Q.    Whatever it is, what you consider incidental,  
20 what somebody else may be two totally different things.

21                        So, are you in agreement with Mr. Houston's  
22 (sic) testimony that the facilities as installed at the  
23 Noveon plant are -- meet the ten state standards and the  
24 Illinois standards with regard to design for a

1 nitrification facility?

2 A. I wouldn't have any reason to dispute that.

3 Q. And the reason for the nitrification not  
4 occurring is because of inhibition; is that right?

5 A. That is correct. That's what I believe.

6 Q. So, in terms of treatment and treatment  
7 technology, the Noveon plant has what every other plant  
8 that's treating ammonia has and is supposed to design to  
9 have, correct?

10 A. Yes.

11 Q. Okay. We went into this the other day, and if  
12 the Board reviews the other record they'll listen to the  
13 cross-examination; and I hesitate to go into it in great  
14 detail, and I won't.

15 We went into this question of the COD/BOD  
16 ratio. My understanding is -- to facilitate this a little  
17 bit is that you are saying that -- testified that this  
18 facility is not comparable to a municipal plant because  
19 the CBOD/BOD ratio is higher, that is, there's more  
20 CBOD -- or COD, not CBOD -- COD than there is in a  
21 municipal plant; is that correct?

22 A. Yes.

23 Q. And I -- so we can get through what we went  
24 through the other day a little more quickly, basically

1 that concept to determine comparability is yours and yours  
2 alone; is that correct?

3 A. I don't think it's mine alone, no.

4 Q. Well, I mean, it's not in any regulation, is  
5 it?

6 A. No.

7 Q. It's not in any guidance by the Illinois  
8 Environmental Protection Agency?

9 A. No.

10 Q. And you are the one that decided this based  
11 upon your review; it was --

12 A. I think that the Agency has made that  
13 determination in other particular cases for other  
14 industrial facilities.

15 Q. Well, I think that what you said the other day  
16 -- and I'll let the record stand for what it is -- that it  
17 was from your head that this came?

18 MS. WILLIAMS: Is this really different than  
19 the way he's already asked and answered the question?

20 MR. KISSEL: I'll be happy to introduce that  
21 cross-examination. Would you like to include that, and  
22 I'll avoid this?

23 MS. WILLIAMS: Introduce what  
24 cross-examination?



1 Mr. Kissel, was that a question or a statement?

2 BY MR. KISSEL:

3 Q. My -- I wanted you to agree or disagree. I  
4 think that what you said in that prior proceeding, which  
5 is that this notion of comparability of CBOD -- excuse me,  
6 COD and BOD, that really came from your head and your  
7 determination?

8 A. And I think I stated that I, I believe that  
9 it's the Agency's opinion that, in these types of  
10 situations for industrial facilities, 304.122(b) applies  
11 and that it has been applied and that it hasn't been  
12 applied just by me; it's been applied by the Agency as a  
13 whole.

14 Q. Okay. But there's no regulation or guidance  
15 about it, right?

16 A. That's correct, yes.

17 Q. Ms. Williams used the term "technically  
18 feasible" on a question to you; is that correct?

19 A. Yes.

20 Q. What did you -- when you answered that  
21 question, what did you think technical feasibility meant?

22 A. Well, I, I believe that there are several  
23 components to that, in that, number one, is it actually  
24 going to achieve any kind of removal of the target

1 pollutant? Number two, whether it's operationally capable  
2 of, of being run, and then run so that it can remove that  
3 waste. I guess Houston used the term reliability factors,  
4 and that would need to be taken into consideration.

5 Q. Did you -- did you review that -- what exhibit  
6 is that?

7 A. 13?

8 MR. LATHAM: Exhibit 11.

9 BY MR. KISSEL:

10 Q. No, no, not 11. The third one?

11 A. It's 13.

12 Q. Did you review Exhibit 13 which contained  
13 reliability factors for the various technologies?

14 A. I didn't review the reliability factors, no.

15 Q. You agree -- would you agree that each of the  
16 technologies involved here do have a reliability factor;  
17 that is, some are more reliable in producing an effluent  
18 at a certain concentration than others, right?

19 A. Sure.

20 Q. And would you say that Mr. Flippin has the  
21 qualifications to determine that reliability?

22 A. Sure.

23 Q. The various technologies that you listed,  
24 alkaline stripping, nitrification and break-point

1 chlorination, for example, do they -- when they are  
2 operated, do they increase the total dissolved solids of  
3 the effluent?

4 A. Yes.

5 Q. And what do increased salts do? What does  
6 salt do as an effluent; is it a toxicant?

7 A. I believe Bob would have to testify to that.  
8 I'm not a toxicologist.

9 Q. You don't know whether salt is toxic to  
10 aquatic life?

11 A. I believe that it is, based on Bob's  
12 testimony.

13 Q. So, would you -- as a person who issues  
14 permits, would you like to limit the amount of salt that's  
15 being discharged, if you can?

16 A. I think that's a question that Bob would need  
17 to answer.

18 Q. Well, no, as --

19 A. I'm not part of the --

20 Q. I'm not talking about the aquatic. I'm just  
21 saying when you're reviewing a permit and you have an  
22 opportunity to put in treatment to reduce the salt or  
23 whatever, wouldn't you rather have less salt in an  
24 effluent than more?



1           A.    There again, that's not a decision that I  
2    make.  I don't make a decision as to the values of TDS  
3    that would be acceptable.  That is strictly a water  
4    quality issue, and I do not make those determinations.

5           Q.    You talked about granulated-activated carbon.  
6    Do you have any idea on what -- whether that technology  
7    would have any effect on the reduction of ammonia in the  
8    effluent at the Noveon plant?

9           A.    Well, based on -- upon information provided by  
10   Houston, and I think that he did provide that in his -- in  
11   his testimony, that the use of powder-activated carbon at  
12   a rate of around 5,000 milligrams per liter within the  
13   activated sludge system itself did create an -- a  
14   wastewater stream that was then capable of being  
15   nitrified, yes.

16          Q.    And he talked about other effects, did he not,  
17   that -- as a result of that, like slime, scaling?

18          A.    Well, he talked about that in regard to, I  
19   believe, a granular-activated carbon unit and then the  
20   operation of that.

21          Q.    Right?

22          A.    And, and I, I would think that there would  
23   also be some, some techniques that are available to  
24   control or reduce those --

1 Q. So --

2 A. -- effects.

3 Q. Are you really -- are you recommending, either  
4 yourself or on behalf of the Agency, that Noveon install a  
5 facility -- treatment facility of granular-activated  
6 carbon?

7 A. I'm not necessarily recommending that. I, I  
8 just said that was another technology that wasn't  
9 thoroughly investigated as, as part of this proceeding.

10 Q. And would Mr. Flippin be capable of telling  
11 the Board about -- in your view about the effectiveness  
12 and the problems with that technology?

13 A. I believe that he would be able to not only  
14 tell me that but what other techniques would be available  
15 then to correct or prevent those problems from occurring.

16 Q. Okay. This municipal comparison with, you  
17 know, the cost per pound of removal of municipal plants  
18 for ammonia and for Noveon that you have talked about, you  
19 did some analysis in that regard?

20 A. Yes.

21 Q. In your original analysis, did you include --  
22 strike that.

23 Did you include operating costs in that?

24 A. No, I did not. And that's just because it

1 wasn't available to me at the time.

2 Q. What, what wasn't available to you?

3 A. The operating costs for municipalities. That  
4 wasn't included in the, the grant or loan applications  
5 that were submitted to the Agency.

6 Q. All right. So, in what you provided with  
7 the -- what the Agency provided us, you made a  
8 determination of cost per pound of removal; and since that  
9 time, your mind has been changed?

10 A. It hasn't been changed. I'm, I'm saying that  
11 there was no data available, and that what I did look at  
12 was the information that was provided regarding O & M and  
13 made a determination that as far as single-stage  
14 nitrification that a municipality's costs would be only 20  
15 percent of the O & M costs that would be incurred by  
16 Noveon.

17 Q. Right.

18 A. In other words --

19 Q. I'm sorry.

20 A. In other words, there would just be a  
21 20 percent amount -- for every dollar that Noveon would  
22 have to spend, a municipality would have to spend 20  
23 cents. And, and that's just based on the chemical  
24 addition.

1 Q. When did you get that information?

2 A. I got that information after Exhibit 13 was  
3 put into the record.

4 Q. And that was -- give us a date.

5 A. Exhibit 13?

6 Q. You mean just recently, like a day or so ago?

7 A. I think yesterday.

8 Q. Okay.

9 A. Yeah.

10 Q. And that has not been provided to Noveon, has  
11 it, that information?

12 Have you provided that to Noveon before your  
13 testimony, or has the Agency provided that to us before  
14 your testimony?

15 MS. WILLIAMS: Can you clarify what you mean  
16 by that?

17 MR. KISSEL: The information. The point here  
18 is --

19 THE WITNESS: Exhibit 13 is what you provided  
20 to --

21 MR. KISSEL: No. Here's the point. We had a  
22 calculation and information done by Mr. Pinneo which was  
23 given to us; did not include the operating costs. The  
24 hearing goes on, and in the course of his testimony, he

1 said, "I got information, and I'm changing my testimony,"  
2 and we had not -- I mean, my recollection of the discovery  
3 is that there's a continuing obligation on behalf of the  
4 person to whom discovery is issued, and that's the Agency  
5 here.

6 MS. WILLIAMS: I don't believe that Rick's  
7 testimony is changing. I think he's supplementing to  
8 clarify for the Board if he -- if he had taken into  
9 account operating and maintenance cost, what would that  
10 have -- what would you have concluded?

11 MR. KISSEL: The concept is very good because  
12 it's what we suggested to him, because he didn't do that  
13 before. But the question is not the concept. I agree  
14 with them on comparing operation costs -- including  
15 operation costs. It's not that. It's the question of  
16 what are the operating costs of the municipality versus  
17 what are the operating costs of Noveon.

18 Mr. Flippin testified they're substantially  
19 different. Mr. Pinneo is testifying there's some 20  
20 percent factor on which he must -- he must base that on  
21 some data which we don't have, which you haven't provided  
22 to us.

23 THE WITNESS: Okay.

24 HEARING OFFICER HALLORAN: Wait a minute.

1 MS. WILLIAMS: Do you want to see Exhibit 13?

2 THE WITNESS: May I take a look at Exhibit 13,  
3 please?

4 HEARING OFFICER HALLORAN: Yes. If we could  
5 hold on a minute. This -- Petitioner's Exhibit 13, was  
6 this in the record prior --

7 MR. KISSEL: Yes.

8 HEARING OFFICER HALLORAN: -- or was this just  
9 introduced yesterday for the first time?

10 MR. KISSEL: It was part of the -- when did we  
11 give Exhibit 13? What's the date on it?

12 I don't know. We can find out.

13 HEARING OFFICER HALLORAN: I mean, I'm just --  
14 you know, you're giving your argument about seasonably  
15 supplementing. If this was Mr. Pinneo's first time  
16 looking at it, I think, you know, 12 hours ago, it's  
17 seasonably supplemented. But in any event, here we are in  
18 the middle of a hearing. That's my thought.

19 Miss Williams?

20 MS. WILLIAMS: I am not -- I am actually not  
21 sure whether or not this was the first time. It's  
22 possible this was provided somewhere else --

23 THE WITNESS: Exhibit 11 --

24 MS. WILLIAMS: -- previously. I'm not really

1 sure.

2           The only point of this questioning is to help  
3 give the Board some perspective. If the Hearing Officer  
4 doesn't think it's appropriate at this late a date, we  
5 don't have to provide that testimony. I don't -- I don't  
6 think it's essential for our case. We're just trying to  
7 do the best we can to give the Board the best information  
8 that we have available, which isn't a whole lot, to tell  
9 you the truth.

10           MR. KISSEL: We're all in agreement that we  
11 want to give the Board the best information, but I think  
12 we're entitled, as they are entitled if we have  
13 information that's new and novel and different than what  
14 the testimony was or what their evidence was before, to  
15 give it to us. So, I don't know where the 20 percent  
16 comes from. I would say if the -- if the Agency wants to  
17 strike that from the record, I'll be perfectly happy.

18           HEARING OFFICER HALLORAN: Miss Williams?

19           MS. WILLIAMS: If you want to strike what from  
20 the record?

21           MR. KISSEL: The calculations.

22           MS. WILLIAMS: I would prefer to let Rick  
23 explain, but --

24           HEARING OFFICER HALLORAN: But Mr. Kissel's

1 point is you have not allowed Petitioner the opportunity  
2 to look at the data or whatever.

3 MS. WILLIAMS: It's just directly from the  
4 exhibit.

5 THE WITNESS: The data is in the record,  
6 Mr. Hearing Officer. And if I can explain, I think I can,  
7 to clarify this matter.

8 HEARING OFFICER HALLORAN: Let's explain and  
9 then revisit this -- Mr. Kissel's argument.

10 THE WITNESS: Go ahead?

11 HEARING OFFICER HALLORAN: You can go ahead.

12 THE WITNESS: Okay. Actually, I think I'm  
13 mistaken. It wasn't Exhibit 13; it was Exhibit 11. And  
14 it identifies O & M costs in there. And basically for  
15 single-stage nitrification, it came up with a dollar value  
16 of like .999 million dollars for O & M costs per year, and  
17 that the chemical cost was like .788 million dollars per  
18 year for chemical addition costs.

19 And if you take the .99 (sic) and divide that  
20 into the .788, you get roughly about 20 percent.

21 Essentially, I was -- I was subtracting out the chemical  
22 cost. Or if, if you take .99 and subtract .778 from that  
23 and then divide by .99, you get roughly about 20 percent.

24 BY MR. KISSEL:



1 Q. So, you relied on no municipal data at all?

2 A. No, no. I was --

3 Q. This is just an analysis of --

4 A. I was assuming that, that the cost of aeration  
5 equipment, the cost of aerating the waste, the electrical  
6 cost, the -- all the other costs associated with operating  
7 a single-stage nitrification system would essentially be  
8 the same, save the chemical cost.

9 Q. Did you hear Mr. Flippin's testimony with  
10 regard to that cost per pound of removal and how he did  
11 it?

12 A. Yes, I did.

13 Q. Did you agree with him?

14 A. Yes, I did.

15 MR. KISSEL: Why don't we -- can we break for  
16 lunch -- I don't have very much at all -- unless you want  
17 to go forward. We would like 10 or 15 minutes anyhow to,  
18 to --

19 MS. WILLIAMS: We didn't get that at the  
20 start.

21 MR. KISSEL: What?

22 MS. WILLIAMS: I said I would have liked that,  
23 too, but --

24 HEARING OFFICER HALLORAN: I thought we were

1 going to be done, based on representations by Counsel,  
2 probably by 12:20. Here it is approaching 1:00.

3 MR. KISSEL: No, I thought I said I would have  
4 some -- a couple witnesses.

5 HEARING OFFICER HALLORAN: No, no, I mean --  
6 not talking about your rebuttal, just the witness on the  
7 stand now. It was a quarter to 12, and I understood it  
8 would be 10 or 15 minutes for direct, but, you know, it  
9 doesn't surprise me.

10 But your wish, Mr. Kissel, is --

11 MR. KISSEL: Pardon?

12 HEARING OFFICER HALLORAN: -- to take a 10- or  
13 15-minute break?

14 MR. KISSEL: No, I am essentially done. What  
15 I would do if we were -- this was 10:00, I would say give  
16 me five minutes to talk to Mr. Flippin and see whether  
17 I've asked all the questions. Sometimes I miss.

18 HEARING OFFICER HALLORAN: Okay.

19 MR. KISSEL: I do know that we have --  
20 probably we'll have a couple people on the stand for a  
21 half hour at most. And I'm not sure whether Miss Williams  
22 is finished with her case. But when she is, we will have  
23 a couple rebuttal witnesses, and we would want a little  
24 time to talk to them anyhow, so --

1 HEARING OFFICER HALLORAN: So you want 45  
2 minutes to consult and come back, and then we'll pick up  
3 either with the continuation of your cross and, if not,  
4 we'll go back to redirect, then over to the technical  
5 people?

6 MR. KISSEL: Right.

7 HEARING OFFICER HALLORAN: Sounds like a plan.  
8 How about 1:45?

9 MR. KISSEL: Okay. Thank you.

10 (Whereupon, a noon recess was taken.)

11 HEARING OFFICER HALLORAN: Thanks, everybody,  
12 for being so prompt, considering the short lunchtime.  
13 We're back, and I think Mr. Kissel may finish up on cross.

14 CONTINUED CROSS-EXAMINATION

15 BY MR. KISSEL:

16 Q. Mr. Pinneo, in the capital costs you reviewed  
17 with regard to the municipal plants you talked about that  
18 treat ammonia --

19 A. Yes.

20 Q. -- is that -- how much of that capital cost,  
21 if any, that was attributed in part to ammonia treatment  
22 would have been attributed to doing other things in the  
23 plant, like extended aeration, increased BOD recovery and  
24 so forth?

1           A.    Those capital costs were just associated with  
2 providing the treatment necessary for single-stage  
3 nitrification.

4           Q.    Would that single-stage nitrification actually  
5 also remove some BOD?

6           A.    Yes.

7           Q.    And if you remove more BOD, doesn't that  
8 increase the size capability of that plant?

9           A.    I'm not sure what you're --

10          Q.    Well, if you're removing more BOD, can't you  
11 accept more of an influent of BOD than you would had that  
12 treatment not been there?

13          A.    There again, I'm, I'm not sure what your  
14 question is getting at here, Dick. I'm not sure how to  
15 answer that question.

16          Q.    Did any of the municipal plants you had have  
17 pretreatment facilities of any kind?

18          A.    No, they -- no, they did not.

19                   MR. KISSEL: That's all I have.

20                   HEARING OFFICER HALLORAN: Thank you.

21                   Miss Williams, any redirect?

22                                   REDIRECT EXAMINATION

23 BY MS. WILLIAMS:

24          Q.    I just have one question. Rick, when you're

1 determining best degree of treatment in setting -- in the  
2 permitting process, would you find that requirement met if  
3 there was an applicable technology-based effluent limit  
4 that was not being complied with?

5 MR. KISSEL: I object as theoretical,  
6 hypothetical.

7 HEARING OFFICER HALLORAN: Overruled. You may  
8 answer if you're able.

9 A. No, it would not be.

10 MS. WILLIAMS: That's all I have.

11 HEARING OFFICER HALLORAN: Mr. Kissel?

12 MR. KISSEL: I have nothing.

13 HEARING OFFICER HALLORAN: Turning it over to  
14 the technical unit, Mr. Rao?

15 MR. RAO: Yes, I have a question concerning  
16 the mixing zone and when the Agency allows a mixing zone  
17 for a discharge area, is that mixing zone defined in the  
18 permit?

19 THE WITNESS: No, it's not. It's defined in  
20 determining the, the limit. And Bob Mosher would probably  
21 need to explain that as to how the, the mixing zone is, is  
22 determined and, and how that limit then defines or sets  
23 the size of the mixing zone itself. I'm not sure if I'm  
24 stating that answer correctly, but --

1                   MR. RAO: Let me put it this way. In  
2 back-calculating the effluent -- allowable effluent limits  
3 from a mixing zone, if those effluent limits are written  
4 in a permit, will that be re-evaluated every five years  
5 when they apply for a permit renewal?

6                   THE WITNESS: Yes, it would be.

7                   MR. RAO: And if the Agency, in its  
8 recommendation, stated that what Noveon is asking the  
9 Board to do is to kind of define the mixing zone as a part  
10 of that standard, in that kind of a situation, will you be  
11 able to re-evaluate it at the permit renewal, or do you  
12 just have to go what's in the adjusted standard?

13                   THE WITNESS: I would just use what was in the  
14 adjusted standard.

15                   MR. RAO: So if there is any changes in the  
16 stream condition -- in the receiving stream condition that  
17 normally you would have taken it upon to re-evaluate the  
18 mixing zone, you will not be able to do it?

19                   THE WITNESS: That's correct, yes.

20                   MR. RAO: Okay. That's all.

21                   HEARING OFFICER HALLORAN: Okay. Thanks.

22                   Miss Liu?

23                   Do you have any follow-up, Mr. Kissel?

24                   MR. KISSEL: No.

1 HEARING OFFICER HALLORAN: Miss Williams?

2 MS. WILLIAMS: No.

3 HEARING OFFICER HALLORAN: Okay. You may step  
4 down, sir. Thank you very much.

5 Any other witnesses, Miss Williams?

6 MS. WILLIAMS: I'm sorry. That concludes the  
7 Agency's case in chief.

8 HEARING OFFICER HALLORAN: Before -- I have  
9 IEPA's Exhibit Number 4, the interrogatories. Do you want  
10 this back?

11 MS. WILLIAMS: You -- I don't need it back,  
12 but if you'd rather not be burdened with it, that's fine  
13 with me.

14 HEARING OFFICER HALLORAN: I'll do something  
15 with it I probably shouldn't, so thanks.

16 With that said, it looks like it's rebuttal  
17 time for Noveon.

18 MR. KISSEL: Okay. Mr. Goodfellow.

19 We are going to call three people, but they  
20 should be relatively short.

21 HEARING OFFICER HALLORAN: Take your time,  
22 sir.

23 I know you were sworn in yesterday, but I  
24 would like to have you raise your right hand and swear you

1 in again.

2 (Witness sworn.)

3 WILLIAM L. GOODFELLOW, JR.,

4 called as a witness, after being first duly sworn, was

5 examined and testified upon his oath as follows:

6 DIRECT EXAMINATION

7 BY MR. KISSEL:

8 Q. Mr. Goodfellow, you're the person who

9 testified yesterday, I take it; is that correct?

10 A. Correct.

11 Q. And you were the -- you testified -- excuse me

12 -- regarding the TIE testing that you did; is that

13 correct?

14 A. Correct.

15 Q. Would you please go through the protocol and

16 so forth on a relatively short basis and U.S. EPA

17 involvement, et cetera?

18 A. Sure. The first round of testing that we did,

19 we performed the phase -- U.S. EPA Phase I TIE, which is

20 the standard suite of tests that you would do without --

21 as your first round of testing without presupposing what

22 the toxicant was. And you do that so you make sure that

23 you don't miss things, thinking that you might know what

24 the toxicant is.



1           The second round of testing, we -- because  
2 TIEs are meant to be an interactive, progressive process,  
3 we actually used the test procedures that showed merit the  
4 first round as well as added in test procedures that would  
5 be deemed the U.S. EPA Phase II TIE procedures, which are  
6 meant to further get at the identification of the specific  
7 toxicants that were characterized of ammonia and salinity,  
8 as well as to look if there was anything else underneath  
9 the toxicity curves to make sure that something wasn't  
10 hiding in the weeds, so to speak.

11           And we did that by doing sequential tests in  
12 different orders so that sometimes you take the ammonia  
13 out first, sometimes you would take out an organic first,  
14 if there was an organic in there to take out.

15           And, and I've come to the conclusion that I  
16 stipulated -- or that I presented yesterday in my  
17 testimony that the toxicants were ammonia and total  
18 dissolved solids, and that there was no non-polar organic  
19 toxicity that could be determined from the standard test  
20 procedures.

21           Q.   This Phase I, Phase II test, is that the  
22 standard protocol for doing TIE testing in the United  
23 States?

24           A.   Yes.

1 Q. Is there a Phase III?

2 A. There's a Phase III, and that is a spiking,  
3 and it's primarily done for organic toxicity and metals;  
4 and they weren't the principal toxicants identified.

5 Q. All right. You heard Mr. Mosher's testimony  
6 about treating -- really the way to find out is treat  
7 ammonia and then retest the effluent. Is that a way you  
8 do your job?

9 A. Well, in effect we did do that by coupling the  
10 tests in such a way that you would use Zeolite to remove  
11 the ammonia first, and then you evaluate toxicologically,  
12 the same as when we tested the C-18 first and then the  
13 other treatments, we were actually removing things.

14 And the unfortunate thing is you can't do  
15 anything about the total dissolved solids because they're  
16 always there. There's no treatment to remove that.

17 Q. So, if we were to ask you, "Please go back and  
18 do some more testing," would you --

19 A. I would take the exact same approach I did  
20 previously.

21 Q. There was -- strike that.

22 If the ammonia-nitrogen were removed in this  
23 effluent and you did not have ammonia, would there still  
24 be toxicity in the effluent?

1           A.    Yes, there would be.  As we found out in the  
2 Phase II testing, when we did remove the ammonia, we still  
3 had a base toxicity of about 15 to 20 percent of effluent.

4           Q.    And that was what?

5           A.    That was due to total dissolved solids.

6           Q.    So, the salt toxicity would still remain?

7           A.    That's correct.

8           Q.    Okay.

9           A.    And, in fact, it would increase as you  
10 increase the total dissolved solids; for example, if some  
11 treatment got added that increased the salt content, it  
12 would only increase the toxicity.

13          Q.    Mr. Mosher testified that, that as critters  
14 were exposed to this effluent, ammonia would kill them  
15 first versus the salinity.  Is that true?

16          A.    Well, if he was referring to the fact -- well,  
17 let me answer, the first one is no, that wouldn't be the  
18 case.  Total dissolved solids, because it's osmotic, it's  
19 an osmotic stressor, it actually is a very rapid toxicant.  
20 In fact, that's why sodium chloride, which is a total  
21 dissolved solid, is used as one of the referenced  
22 toxicants in the test.  Ammonia, being that it also is a  
23 rapid toxicant in these test procedures, it is slightly  
24 less rapid than, than actually the total dissolved solids.

1           Q.   Lastly, there's a -- one of the technologies  
2   that Mr. Flippin testified to and Mr. Pinneo referred to  
3   was ion exchange.

4                    From a toxicology point of view -- or toxic  
5   point of view, what would the effect be for -- if TDS  
6   was -- or, excuse me, if ion exchange was used as a  
7   treatment process here?

8           A.   Well, one of the problems with ion exchange,  
9   especially when there's large amounts of ions in a  
10   wastewater, is that it will selectively take out certain  
11   ions before they take -- it takes out other ones because  
12   it has a higher affinity for a certain cation, if you're  
13   using a cation exchange resin, or certain anion, if it's  
14   anion exchange resin.

15                   And what happens is it throws toxicologically  
16   what we call the effluent into ion imbalance, and it is --  
17   in many instances it's been proven to be more problematic  
18   because what's being toxic is what's not there as opposed  
19   to what is there. I actually have had some experience  
20   and, in fact, published in this area.

21           Q.   So, what's the conclusion; that it's more --

22           A.   It actually ends up being equally, if not  
23   more, problematic to have an ion imbalance situation than  
24   just the total dissolved solids themselves in a complex

1 nature of a bunch of total dissolved solids.

2 Q. And that would be caused or result from the  
3 use of ion exchange?

4 A. If it could not be completely -- you know, if  
5 you're going to be creating, taking out selective ions and  
6 not taking them all out --

7 Q. Thank you.

8 A. -- which is very expensive.

9 MR. KISSEL: Thank you. That's all I have.

10 HEARING OFFICER HALLORAN: Miss Williams?

11 MS. WILLIAMS: I don't have anything.

12 HEARING OFFICER HALLORAN: Thank you.

13 Anybody from the technical unit?

14 You may step down. Thank you.

15 While we're switching witnesses, I feel like I  
16 must qualify my statement regarding the IEPA's Exhibit  
17 Number 4 which was returned stating that, "I would do  
18 something with it that I shouldn't." I meant only that it  
19 may be entered on my sheet and nothing else. Thank you.

20 Sir, raise your hand, please, and --

21 THE WITNESS: I was here this morning.

22 HEARING OFFICER HALLORAN: You're reminded  
23 you're under oath.

24 MICHAEL R. CORN, P.E.,

1 called as a witness, having been previously duly sworn,  
2 was examined and testified upon his oath as follows:

3 DIRECT EXAMINATION

4 BY MR. KISSEL:

5 Q. Would you identify yourself for the record,  
6 please?

7 A. I am Michael R. Corn.

8 Q. You testified this morning?

9 A. I did.

10 Q. Mr. Corn, you heard the testimony of  
11 Mr. Mosher this morning?

12 A. Yes, I did.

13 Q. Okay. And we were talking about the length,  
14 breadth, whatever, of a zone of initial dilution under  
15 regulations, and he testified that it was limited to 2.5  
16 percent of the river or something equivalent to that.  
17 Could you -- do you agree with that?

18 A. I do not.

19 Q. Why not?

20 A. The TSD that -- I believe we entered this into  
21 evidence, correct?

22 HEARING OFFICER HALLORAN: Which one is it?

23 BY MR. KISSEL:

24 Q. It's 39, I think, or -- is that right?

1           A.    Technical Support Document.

2           Q.    Oh, Hearing Officer Exhibit 1, yes.

3           THE WITNESS:  It's your exhibit.

4           HEARING OFFICER HALLORAN:  Thank you.

5           A.    The TSD talks about multiport diffusers and  
6 how you define a ZID with that, and I think I gave  
7 testimony yesterday about hydraulically how we define that  
8 and how it actually occurs hydraulically.

9                    It gives -- on page 71, it gives the method  
10 for calculating a ZID for a multiport diffuser when we  
11 have high velocity, 10 feet per second.  10 feet per  
12 second comes from the old thermal pollution days, and it's  
13 been around for many, many years.  And it was designed  
14 sitting around in a room; people thought that would sweep  
15 the fish away from the diffuser.

16                   On the next page, page 72, it gives dimensions  
17 to determine ZIDs based on a diffuser that doesn't meet  
18 this 3 meters per second or 10 feet per second exit  
19 velocity.  In both cases, it talks about meeting this in  
20 any spatial direction.

21                   U.S. EPA goes on to define spatial direction  
22 there as a discharge length scale, and I think I talked  
23 about -- yesterday that we go along the center line of the  
24 plume, and that is the discharge length scale.  And the

1 length of that, the center line of the plume goes in a  
2 downstream direction.

3           The 25 percent that's defined in the U.S. EPA  
4 and the IEPA guidance is 25 percent of the volume of flow  
5 or cross-sectional area. Obviously you could calculate a  
6 width from that, but it specifically talks about you can  
7 use 25 percent of the volume of flow or cross-sectional  
8 area.

9           In this case -- in either case we're not using  
10 25 percent of the volume of flow, but that is available if  
11 we wanted to use it under the guidance. And I believe  
12 Mr. Mosher talked about having a ZID being limited by the  
13 25 percent of cross-sectional area. The discharge length  
14 scale defines the plume direction in the downstream  
15 direction, and it's not related to a width.

16           Q. Do you have experience with U.S. EPA or others  
17 with regard to that concept of it being a length issue?

18           A. Yes, I do, in -- not only in Illinois but  
19 other states, I do have experience in -- on four diffusers  
20 in this. I also listed those in my testimony. The Rock  
21 River Water Reclamation District diffuser is a 60-foot  
22 long diffuser. We used 25 percent of the volume of flow  
23 to set that diffuser; and if you use the 2-1/2 percent  
24 distance or the width times the 10 percent length, then



1 that gives you a 14-1/2 foot. We have a 60-foot wide  
2 diffuser.

3 For the 3M diffuser in Cordova, Illinois, we  
4 have a 106-foot long diffuser. It's on the Mississippi  
5 River. Rock River is in -- on the Rock River, a small  
6 river, much smaller than the Illinois River. The 3M  
7 diffuser is 106-foot long; 2-1/2 percent of the width of  
8 the river is 32-1/2 feet.

9 The Olin diffuser is about 31-1/2 feet long;  
10 the 2-1/2 percent there would be 31.25 feet, so that meets  
11 that -- Mr. Mosher's, but it's only because we had a short  
12 diffuser at that point. We didn't need a long diffuser.

13 American Bottoms has a 100-foot long diffuser;  
14 2-1/2 percent of the river width times 10 percent is  
15 48.75, 49 feet.

16 So, we have permitted mixing zones in Illinois  
17 at more than 2-1/2 percent.

18 Q. When you refer to mixing zones, are you  
19 talking about zones of initial dilution?

20 A. Zones of initial dilution, because the zone of  
21 initial dilution starts at the diffuser.

22 Q. Have you had any conversations or discussions  
23 with the responsible people at U.S. EPA in this area as a  
24 part of your business about this subject?

1           A.    Yes, I have.  I've talked with most of the  
2 publishers of the computer models as well as the people  
3 that have developed the TSD.

4           Q.    And what did they say?

5           A.    The TSD, in their definition, is basically  
6 this is a true length scale.  It's along the center line  
7 of the plume.

8           Q.    On another subject, did you -- in calculating  
9 or identifying the total mixing zone for this facility,  
10 did you use the chronic ammonia limitation?

11          A.    Yes.  When we looked at the total mixing zone,  
12 which is a chronic standard, we looked at the ammonia  
13 water quality chronic standard, and that's how we set the  
14 total mixing zone.  And I think we've talked about the  
15 distances, and you've asked me questions about those,  
16 about the distances for the total mixing zone.

17          Q.    But the chronic standard -- you did use the  
18 chronic standard?

19          A.    We used the chronic standard for ammonia which  
20 has always been the identified toxicant here, along with  
21 salt.

22          Q.    Lastly, Mr. Mosher, I think, testified that he  
23 believed that some ammonia from municipal treatment plants  
24 could be as high as 25 milligrams per liter; however, in

1 your testimony, with regard to the City of Henry, you used  
2 8 milligrams per liter and then calculated what the mixing  
3 would be or effluent could be for the Noveon plant; is  
4 that correct?

5 A. That's correct.

6 Q. If, for -- without conceding that the 25 is a  
7 valid number, but accepting that for the moment, if you  
8 plugged in 25 milligrams per liter, would that change the  
9 number, the ammonia number -- effluent number allowable?

10 A. I think I gave a range of 220 to 230 this  
11 morning. If we use 25 milligrams in that calculation, it  
12 changes it from 224 to 218. So, it's -- I would round  
13 that to 220.

14 MR. KISSEL: I have no further questions.

15 HEARING OFFICER HALLORAN: Thank you,  
16 Mr. Kissel.

17 MS. WILLIAMS: Can I take just a brief minute  
18 to confer?

19 HEARING OFFICER HALLORAN: Sure. Okay. We're  
20 off the record for a minute.

21 (A discussion was held off the record.)

22 HEARING OFFICER HALLORAN: Okay. We're back  
23 on the record.

24 \* \* \* \* \*

## 1 CROSS-EXAMINATION

2 BY MS. WILLIAMS:

3 Q. I just have a couple quick questions.

4 Mr. Corn, when you talk about examples of diffusers who  
5 have been granted greater than 10 percent --

6 A. 2-1/2.

7 Q. -- I'm sorry, greater than 10 percent of 25  
8 percent -- isn't it true those are all high rate  
9 diffusers?

10 A. That's correct.

11 Q. Okay. Can you point out for us in the  
12 guidance exactly where you find this definition of any  
13 spatial direction?14 A. If you go to page 71 -- and I'll read it if  
15 you would like me to.

16 Q. I think that would help me, thanks.

17 A. "If the second alternative is selected,  
18 hydraulic investigations and calculations indicate that  
19 the use of a high-velocity discharge with an initial  
20 velocity of 3 meters per second, or more, together with a  
21 mixing zone spatial limitation of 50 times the discharge  
22 length scale in any direction should ensure that the CMC  
23 is met within a few minutes under practically all  
24 conditions."

1           Q.   And you -- isn't this section talking about  
2 high-rate diffusers?

3           A.   That's correct.

4           Q.   Isn't it true that under your theory a  
5 discharger to a smaller river could have a longer ZID than  
6 a discharger to a large river?

7           A.   Not necessarily a longer ZID.  It -- the ZID,  
8 according to this definition, is based on 50 times the  
9 cross-sectional area, the square root of the  
10 cross-sectional area.  So, the length of the ZID is really  
11 based on how big we make the discharge port.

12          Q.   You mean in low-rate diffuser situations?

13          A.   In high-rate or low-rate diffusers.

14          Q.   But in a low-rate diffuser situation, isn't it  
15 true that a smaller river would produce a larger ZID under  
16 your theory?

17          A.   It again depends on the size of the discharge  
18 and the size of the pipe.

19          Q.   In some cases it could occur for sure, right,  
20 under your theory?

21          A.   If you have a larger diameter pipe, it would  
22 be based on the three criterias -- 50 times the square  
23 root of the cross-sectional area, the depth of the stream,  
24 or 10 percent of the mixing zone, total mixing zone.  So,

1 in a small river it might be the total depth that would  
2 limit your, your ZID.

3 Q. And depending on the case, it definitely could  
4 happen, though, that a smaller river would produce a  
5 larger ZID, right?

6 I mean, it's a yes or no question, I think.

7 MR. KISSEL: I object. I think it's been  
8 asked and answered. And again, I don't think  
9 Miss Williams likes the answer, but that's the way it is.

10 HEARING OFFICER HALLORAN: You know, I think  
11 it has been asked and answered to the best of his ability.  
12 And the record will show -- reflect his answer for what it  
13 is.

14 MS. WILLIAMS: Okay.

15 HEARING OFFICER HALLORAN: Sustained.

16 MS. WILLIAMS: I have no further questions of  
17 this witness.

18 MR. KISSEL: I have none.

19 HEARING OFFICER HALLORAN: Mr. Rao, Miss Liu,  
20 any questions?

21 MS. LIU: Just optimistically speaking, is it  
22 possible to design a better diffuser that would shrink  
23 that mixing zone and ZID to a size that the Agency would  
24 have calculated if they had done that?

1                   THE WITNESS:  Actually, the mixing zone that  
2 we've proposed with the multiport diffuser is actually on  
3 the order of what Mr. Mosher is, is -- would like it to  
4 be.

5                   MS. LIU:  So that's the best diffuser you can  
6 build; is that right?

7                   THE WITNESS:  The best I know how.  And we've  
8 designed or conceptually designed lots of diffusers -- and  
9 I think that's in my resume -- but they are the best  
10 technology we have to disperse the effluent and gives you  
11 the greatest safety factor.

12                   MS. LIU:  Thank you.

13                   THE WITNESS:  Thank you, ma'am.

14                   HEARING OFFICER HALLORAN:  Mr. Kissel, any  
15 follow-up?

16                   MR. KISSEL:  One more relatively short.

17                   HEARING OFFICER HALLORAN:  Oh.  Mr. Corn, you  
18 may step down.

19                   MR. KISSEL:  Oh, I'm sorry.  I thought you  
20 meant get another witness.

21                   HEARING OFFICER HALLORAN:  You may step down.  
22 Thank you very much.

23                   THE WITNESS:  Thank you.

24                   HEARING OFFICER HALLORAN:  I know,

1 Mr. Flippin, you didn't testify this morning, did you?

2 THE WITNESS: No, sir.

3 (Witness sworn.)

4 T. HOUSTON FLIPPIN, P.E., DEE,  
5 called as a witness, after being first duly sworn, was  
6 examined and testified upon his oath as follows:

7 DIRECT EXAMINATION

8 BY MR. KISSEL:

9 Q. Would you identify yourself for the record,  
10 please?

11 A. Yes. I'm Thomas Houston Flippin.

12 Q. Have you testified in this proceeding before?

13 A. I have.

14 Q. All right. I have a couple of questions for  
15 you, Mr. Flippin. In Mr. Pinneo's testimony, he talked  
16 about population equivalents and the calculation of  
17 population equivalents at the plant, and he indicated  
18 that, in his view, what you did was not correct because  
19 you didn't include certain flows in that calculation. Can  
20 you comment on that, please?

21 A. Yes, sir, I can. Let me -- let me refer to  
22 anyone that has these available to them. If you'll look  
23 to Exhibit Number 11, and then if you'll look to -- if  
24 you'll look to Exhibit Number 11 and then you'll look to



1 pages 12 and 13 of my written testimony, and if you'll  
2 also look to the exhibit that was submitted, I believe,  
3 yesterday, it's definitely an exhibit submitted -- a  
4 response to questions asked by the Pollution Control  
5 Board?

6 Q. Yes.

7 MS. WILLIAMS: 30, if that helps.

8 HEARING OFFICER HALLORAN: Thank you.

9 A. On page 12 of my written testimony, I  
10 recognized when I calculated my population equivalent that  
11 I was leaving out the discharge from well number three and  
12 from the waters that discharged to the storm utility pond.  
13 I stated in my written testimony, if one refers to the  
14 Baxter and Woodman report where they did a waste stream  
15 summary, one could easily conclude that my neglect of  
16 those streams caused a population equivalent to be  
17 calculated that, at most, was 25 percent lower than it  
18 would have been otherwise.

19 Now, let me explain the rationale -- or let me  
20 clarify that. Well number three is a groundwater well.  
21 For any of you who have groundwater wells or are familiar  
22 with groundwater wells, they are not known for high  
23 suspended solids concentrations.

24 For any of you who have heard me testify as to

1 what discharges to the storm pond, utility pond, what  
2 you've heard me state and what is true is that blower  
3 blowdown discharges there, cooling tower blowdown  
4 discharges there, the reject from demineralization  
5 discharges there, potentially contact storm water  
6 discharges there; and, once there, it is held in a pond  
7 that is not mixed.

8           In that pond, solids have an opportunity to  
9 settle. This -- if you look at the streams that I've  
10 described, blower blowdown, those -- anyone who knows much  
11 about blower blowdown streams will recognize that those  
12 have low TSS concentrations. Cooling tower blowdown;  
13 anyone who's familiar with cooling tower blowdown streams  
14 will recognize that those are not high in suspended solids  
15 concentrations. Typically, in cooling towers, one often  
16 adds an algicide to control algae, but thus also controls  
17 TSS.

18           Next, demineralization blowdown. Those --  
19 what goes to a demineralizer in the Henry plant's case is  
20 water that has already undergone solid separation, and so  
21 what gets blown down from there are streams that routinely  
22 would not have a high suspended solids concentration.

23           Storm water. The majority of the Henry plant  
24 property -- as a matter of fact, all that I can recall --

1 is graveled. The suspended solids in the storm water,  
2 potentially contact storm water, would have a low  
3 suspended solids concentration.

4           However, even in the exhibit submitted to the  
5 Board yesterday, the total flow going into the pond is  
6 equal to the flow -- was equal -- over an average period  
7 of time equal to the water coming out of the pond, and  
8 that value listed was 100 gallons per minute. You'll see  
9 that. You'll also see that the well number three  
10 contributed 10 gallons per minute. Even if -- and it does  
11 not -- but even if all of those waters contained 950  
12 milligrams per liter of TSS which, mind you, is extremely  
13 high, it would produce a total pounds per day no larger  
14 than 25 percent of the population equivalent number  
15 presented on page 13 of my testimony.

16           I am confident and certain that the TSS  
17 population equivalent presented in my testimony on page 13  
18 and qualified in my testimony on page 12 is within 25  
19 percent of the true value. Population -- the population  
20 equivalent that I calculated based on TSS is 24,955. If I  
21 were off -- and I certainly don't believe I am -- but if I  
22 were off 25 percent, the revised population equivalent  
23 would be essentially 31,000, which is significantly lower  
24 than 50,000.

1           I concede that in calculating this population  
2 equivalent that I did neglect some things; I recognized it  
3 in my written testimony, and I've offered further  
4 explanation as to why I believe that my testimony is  
5 valid, that I am not off by any more than 25 percent.

6           Q.    Thank you.

7           Secondly, there was testimony by Mr. Pinneo  
8 about the -- evaluating or asking an evaluation be done of  
9 the use of granulated -- granulated-activated carbon as a  
10 treatment for ammonia at the Henry plant. I recall you  
11 testified -- and I think it was a question from Mr. Melas  
12 about powdered-activated carbon.

13           Would you please tell us whether, in your  
14 view, granulated-activated carbon is a feasible  
15 alternative for the removal of ammonia at this facility?

16           A.    Yes, I'd be glad to. In order that -- I'm  
17 going to -- before one can answer that question, one has  
18 to understand the characteristics of the wastewater which  
19 would be subjected to granular-activated carbon. The  
20 primary inhibitor that we've -- you've heard testified  
21 about, MBT, is prevalent in the polymer chemicals  
22 wastewaters; so, if one wants to capture the MBT for  
23 removal, one needs to treat the polymer chemicals waste  
24 stream.

1           To get an idea as to the characteristics of  
2 the polymer chemical waste stream, one would want to refer  
3 to Exhibit 11, table 1, and page 12 of my written  
4 testimony.

5           When one refers to those documents, what you  
6 will find is that this waste stream has a flow rate of  
7 approximately 107 gallons per minute. It has a COD  
8 concentration of approximately 6,440 milligrams per liter,  
9 a BOD concentration of approximately 1,930 milligrams per  
10 liter, and a total suspended solids concentration of  
11 approximately 900 milligrams per liter. And I believe  
12 you've heard testified to that the pH of that wastewater  
13 is typically 9 or greater.

14           What you will find in my written testimony,  
15 also on page 18, is that we did, in fact, find that we  
16 could achieve single-stage nitrification, at least in our  
17 batch treatability testing, by adding a powdered-activated  
18 carbon dose of 5,000 milligrams per liter. Based on the  
19 flow that we would be adding that to, it would be about 17  
20 tons a day of carbon.

21           I will agree that granular-activated carbon  
22 would be more efficient in its removal than  
23 powdered-activated carbon. It may be anywhere to -- you  
24 may require half as much or maybe a fifth as much,

1 depending on how these compounds absorb and the  
2 preferentialness of it and the driving force behind it.

3           With that said, there would still be a carbon  
4 dose of somewhere between 3-1/2 and 8-1/2 tons per day if  
5 you could get this to work.

6           Now, besides the high use of carbon, what are  
7 the problems associated with trying to use it? First, the  
8 total suspended solids concentration is 900 milligrams per  
9 liter. That cannot be applied to a carbon column if one  
10 wants it to last more than a few minutes. And so, what  
11 you would have to do would be to put in a solid separation  
12 step. The solid separation step, when starting with 900  
13 milligrams per liter of total suspended solids, would  
14 include -- most likely would include a gravity solids  
15 separation step like a clarifier or an incline plate  
16 clarifier; however, that would not most likely -- maybe  
17 with polymer addition you could get there, but then you  
18 would still need to make sure that the suspended solids  
19 going into the granular-activated carbon column, even if  
20 it were backwashable, were in the order of 10 milligrams  
21 per liter or less, and so you would likely follow this  
22 gravity separation step by a filtration step prior to  
23 going to the carbon column. Then you would go to the  
24 carbon column. Now, that would solve the TSS predicament.

1           The other two problems associated, though,  
2 would be one of scaling. This water is high in salt  
3 content, and at the -- if you will, what one would need to  
4 do to prevent scaling is one would need to either add an  
5 anti-scalant and hopefully pick one that isn't carbon  
6 absorbable, which would be difficult in and of itself, or  
7 one could adjust the pH of this wastewater such that you  
8 did not have things precipitating out on the carbon and  
9 tying up the absorption sites.

10           The other problem that you would have is this  
11 does have a BOD of 1900 milligrams per liter. And recall  
12 that even though the PC tank does, in fact, have  
13 inhibitors present in it, such as MBT, it also has readily  
14 degradable compounds like tertiary butyl alcohol. Those  
15 compounds, when placed on a fixed bed or a fixed media  
16 reactor in many cases would behave like a fixed bed or  
17 fixed media bioreactor, and you couldn't help but grow  
18 slime and biomass on this carbon. And so even though you  
19 went to the great extent to pull the TSS out, to keep it  
20 from fouling from TSS, and even if you went to the extent  
21 of adding an anti-scalant to keep scale from forming, you  
22 would still have biofouling of the carbon column most  
23 likely.

24           And so those are the reasons that, candidly,

1 we didn't pursue looking at granular-activated carbon as a  
2 solution here -- the high use, the high TSS, the scaling  
3 potential, and the biofouling potential.

4 Q. Just to give us an idea of the amount, do you  
5 have an idea of the quantity, the amount of  
6 granulated-activated carbon that may be necessary; you  
7 know, is it -- what is it?

8 A. A -- it's -- it would probably be about --  
9 even if the granular-activated carbon were twice as  
10 effective as the powdered-activated carbon, we would be  
11 using about 8-1/2 tons a day. And 8-1/2 tons a day times  
12 7 days a week is 59-1/2 tons a week, times 2,000 pounds  
13 per ton, is 119,000 pounds of carbon a week. And a  
14 railcar, even your large ones, can take about 185,000  
15 pounds of weight. So, we would be using about -- we would  
16 be using about 64 percent, by weight, of a railcar per  
17 week.

18 Q. Thank you.

19 Lastly, there was some testimony -- or I  
20 asked, I think, Mr. Pinneo whether ammonia-nitrogen was  
21 being removed to some degree by the existing facility,  
22 existing treatment plant. Is it?

23 A. Yes, it is. And I'd like to again refer to  
24 Exhibit 11. If you -- in Exhibit 11, based on the



1 waste -- on the waste load data that we had, the average  
2 combined BOD loading was 3,690 pounds per day. This is in  
3 table 1 of Exhibit 11.

4           When that is divided by the total flow of 560  
5 gallons per minute, one would calculate a BOD  
6 concentration of 548 milligrams per liter. What we know  
7 is for the BF Goodrich Henry plant that typically operates  
8 at a mean cell residence time of 20 days or longer that  
9 the ammonia removed per pound of BOD removed is about --  
10 some people say 100 to 5 to 1, and that's great for a low  
11 mean cell residence time. But as the mean cell residence  
12 time gets longer, there's less ammonia required.

13           And so for the -- a mean cell residence time  
14 that the Henry plant operates, approximately .04 pounds of  
15 ammonia as nitrogen would be removed per pound of BOD  
16 removed. And so, we would be removing approximately 20  
17 milligrams per liter of ammonia due to BOD removal in the  
18 Henry plant.

19           Another way to express that is if the Henry  
20 plant did not remove any BOD and only hydrolyzed or, or  
21 biohydrolyzed the TK into ammonia, if we were not removing  
22 any BOD at the Henry plant, our effluent ammonia  
23 concentration would be about 20 milligrams per liter  
24 higher.

1 MR. KISSEL: Thank you. That's all I have.

2 CROSS-EXAMINATION

3 BY MS. WILLIAMS:

4 Q. I just have, I think, two quick questions. I  
5 got lost a little bit there going from exhibit this to  
6 that.

7 A. Okay.

8 Q. And -- but I think I'm hitting my brain  
9 capacity anyway, so --

10 Isn't it true in all these PE calculations for  
11 total suspended solids -- or in any PE calculation, I  
12 guess, you need to convert the concentration to pounds per  
13 day -- the first step is to convert the concentration?

14 A. Yes, that is true.

15 Q. And to do that, you use a flow rate, correct?

16 A. That is true.

17 Q. So, to the extent the flow rate was different,  
18 the total pounds per day would be different, right?

19 A. That is true.

20 Q. Okay. And I believe it's your testimony that  
21 it's your opinion that your PE value of 24,955 for TSS  
22 could be off by no more than 25 percent?

23 A. Yes.

24 Q. And I think you testified that was somewhere

1 over 31,000 PE?

2 A. Approximately 31,000 PE.

3 Q. Okay. But isn't it true, Mr. Flippin, that  
4 yesterday in Exhibit 14 you also calculated a TSS PE value  
5 of over 41,000 PE; yes or no?

6 A. Based on 1983 data gathered.

7 MS. WILLIAMS: That's all I have. Thank you.

8 MR. KISSEL: I'm done.

9 HEARING OFFICER HALLORAN: Turn it over to the  
10 technical unit. Mr. Rao, Miss Liu?

11 MS. LIU: Mr. Flippin, yesterday Linda Shaw  
12 and Guy Davids testified that there were other companies  
13 in the United States that manufactured products similar to  
14 what the Noveon-Henry plant does, and I was wondering in  
15 your very extensive research of the treatment  
16 alternatives, did you happen to look at what those other  
17 companies do to treat their wastewater?

18 THE WITNESS: I did not.

19 MS. LIU: If we were to look at the multiport  
20 diffuser as one part of the solution in this case, would  
21 there be a treatment technology that could supplement that  
22 without necessarily going as far as you have done in your  
23 design to achieve full compliance, to instead look at them  
24 side by side, working together to achieve the water

1 quality standard?

2 THE WITNESS: If, if, if Section 301.122 did  
3 apply, and if the Henry plant needed to remove ammonia to  
4 comply with the water quality standards, I do not believe  
5 it would be needed to comply with A or B in that part.

6 There are treatment technologies that we've  
7 discussed that are fully -- that can be implemented on a  
8 incremental basis, if you will.

9 MS. LIU: Would it be more technically  
10 feasible or economically reasonable to do it that way?

11 THE WITNESS: We attempted to, to address that  
12 question in Exhibit --

13 MR. KISSEL: Exhibit 12, is it?

14 THE WITNESS: It's the one related to  
15 incremental costs.

16 MR. KISSEL: I think that's 12. Exhibit  
17 Number 12.

18 THE WITNESS: We -- what we did there is in  
19 Exhibit 12, we looked at increments of removal and  
20 increments of present worth cost. And so we did -- to  
21 address your question, we did look at what it would cost  
22 if we were to provide incremental removals rather than the  
23 complete removal. And so the cost for that is in  
24 Exhibit 12, and the same reliability issues and pros and

1 cons, if you will, lists prepared as Exhibit --

2 Which exhibit is that?

3 MS. DEELY: Is that the comparison of costs  
4 and removal?

5 THE WITNESS: It's the comparison --

6 MS. DEELY: Exhibit 13.

7 THE WITNESS: Exhibit 13. Does that have the  
8 pros and cons at the back of it?

9 MR. KISSEL: Yes.

10 THE WITNESS: Yes. So, Exhibit 11, it was --  
11 Exhibit 12, I apologize, was our attempt to look at the  
12 incremental costs of providing incremental treatment.

13 And then Exhibit 13 was the same rating of  
14 reliability and pros and cons for those treatments would  
15 apply in an incremental matter as they did in the complete  
16 matter.

17 So, to answer your question, yes, we did look  
18 at incremental treatment.

19 Did I -- did I answer your question?

20 MS. LIU: I was hoping you would give me that  
21 silver bullet we were looking for. Thank you very much.

22 THE WITNESS: Okay. Thank you.

23 HEARING OFFICER HALLORAN: Thank you. Any  
24 follow-up, Mr. Kissel?

1 MR. KISSEL: None.

2 HEARING OFFICER HALLORAN: Ms. Williams?

3 MS. WILLIAMS: (Counsel shakes head.)

4 HEARING OFFICER HALLORAN: You may step down,  
5 Mr. Flippin. Thank you very much.

6 MR. KISSEL: That's all we have on rebuttal.

7 HEARING OFFICER HALLORAN: Okay. I do want  
8 to, before you rest on rebuttal, I just want to address  
9 the question regarding the introduction of -- I believe it  
10 was comparable municipalities, and you stated you may be  
11 open to extended discovery?

12 MR. KISSEL: No, that's -- we're fine. We  
13 don't have to deal with that.

14 HEARING OFFICER HALLORAN: Okay. Thank you  
15 very much. So, you rest.

16 Any members of the public would like to give  
17 public comment or statement?

18 You indicated earlier you just wanted to do  
19 public comment.

20 MR. HERMANN: Yeah. Yeah.

21 HEARING OFFICER HALLORAN: Just state your  
22 name for the court reporter, please.

23 MR. HERMANN: Yes. My name is Doug Hermann.  
24 I'm a principal at and vice president at STS Consultants,

1 and I have sat through most of the testimony for this  
2 hearing and the permit appeal hearing starting back on  
3 Tuesday earlier this week.

4 My participation has been at the request of my  
5 client, Illinois River Holdings, whose president is Kenin  
6 Edwards. He owns 118 acres of property about 400 to maybe  
7 500 feet -- or that's my best estimate, at least -- which  
8 is downstream of the combined Noveon and City of Henry  
9 outfall or, as I understand it, the single-port diffuser.

10 The Illinois River Holdings property also  
11 includes part of the river bottom, I think, to  
12 approximately the center of the river or the channel. The  
13 underwater river bottom area is about 10 acres in size  
14 overall, as we can estimate anyway; of course, that varies  
15 with river stage and other things as well.

16 Illinois River Holdings and its development  
17 team, of which I am a part, are planning an off-channel  
18 port development with barge fleetings with the guidance of  
19 the local and recently formed Port Authority on the river,  
20 and also the U.S. Corps of Engineers. We've had them out  
21 there to look at our development and actually have made  
22 plans around that development. This port will initially  
23 serve the shipping needs of the excavation of the port  
24 which will be off channel and the materials associated

1 with that, and also a proposed nearby mine which will be  
2 operated as a permitted sand and gravel mine. Both sites  
3 will actually mine gravel, but we'll be actually making a  
4 port by the mining activity at the location nearest the  
5 river.

6                   When the port is excavated, it will also  
7 support shipping other commodities, we believe, as well as  
8 for local industry that would be local to the area and  
9 Marshall County.

10                   I have with me today, because we are in the  
11 process of a zoning and permitting process for this  
12 project, what has been part of exhibits for presentations  
13 in a -- the zoning effort for a special use permit as is  
14 required to conduct and complete this project. This  
15 effort began back in October 2003, and I think the first  
16 hearing on this matter was in November. I wasn't a part  
17 of that at that time, but later became so and shortly  
18 after that time became so.

19                   I might mention that several million dollars  
20 have already been invested in this economic development  
21 plan for Marshall County, and it's, as I mentioned, in the  
22 process of zoning and permitting.

23                   In listening to the testimony of Mr. Corn as  
24 I've sat here the last few days, and later talking to him



1 after he gave his first testimony, I learned that he was  
2 unaware of our planned port development. And although  
3 many of the Noveon and, I know, PolyOne staff people are  
4 aware of our local zoning efforts, he apparently had not  
5 been brought up to speed. Of course, that became of some  
6 concern because this plume has the potential to reach the,  
7 the property location of Illinois River Holdings, as I  
8 understand it from the testimony that's been given.

9           As I understand Mr. Corn's testimony, it  
10 appears that the existing single-port diffuser is  
11 performing in a manner causing about a 20:1 ratio in that  
12 100-foot downstream location, maybe a 100:1 ratio of  
13 dilution up to maybe 850 feet downstream. Of course, the  
14 850 feet would probably begin to encroach for sure on our  
15 property and where there would be a mouth to this port or  
16 a port opening to the river.

17           With the Illinois River Holdings property  
18 located only about 500 feet downstream from the existing  
19 Noveon diffuser, the Illinois River Holdings wants to be  
20 sure -- for sure that there will be no aquatic toxicity  
21 problems in the Illinois River Holdings' property and, for  
22 that matter, in the port development.

23           Based on Mr. Corn's testimony, it sounds like  
24 a multiport diffuser will perform better and maybe even a

1 high-pressure diffuser would perform better yet to  
2 accomplish that objective. There's obviously some  
3 controversy about this, and I'm not here to sort out the  
4 controversy for the Board, but we certainly want to be  
5 sure that that port is protected by, by what might happen  
6 with water quality.

7           After learning that Mr. Corn was unaware of  
8 our port development, we encouraged the Board to determine  
9 whether or not the port development will impact any of his  
10 findings and conclusions. After the close of the  
11 proceedings on Tuesday, Wednesday, I approached the Noveon  
12 One -- the Noveon and PolyOne staff just to help  
13 coordinate the dissemination of information from us to  
14 them to the extent that that's important related to this.  
15 And if he needs anything from us in terms of the way of  
16 information or data or anything, we certainly want to  
17 supply that information as well.

18           I believe that neither Illinois River Holdings  
19 nor Noveon desire to have any problems with aquatic  
20 toxicity in this area; that's obviously the case through  
21 listening to the hearing. But we certainly don't want it  
22 to happen in our off-channel port as well. We're  
23 concerned about that.

24           I should also mention that the off-channel

1 ports are being planned by Illinois River Holdings and  
2 also Ozinga Brothers in the Lacon area further downstream.  
3 As we understand it, this is quite far downstream and  
4 probably not a cause for concern. I thought I heard that  
5 full mixing was accomplished about -- up to about a  
6 10-mile distance downstream. These other two ports are  
7 actually on the other side of the river, so maybe that's  
8 irrelevant to this situation.

9           On the issue of whether more treatment for  
10 ammonia removal is needed to protect the Illinois River  
11 quality, we encourage the Board to consider the technical  
12 science presented here by Noveon and the IEPA, as well as  
13 the economic costs to protect the river quality consistent  
14 with IPCB case law and things that they have done over the  
15 years. We understand that these are hard decisions, and  
16 we encourage them to consider all the facts of this case  
17 in making its decision. We have personally observed the  
18 Pollution Control Board do this many times in the past, so  
19 our confidence is certainly with them.

20           In considering the treatment alternatives  
21 investigated by Noveon, the Board should be aware that  
22 off-gas treatment which is -- was for -- was happening or  
23 not happening with some of the selected alternatives -- I  
24 know they talked about dealing with the off-gas in some

1 and not in others. We think it's important for the Board  
2 to know that the local aquifer is widely contaminated with  
3 nitrate; and for that reason, you know, anything that  
4 would maybe further contribute to that should be  
5 considered. So, off-gas treatment would appear to be very  
6 important here to protect the local aquifer. And we would  
7 encourage them to -- in our own studies, we've learned  
8 about this contamination, and I think it's also widely  
9 known in the area, region.

10 I will close my comments and summarize.  
11 Illinois River Holdings has an interest to cooperate and  
12 assist where needed with our own development plan, which  
13 is a railroad and marine port in Marshall County. Based  
14 on the testimony in this hearing, it sounds like the  
15 multiport and particularly the high-pressure diffuser and  
16 maybe even the single-port diffuser are all workable  
17 solutions potentially for what's been presented. And  
18 certainly if that is not the case, we ask that the Noveon  
19 experts devise a combined strategy of treatment and  
20 diffusers that will work because we obviously are  
21 concerned about that.

22 For the regional conditions which exist on the  
23 river, we trust that the Board will weigh the technical  
24 and economic evidence in this case as it relates to

1 protecting water quality, the local businesses, and  
2 certainly the local jobs which are all so important to  
3 downstate Illinois and the Marshall County economy. This  
4 probably means understanding what the EPA waste load  
5 allocation may be and what the financial and economic  
6 resources may be available from Noveon. We understand all  
7 these things, but again, we trust that the Board will be  
8 able to help deal with that.

9 I might mention just in closing, that although  
10 we were given the written testimony yesterday as it was  
11 handed out and presented, no exhibits were attached. We  
12 do intend to get those from the Pollution Control Board  
13 office in Chicago as we are directed to. We may have some  
14 written comment to follow up after that, but at this  
15 point, until I really see that, I think I have a pretty  
16 good understanding of what that situation is, so those are  
17 my comments.

18 I do have with me actually a packet of  
19 information that I will give to the --

20 HEARING OFFICER HALLORAN: Hearing officer.

21 MR. HERMANN: -- hearing officer here which I  
22 might mention that page eight of that probably gives the  
23 best kind of layout and depiction of the port location as  
24 it is.

1           I might mention that the opening to the river  
2 has been discussed. With respect to some wetlands issues  
3 and other issues that do exist on the river, that we're  
4 trying to compromise this port opening to the river, so --

5           HEARING OFFICER HALLORAN: What is your name  
6 again, sir?

7           MR. HERMANN: My name is Doug Hermann.

8           HEARING OFFICER HALLORAN: I will take it with  
9 the case as Public Comment Number 1, and it will be read  
10 in conjunction with your public comment made here today.

11          MR. HERMANN: Okay.

12          HEARING OFFICER HALLORAN: Okay. Anybody else  
13 like to give a comment or statement?

14          All right. Before we go off the record and  
15 talk about a briefing schedule, I'm still waiting for an  
16 answer regarding Petitioner's Exhibit Number 11.

17          We have admitted that, and I think we were  
18 going to hold off until now regarding the data to support  
19 table 1 and how long it will take Petitioner to file that  
20 with the Board, is what I recall.

21          MS. DEELY: I don't think we've addressed  
22 that.

23          HEARING OFFICER HALLORAN: No, we haven't. It  
24 keeps getting put off.

1 MS. DEELY: No, I think the last time we  
2 addressed it, we just said we would go back and revisit  
3 the data.

4 HEARING OFFICER HALLORAN: When I said  
5 revisit, I assumed today before the record closes.

6 MS. DEELY: I don't -- okay.

7 HEARING OFFICER HALLORAN: I just threw that  
8 out there and said it would be revisited. I assumed it  
9 would be today and not at some later date, but that's --  
10 that was my understanding, and I guess I'm incorrect once  
11 again.

12 Well, with that said, because we do have to  
13 talk about -- yes, sir, Mr. Kissel?

14 MR. KISSEL: Yes, sir. One thing that just --  
15 when we dealt with the transcript of our 91-17 and we  
16 offered as a compromise -- not a compromise, but another  
17 alternative, the testimony with regard to -- which we  
18 redacted and which was reviewed.

19 I would like to make sure that the record  
20 shows in this case that we have made a -- would show an  
21 offer of proof of the entire transcript, including the  
22 testimony on Tuesday.

23 HEARING OFFICER HALLORAN: You would like the  
24 record to show that you've --

1                   MR. KISSEL: The offer of proof is for the  
2                   entire transcript of our 91-17.

3                   HEARING OFFICER HALLORAN: Okay. I don't have  
4                   the entire transcript, correct?

5                   MS. DEELY: That was --

6                   HEARING OFFICER HALLORAN: I just have the  
7                   redacted part?

8                   MR. KISSEL: You have the redacted part, and  
9                   part of the transcript hasn't been transcribed yet.

10                  HEARING OFFICER HALLORAN: Okay. Okay. I  
11                  thought -- okay. The record will so note it as an offer  
12                  of proof.

13                  MR. KISSEL: Thank you.

14                  HEARING OFFICER HALLORAN: Okay. So, I guess  
15                  we're going to revisit this supporting data sometime.

16                  What about February 24th at 10:30 because we  
17                  still have to talk about a waiver regarding a telephonic  
18                  status conference, and we can talk about the supporting  
19                  data at that time.

20                  MS. WILLIAMS: I'm not in the office that day.  
21                  I'm out of the office all next week except Friday.

22                  HEARING OFFICER HALLORAN: I'm out of the  
23                  office on Friday.

24                  MS. WILLIAMS: That's fine with me if we wait



1 until the following week.

2 MR. LATHAM: Hearing Officer, we've consulted  
3 with Mr. Houston Flippin; and if he's allowed two weeks, I  
4 think he can get you the back-up data as well as for the  
5 Board and the Agency, so --

6 HEARING OFFICER HALLORAN: Okay. Well --

7 MR. LATHAM: -- we don't need to have a  
8 special call just for that.

9 HEARING OFFICER HALLORAN: We can still  
10 revisit it. What about -- because I am concerned about  
11 the waiver, and as soon as we get a telephonic status  
12 conference in --

13 MR. LATHAM: I'll submit a waiver tomorrow.

14 HEARING OFFICER HALLORAN: Well, I don't  
15 know --

16 Mr. Rao, do you have a schedule of the Board  
17 meetings? That's what we were hung up with because I  
18 don't know how much -- as far as the briefing schedule we  
19 have in the permit appeal, the record closes June 30th.  
20 And the Board, based on the complexity, although a permit  
21 appeal, they need at least 30, 45 days, something like  
22 that so we have to kick it out that way. But that's why I  
23 wanted to take it up at the telephone status conference.  
24 What's --

1 MR. KISSEL: That's fine.

2 HEARING OFFICER HALLORAN: What's everybody's  
3 schedule look like for March -- geez, March 2nd?

4 MS. WILLIAMS: I'm open all day.

5 HEARING OFFICER HALLORAN: Mr. Latham?

6 MR. LATHAM: I'm out of town, but, Sheila, are  
7 you available?

8 MS. DEELY: Yes, I'm available.

9 HEARING OFFICER HALLORAN: Let's shoot for 10  
10 a.m. And we'll talk about the data and the waiver, what  
11 kind of time we need, based on the briefing schedule.

12 MS. DEELY: Okay.

13 HEARING OFFICER HALLORAN: Before I forget,  
14 based on my legal experience, judgment and observation, I  
15 find that there are no credibility issues with the  
16 witnesses that testified here today.

17 All right. Let's go off the record briefly  
18 and talk about a briefing schedule.

19 (A discussion was held off the record.)

20 HEARING OFFICER HALLORAN: All right. We're  
21 back on the record. We've talked about a briefing  
22 schedule, and here is what we have come up with: The  
23 petitioner's brief in the adjusted standard is due  
24 April 29th. The IEPA's brief is due June 15th. Noveon's

1 reply, if any, is due July 14th. Public comment, I'm  
2 setting a due date for March 22nd. And the mailbox rule  
3 will apply to this.

4 Other than that, I think we did set a  
5 telephonic status conference in the permit appeal matter  
6 for March 2nd at 10 a.m.

7 Before I forget again, I do want to thank the  
8 Honorable Gina Noeler -- or, excuse me, Noe of the Clerk  
9 of the Circuit Court here for their hospitality.

10 If there's nothing else, thank you very much,  
11 and you have a safe trip home.

12 MR. KISSEL: Thank you.

13 MS. WILLIAMS: Thank you.

14 (Whereupon, the hearing was concluded at 3:01  
15 p.m.)

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1 STATE OF ILLINOIS :  
: SS  
2 COUNTY OF PEORIA :

3  
4

5 WE, GALE G. EVERHART and JENNIFER E. JOHNSON,  
6 CSRs and Notaries Public in and for the County of Peoria  
7 and County of Tazewell, State of Illinois, do hereby  
8 certify that the foregoing transcript of proceedings is  
9 true and correct to the best of our knowledge and belief;

7

8 That we are not related to any of the parties  
9 hereto by blood or marriage, nor shall we benefit by the  
10 outcome of this matter financially or otherwise.

9

10

11 \_\_\_\_\_  
12 GALE G. EVERHART  
13 License #084-004217  
14 CSR, RPR  
15 Notary Public, State of  
16 Illinois at Large

14

My Commission expires April 4, 2005.

15

16

17 \_\_\_\_\_  
18 JENNIFER E. JOHNSON  
19 License #084-003039  
20 CSR, RMR, CRR  
21 Notary Public, State of  
22 Illinois at Large

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My Commission expires May 8, 2005.

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