

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF: )  
 )  
PROPOSED SITE SPECIFIC RULE ) R14-24  
FOR SANITARY DISTRICT OF )  
DECATUR FROM 35 ILL. ADM. ) (Site Specific  
CODE SECTION 302.208(e) ) Rule - Water)

REPORT OF PROCEEDINGS taken before HEARING  
OFFICER TIMOTHY FOX, by Lisa Hahn Peterman, CSR, RMR,  
a notary public within the County of Macon and State  
of Illinois, at the Decatur Civic Center, #1 Gary K.  
Anderson Plaza, Decatur, Illinois, on the 16th day of  
May, 2018, at 8:30 a.m.

BOARD MEMBERS PRESENT:

TIMOTHY FOX, Chairman  
BRENDA CARTER, Board Member  
CYNTHIA SANTOS, Board Member  
ALISA LIU, Technical Unit

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Appearing on behalf of the Sanitary District  
of Decatur.

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1 HEARING OFFICER FOX: Good morning and  
2 welcome to the Illinois Pollution Control Board  
3 Hearing.

4 My name is Tim Fox, and I'm the Hearing  
5 Officer for this Rulemaking, which is entitled  
6 Proposed Site Specific Rule for Sanitary District  
7 of Decatur, from 35 Ill. Adm. Code Section  
8 302.208(e), E as in Edward. The Board's docket  
9 number for this Rulemaking is R14-24.

10 Before we get under way, I do want to  
11 make some introductions of the folks that are here  
12 from the Board.

13 At my immediate right is our Board  
14 Member, Cynthia Santos, who is the lead Board  
15 Member for this docket, and at her right is Board  
16 Member, Brenda Carter. At my left, present from  
17 the Board's Technical Unit, is Alisa Liu.

18 This hearing today is governed by the  
19 Board's Procedural Rules. All information that is  
20 relevant and that is not repetitious or privileged  
21 will be admitted into the record.

22 Please bear in mind that any questions  
23 that are posed by the Board, the Board Members, or  
24 the Board Staff, are designed and intended solely

1 to complete a record and to clarify the record and  
2 don't reflect any decision on either the proposal  
3 or the testimony or any of the other questions that  
4 are raised today.

5 For the sake of our court reporter, I  
6 would ask you to do a couple of things, please. I  
7 think we'll be fine without relying on microphones,  
8 but if you could be conscious of your volume so  
9 that she can hear you easily and accurately, that  
10 would be great.

11 Also, if the first time you speak or  
12 pose a question, you would identify yourselves and  
13 provide her with a spelling of your surname, I know  
14 that would be helpful for her in preparing the  
15 record as well.

16 By way of background, briefly, I do  
17 want to review very fast that the Sanitary District  
18 of Decatur filed its Amended Rulemaking Proposal  
19 with the Board on November 30th of 2017. The Board  
20 published Notice of this hearing on March 2nd of  
21 2018 in the Herald & Review of Decatur.

22 On February 28th, the Hearing Officer  
23 directed participants intending to testify at this  
24 hearing to prefile testimony by April 25th, and on

1 that date the Board received Prefiled Testimony on  
2 behalf of the Sanitary District of Decatur from six  
3 witnesses: Kent Newton, Timothy Kluge, Allison  
4 Cardwell, Robert Santore, Paul Bloom, and Robert  
5 Colombo, and no other participants or other  
6 witnesses have prefiled their testimony for this  
7 hearing today.

8           Although I had intended, as I reflected  
9 in my Hearing Officer Order, to begin today with  
10 the Prefiled Testimony, we do have one gentleman  
11 who has indicated that he would like to offer a  
12 public comment on the Sanitary District's Proposal.  
13 The gentleman's name is Ryan McCrady of the  
14 Economic Development Corporation, and in discussing  
15 briefly our order of hearing before we went on the  
16 record, we'll have Mr. McCrady step forward so that  
17 he -- in a moment -- step forward so that he can  
18 quickly offer a public comment. Then we will turn  
19 to the Sanitary District's Prefiled Testimony.

20           The Board's Procedural Rules again  
21 provide that the Prefiled Testimony is entered into  
22 the record as if it is read. However, if the  
23 Sanitary District wishes to offer an introduction  
24 or summary or other brief remarks, we can certainly

1 have them do that.

2 We will then turn to the questions for  
3 the Sanitary District's witnesses. The Board has  
4 prepared some questions for the Sanitary District's  
5 witnesses, put them in writing and shared them  
6 earlier this morning with the District's witnesses,  
7 and our intent was to at least begin by proceeding  
8 in numerical order through these as they're  
9 organized witness by witness.

10 After running through those questions  
11 and any others that any of the other participants  
12 may wish to ask, we can see whether anyone else  
13 wishes to offer a public comment, and I think in  
14 all likelihood at that point adjourn for the day.

15 Do we have any questions procedurally  
16 before we get under way?

17 Neither seeing nor hearing any,  
18 Mr. McCrady, I appreciate your willingness to step  
19 forward and offer a comment. If you would come  
20 down to the front and begin, we can have you offer  
21 that into the record right away.

22 MR. MCCRADY: Is this okay?

23 HEARING OFFICER FOX: I think the court  
24 reporter will hear you just great from there. That

1 should work.

2 MR. MCCRADY: Great.

3 My name is Ryan McCrady. It's R-Y-A-N,  
4 M-C-C-R-A-D-Y. I'm the President of the Economic  
5 Development Corporation of Decatur-Macon County,  
6 commonly called the EDC.

7 The EDC supports the Amended Petition  
8 for Site Specific Rule filed by the Sanitary  
9 District of Decatur with the Illinois Pollution  
10 Control Board on November 30th, 2017.

11 The EDC feels that the Sanitary  
12 District of Decatur has demonstrated that the site  
13 specific water quality standard it seeks will not  
14 adversely impact the Sangamon River and that  
15 aquatic life will be protected at least as well as  
16 protection offered by the existing general use  
17 chronic water quality standard for nickel.

18 Moreover, we aware of the Sanitary  
19 District's efforts to achieve compliance with the  
20 existing standard, as well as the efforts and  
21 studies undertaken by one of our largest industrial  
22 users, Archer-Daniels-Midland, and the potential  
23 costs associated with those alternatives. We note  
24 that ADM has already spent several millions of

1 dollars to reduce nickel concentrations in its  
2 discharge to the Sanitary District, that there are  
3 no other technically feasible and economically  
4 reasonable treatment options available to allow ADM  
5 to meet the nickel limit proposed by the Sanitary  
6 District for its effluent.

7           The EDC recognizes the valuable  
8 contribution both the Sanitary District and ADM  
9 provide to the local economy and the State of  
10 Illinois and strongly supports the District and  
11 ADM's efforts to continue operating their  
12 facilities in compliance with the Board  
13 regulations.

14           Furthermore, we know that ADM and the  
15 Sanitary District of Decatur have been good  
16 stewards of this community, they fill a significant  
17 social responsibility, and they've been good  
18 stewards of the environment during our time working  
19 with them here in the community.

20           Based on the foregoing, we recommend  
21 and request that the Board adopt the Sanitary  
22 District Site Specific Rule as proposed, and we  
23 appreciate the Board's consideration of our views  
24 and comments.

1 Thank you for allowing me time to speak  
2 this morning.

3 HEARING OFFICER FOX: Mr. McCrady,  
4 thank you for your comments, which, of course, have  
5 been transcribed into the record. We appreciate  
6 your time today.

7 MR. MCCRADY: Thank you.

8 HEARING OFFICER FOX: All right. Is  
9 there anyone else who wishes to offer a public  
10 comment before we move on to testimony and  
11 questions?

12 Neither seeing nor hearing anyone now,  
13 Ms. Hodge, Mr. Houser, I think we are prepared to  
14 move to any introduction or summary that you may  
15 wish to offer.

16 MR. HOUSER: Thank you, Mr. Hearing  
17 Officer, Board Member Santos, Board Member Carter,  
18 Ms. Liu. Good morning.

19 On behalf of the Sanitary District of  
20 Decatur, my name is Josh Houser of HeplerBroom, and  
21 we would like to begin by expressing our  
22 appreciation to the Board and its Staff for the  
23 time taken in reviewing our Proposal for a Site  
24 Specific Water Quality Standard and in scheduling

1 this hearing in Decatur.

2 We would also like to thank the  
3 Illinois EPA and its representatives for the  
4 considerable time spent during the development of  
5 this proposal and in coordinating discussions with  
6 the USEPA to get their input, so that should the  
7 Board adopt our site specific standard, we can all  
8 have comfort that USEPA should approve it  
9 expeditiously.

10 With me here today are a number of the  
11 District's representatives who have worked long and  
12 very diligently on this proposal. Those who are  
13 here to testify include, to my right, second to the  
14 right, Mr. Kent Newton, Executive Director and  
15 Chief Financial Officer of the Sanitary District,  
16 who will speak generally about the District and its  
17 efforts.

18 To his right is Mr. Tim Kluge, former  
19 Technical Director of the Sanitary District, who  
20 has graciously agreed to continue supporting the  
21 District's need for a site specific standard and  
22 will address the District's operations and efforts  
23 at mitigation.

24 Two more down at the very end is

1 Dr. Robert Colombo, Professor in the Department of  
2 Biological Studies at Eastern Illinois University,  
3 who has overseen extensive sampling of the Sangamon  
4 River for water quality and aquatic macro  
5 invertebrate, freshwater, and fish assemblages  
6 upstream and downstream of the District's main  
7 discharge point.

8 Mr. Robert Santore is third from the  
9 end there, partner with Windward Environmental,  
10 LLC, the environmental science and consulting  
11 company that has provided technical support in  
12 developing the District's site specific standard.

13 Let's see. To the right of Mr. Kluge  
14 is Ms. Allison Cardwell, Study Director from Oregon  
15 State University, who performed the detailed  
16 chronic toxicity studies on the Cladoceran  
17 Ceriodaphnia dubia that supported the work of  
18 Mr. Santore and Windward.

19 And, in addition, second from the end  
20 there, we have Dr. Paul Bloom, Vice President,  
21 Process and Chemical Research at  
22 Archer-Daniels-Midland Company here in Decatur,  
23 Illinois. He's here today and will provide  
24 testimony on ADM's diligent efforts in studying and

1 reducing nickel from its industrial wastewater  
2 discharge treatment process.

3 All of these individuals have prefiled  
4 their testimony and will be happy to discuss any of  
5 the topics addressed in their testimony or to  
6 answer any questions you may have.

7 Also, with me today representing the  
8 District, here to my right is Kathy Hodge; behind  
9 me here is Dan Siegfried; and behind me here is  
10 Melissa Brown of our firm.

11 Before we turn to the testimony, I  
12 would like to offer a very high level summary of  
13 why we're here today.

14 The Sanitary District of Decatur treats  
15 wastewater for the City of Decatur, nearby  
16 villages, and industrial and commercial users in  
17 the metropolitan area and discharges its treated  
18 wastewater into the Sangamon River. The District  
19 has an NPDES permit issued by the Illinois EPA that  
20 regulates and authorizes its discharges to the  
21 Sangamon River.

22 So as to comply with the Board's  
23 general use chronic water quality standard for  
24 nickel currently applicable to the Sangamon River,

1 the Illinois EPA established an effluent limit for  
2 nickel in the District's NPDES permit at 0.015  
3 milligrams per liter measured as a monthly average.  
4 Unfortunately, for various reasons, the District  
5 has been and is unable to comply on a consistent  
6 basis with this discharge limit, and in an effort  
7 to maintain compliance with its permit and  
8 regulatory requirements, the District has explored  
9 numerous alternative compliance options.

10 In June 2009, the District petitioned  
11 the Board for a variance that would authorize  
12 continued discharges of nickel from the District's  
13 Main Plant into the Sangamon River while it  
14 explored these other options.

15 In January 2010, the Board granted the  
16 District's requested variance until July 12, 2014,  
17 subject to numerous conditions and a schedule for  
18 completing various tasks.

19 In February 2014, the District  
20 petitioned the Board for a one-year variance  
21 extension to allow it additional time to continue  
22 its investigation. In support of its request, the  
23 District noted that it had been actively  
24 collaborating with the Illinois EPA and USEPA in

1 the development of a site specific water quality  
2 standard for nickel, based on the Biotic Ligand  
3 Model, or BLM, adjustment to the nickel criterion.

4 In March 2014, the Board accepted the  
5 District's Petition for Extension and assigned a  
6 hearing officer to the proceeding.

7 Thereafter, based on continuing  
8 discussions with the Illinois EPA and USEPA, the  
9 District filed its original Petition for Site  
10 Specific Ruling in June 2014 and moved for a series  
11 of stays of the variance extension, which the Board  
12 granted, subject to the requirement to submit  
13 status reports.

14 On February 24, 2017, Public Act 99-937  
15 was signed into law. This legislation created  
16 Section 38.5 of the Illinois Environmental  
17 Protection Act, which provides the Board with  
18 authority to adopt time-limited water quality  
19 standards. Pursuant to Section 38.5(c) of the Act,  
20 the District's pending variance petition in PCB No.  
21 14-111 was converted by operation of law into a  
22 Petition for a Time-Limited Water Quality Standard.  
23 The current status of that proceeding is that the  
24 District has until December 31st, 2018, to file a

1 substantially compliant time-limited water quality  
2 standard petition, should it be needed, if this  
3 site specific rulemaking does not succeed.

4 In light of that procedural background  
5 and after several years of study and detailed  
6 scientific testing, the best option that brings us  
7 here today is the District's Proposal of a Site  
8 Specific Water Quality Standard for Nickel in the  
9 particular area near the District's discharge from  
10 its Main Plant.

11 It is important to note that with this  
12 site specific proposal, the District is not asking  
13 the Board for the ability to discharge nickel in  
14 amounts greater than the past discharges. Instead,  
15 the District is simply asking for a site specific  
16 rule that takes into account the factors set forth  
17 in Section 27(a) of the Illinois Environmental  
18 Protection Act, including the technical feasibility  
19 and economic reasonableness of future reductions of  
20 nickel in the District's discharges to the Sangamon  
21 River.

22 Prior to, and since the time of its  
23 original proposal for site specific rule in June  
24 2014, the District has engaged in ongoing, detailed

1 discussions with the Illinois EPA, USEPA, and ADM,  
2 in particular, to refine the original proposal and  
3 answer Illinois EPA's and USEPA's technical and  
4 testing questions along the way.

5           The professors at Eastern Illinois  
6 University, including Dr. Colombo, have been  
7 engaged for approximately 20 years to conduct  
8 thorough biotic and ecological evaluations of the  
9 Sangamon River in the area of the Main Plant.

10           Mr. Santore of Windward and  
11 Ms. Cardwell of Oregon State, based on their  
12 particular expertise in these matters, were brought  
13 in to evaluate with fine precision what would be an  
14 environmentally acceptable revision to the chronic  
15 water quality standard for nickel based on the  
16 specific conditions of the Sangamon River at this  
17 location. Testing was performed to evaluate the  
18 toxicity on representative species, and protective  
19 levels of nickel discharge were identified based on  
20 the specifics of this area of the Sangamon River.

21           All of this testing and consultation  
22 with the Illinois EPA and USEPA culminated in the  
23 District's filing of its Amended Petition for Site  
24 Specific Rule on November 30, 2017. Consultation

1 with the agencies has continued, and the District  
2 made a number of updates to its calculations and  
3 supplemented the record on April 20, 2018, with the  
4 filing of its Motion to File Revised Exhibits 14  
5 and 28, New Exhibits 45 and 46, Revised Exhibit  
6 List, and Minor Revision to Proposed Subsection  
7 303.410. The Board granted this motion on April  
8 25, 2018.

9 The end result of all of this analysis,  
10 study, and effort is a proposed site specific  
11 chronic water quality standard for this particular  
12 location that is slightly higher than the Board's  
13 general use standard, but is still very much below  
14 USEPA's national recommended standard for nickel  
15 and those of other nearby states.

16 Specifically on this point and to  
17 provide the Board with broader context, the  
18 District's current NPDES permit limit is 0.015  
19 milligrams per liter. If the site specific  
20 proposal is granted, it would lead to an  
21 anticipated NPDES permit limit of 0.0382 milligrams  
22 per liter.

23 If we were to apply the USEPA's  
24 national recommended chronic water quality standard

1 for nickel, the result would be an anticipated  
2 NPDES permit limit of approximately 0.154  
3 milligrams per liter when applying the Sangamon  
4 River's Hardness value of 359 milligrams per liter.  
5 That is roughly ten times higher than the  
6 District's current limit and four times higher than  
7 what the District is requesting here.

8 Iowa's chronic water quality standard  
9 for nickel, at a Hardness of 359 milligrams per  
10 liter, would also result in an anticipated NPDES  
11 permit limit of 0.154 milligrams per liter, and  
12 Indiana's chronic water quality standard for  
13 nickel, at a Hardness of 359 milligrams per liter,  
14 would result in an anticipated NPDES permit limit  
15 of 0.465 milligrams per liter.

16 The details of these calculations and  
17 comparisons are more fully discussed in  
18 Mr. Santore's testimony, but from these various  
19 levels, you get a sense of the national and  
20 regional playing field.

21 Again, in this proceeding, based on  
22 detailed site specific conditions and thorough  
23 assessment of protection to aquatic species, the  
24 District is seeking a revised standard that

1 translates to only 0.0382 milligrams per liter,  
2 which is well below the federal and other state  
3 standards.

4 And finally on the topic of USEPA's  
5 approval following a Board-issued site specific  
6 rule, USEPA's regulations at 40 CFR 131.11 state  
7 that when states adopt water quality standards,  
8 they must be, quote, based on sound, scientific  
9 rationale to protect the designated use, end quote.

10 In addition, 40 CFR 131.6 requires  
11 that, when requesting USEPA approval for a revised  
12 water quality standard, states must submit the,  
13 quote, methods used and analyses conducted to  
14 support water quality standard revisions, end  
15 quote.

16 Based on all of the detailed work of  
17 the District and its consultants in this  
18 proceeding, the Amended Petition, and the exhibits  
19 attached to the Amended Petition, the District is  
20 confident that USEPA will be able to approve this  
21 site specific nickel water quality standard.

22 The supporting documentation clearly  
23 establishes how the water quality standard was  
24 derived and clearly demonstrates that the standard

1 protects the designated use; that is, survival and  
2 propagation of aquatic organisms, consistent with  
3 the regulations previously noted.

4 With that background, Mr. Hearing  
5 Officer, we now move for admission of the Prefiled  
6 Testimony and the exhibits in this matter and  
7 request the Prefiled Testimony be entered as if  
8 read.

9 HEARING OFFICER FOX: Very good.

10 Mr. Houser, did you have copies of that  
11 to admit?

12 MR. HOUSER: I do.

13 HEARING OFFICER FOX: Mr. Houser, I  
14 appreciate your introduction, if only because I had  
15 mispronounced Mr. Santore's name. I will remember  
16 to be correct about that, so I apologize for my  
17 misstatement.

18 More importantly, let me turn to the  
19 motion -- Mr. Houser's motion. I'm going to take  
20 these one by one so that we can clarify by the  
21 record by giving each of these sets of testimony a  
22 unique exhibit number.

23 Did you have any preference in terms of  
24 the order assigned to those?

1 MR. HOUSER: I think just the order --  
2 let me see here.

3 If we can start with Mr. Newton's  
4 testimony, Prefiled Testimony.

5 HEARING OFFICER FOX: Mr. Houser, on  
6 behalf of the Sanitary District of Decatur, has  
7 moved to admit the Prefiled Testimony of Mr. Newton  
8 as Hearing Exhibit Number 1.

9 I do want to clarify before I see if  
10 there's any objections, that when this was filed,  
11 it was placed on the Board's Clerk's Office Online  
12 and has been available there to view by the public  
13 since it was placed there, I believe on April 26th  
14 on the filing date.

15 The motion is to admit Mr. Newton's  
16 Testimony as Hearing Exhibit Number 1. Is there  
17 any objection to that?

18 Neither seeing nor hearing any,  
19 Mr. Houser, we'll admit that as Exhibit Number 1.

20 (Hearing Exhibit Number 1 was  
21 admitted into evidence.)

22 And do you have a preference on the  
23 Exhibit Number 2, the witness whose testimony would  
24 be Number 2?

1 MR. HOUSER: Yes, please. Mr. Kluge.

2 HEARING OFFICER FOX: The motion on  
3 behalf of the Sanitary District of Decatur is to  
4 admit Mr. Kluge's Prefiled Testimony as Hearing  
5 Exhibit Number 2. Is there any objection to the  
6 motion?

7 Neither seeing nor hearing any, the  
8 motion is granted, Mr. Houser, and that will be  
9 marked and admitted as Hearing Exhibit Number  
10 2.

11 (Hearing Exhibit Number 2 was  
12 admitted into evidence.)

13 Does Exhibit Number 3 belong to anyone  
14 in particular in your mind?

15 MR. HOUSER: Yes. Dr. Colombo, please.

16 HEARING OFFICER FOX: Mr. Houser has  
17 moved to admit on behalf of the Sanitary District  
18 of Decatur the Prefiled Testimony of Dr. Robert  
19 Colombo as Hearing Exhibit Number 3. Is there any  
20 response or objection to the motion?

21 Neither seeing nor hearing any,  
22 Mr. Houser, it's admitted as Exhibit number 3.

23 (Hearing Exhibit Number 3 was  
24 admitted into evidence.)

1 Does Number 4 correspond to a  
2 particular witness for you?

3 MR. HOUSER: Yes, Mr. Robert Santore.

4 HEARING OFFICER FOX: Mr. Santore's  
5 testimony, Mr. Houser has moved to admit on behalf  
6 of the Sanitary District of Decatur as Hearing  
7 Exhibit Number 4. Any response or objection?

8 Neither seeing nor hearing any,  
9 Mr. Houser, the motion is granted, and  
10 Mr. Santore's testimony is admitted as Exhibit  
11 Number 4.

12 (Hearing Exhibit Number 4 was  
13 admitted into evidence.)

14 Is Number 5 Ms. Cardwell or Mr. Bloom?

15 MR. HOUSER: Ms. Cardwell.

16 HEARING OFFICER FOX: Mr. Houser has  
17 moved to admit Ms. Cardwell's Prefiled Testimony as  
18 Hearing Exhibit Number 5 for the Sanitary District  
19 of Decatur. Is there any response or objection to  
20 the motion?

21 Neither seeing nor hearing any,  
22 Mr. Houser, the motion is granted, and it is so  
23 admitted.

24 (Hearing Exhibit Number 5 was

1 admitted into evidence.)

2 And the Prefiled Testimony of Dr. Bloom  
3 I will presume you wish to admit as Hearing Exhibit  
4 Number 6. Is there any objection or response to  
5 the motion to do so?

6 Again, neither seeing nor hearing any,  
7 Mr. Houser, that is admitted as Hearing Number 6.

8 (Hearing Exhibit Number 6 was  
9 admitted into evidence.)

10 Did you have any other exhibits you  
11 wished to offer before you got under way?

12 MR. HOUSER: No.

13 HEARING OFFICER FOX: Very good.

14 The Board, however, does -- unusually,  
15 I recognize -- but earlier this morning, the Board  
16 had shared both with counsel for the Sanitary  
17 District of Decatur and the IEPA that is  
18 represented here a written list of questions for  
19 the District's witnesses, and I would move that --  
20 and I supplied, I believe, a number of copies both  
21 to the District and at least one to the Agency. Is  
22 there anyone who didn't receive that that would  
23 wish to have one?

24 I would move to admit the document

1 entitled R14-24, Hearing Questions for Witnesses,  
2 Sanitary District of Decatur, as Hearing Exhibit  
3 Number 7. Is there any objection or response to  
4 admitting that as a hearing exhibit here today?

5 Neither seeing nor hearing any, it will  
6 be so marked and admitted as Hearing Exhibit Number  
7 7.

8 (Hearing Exhibit Number 7 was  
9 admitted into evidence.)

10 I do want to clarify that when we  
11 return to Chicago, we will file that with our  
12 Clerk's Office so that it will appear in the  
13 electronic docket for this case and you will have  
14 access to the verbatim questions that the Board had  
15 prepared and shared with the Sanitary District and  
16 with IEPA, if you have any reason to wish to  
17 consult those, particularly before the hearing  
18 transcript is ready.

19 Mr. Houser, I think we've come to the  
20 point where we can swear in the District's  
21 witnesses. Did you have anything else you wish to  
22 bring up before we get under way?

23 MR. HOUSER: Would it be preferable if  
24 we provide another set of copies of the Prefiled

1 Testimony to the court reporter?

2 HEARING OFFICER FOX: I believe the  
3 court reporter would appreciate that, and if you  
4 have them ready, I think she'd happily accept  
5 those.

6 MR. HOUSER: With that, I agree we're  
7 ready to move on to questions.

8 HEARING OFFICER FOX: Very good.

9 If the court reporter's ready, we can,  
10 I suspect, Mr. Houser, swear them in all at once to  
11 take questions as a panel and do that with one  
12 swearing rather than six.

13 (Sanitary District's witnesses sworn  
14 by the court reporter.)

15 HEARING OFFICER FOX: Mr. Houser, thank  
16 you again, and on behalf of the Board for all of  
17 the District's witnesses, thank you for your  
18 appearance here today. I know that in many cases  
19 there was some significant travel and we appreciate  
20 your willingness to be here and respond to  
21 questions.

22 As I had mentioned earlier, we had  
23 prepared a list, organized witness-by-witness, and  
24 in discussing it with counsel for the District, we

1 roughly agreed, at least, that it made sense to  
2 proceed through them in numerical order.

3 That, Mr. Kluge, would have us begin  
4 with you, of course, and we can do that in a  
5 moment.

6 If there is anyone who would wish to  
7 follow up the Board's questions, please feel free  
8 to raise your hand and let me know that you do have  
9 a question. I would just ask, for the court  
10 reporter, especially the first time that you speak,  
11 if you would identify yourself and any organization  
12 you may represent and provide her with the spelling  
13 of your name, that would help us with the clearest  
14 possible transcript.

15 Board's Questions for Timothy Kluge

16 HEARING OFFICER FOX: Mr. Kluge, I'll  
17 just jump right into question number 1, and it  
18 began with a reference to your Prefiled Testimony  
19 regarding a translator study that had been  
20 performed pursuant to the Board's -- I'm sorry --  
21 to the District's NPDES permit -- that's National  
22 Pollutant Discharge Elimination System permit --  
23 and our first question simply was, if you could  
24 direct us in the record of testimony, exhibits, and

1 amended petition, to the location of the study or  
2 the study results in that record, please.

3 MR. KLUGE: Okay. My last name is  
4 spelled K-L-U-G-E, and I am retired now, but was  
5 formerly the Technical Director for the Sanitary  
6 District.

7 The translator study itself consists of  
8 results of analyses of samples that the District  
9 collected from the Sangamon River and submitted to  
10 the Illinois EPA, and to the best of my knowledge,  
11 that study itself is not currently in the record  
12 but can certainly be provided.

13 HEARING OFFICER FOX: And Mr. Kluge, I  
14 appreciate your willingness to do that. I know  
15 before we adjourn, we'll work out deadlines for the  
16 submission of any written information, so that  
17 through your counsel we can make sure that you have  
18 the amount of time that you need to prepare that.  
19 So thank you for your willingness to do that.

20 Ms. Liu, do you have any questions?

21 MS. LIU: No.

22 HEARING OFFICER FOX: Was there anyone  
23 else here today that had a question based on  
24 Mr. Kluge's comments on the translator study?

1           Mr. Kluge, I can move on to number 2.  
2        Would you provide us with an explanation,  
3        particularly a layperson's explanation, of what  
4        precisely a translator study is and how it can be  
5        used to calculate a new permit limit for nickel  
6        discharges?

7           MR. KLUGE: Yes. The Board's water  
8        quality standard for nickel is given in terms of  
9        dissolved nickel, and the District's NPDES permit  
10       limit is in terms of total nickel. The purpose of  
11       the translator study is to obtain site specific  
12       data on what portion of the nickel in the  
13       District's discharge is dissolved versus associated  
14       with suspended material, and the Illinois EPA  
15       reviews that sampling data from the District and  
16       determines the translator value.

17           HEARING OFFICER FOX: Very good. Thank  
18        you, Mr. Kluge.

19           Was there anyone who had any follow-up  
20        questions, based on Mr. Kluge's response to number  
21        2?

22           Neither seeing nor hearing any,  
23        Mr. Kluge, our third question noted that Exhibit  
24        46, recently filed by the District, included a

1 translator value of 0.966. Is that the same value  
2 that was used in the translator study that you've  
3 referred to?

4 MR. KLUGE: That value is the value of  
5 the translator that was determined by Illinois EPA,  
6 based on the translator study.

7 HEARING OFFICER FOX: Great.

8 Is there any follow-up question to that  
9 response?

10 Mr. Kluge, moving on to number 4, the  
11 Board had asked if you could explain the Hardness  
12 value that IEPA had used to derive the permit  
13 limits, both the original 0.011 milligrams per  
14 liter and subsequent 0.015 milligram per liter  
15 limits and whether those were for total or  
16 dissolved nickel.

17 MR. KLUGE: In conjunction with the  
18 translator study, the District also analyzed river  
19 samples for Hardness and submitted those to the  
20 Illinois EPA, and Illinois EPA determined what they  
21 call a critical Hardness that would be used for  
22 calculating the permit limit, and the permit limit  
23 is, as I said, total nickel.

24 MS. LIU: So Mr. Kluge, do you remember

1 what the critical Hardness level was? Was it 359  
2 then as it is in the filings now?

3 MR. KLUGE: Yes.

4 MS. LIU: Thank you.

5 HEARING OFFICER FOX: Are there any  
6 other follow-ups to Mr. Kluge's response to number  
7 4?

8 Thank you. Moving on, Mr. Kluge, to  
9 number 5, would you be able to show the calculation  
10 that was used to determine those permit limits?

11 MR. KLUGE: Those calculations are  
12 shown in a letter from the Illinois EPA to the  
13 District that is dated in 2009, and I believe  
14 that's included in the record as Exhibit 4.

15 MR. HOUSER: To the Amended Petition,  
16 Exhibit 4.

17 HEARING OFFICER FOX: Mr. Houser, I'm  
18 sorry. Can you say that again for me?

19 MR. HOUSER: Exhibit 4 to the Amended  
20 Petition.

21 HEARING OFFICER FOX: Very good.

22 Mr. Kluge and Mr. Houser, thank you for  
23 that clarification. That's a helpful citation, of  
24 course.

1           Mr. Kluge, that, of course, wraps up  
2 the five questions that we had raised for you based  
3 on your Prefiled Testimony.

4           Are there any follow-ups before we  
5 would move on to another witness?

6           Neither seeing nor hearing any in our  
7 audience -- oh, Ms. Liu, I apologize. I moved  
8 ahead too quickly.

9           MS. LIU: I apologize, too.

10           In Exhibit 4, I noticed that it does  
11 say a metals translator of 0.848 was used. Was  
12 that a different translator that was developed  
13 before the 0.966 number?

14           MR. KLUGE: Yes. The 0.848 value is  
15 specific for zinc and the 0.966 for nickel.

16           MS. LIU: Thank you.

17           HEARING OFFICER FOX: Any other  
18 follow-up questions for Mr. Kluge at this point?

19           Mr. Kluge, thank you very much for your  
20 responses, which were appreciated.

21           Ms. Cardwell, I believe we can move on  
22 to the questions that we had raised for you. I'll  
23 dive right in.

24

1 Board's Questions for Allison Cardwell

2 HEARING OFFICER FOX: The pronunciation  
3 of that species is Ceriodaphnia dubia?

4 MS. CARDWELL: Correct. Very good.

5 HEARING OFFICER FOX: There's my  
6 episode of good luck today.

7 Our first question was a clarification.  
8 Your testimony that protection of that sensitive  
9 species provided protection of others, is it  
10 correct that what your testimony indicates is that  
11 by protecting one of the most sensitive species in  
12 this reach of the Sangamon River, that other less  
13 sensitive species would enjoy similar protection?

14 MS. CARDWELL: Yes. Although I'm  
15 unfamiliar with the exact species that have been  
16 sampled and identified in the Sangamon, the  
17 Ceriodaphnia as a standard toxicity test organism,  
18 that they would be acclimated to specific water  
19 quality characteristics of the Sangamon.

20 It is also the most sensitive species  
21 in the Illinois nickel water quality criteria, and  
22 therefore, we would expect less sensitive species  
23 to nickel to also be protected.

24 HEARING OFFICER FOX: Any follow-up

1 questions to that response?

2           Neither seeing nor hearing any,  
3 Ms. Cardwell, you referred to the process of  
4 acclimation, and our next four questions generally  
5 deal with that.

6           Number 7 asks whether that process of  
7 acclimation involves breeding multiple generations  
8 of that species to increasingly high levels of  
9 Hardness and pH. Is that -- can you describe for  
10 us how that process is undertaken?

11           MS. CARDWELL: So the methodology in  
12 acclimation of organisms, the Ceriodaphnia is  
13 cultured in a standard EPA laboratory water, which  
14 is an approximate Hardness of 100 milligrams per  
15 liter.

16           Over the course of generations, for  
17 months and months, that Hardness is increased, and  
18 so the organisms are slowly introduced into that  
19 water. The health and reproduction is monitored,  
20 and so over the course of the many months, and up  
21 to a year, Hardness increased until we were at the  
22 level of Hardness within the Sangamon, and the  
23 organisms were reproducing and were of great  
24 health.

1 HEARING OFFICER FOX: Any follow-ups to  
2 that response to question number 7?

3 Neither seeing nor hearing any,  
4 Ms. Cardwell, question 8 asks whether that process  
5 also acclimates the organisms to different levels  
6 of the Dissolved Organic Carbon. Could you respond  
7 to that, please?

8 MS. CARDWELL: We did not acclimate the  
9 test organisms to high DOC levels, although the  
10 standard water of the simulated effluent was  
11 approximately one milligrams per liter DOC.

12 HEARING OFFICER FOX: Any follow-ups to  
13 the response to question number 8?

14 Neither seeing nor hearing any, on  
15 number 9, Ms. Cardwell, the Board had asked what  
16 typically comprises the Natural Organic Matter,  
17 NOM, and the Dissolved Organic Carbon, DOC, that is  
18 present.

19 MS. CARDWELL: So, typically, in  
20 natural systems, Natural Organic Matter or DOC, a  
21 component of the water is made up from different  
22 organisms, such as algae and also decomposing  
23 vegetation, and that's the majority of the DOC  
24 within the water column.

1 HEARING OFFICER FOX: Any follow-ups to  
2 the response to question 9?

3 Neither seeing or hearing any,  
4 Ms. Cardwell, we can turn to number 10, which asks  
5 whether any of the pH of Hardness or any other  
6 factors in the stretch of the Sangamon River are  
7 unusual in any respect in your knowledge, and, if  
8 so, if you can attribute any of those unusual  
9 features to a particular cause or source.

10 MS. CARDWELL: So I do not know the  
11 specifics of waters within Illinois, but my  
12 colleague, Dr. Santore, may be able to answer that  
13 question more appropriately, if that's okay.

14 HEARING OFFICER FOX: Mr. Santore, if  
15 you'd be willing to, we'd appreciate knowing what  
16 you have to say.

17 MR. SANTORE: Sure, I'd be happy to.

18 And just to be clear -- first of all,  
19 Robert Santore, S-A-N-T-O-R-E, and I am not a  
20 doctor. I do not have a Ph.D.

21 Yeah. The pH Hardness in DOC  
22 characteristics of the Sangamon River are that it  
23 is a relatively hard water source. Hardness of 359  
24 is what we consider hard water or even very hard

1 water, and from that standpoint, you know, that is  
2 a characteristic. I know that there's going to be  
3 follow-up questions that also get to these same  
4 types of issues.

5 It's not unusual. It is -- Hardness is  
6 something that is a mineral component of the water.  
7 It's calcium and magnesium. Those are contributed  
8 from the geology of the area, and in this area it  
9 is not unusual to see high Hardness waters.

10 HEARING OFFICER FOX: Very good.

11 Ms. Cardwell, did you have any  
12 elaboration or any other response.

13 MS. CARDWELL: No.

14 HEARING OFFICER FOX: Okay. Ms. Liu?

15 MS. LIU: Could you also comment on the  
16 Natural Organic Matter composition of the river as  
17 well?

18 MR. SANTORE: Absolutely.

19 Natural Organic Matter is commonly  
20 found in all natural waters. Its amount varies,  
21 for sure.

22 The Sangamon is -- has DOC  
23 concentrations of -- depending on, you know, the  
24 monitoring that we've seen, typically, from, you

1 know, 6 to 12 to 14, that type of a range, of  
2 milligrams per liter.

3 DOC is a way that we quantify Natural  
4 Organic Matter, so it's a chemical measurement. We  
5 don't actually measure NOM directly, we measure  
6 DOC, and we know from the molecular structure of  
7 NOM that that carbon represents about 50 percent of  
8 the NOM. So on a mass basis, we measure DOC. We  
9 know that it's about half the NOM, but they relate  
10 to each other in that way. DOC is the analytical  
11 way that we measure the presence of NOM, so that's  
12 how they're related.

13 The values here, they are elevated but  
14 they're not unusual. We've seen natural waters  
15 that go well into the 20s and 30s, for example,  
16 milligrams per liter, so these concentrations are  
17 not unusual.

18 HEARING OFFICER FOX: Were there any  
19 follow-ups to the responses to question number 10  
20 regarding those issues?

21 Neither seeing nor hearing any,  
22 Ms. Cardwell, one last question for you, number 11.

23 Your testimony had referred to spiking  
24 nickel into the waters to determine an effective

1 concentration, and the question was why you had  
2 chosen a particular 20 percent level rather than  
3 alternatives.

4 MS. CARDWELL: So the 20 percent effect  
5 concentration is a standard end point for USEPA  
6 water quality criteria for chronic testing, and so  
7 the 20 percent is a standard EPA end point.

8 HEARING OFFICER FOX: Ms. Cardwell,  
9 thank you for your responses, which we appreciate,  
10 and we --

11 I can see, first of all, if there are  
12 any follow-ups to the responses she's offered, and  
13 Ms. Cardwell, I'm not seeing any.

14 Mr. Santore, we can turn with question  
15 number 12 to the series that begins with questions  
16 for you.

17 Board's Questions for Bob Santore

18 HEARING OFFICER FOX: You had, I think,  
19 touched upon the issue in number 12, which is the  
20 reasons for the Hardness levels in this stretch,  
21 this segment of the Sangamon River. Did you want  
22 to elaborate or have any further response to that  
23 question?

24 MR. SANTORE: I can just elaborate a

1 little bit to -- because, you know, we didn't  
2 mention pH, but as I mentioned, the Hardness, high  
3 Hardness, has to be a mineral component, and some  
4 of the geology that tends to contribute calcium and  
5 magnesium includes, for example, minerals like  
6 limestone, which also provide high alkalinity and  
7 tend to result in a higher pH.

8 So the three factors we've been talking  
9 about -- DOC, pH, and Hardness -- are all  
10 characteristic of the region and are affected by  
11 the geology and are not -- they're elevated in the  
12 Sangamon but they're not unusual for the region.

13 HEARING OFFICER FOX: Very good.

14 Any follow-ups to that response?

15 Mr. Santore, turning to number 13, we  
16 had asked, in effect, if you think those  
17 circumstances are likely at all to change. If so,  
18 what might cause that and whether it was  
19 foreseeable.

20 MR. SANTORE: Yes. That's a good  
21 question.

22 Because we've tied, for example, a  
23 Hardness to the geology, we don't expect that to  
24 change. We do see seasonal changes in water

1 quality. This part of the country has a snowy  
2 winter, for example, and so a lot of the hydrologic  
3 cycle is dependent on the climate and the weather.

4 We have looked at quite a bit of  
5 monitoring data for the Sangamon, looked at trends  
6 over time, as well as seasonal trends, and the --  
7 the composition of the river appears to be pretty  
8 stable, and there is a relatively slight seasonal  
9 pattern to the water quality, but that has been  
10 considered and that was looked at in one of the  
11 exhibits that was submitted as the Critical  
12 Hardness -- the Critical Period Calculation Memo --  
13 looked at that monitoring data and the seasonality  
14 of the water quality.

15 HEARING OFFICER FOX: Mr. Santore,  
16 moving on to question number 14.

17 I should clarify, first, were there any  
18 follow-ups based on Mr. Santore's most recent  
19 response?

20 Not seeing or hearing any, question  
21 number 14, Mr. Santore, asked whether, in your  
22 experience, the levels of DOC, NOM, and Hardness in  
23 this stretch of the Sangamon River are typical or  
24 atypical of Illinois rivers.

1 MR. SANTORE: I believe they're  
2 typical. They're not unusual.

3 HEARING OFFICER FOX: Any follow-up?

4 Mr. Santore, seeing none, question  
5 number 15 asked whether site specific water quality  
6 standards are reviewed during IEPA's triennial  
7 review and, if not, what kind of events or  
8 circumstances might prompt a review of the  
9 standards in a site specific permit -- I'm sorry --  
10 a site specific -- underlying a site specific  
11 standard.

12 MR. SANTORE: I believe those types of  
13 reviews are common, but I don't honestly know if  
14 it's part of IEPA's regular practice to do that as  
15 part of a triennial review.

16 HEARING OFFICER FOX: Great.

17 Any follow-up questions?

18 Mr. Santore, we can move on to question  
19 number 16. It refers to the input data to the  
20 Biotic Ligan Model, the BLM, and it refers to the  
21 two downstream sampling locations, and we've simply  
22 asked if those are both within the stretch of the  
23 Sangamon River that would be subject to the site  
24 specific regulation as proposed.

1 MR. SANTORE: Yes, they are.

2 HEARING OFFICER FOX: Any follow-up on  
3 that answer?

4 Not seeing or hearing any, the next  
5 question, number 17, refers to calculation of  
6 nickel water quality standards and refers  
7 specifically to Exhibit Number 46, containing the  
8 results of those calculations, and our question was  
9 whether you can show the calculations that were  
10 made to generate Exhibit Number 46, including any  
11 parameter values.

12 MR. SANTORE: I can and it may be  
13 useful for me to go up to the chart here because  
14 these equations are on that Board.

15 HEARING OFFICER FOX: Please, go ahead.

16 Before you begin, could you give us,  
17 just for the sake of the record, a brief  
18 description of what you're referring to? What is  
19 the nature of this demonstrative exhibit?

20 MR. SANTORE: Yes.

21 There are -- Hardness equations have  
22 been used by USEPA for quite a few metals, water  
23 quality criteria, over quite a bit of time, and  
24 they all have the same format.

1           So what we're going to look at is the  
2 general form of this Hardness equation and the  
3 parameters that are used in that equation, and then  
4 we'll look at the parameters that were used to  
5 generate the Illinois State Standard and how they  
6 were used in that equation.

7           We have two visual aids. The first of  
8 this is an excerpt from one of the testimonies that  
9 lists the equation itself, and the equation is the  
10 form of a logarithm. We usual natural logarithms.  
11 This is something that EPA has been doing for a  
12 number of decades, and it's the same form that is  
13 used for all of the metals, water quality criteria,  
14 or standards as they've been adopted by states.

15           So the Hardness equations all have the  
16 same form. They include a parameter shown here as  
17 an A and a B, and the B is the slope of the  
18 response. That's multiplied times the natural log  
19 of the Hardness.

20           So we've talked about Hardness for this  
21 water and we've talked about a critical Hardness  
22 value. That critical Hardness value would go into  
23 this equation in place of the symbol H here. That  
24 would be multiplied -- so the natural log of that

1 value would be multiplied by the slope parameter B.  
2 Then we would add the intercept parameter A, and  
3 the result there would then be used as an exponent  
4 to the -- E is a constant. It's a -- if you are  
5 familiar with logarithms and natural logarithms,  
6 natural logarithms are in the base of E, so that  
7 "exp" in this case is -- refers to an Excel  
8 function that provides this exponentiation to the  
9 symbol E, which is a constant that's used in  
10 natural logarithms. So this is the form of the  
11 equation.

12           If you turn now to Exhibit 46, you can  
13 see how the equation is used in Illinois, as well  
14 as neighboring states and at EPA nationally, to  
15 produce these various nickel standards.

16           So for each of these standards, we have  
17 listed the state -- Illinois, Indiana, Iowa, USEPA.  
18 Within each of those, we are showing the acute and  
19 the chronic version of the standard.

20           The slope parameter is shown on this  
21 line. The intercept parameter is shown on that  
22 line.

23           And remember, from this equation, we're  
24 using -- the slope is the symbol B, the intercept

1 is the symbol A here. So those are going to be  
2 substituted into this equation to make each of  
3 these calculations.

4 So we make those substitutions in each  
5 of these cases. The slope, the intercept, we use  
6 the critical Hardness value shown here, 359, and  
7 the results are shown in these darker green boxes.  
8 So the same equation, but these different slope and  
9 intercept parameters generate each of these values  
10 for acute and chronic standards for each of the  
11 states that we have listed here.

12 Does that adequately explain the  
13 equation and how it's used?

14 MS. LIU: In your exhibit, the box on  
15 the lower left side, the proposed Decatur site  
16 specific dissolved standard, there is a slope and  
17 an intercept there that is different from the slope  
18 and intercept that's part of the proposed site  
19 specific ruling. Can you point me to where in the  
20 record that part is discussed?

21 MR. SANTORE: So I want to first  
22 clarify that in this box -- is this the box that  
23 you're asking me about?

24 In this case, we have the slope and the

1 intercept for the DOC equation, and then up here,  
2 this upper box, we're talking about the slope and  
3 the intercept for the Hardness portion of the  
4 equation.

5 Is that -- is there confusion about  
6 this slope and this intercept are for DOC, as  
7 opposed to what's up here for Hardness?

8 MS. LIU: I guess I'm still a little  
9 confused.

10 MR. SANTORE: Okay. Thank you. Well,  
11 let's keep at it and we'll make sure we clear that  
12 up.

13 Would you like to follow up with a more  
14 specific question or how would you like me to  
15 proceed?

16 MS. LIU: Would the DOC equation follow  
17 the same format, A and B, for the natural log?

18 MR. SANTORE: It has a slightly  
19 different form. We didn't use natural logs, for  
20 example.

21 MS. LIU: Okay.

22 MR. SANTORE: The Hardness equation, as  
23 I mentioned, there's been a long history of its use  
24 by EPA and by states in developing metal standards,

1 and we adopted -- we used the same form because we  
2 weren't trying to change anything about how the  
3 Hardness component was done.

4           When we added DOC consideration to the  
5 site specific standard, although we do have a slope  
6 and an intercept associated with that, it has a  
7 slightly different mathematical form, and if you're  
8 interested in the form of that, I could turn to --  
9 I believe -- I know it's in the exhibits. It's  
10 just a question of finding where we could point to  
11 it, and I might need to just look through the  
12 exhibits and tell you exactly where the form of  
13 that equation is shown.

14           This is in Exhibit 28, and on page 3  
15 you should see this equation, and the slope and the  
16 intercept shown there are the same values that are  
17 in this table shown here.

18           MS. LIU: From there, how do you  
19 calculate the value of 36.9 micrograms per liter?

20           MR. SANTORE: Okay. So the 36.9 is the  
21 result of first taking the critical Hardness value  
22 through the Illinois State Criterion to account for  
23 the Hardness of the river. Now we're going to add  
24 to that consideration of the DOC of the river,

1 which is done using the DOC equation.

2 The way we have utilized this  
3 information is to consider the effect of DOC as the  
4 multiplier that is consistent with the water factor  
5 ratio guidance times that Illinois state standard.

6 So the state standard is considering  
7 the effect of Hardness; that we use the DOC  
8 equation to consider the additional effects of DOC,  
9 and so you need to -- we need to walk through both  
10 parts of the calculation.

11 Just considering Hardness alone gives  
12 the 14.75 chronic standard, which is consistent  
13 with the Illinois state standard.

14 And then the way we work this DOC  
15 additional multiplier is we have the slope and the  
16 intercept in the equation that we just reviewed.  
17 If we put in a reference DOC, which is based on the  
18 reference waters that was used in the OSU testing,  
19 we get a EC 20 for nickel of 6.66 here.

20 If we use the DOC, the average DOC in  
21 the Sangamon River, that's the 8.33. We put that  
22 in that same equation and now we get 16.6, okay?

23 The ratio tells us how the  
24 bioavailability of nickel in the Sangamon is

1 altered by DOC, so that ratio is the 2.5. The 2.5  
2 multiplied by the 14.75 gives us the 36.9.

3 MS. LIU: I gotcha.

4 MR. SANTORE: Excellent.

5 MS. LIU: Thank you.

6 MR. SANTORE: You're welcome.

7 MS. LIU: Just for the sake of the  
8 record, your explanation was excellent. Could you  
9 translate that into writing, the full equation that  
10 you would have used to calculate through the  
11 spreadsheet, just so that we have it all?

12 MR. SANTORE: Yes.

13 MS. LIU: The full equation.

14 MR. SANTORE: And would you like me to  
15 do that right now?

16 MS. LIU: No, you don't have to do it  
17 right now.

18 HEARING OFFICER FOX: That's another  
19 one of issues with counsel. We can take up a  
20 deadline or a date by which to submit that. I see  
21 Mr. Houser acknowledging we can take that all up.

22 MS. LIU: I just want to take it one  
23 more step. So to go from the number that you  
24 described here, multiply it by the translator to

1 get the dissolved -- so this would be the total  
2 36. -- or dissolved would be 36.9 times the  
3 translator would convert it to the --

4 MR. SANTORE: That's right. And that's  
5 in that next box on this Exhibit 46 in the lower  
6 right, yes.

7 MS. LIU: Thank you very much for  
8 walking me through that. I appreciate it.

9 HEARING OFFICER FOX: Mr. Santore,  
10 thank you for that tutorial and the derivation of  
11 the standards, which is appreciated.

12 Does anyone else have any follow-up  
13 questions on his response to question number 17?

14 Neither seeing nor hearing any,  
15 Mr. Santore, that's been -- we have question 18.

16 After resuming some of the -- after  
17 examining some of the other standards, we had asked  
18 for your comment on whether Exhibit 46 could  
19 reflect total and dissolved concentrations of  
20 nickel. Your response to that?

21 MR. SANTORE: Yes. I think it already  
22 does, though, in a way, because in the box on the  
23 lower left, we have the dissolved calculation, and  
24 then in the lower right, we have the translator

1 total, and so the information is there. If there's  
2 something I can do to clarify that in the exhibit,  
3 I'd be happy to do that.

4 MS. LIU: Maybe when you get a chance  
5 to sit down, could you look at it a little bit  
6 closer?

7 MR. SANTORE: I'd be happy to.

8 MS. LIU: I think some of the states  
9 had translators worked into the equations and --  
10 but not necessarily applied, so I would appreciate  
11 that.

12 MR. SANTORE: No problem.

13 HEARING OFFICER FOX: Mr. Santore,  
14 moving on to question number 19, you had offered  
15 some comparisons of the Illinois standard, of  
16 course. Are you aware of when the current Illinois  
17 general use water quality standard for nickel had  
18 been adopted?

19 MR. SANTORE: I believe it was around  
20 1993.

21 HEARING OFFICER FOX: And jumping right  
22 ahead to number 20, closely related, do you have an  
23 explanation of why that standard is lower than the  
24 criterion now recommended by USEPA in the other

1 states that you've cited? Any assessment of the  
2 reason for that?

3 MR. SANTORE: Yes. The standards are  
4 based on published toxicity data, and as new data  
5 becomes available, standards can be reviewed and  
6 revised as necessary.

7 EPA has produced several different  
8 versions of a nickel standard. One -- for example,  
9 I think the first one was back around 1980 but then  
10 it was revised in 1986. The 1986 standard is  
11 actually -- on this chart is what is shown as  
12 adopted by the state of Iowa. So those values are  
13 consistent with, and based on, the 1986 EPA  
14 recommended water quality criteria.

15 Then EPA continued to revise the nickel  
16 standard, and it was revised again in '95 -- it was  
17 actually published in '96 -- and that version of  
18 the EPA recommended standard is what was adopted  
19 here by Indiana, so that the box here on this  
20 exhibit that shows the Indiana standard, those  
21 values are from that 1996 EPA document.

22 And then when Illinois adopted their  
23 standard, they chose to look to the literature and  
24 see if there were additional data, and, indeed,

1 there were. There was a 1993 paper by  
2 Schubauer-Berigan that included a chronic limit  
3 on -- a chronic toxicity test to Ceriodaphnia  
4 dubia, and those data indicated that Ceriodaphnia  
5 was the most sensitive species that had been known,  
6 had been discovered. So when the Illinois standard  
7 was developed, it included the Cerio data, but  
8 those data were not cited by any of the EPA water  
9 quality documents.

10 HEARING OFFICER FOX: Any follow-up  
11 questions to that response?

12 Mr. Santore, neither seeing nor hearing  
13 any, we can move on to the next batch, beginning  
14 with question number 21.

15 MS. LIU: I think we could probably --  
16 I believe he's answered some of these already.

17 HEARING OFFICER FOX: I was just going  
18 to say that it looked like the response to question  
19 21 effectively had come up in a response to one of  
20 the earlier questions.

21 Did you have anything to had in  
22 response to that?

23 MR. SANTORE: No. I think Mr. Kluge  
24 covered that quite well.

1 HEARING OFFICER FOX: Very good.

2 And question number 22, the Board had  
3 asked how the translator value 0.966 fit into the  
4 equation for determining the Water Effect Ratio,  
5 WER, the acronym. Do you have a response to that  
6 question?

7 MR. SANTORE: Yeah. The way we have  
8 laid this out, the translator is used after the  
9 Water Effect Ratios. The Water Effect Ratio is  
10 actually based on the DOC equation, and then the  
11 additional step, which follows that, is to take the  
12 translator into account, so it's not actually used  
13 in the WER step, but it's used to translate from  
14 Dissolved.

15 HEARING OFFICER FOX: Mr. Santore,  
16 thank you.

17 Question number 23 had asked about the  
18 equation for determining if the anticipated NPDES  
19 permit limit had been obtained. Is that an  
20 equation you have provided that you can refer to or  
21 that you can provide to the Board?

22 MR. SANTORE: Yes. It's actually  
23 exactly what we just walked through that's that  
24 value that comes out.

1 HEARING OFFICER FOX: As expected, I  
2 predicted something, Mr. Santore.

3 And in question number 24, the Board  
4 had asked how -- if you would explain the  
5 difference between how the dissolved and total  
6 nickel concentrations are accounted for in the  
7 expected NPDES permit limits.

8 MR. SANTORE: Yes.

9 So the standard itself is to determine  
10 what is protective of aquatic life, and to make  
11 that determination, we try to, as accurately as  
12 possible, characterize not just how much metal is  
13 there, but what the effect of that metal is, and  
14 over time, EPA has revised and refined its  
15 assessment of the most important factors that  
16 determine metal toxicity and bioavailability, and  
17 dissolved metal is the -- has been determined to  
18 be, for metal like nickel, a better, more accurate  
19 representation of the standard and its effects on  
20 aquatic life. So the standard itself is more  
21 accurate if it is determined on a dissolved metal  
22 basis.

23 When we look at a permit limit, we are  
24 looking at the amount that's being discharged, and

1 that is most accurately characterized on the basis  
2 of total metal.

3 So we need to get from a dissolved  
4 standard to a total effluent limit, and that's  
5 where the translator is used to allow us to develop  
6 our standards on a dissolved basis and still use  
7 that information to come up with a discharge limit  
8 based on total metal.

9 HEARING OFFICER FOX: Mr. Santore,  
10 looking ahead to question number 25, it seems as if  
11 you had approached, if not actually responded more  
12 or less to our question about why a permit limit  
13 would be stated in terms of total concentrations  
14 since the site specific water quality standard is  
15 stated in dissolved terms. Did you want to  
16 elaborate on that at all?

17 MR. SANTORE: Unless my answer was, you  
18 felt, was incomplete or confusing, I think it's the  
19 same information.

20 Excellent, thank you.

21 HEARING OFFICER FOX: Great.

22 Any follow-ups or any other questions  
23 based on those most recent couple of responses of  
24 Mr. Santore?

1 Not seeing or hearing any, question  
2 number 26 is -- pardon me -- whether the  
3 anticipated NPDES permit limit of 0.0382 milligrams  
4 per liter would be equal to the water quality  
5 standard, and whether it is, in effect, a water  
6 quality based effluent limit.

7 MR. SANTORE: The definition of a water  
8 quality based effluent limit, there is some actual  
9 local -- I'm not actually sure in terms of Illinois  
10 EPA if this would fit into their definition of a  
11 water quality based effluent limit. I believe it  
12 would.

13 MS. LIU: So would the 0.0382  
14 milligrams per liter be the water quality standard,  
15 the site specific water quality standard?

16 MR. SANTORE: That would be the -- the  
17 standard is actually the dissolved value, and  
18 that's the total value that would be the permit  
19 limit but not the standard.

20 MS. LIU: So the standard would be  
21 0.369?

22 MR. SANTORE: Correct.

23 MS. LIU: Okay.

24 HEARING OFFICER FOX: Moving on,

1 Mr. Santore, to question number 27. The  
2 calculation of 0.0382 milligrams per liter limit,  
3 does that account at all for either the eligibility  
4 for a mixing zone or the availability -- the  
5 availability -- let me start over again.

6 Does that account for either the  
7 potential availability of or eligibility for a  
8 mixing zone?

9 MR. SANTORE: It does not factor in any  
10 dilution. It is essentially -- we have not taken  
11 that value and then also considered dilution from  
12 upstream flow, which would be essentially what --  
13 the phrase mixing zone is implying that there's an  
14 upstream source of water that is considered and  
15 that you want the standard to be met at the edge of  
16 that mixing zone. In this case, we are not  
17 considering upstream flow in dilution from that.

18 MR. KLUGE: Could I add a  
19 clarification?

20 HEARING OFFICER FOX: Mr. Kluge, please  
21 go ahead.

22 MR. KLUGE: The permit limits are based  
23 on a value called the seven-day, ten-year, low  
24 flow, and the upstream flow from the District's

1 discharge is zero, as determined by the Illinois  
2 State Water Survey, and I believe the map that  
3 supports that is from one of the exhibits.

4 So in determining the permit limits,  
5 there is no allowance for upstream dilution.

6 HEARING OFFICER FOX: Mr. Kluge, thank  
7 you.

8 Mr. Santore, did you wish to elaborate  
9 on Mr. Kluge's response at all?

10 MR. SANTORE: No. I agree with what  
11 was said.

12 HEARING OFFICER FOX: Very good.

13 And turning to question number 28, the  
14 Board had asked whether IEPA has indicated  
15 concurrence with the expected NPDES permit limit or  
16 commented on how they might determine a limit based  
17 on this proposed site specific water quality  
18 standard.

19 MR. SANTORE: There has been a lot of  
20 back and forth with Illinois EPA throughout this  
21 work as it's progressed. I don't know  
22 specifically, because you're asking a very specific  
23 question. I can't speak for Illinois EPA, but I  
24 know that everything has been reviewed and I have

1 not heard of a -- any objection that we have not  
2 addressed or already tried to.

3 HEARING OFFICER FOX: Very good.

4 Any follow-up questions to  
5 Mr. Santore's response? Neither seeing nor hearing  
6 any.

7 MS. LIU: I believe he's addressed 29  
8 and 30 already.

9 HEARING OFFICER FOX: Very good. I had  
10 the same sense.

11 Looking ahead, Mr. Santore, it appears  
12 that your previous responses have addressed  
13 questions number 29 and 30. However, if you have  
14 any elaboration, any expansion that you'd like to  
15 offer, we're happy to hear that.

16 MR. SANTORE: I have no further  
17 comments.

18 HEARING OFFICER FOX: Very good.

19 Any follow-up questions based on the  
20 Board's questions 29 or 30?

21 Not seeing or hearing any, our next  
22 questions both deal with Exhibit Number 45,  
23 recently submitted by the Sanitary District, and it  
24 noted that there were comments and responses built

1 in effectively to an e-mail chain of communication,  
2 and question number 31 asked whether your most  
3 recent comments in March of 2018 had been viewed  
4 by -- had been shared with USEPA and whether they  
5 had responded with any comments to you.

6 MR. SANTORE: Yes, they had -- those  
7 comments have been shared. This has been a very  
8 dynamic process with a lot of back and forth, so  
9 I'm sure that they have seen our most recent  
10 responses to their comments and questions. I have  
11 not seen a final set of comments or questions from  
12 EPA.

13 HEARING OFFICER FOX: And in question  
14 number 32, the Board had asked whether either USEPA  
15 or IEPA has provided a comment on the revised  
16 proposal with a Water Effects Ratio of 2.50.

17 THE WITNESS: Yes. There's been  
18 significant comments and opportunities for  
19 discussions and back and forth with both EPA and  
20 IEPA throughout the process.

21 HEARING OFFICER FOX: And would you  
22 have the same responses to the previous question,  
23 that you're not aware of any objections or  
24 technical concerns with the Water Effects Ratio of

1 2.50?

2 MR. SANTORE: Correct. There's been  
3 comments and requests on both the part of EPA and  
4 IEPA throughout this for us to clarify and refine  
5 the work product and we have addressed all of the  
6 comments that we've received, and I have not seen  
7 any additional comments that we have not yet  
8 responded to.

9 HEARING OFFICER FOX: Very good. Thank  
10 you, Mr. Santore.

11 MS. LIU: Just to clarify, the revision  
12 to using the WER of 2.50 is in April of 20 -- or  
13 April 20th, and previously it was 2.33, and in the  
14 interim, you have had conversations with USEPA back  
15 and forth.

16 MR. SANTORE: That's right.

17 MS. LIU: I was wondering if you had  
18 any documentation, since you had proposed the 2.5,  
19 a reply from USEPA, or IEPA, if they were cool with  
20 that number.

21 MR. SANTORE: I believe we have seen  
22 responses since the 2.5 number was developed, and  
23 there was no specific objections to 2.5.

24 MS. LIU: I don't know that it's in the

1 record. Would that be something that you'd be able  
2 to provide in the record, something -- a record of  
3 your phone conversation or an e-mail or a scribble?

4 MR. SANTORE: Yes. We've had quite a  
5 few conference calls. We can certainly lay out the  
6 timeline for those calls and who participated  
7 because we did have a participation log from EPA.

8 MS. LIU: That would be very helpful,  
9 thank you, just to close it a little. Thank you.

10 HEARING OFFICER FOX: Mr. Santore,  
11 that, of course, comes with your response to  
12 question number 32, the end of those that the Board  
13 had directed specifically to you.

14 Does anyone have any follow-up  
15 questions or additional questions?

16 Mr. Santore, I'm not seeing any, and we  
17 appreciate the responses that you've offered us  
18 here today. Thank you very much for those.

19 We can move on to Dr. Bloom to your  
20 right and dive right in.

21 Board's Questions for Paul Bloom

22 HEARING OFFICER FOX: Dr. Bloom, in  
23 your Prefiled Testimony, I'll begin, of course,  
24 with question number 33.

1           Your Prefiled Testimony stated that one  
2 of the primary sources of nickel in the discharges  
3 to the District are contained into the processed  
4 soybeans and corn that are coming into ADM's  
5 operations. Can you estimate -- do you have any  
6 estimate of what the percentage of nickel in that  
7 stream is accounted for by the incoming soybeans  
8 and corn?

9           MR. BLOOM: Yes. Thank you. Again,  
10 Paul Bloom, B-L-O-O-M.

11           That's a great question and it would be  
12 difficult for me to assign a definitive percentage  
13 from the incoming corn and soybeans. Our estimates  
14 were really based on total nickel balance that was  
15 completed from waste streams that were derived from  
16 a comprehensive Decatur site specific nickel  
17 balance study. So those waste streams we quantify  
18 going to our wastewater treatment plant.

19           The major sources that were identified  
20 from this study were, of course, the nickel  
21 contained in the incoming soybeans and corn. For  
22 soybeans, it was approximately 49.2 pounds per day.  
23 For corn, it was up to 19.1 pounds per day. And  
24 then the non-grain sources that were identified

1 were from nickel from catalysts, and also  
2 metallurgy from processed -- you know, from  
3 operating the polyose plant.

4           So the nickel from the catalysts was  
5 largely mitigated from IX or ion exchange  
6 technology that was installed, and so we can say  
7 what nickel was removed from sources that we think  
8 were derived from our process inputs, and that was  
9 up to 1.3 pounds per day.

10           And the metallurgy from process  
11 operations in the polyose plant -- of course, now  
12 shut down -- was 1.9 pounds per day.

13           So the rest of that material, including  
14 the nickel from the soy molasses stream, which was  
15 also removed at 2.7 pounds per day, that was  
16 assumed to be from the incoming grain.

17           HEARING OFFICER FOX: Moving on to  
18 question number 34, Dr. Bloom, do you know whether  
19 the nickel that is effectively arriving at ADM's  
20 facilities in the corn and soybeans is uptake from  
21 the soil? Does it result from the application of  
22 fertilizers or pesticides, or is there another  
23 potential source that you can refer to?

24           MR. BLOOM: I do not have an answer for

1 this question. One, it's not my area of expertise,  
2 and our grain does arrive from various locations.

3 HEARING OFFICER FOX: And on to 35, and  
4 question number 35, if you know, are you aware of  
5 whether that issue specifically with the corn and  
6 soybeans is specific to Illinois because of soil  
7 types or other local conditions, or is that  
8 something that ADM may experience in other regions  
9 of the country?

10 MR. BLOOM: Again, I don't have an  
11 answer for this question, as grain does arrive from  
12 various locations at the facility.

13 HEARING OFFICER FOX: Any follow-up to  
14 those questions, number 33, 4 and 5?

15 Not seeing or hearing any, Dr. Bloom,  
16 your testimony had indicated other sources which  
17 you have referred to. As part of its evaluation,  
18 did ADM evaluate ways to reduce or substitute  
19 nickel as raw materials in the catalyst or the  
20 metallurgy? I think you may have begun to touch on  
21 that, but if you have any elaboration or expansion,  
22 please go ahead.

23 MR. BLOOM: Sure. It's a great  
24 question.

1           As part of this specific evaluation, I  
2       don't know of any studies that seek to substitute  
3       the catalysts or look at alternate metallurgy.

4           Separately, ADM does evaluate alternate  
5       catalysts on a routine basis. Typically, those  
6       catalysts for these operations are nickel-based  
7       that are offered and they're offered from the  
8       industry, and from the metallurgy standpoint, there  
9       were several explorations of alternate metallurgy  
10      for the polyose plant; however, those efforts have  
11      ceased since that operation was shut down in 2015.

12           HEARING OFFICER FOX: The next three or  
13      four questions, Dr. Bloom, deal with some of your  
14      testimony, particularly with Exhibit Number 42, on  
15      some of the investigations that ADM had done for  
16      reducing its discharge of nickel to the District's  
17      wastewater treatment plant, and it referred to some  
18      of the costs that had been incurred, of course, by  
19      ADM in doing so.

20           In question number 37, you had  
21      indicated that the removal of the soy molasses  
22      stream, which I think you at least quickly  
23      mentioned, accounts for at least 35 percent removal  
24      of soluble nickel and that the shutdown of the

1 polyose plant, which you, of course, have referred  
2 to, accounted for an 11 percent reduction.

3 In combination, would those allow you  
4 to assert that those two steps alone reduce the  
5 nickel output by the sum by 46 percent or is there  
6 a different calculation that you would use in  
7 making that determination?

8 MR. BLOOM: I would agree with that  
9 assessment.

10 HEARING OFFICER FOX: Very good.

11 Any follow-ups on that question?

12 In number 38, you had pointed out in  
13 your Prefiled Testimony that the excess sludge  
14 removal allowed the removal of more than 10 point  
15 million dry pounds per year in the most recent two  
16 complete years and that some improved housekeeping  
17 had also resulted in reductions also.

18 Can you offer an estimate of what  
19 additional percentage sludge removal and  
20 housekeeping efforts have contributed to the  
21 reduction in the nickel discharge to the District's  
22 wastewater treatment?

23 MR. BLOOM: That's a great question,  
24 and again, I don't have a good estimate for the

1 additional reduction at this time, but I can say it  
2 will only help as the level of nickel in our sludge  
3 continues to decrease as we continue to proceed  
4 with sludge removal from the anaerobic digesters.

5 HEARING OFFICER FOX: And in our  
6 question number 39, we had noted your testimony  
7 about the decline in the concentration of nickel in  
8 the effluent to the District's wastewater treatment  
9 plant from approximately 0.120 milligrams per liter  
10 to about 0.060 milligrams per liter since calendar  
11 year 2010.

12 Would you estimate that the reductions  
13 that you've identified at about 50 percent, do  
14 those compare -- how do those compare to the way  
15 that the facilities were operating in 2007 before  
16 the District's permit limit really brought this  
17 issue to your attention.

18 MR. BLOOM: So I would also agree with  
19 the statement that the assessment that  
20 approximately -- the efforts that ADM's taken since  
21 2007, and combined with the soy molasses removal,  
22 the catalyst ion exchange remove nickel from the  
23 sorbitol and the corn plant streams, and the  
24 polyose shutdown, reducing that metallurgy, would

1 account for that approximately 50 percent  
2 reduction.

3 HEARING OFFICER FOX: Again, since the  
4 benchmark year of 2007?

5 MR. BLOOM: Correct.

6 HEARING OFFICER FOX: Okay.

7 Dr. Bloom, our final question directed  
8 specifically to you, number 40, referred in Exhibit  
9 Number 43 to a Table Number 4 with some additional  
10 details about some of the technologies that ADM had  
11 considered.

12 The first column appears to be Solid,  
13 and our question, basically, was whether that had  
14 blocked out information or whether it should list  
15 nickel remediation chemistries for each of the  
16 corresponding rows, and if you have any elaboration  
17 or explanation to offer, please go ahead.

18 MR. BLOOM: Sure. Again, great  
19 question, and what I can say is that the  
20 blacked-out portion contained vendor names  
21 specifically to the related chemistries that were  
22 there. So as a follow-up, we'd be happy to provide  
23 the type of chemistry, without the vendor name,  
24 associated with Exhibit 43.

1 MS. LIU: Thank you.

2 HEARING OFFICER FOX: That brings us to  
3 the end of the questions that we specifically had  
4 from the Board for Dr. Bloom.

5 Is there anyone else who had any  
6 follow-ups based on his responses here today?

7 Dr. Bloom, I'm certainly not seeing nor  
8 hearing any, and we appreciate your responses here  
9 today on our follow-up questions on your testimony.

10 Dr. Colombo, that leads us to you. We  
11 have a single question, designated number 41, for  
12 you.

13 Board Questions for Robert Colombo

14 HEARING OFFICER FOX: You had -- and  
15 our question first, very, very generally, I  
16 recognize that some of the conclusions that were  
17 drawn from some of your observations, your  
18 analysis, the Sangamon River, and the question was  
19 whether the observations you had made highlight for  
20 you any differences in the stretch of the Sangamon  
21 River from other Midwestern streams related to  
22 Hardness levels, dissolved organic -- or Dissolved  
23 Organic Carbon concentrations.

24 Do you have any elaboration on that

1 that you can offer?

2 MR. COLOMBO: Sure. Robert Colombo,  
3 C-O-L-O-M-B-O.

4 So we conduct long-term electrofishing  
5 samples on many -- especially Illinois rivers and  
6 streams -- and the fish community assemblage is a  
7 cookie-cutter of most other fish community  
8 assemblages in the tributaries of the Illinois  
9 rivers and the tributaries of the Wabash River and  
10 the tributaries of the Mississippi River.

11 Additionally, if you look at the other  
12 tributaries of the Illinois River, the Sangamon has  
13 one of the more robust fish community assemblages  
14 than the others.

15 In terms of as that's related to  
16 Hardness and Dissolved Organic Carbon, it really is  
17 that fishes in Illinois tributaries have -- are all  
18 generally able to handle that level.

19 HEARING OFFICER FOX: Just for my own  
20 clarification, when you used the phrase  
21 cookie-cutter, am I understanding correctly to say  
22 that there's a high degree of similarity?

23 MR. COLOMBO: A high degree of  
24 similarity between with the fish assemblages here

1 that you would find in the tributaries of the  
2 Wabash or the Embarras River, and it's a very  
3 similar fish assemblage in terms of abundance and  
4 communities.

5 HEARING OFFICER FOX: Dr. Colombo, that  
6 exhausts the single question we had for you, unless  
7 anyone has any follow-up or clarifications they  
8 would like on the basis of that answer.

9 I am not seeing or hearing any.

10 The Board, with its final two  
11 questions, had questions regarding the proposed  
12 rule language, and Mr. Houser and Ms. Hodge, I am  
13 happy to leave it up to you whether this is  
14 something you would like to consider and respond to  
15 in a written response to the Board, since I suspect  
16 is something your witnesses may not be prepared to  
17 answer.

18 Do you have any comment on that,  
19 Mr. Houser?

20 MR. HOUSER: Could we just go off the  
21 record for a few minutes just to confer?

22 HEARING OFFICER FOX: In fact, I think  
23 we've reached the point in which it's wise to do  
24 that, just to wrap up some deadlines and other

1 issues.

2 So if the court reporter would take us  
3 off the record briefly, we'll go ahead with that.

4 (A brief recess was taken.)

5 If the court reporter's ready, we can  
6 continue. Thank you very much.

7 We have gone off the record to discuss  
8 some procedural issues relating to deadlines and  
9 similar matters. The Sanitary District of Decatur  
10 indicated that it wished to pose questions to the  
11 IEPA, whose witness, Mr. Brian Koch, is here.

12 If the court reporter would swear in  
13 Mr. Koch when she has a moment, we'll turn,  
14 Mr. Houser, right to your questions.

15 (Witness sworn.)

16 Mr. Houser, please go ahead.

17 MR. HOUSER: Thank you.

18

19

BRIAN KOCH

20 called as a witness on behalf of the Sanitary  
21 District of Decatur, being first duly sworn, was  
22 examined and testified as follows:

23

EXAMINATION

24

BY MR. HOUSER:

1           **Q. Mr. Koch, can you please describe your**  
2 **job title and responsibilities with the Illinois**  
3 **EPA?**

4           A. Sure. I'm an Environmental Protection  
5 Specialist III. I work in the Water Quality  
6 Standards Section within the Division of Water  
7 Pollution Control and the Bureau of Water.

8           My main job duty is to develop toxic  
9 space water quality standards and criteria, using  
10 Illinois EPA methodology, as well as USEPA  
11 methodology.

12           **Q. Can you please describe your**  
13 **educational background?**

14           A. I have a Bachelor of Arts degree and a  
15 Master of Science degree in Zoology.

16           **Q. Can you please describe your history**  
17 **and experience working with the Sanitary District**  
18 **of Decatur's Proposal for Site Specific Rule for**  
19 **Nickel?**

20           A. I became involved, I believe, in 2010.  
21 This is back when Decatur initially began  
22 experimenting with the Biotic Ligand Model, and  
23 I've been involved ever since.

24           **Q. Is it true that you have been involved**

1 on behalf of the Illinois EPA on many of the  
2 conference calls, e-mail exchanges, and other  
3 discussions between the District, USEPA, and  
4 Illinois EPA, that have helped develop the  
5 District's proposal?

6 A. That's correct.

7 Q. In your opinion, is the District's  
8 Proposed Site Specific Water Quality Standard for  
9 Nickel protective of the Sangamon River?

10 A. Yes. I believe the Water Effect Ratio  
11 of 2.5, as proposed by the District, would be  
12 protective of the Sangamon River. I believe it's a  
13 good representation of the actual toxicity of  
14 nickel in that environment.

15 Q. Okay. Thank you.

16 MR. HOUSER: Then, if I could, I would  
17 like to follow up with Mr. Koch on some of the  
18 Board's questions that were asked of other  
19 witnesses to see if there are any other further  
20 comments that could be provided.

21 HEARING OFFICER FOX: Mr. Houser,  
22 please go ahead.

23 MR. HOUSER: And I'll just ask the  
24 question over again from the Board's questions.

1 BY MR. HOUSER:

2 Q. Earlier, Mr. Santore testified in  
3 response to Board Questions Number 19 and 20, which  
4 were, Could you state when the current Illinois  
5 nickel chronic water quality standards for general  
6 use water was adopted and under which rulemaking?

7 And number 20, Could you explain why  
8 the standard is so much lower than the criterion  
9 recommended by USEPA and standards set by the other  
10 states mentioned?

11 Did you agree with Mr. Santore's  
12 testimony in response to those two questions?

13 A. For the most part. For number 19, in  
14 regards to when the Illinois EPA general use  
15 chronic nickel standard was adopted or proposed, I  
16 believe you said 1993. Actually, we proposed that  
17 Rulemaking in 1999 and it was approved in 2003.

18 And then in regards to number 20, why  
19 our standard is so much lower than USEPA and other  
20 states, I do agree with Mr. Santore the reason for  
21 the discrepancy is that Illinois EPA used  
22 Ceriodaphnia dubia data, which, many of these  
23 studies, the acute and chronic studies that we used  
24 in our acute and chronic standards, were actually

1 published at the end of 1992 and early 1993.

2 EPA had adopted their national  
3 criterion in 1995, but their literature review  
4 ended in December of 1992, so it appears that they  
5 just missed that window of when those papers were  
6 released.

7 I should also state that the USEPA  
8 national criterion uses an acute-to-chronic ratio  
9 for development of the chronic standard, whereas  
10 the Illinois EPA used a Tier 1 methodology.

11 **Q. Okay. Thank you.**

12 **This was Board question number 28**  
13 **asked, Has IEPA concurred with the anticipated**  
14 **NPDES permit limit or commented on how the Agency**  
15 **would determine the NPDES permit limit based on the**  
16 **proposed site specific water quality standard?**

17 A. We have not provided anything in  
18 writing, but it's my understanding that we would  
19 use this site specific standard, the dissolved  
20 standard, back calculate to the total concentration  
21 of nickel, and apply that as an NPDES permit limit.  
22 So it would, in fact, serve as a water quality  
23 based effluent limit.

24 **Q. And then this was Board question number**

1     **32. Has either USEPA or IEPA provided comment on**  
2     **Decatur's revised proposal with a WER of 2.50?**

3             A. Neither agency has provided written  
4     confirmation. However, I believe one of the  
5     exhibits -- and I can't recall which exhibit that  
6     was -- but it did show the back and forth  
7     discussions that Mr. Santore, EPA and IEPA  
8     personnel had in regards to development of the  
9     Water Effect Ratio, and it's my understanding that  
10    that conversation has essentially concluded our  
11    discussion on the Water Effect Ratio.

12            MR. HOUSER: And for the record, that  
13    would be -- I believe he's referring to Exhibit 45  
14    that shows that exchange, and those are all the  
15    questions I have for Mr. Koch.

16            HEARING OFFICER FOX: Thank you,  
17    Mr. Houser.

18            The Board has no follow-up questions  
19    for Mr. Koch. Is there anyone else or any other  
20    participant who has any follow-up questions based  
21    on his testimony?

22            Mr. Koch, neither seeing nor hearing  
23    any, I think we've concluded your testimony and we  
24    appreciate that.

1 Mr. Houser, anything else that the  
2 Sanitary District wishes to present at this point?

3 MR. HOUSER: Other than answering the  
4 final two Board questions, that's it.

5 HEARING OFFICER FOX: Very good. And I  
6 think you had indicated you were prepared to take  
7 those up right now?

8 MR. HOUSER: Yes.

9 HEARING OFFICER FOX: If you'd go  
10 ahead, that would be great. Thank you.

11 District's Answers to Board's Final Questions

12 MR. HOUSER: So in response to --  
13 Mr. Kluge will answer the question, but the  
14 question 42 says, Please clarify whether the sample  
15 collection protocols to demonstrate attainment of  
16 chronic standards specified in Section 302.208(b)  
17 still apply to proposed site specific chronic  
18 nickel water quality standard.

19 HEARING OFFICER FOX: And Mr. Kluge,  
20 you're still sworn in. Please feel free to go  
21 ahead with your response.

22 MR. KLUGE: The District has not  
23 proposed any change in the current Board Rules of  
24 how those -- of how compliance with water quality

1 standards is demonstrated.

2 HEARING OFFICER FOX: Any follow-up  
3 questions for Mr. Kluge?

4 Not seeing or hearing any, Mr. Houser,  
5 I would suspect you're going to turn to 43.

6 MR. HOUSER: I am going to turn to 43.

7 Asked to please comment on the  
8 following changes to proposed site specific rule  
9 language, and those changes are designated in the  
10 question.

11 The District does not -- the District  
12 agrees to the Board's proposed changes.

13 HEARING OFFICER FOX: Any questions  
14 either from Mr. Kluge or otherwise on the basis of  
15 the District's position?

16 Neither seeing nor hearing any, I  
17 appreciate your diligence in addressing those,  
18 Mr. Houser. That's helpful, of course, in terms of  
19 any Order the Board may adopt.

20 Anything else you wanted to bring up at  
21 this point, Mr. Houser?

22 MR. HOUSER: No. Thank you.

23 HEARING OFFICER FOX: Very good.

24 I had, in going off the record in

1 speaking about procedures, referred to our  
2 requirement to request an Economic Impact Study.  
3 I'll take a moment to address that before we turn  
4 to a couple of deadlines and other procedural  
5 issues.

6 Section 27(b) of the Environmental  
7 Protection Act provides that the Board must request  
8 that the Department of Commerce and Economic  
9 Opportunity, DCEO, conduct an Economic Impact Study  
10 of proposed rules before the Board adopts them.  
11 The Board then must make either the study or DCEO's  
12 response and decision not to conduct one available  
13 to the public at least 20 days before a public  
14 hearing.

15 On January 28th, in a letter, the  
16 Board's Chairman, Katie Papadimitriu, requested the  
17 DCEO conduct this Economic Impact Study and  
18 requested a Response no later than February 26th of  
19 2018. The Board has received no response from DCEO  
20 to this request.

21 Is there anyone present who wishes to  
22 comment or testify, either on the Board's request  
23 or the DCEO's response?

24 Unsurprisingly, I see no response and

1 don't hear a response to that, so we can move on,  
2 before we adjourn, to a couple of scheduling issues  
3 and deadlines.

4 In going off the record, the District  
5 and the Board had identified the following issues  
6 on which the District was helpfully committing to  
7 provide some additional information.

8 In response to question number 1,  
9 Mr. Kluge has indicated that he would submit a  
10 translator study into the record.

11 In response to question number 23,  
12 Mr. Santore had agreed to provide an equation into  
13 the record and provide some explanation for it.

14 In response to number 32, Mr. Santore,  
15 again, had offered to provide into the record  
16 additional communications between the District and  
17 the IEPA and USEPA.

18 And in response to question number 40,  
19 Dr. Bloom had been willing to submit some  
20 additional information into what had been submitted  
21 to the Board as Exhibit Number 43.

22 Have I misstated or misunderstood any  
23 of that?

24 Not seeing a negative response, I have,

1 in addition to discussing the nature of those  
2 responses, understand from the Sanitary District  
3 that a 30-day deadline of Friday, June 16th --

4 MR. HOUSER: 15th.

5 HEARING OFFICER FOX: 15th. I'm sorry.  
6 I stand corrected. A 30-day deadline of Friday,  
7 June 15th, to submit that to the Board online  
8 through its Clerk's Office Online was adequate time  
9 to prepare that.

10 I also had let the IEPA know that we  
11 had -- the Board would wish to hear IEPA's position  
12 in response to what had been listed as Board  
13 question number 15. It was originally directed to  
14 Dr. -- or to Mr. Santore, and that was a question  
15 specifically about IEPA's review of site specific  
16 standards, specifically under their triennial  
17 review.

18 And I understand, Mr. Gradeless or  
19 Ms. Terranova, that the same 30-day deadline of  
20 Friday, June 16th, to submit a response --

21 MS. TERRANOVA: 15th.

22 HEARING OFFICER FOX: 15th.

23 MS. TERRANOVA: You've got 16 on your  
24 mind.

1 HEARING OFFICER FOX: I hear that. I  
2 apparently do.

3 That same 30-day deadline would be  
4 adequate for the Agency to submit a Response in  
5 writing to the Board.

6 Ms. Terranova is indicating, am I  
7 correct, that that's acceptable?

8 MS. TERRANOVA: Yes.

9 HEARING OFFICER FOX: Ms. Terranova, we  
10 appreciate that very much and understand that you  
11 may not have precisely the correct witnesses today  
12 to address any questions about that issue, so we  
13 will look forward to seeing that on the same  
14 deadline.

15 We had indicated to the Sanitary  
16 District's counsel that the Board, on the basis of  
17 the additional information that we receive from  
18 them by that deadline, may trigger a few questions,  
19 a few follow-up questions on the part of the Board,  
20 and they had indicated that a seven-day deadline to  
21 the 22nd of June would be acceptable, at which  
22 point we can either submit those into the record or  
23 indicate that we don't have any, so that we can put  
24 that issue to rest.

1           Have I left anything uncovered or left  
2 any confusion on the part of any of the  
3 participants at this point? Very good.

4           I believe our transcript will be ready  
5 in five business days, which would bring us to next  
6 Wednesday, the 23rd.

7           I want to assure the participants that  
8 once we receive that, we will post it to our  
9 Clerk's Office Online where it can, of course, be  
10 viewed in its entirety, downloaded, printed and  
11 fully accessible to you.

12           I think we have reached the point at  
13 which we can adjourn.

14           Have I left any other matters  
15 unaddressed or any other questions left unanswered?

16           Seeing no responses and hearing none,  
17 we can adjourn.

18           I certainly want to thank all of the  
19 witnesses -- including you, Mr. Koch, from the  
20 IEPA, of course -- for your testimony and your  
21 participation today. It was very helpful to us in  
22 developing a record on the Amended Proposal and we  
23 appreciate it.

24           With that, we can adjourn. Thank you

1 very much.

2 (Whereupon, the above-entitled  
3 proceedings were concluded 10:43  
4 a.m.)

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May 16, 2018

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STATE OF ILLINOIS            )  
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COUNTY OF MACON            )

I, LISA HAHN PETERMAN, do hereby state that I am a court reporter doing business in the State of Illinois, County of Macon; that I reported by means of machine shorthand the proceedings held in the foregoing cause, and that the foregoing is a true and correct transcript of my shorthand notes so taken as aforesaid.

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Lisa Hahn Peterman, CSR, RMR  
Notary Public, Macon County, Illinois  
Illinois CSR No. 084-2149

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