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STATE OF MINNESOTA
OFFICE OF ADMINISTRATIVE HEARINGS
FOR THE MINNESOTA POLLUTION CONTROL AGENCY

MPCA PROPOSED AMENDMENT OF THE SULFATE
WATER QUALITY STANDARD APPLICABLE TO WILD
RICE AND IDENTIFICATION OF WILD RICE WATERS

OAH DOCKET NO. 80-9003-34519
REVISOR NO. RD4324A

The Public Hearing in the above-entitled matter came on for hearing before Laurasue Schlatter, Administrative Law Judge, taken before Marcia L. Menth, a Notary Public in and for the County of Wright, State of Minnesota, taken on the 23rd day of October, 2017, at Harold E. Stassen Building, 600 North Robert Street, St. Paul, Minnesota, commencing at approximately 10:00 a.m.

KIRBY KENNEDY & ASSOCIATES
952-922-1955

A P P E A R A N C E S

APPEARING AS THE HEARING OFFICER:

LAURASUE SCHLATTER
ADMINISTRATIVE LAW JUDGE
OFFICE OF ADMINISTRATIVE HEARINGS
600 North Robert Street
St. Paul, Minnesota 55101

E-mail: laurasue.schlatter@state.mn.us

ALSO PRESENT:

Gerald Blaha - MPCA
Patricia Engelking - MPCA
Elizabeth Kaufenberg - MPCA
Deborah Klooz - MPCA
Scott Kyser, P.E. - MPCA
Shannon Lotthammer - MPCA
Phil Monson - MPCA
Carol Nankivel - MPCA
Adonis Neblett - MPCA
Catherine Neuschler - MPCA
Edward Swain - MPCA

*The Original is in the possession of
Administrative Law Judge Laurasue Schlatter.

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P R O C E E D I N G S

(At this time Exhibit Number 1000 was marked for identification by the Court Reporter.)

THE JUDGE: My name is Laurasue Schlatter, administrative law judge with the state Office of Administrative Hearings. I thank all of you for taking the time to be here today to participate in the public rulemaking process on this important matter of public concern.

Just as a housekeeping matter, if anyone is looking for restrooms, they are out those doors (indicating), down the hall and to your left.

And we are going to be taking a couple of breaks this morning. We'll be taking a break about 11:15 for ten minutes so that the court reporter can give her hands a break.

And then we will be taking a half hour break at 12:30. The cafeteria downstairs closes at 1:00. So, if you're going to have access to food in the building, 12:30 is the time to do it.

There's also options outside of the building, but to keep our break time to a minimum we thought we best do it at 12:30 so you can eat right here in the building if you want to.

In addition, pursuant to Minnesota

1 Rule 1400.8000 I as a presiding judge have the authority
2 to ban the use of cameras in the hearing room during the
3 course of this proceeding. And it is my order that no
4 cameras will be allowed during these proceedings. And
5 that includes cell phone cameras.

6 So, please, members of the audience,
7 including the media, are hereby ordered to take out your
8 cell phones, turn them off and put them away.

9 Any unauthorized use of cell phones
10 as cameras or any other cameras will result in -- or the
11 use of any other cameras will result in sanctions,
12 including individuals being barred from proceedings.
13 You're certainly welcome to take notes, but not to use
14 your cell phones as cameras.

15 Today is October 23, 2017, it is a
16 little bit after 10:00 a.m. and we are here for a public
17 hearing in the matter of the proposed rules of the
18 Minnesota Pollution Control Agency amending the sulfate
19 water quality standard applicable to wild rice and
20 identification of wild rice waters, which is Minnesota
21 Rules Parts 7050.0130, 7050.0220, 7050.0224, 7050.0470,
22 7050.0471, 7053.0135, 7053.025, and 7053.0406.

23 This matter will be referred to as
24 OAH Docket Number 80-9003-34519. And I know that there
25 are some documents that may have a zero after the 9003

1 and that zero is incorrect, it should be just
2 9003-34519.

3 Please put this docket number in the
4 subject matter line of any correspondence or comments
5 you're submitting to my office so that that can be
6 properly routed to me. Also, for your information, the
7 Revisor's number on the rules is RD4324A.

8 The Office of Administrative Hearings
9 is independent of the Minnesota Pollution Control
10 Agency, which is the agency that is proposing to adopt
11 the rules that are the subject of today's hearing, as
12 well as the groups or any individuals who are
13 participating in today's hearing.

14 The role of our office is to provide
15 hearings that are fair to all participants. The
16 legislature directs in Minnesota Chapter 14 that
17 rulemaking hearings be conducted so that members of the
18 public can be heard as part of the rulemaking process.

19 I am here to ensure that there is
20 procedural fairness, to ensure that we are courteous to
21 each other, so that all interested parties can be heard
22 and to draw out information from as many voices as
23 possible. I am interested in hearing what each one of
24 you has to say.

25 An underlying assumption of this

1 process is that we rely on the wisdom of the group.
2 Thus, we are grateful that you are contributing your
3 thoughts, experience, and expertise to the formation of
4 substantive rules.

5 There is a handout back on the side
6 there entitled "OAH Rule Hearing Procedures." If you
7 don't have a copy, please take a moment to pick one up.
8 It describes the procedures set by the legislature for
9 hearings like this.

10 I'm going to go ahead and cover some
11 of those highlights now so you know how we're going to
12 proceed. This hearing is part of the process by which
13 rules are adopted under the Minnesota Administrative
14 Procedure Act.

15 During this rulemaking proceeding,
16 the Minnesota Pollution Control Agency is required to,
17 first of all, document its statutory authority to adopt
18 the proposed rules.

19 Second, to demonstrate that it has
20 fulfilled all the relevant legal and procedural
21 requirements of the law. And third, to demonstrate the
22 need for and the reasonableness of each portion of the
23 proposed rules with an affirmative presentation of
24 facts.

25 Those are the three big issues I'm

1 required to review as part of this proceeding. Some of
2 you are here to express your thoughts or views on
3 various rules. That is very helpful to the MPCA and as
4 well as to me.

5 My job is not to rewrite the rules
6 based upon the views of participants or to select one
7 set of proposed reasonable rules over another set of
8 proposed reasonable rules. My job is to ensure that the
9 statutory requirements are met for rulemaking.

10 Again, to make sure that all of the
11 statutory requirements, legal and procedural
12 requirements have been met, that the agency has the
13 statutory authority to adopt the rules and that the
14 rules themselves are needed and reasonable.

15 So, the road map for this hearing is
16 as follows: After I complete my introductory remarks
17 about the hearing procedures, I will introduce the panel
18 that's here from the MPCA. They're sitting here on the
19 other side of the room there.

20 Next the MPCA will submit the
21 exhibits it wishes to include in the official hearing
22 record and will summarize the exhibits so that everyone
23 has an idea of what is going into that record.

24 There are copies of the exhibits over
25 on the side here in the binders. You may look at the

1 exhibits during a break, even quietly during the
2 hearing, but please leave them there.

3 I think if you like you could
4 probably take them back with you to your seat for a
5 couple of minutes, but be sure you return them back to
6 the side, they need to not leave the room.

7 There are copies of those exhibits
8 online and you are free to access them online either
9 through our website or the MPCA's website. If you have
10 questions about them I'm sure that the MPCA staff --
11 about how to access them, the MPCA staff can work with
12 you and help you with that.

13 After the exhibits are entered into
14 evidence the MPCA staff will make an oral presentation
15 of the proposed rule amendments and the reasons for and
16 need for them. But the rest of the hearing time, most
17 of this hearing time has been allotted for statements
18 and questions from members of the public. And that's
19 the real reason we're here today.

20 In order to make sure we have an
21 accurate record of the number of people attending the
22 hearing, I ask that everyone sign the hearing register
23 located on the registration table in the back.

24 If you wish to speak or to submit a
25 written statement today you're required to sign the

1 hearing register. If you wish to speak please place a
2 check mark in the appropriate column on the hearing
3 register.

4 If anyone who wishes to speak or asks
5 questions is under time constraints today, please let
6 Carol Nankivel, who is at the back table, know. Carol
7 is there raising her hand. And she will relay that
8 information to me.

9 So, if you need to leave at a
10 particular time and you're concerned that you're not
11 going to get a chance to speak, please let her know,
12 she'll let me know and we'll make sure we work you in.

13 I'm going to call you generally in
14 the order listed on the hearing register. Do we have
15 more than one sheet, more than one set going at a time?

16 MS. NANKIVEL: No.

17 THE JUDGE: So, I will call you
18 generally in the order in which you were signed in.
19 When your name is called please come up to the table in
20 front so that I can hear you and the court reporter can
21 hear you.

22 Speak into the microphone, there's a
23 button with a little ear sound icon on it, press that
24 button, it will turn the microphone on, make sure the
25 microphone is on.

1 There's a second microphone on that
2 table and that microphone is recording for our record.
3 So, we have a court reporter taking down what you're
4 saying and we're also making a digital recording, that's
5 what the second microphone is for.

6 When you begin please state and spell
7 your name, give your address or at least state the town
8 that you're from and identify the group or interest that
9 you represent, if there are any interests that you
10 represent that are not an official group. If you do
11 represent an official group please state what that group
12 is.

13 I expect that we will have time for
14 everyone to be heard today, but it will be helpful if
15 you organize your remarks and focus on the highlights of
16 them. You can, of course, enter any written comments as
17 exhibits into the record of this matter if you like or
18 you can submit written comments to me after the hearing.

19 I want to ensure that everyone has
20 time to speak and that everyone who wants to be heard is
21 heard. And so, for that reason, each person today will
22 have an initial five minutes to speak.

23 People are not permitted to cede
24 their time to other people. So, you have five minutes.
25 If you have a friend who doesn't want to speak, you

1 cannot take your friend's five minutes. You just have
2 five minutes.

3 You will notice -- I will be timing
4 you with my phone. You will notice that there's
5 actually a little sand timer on the table. If that
6 helps you to -- that is a five-minute timer.

7 If it helps you to be able to see how
8 your time is going you can feel free to flip that timer
9 over and you will know exactly how much time you have
10 left and you'll know that your five minutes is an exact
11 five minutes.

12 I've tested it, it's a five-minute
13 timer. That's up to you. If it's going to make you
14 feel pressured, you don't have to use it.

15 If everyone who wants to speak gets a
16 turn and we have time left, we are happy to have people
17 come back and speak again. But we want to make sure
18 that we get through everybody in the room and that
19 everybody has a chance to speak initially.

20 If you decide that you prefer to
21 attend a different public hearing, we have other
22 hearings coming up in the next week and a half or so at
23 the following dates and locations.

24 Tomorrow we have a hearing in
25 Virginia, Minnesota from 4:00 to 9:00 p.m. at the Mesabi

1 Range College. On Wednesday, October 25th, we have a
2 hearing in Bemidji from 4:00 to 9:00 at Bemidji State.

3 Thursday we have a hearing,
4 October 26th, we have a hearing in Cloquet at the Fond
5 du Lac Tribal Community College from 3:00 to 7:00 p.m.
6 Next Monday we have a hearing in Brainerd from 4:00 to
7 9:00 at Central Lakes Community College.

8 And finally, on Thursday,
9 November 2nd, we have another hearing in St. Paul at the
10 Minnesota Pollution Control Agency. And there will be
11 video links during that hearing to Detroit Lakes,
12 Duluth, Mankato, Marshall, and Rochester.

13 So, there are a number of
14 opportunities for people to participate in these
15 hearings. And you can find copies of the hearing
16 schedule with all this information, I believe, over on
17 the table. Is that right? Yes, over on the side there.

18 I do want to caution you that I will
19 not allow people who have already spoken at one hearing
20 to speak at another hearing unless all of the people at
21 the later hearing who want to be heard have a chance to
22 speak.

23 So, that's just fair. It's their
24 first time at a hearing and they haven't spoken yet, but
25 you've already spoken at another hearing, you will be

1 put in the back of the line.

2 This is for all that I've given you,
3 all these rules, a fairly informal process. I'm here to
4 ensure that we are courteous to each other and the
5 process runs smoothly. As you come up to make your
6 comments please keep these things in mind.

7 A rule hearing like this is similar
8 to a legislative hearing or a meeting of a local board
9 or city council. Any speaker may ask questions of the
10 agency panel and may also be questioned by the agency
11 panel, by me or by other persons who are present at the
12 hearings.

13 But because this isn't like a court
14 hearing, you don't need to make your points by asking
15 questions. The most direct way to make your views known
16 is simply to say what you are thinking, to really go
17 directly to the point.

18 It will be most helpful to me if you
19 can be specific in your comments, tell me which rules or
20 rule subparts you support or you object to and why. The
21 record we make today may be reviewed by others later and
22 we want to be sure that the matter you are addressing is
23 also clear to those people.

24 Again, because of the number of
25 people who want to speak today, each person will have

1 five minutes to speak initially, another opportunity
2 later as time allows.

3 And again, I'm reminding you that
4 this hearing is being transcribed by the court reporter
5 and we have to keep an accurate record.

6 So, it's important when speaking to
7 remember to speak clearly, slowly and loud enough to be
8 heard, to make all statements and responses audible as
9 opposed to just giving a nod of the head or a gesture,
10 to please spell proper names and technical terms the
11 first time you use them.

12 There are a lot of technical terms in
13 this proceeding. Don't assume that I know how to spell
14 them or the court reporter knows how to spell them.
15 Explain what acronyms stand for.

16 Please don't be offended if I stop
17 you and ask you how to spell something or what it was
18 you said. I want to make sure that we've got a good
19 record.

20 Don't interrupt someone when
21 speaking. Only one person speak at a time, that will
22 ensure that we have a good record, that the court
23 reporter is getting everything she needs to get down and
24 that everybody can tell what you said.

25 If you have a written copy of your

1 remarks that you can leave here as an exhibit, please do
2 so, that is helpful to me. If I can go back later and
3 read what you said, that is extremely helpful.

4 Also, if you ask questions of agency
5 personnel, agency staff, they may or may not respond
6 directly to you at this hearing. That's up to them.
7 I'm sure they will respond if they feel they can respond
8 at this time.

9 However, they also will have the
10 opportunity to respond during the written comment
11 period. And I'm going to talk about that now. But they
12 also have the option to say we can't respond to you
13 right now at the hearing.

14 Now, let's talk about the written
15 comment period. Minnesota Statute Section 14.15,
16 Subdivision 1 provides that the administrative law judge
17 may by order keep the hearing record open for up to 20
18 days after the end of the public hearing. I am issuing
19 that order now.

20 The comment period shall be extended
21 for 20 days from the close of the final public hearing,
22 which takes place on November 2, 2017. So, this means
23 that after the close of the November 2, 2017 hearing
24 there will be an additional 20 calendar days in which
25 you can submit written comments.

1 Thus, you have until November 22,
2 2017 at 4:30 p.m. to submit comments, that's the end of
3 the day before Thanksgiving. You can all eat turkey
4 after that.

5 I refer you to the handout for the
6 address to send your comments to be sure that I receive
7 them. You can send it by mail or fax or E-file them on
8 our website. Again, they must be received by 4:30 p.m.
9 on November 22, 2017.

10 Our office will post all comments we
11 receive on our rulemaking website for all to review.
12 And the MPCA also has a rulemaking website, their
13 website is linked to our website. So, you can get to it
14 either way.

15 Again, please include the OAH docket
16 number, which is 80-9003-34519, in the subject line of
17 any comments you make so that your comment gets posted
18 in the right place and gets directed to me. Otherwise,
19 it could get misdirected to another judge or rule file.

20 After November 22, 2017 there will be
21 a five working day rebuttal period for anything that was
22 filed by 4:30 p.m. on November 22nd. So, that's a
23 chance to write something that is in rebuttal to
24 something that has already been filed.

25 That five-day period is meant for

1 comments about the comments that have already been made.
2 It is not a time to introduce new matters. And that is,
3 again, pursuant to our Statute 14.15.

4 Because there's a holiday in there,
5 the rebuttal period will not open until after the
6 Thanksgiving holiday. So, we will begin accepting
7 rebuttal comments for posting on Monday, November 27,
8 2017 and will continue to accept rebuttal comments
9 through Friday, December 1, 2017 at 4:30 p.m.

10 Again, the rebuttal comments can only
11 respond to comments submitted by the end of the day on
12 November 22, 2017. Is that clear to everybody?

13 MS. MACCABEE: Your Honor, if an
14 individual submits their comments by mail on
15 November 22nd, how will the other persons know what's in
16 the contents of those comments?

17 THE JUDGE: If we don't receive it by
18 the end of the day on November 22nd it's late.

19 MS. MACCABEE: I'm sorry, maybe I
20 wasn't clear. Will those comments all be immediately
21 scanned so that other individuals can read those
22 comments and then respond to them in rebuttal?

23 THE JUDGE: Everything we receive by
24 4:30 p.m. on November 22nd will be scanned and posted,
25 yes, but we have to receive it by 4:30 p.m. on

1 November 22nd, yep.

2 MS. MACCABEE: Thank you.

3 THE JUDGE: After December 1, 2017 I
4 will prepare a report that contains my conclusion about
5 whether the MPCA has met its statutory burdens in this
6 matter.

7 First and foremost I will focus on
8 whether the agency has documented its authority to enact
9 the rules, whether the agency has fulfilled all the
10 required procedures, and whether the agency has
11 demonstrated the need for and reasonableness of each
12 portion of the proposed rules.

13 You can expect my report
14 approximately 30 days after the last comment deadline
15 unless an extension is necessary. If you want to
16 receive a copy of my report please indicate that on the
17 sign-in sheet in the back.

18 If you provide an e-mail address we
19 will e-mail you. We will see that you receive notice
20 when the report is available and how to obtain a copy.
21 We will ensure that it gets to you and we are eager for
22 you to have a copy of my report.

23 The handout that I mentioned goes
24 into more detail about the process and contains the
25 important address information that you will need to

1 submit written comments. Please keep a copy of that for
2 your records.

3 Again, I really request that you put
4 in the subject line of your correspondence or e-mail the
5 OAH docket number, which I'm going to give you one more
6 time, 80-9003-34519, so that I am sure to receive it.

7 Before we begin are there any
8 questions about the procedures or what we are doing
9 today? Anybody? Okay. I'm glad we have a court
10 reporter because I realized I forgot to turn my
11 recording on, so we have our backup. We are now on the
12 digital record as well.

13 So, I'm going to introduce now Adonis
14 Neblett from the Minnesota Pollution Control Agency.
15 And, Mr. Neblett, would you like to introduce the rest
16 of the agency staff who are with us today?

17 MR. NEBLETT: Yes, I would, Your
18 Honor.

19 THE JUDGE: Thank you.

20 MR. NEBLETT: Good morning, Judge
21 Schlatter, all present.

22 THE JUDGE: I think maybe pull your
23 mic a little closer.

24 MR. NEBLETT: For the record my name
25 is Adonis Neblett, I'm the general counsel at the

1 Minnesota Pollution Control Agency. My first name is
2 spelled A-d-o-n-i-s and my last name is spelled
3 N-e-b-l-e-t-t.

4 I'm appearing on behalf of the agency
5 in this rulemaking proceeding, which we are proposing to
6 amend the sulfate water quality standard applicable to
7 wild rice and identification of wild rice waters in
8 Minnesota Rule Chapter 7050 and 7053.

9 If I may, I'll introduce the members
10 of the rulemaking team who are present to provide a
11 presentation and also to respond to questions as
12 appropriate and able.

13 Immediately to my right is Shannon
14 Lotthammer, Division Director for the Environmental
15 Analysis and Outcomes Division. She will be making the
16 principle presentation.

17 Next to her is Ed Swain, a research
18 scientist, Environmental Analysis and Groundwater
19 Services unit. At the end of this table is Catherine
20 Neuschler, Section Manager in the Water Assessment
21 section.

22 Immediately behind me is Gerald
23 Blaha, research scientist in the Water Quality Standards
24 unit. To his right is Elizabeth Kaufenberg, research
25 scientist in the Effluent Limits unit. At the -- oh,

1 okay. All right.

2 So, immediately behind me is Phil
3 Monson, research scientist, Water Quality Standards. At
4 the end of the table behind me is Gerald Blaha.
5 Additionally, later Scott Kyser will be joining us, an
6 engineer in the Effluent Limits unit.

7 Further present is Catherine
8 Neuschler -- no, excuse me. Further present is Carol
9 Nankivel, rule coordinator. Also present is Patricia
10 Engelking, project manager.

11 Additionally, we have Deb Klooz, a
12 paralegal here in the Legal Services unit who helped
13 assemble the record documents.

14 At this time, if I may, I'd like to
15 submit into the hearing record the exhibits outlined in
16 the notebook that I believe is before you. I will first
17 provide a brief description of the exhibits. A copy of
18 the exhibits are also, as indicated, available for all
19 to peruse.

20 The purpose of these exhibits is to
21 document that the agency has the legal authority to
22 adopt these rules, to demonstrate that we have fulfilled
23 all legal and procedural requirements for promulgating
24 the rules, and to demonstrate the need and
25 reasonableness of the rules.

1 If I may, I'll now walk us through
2 the substantial list. And when I'm able I will try to
3 summarize the exhibits. First in the various notebooks
4 is our request for comments published in the State
5 Register dated October 26, 2015.

6 Also, next we have Exhibit B. And I
7 understand, Your Honor, that you may be renumbering
8 these different than I am describing them.

9 THE JUDGE: I may go through and
10 renumber these exhibits simply for ease of reference in
11 my report. They will be described in the same way, but
12 I may go through and number them just starting with
13 Exhibit 1, Exhibit 2, Exhibit 3. And if I do that it
14 will be made clear at the front of my report.

15 MR. NEBLETT: Thank you. I will
16 continue on with identifying our exhibits by the
17 alphabet, but I hope that doesn't cause any great
18 consternation. I could not begin to track the numbers.

19 Exhibit B was a petition for
20 rulemaking submitted by the Minnesota Chamber of
21 Commerce on December 17, 2020 and memorandum in support.
22 Exhibit C, the rules as proposed --

23 THE JUDGE: Mr. Neblett, that was
24 December 17, 2010; is that correct?

25 MR. NEBLETT: 2010.

1 THE JUDGE: Sorry to interrupt.

2 MR. NEBLETT: My apologies if I
3 misspoke. The Exhibit C is the rules proposed,
4 including the Revisor's approval dated July 24, 2017.

5 Exhibit D is a Statement of Need and
6 Reasonableness dated July 17, 2017 and two accompanying
7 exhibits in the form of two stand-up separate notebooks
8 containing actual exhibits to the SONAR. So, two
9 attachments.

10 Exhibit E, the transmittal letter and
11 certificate of mailing of the Statement of Need and
12 Reasonableness to legislative reference library.

13 The notice of hearing is Exhibit F,
14 as published in August 21, 2017 State Register and
15 posted on the MPCA web page and notice of additional
16 hearings as published in September 18, 2017 State
17 Register and also posted on the MPCA web page.

18 Exhibit G is the certificate of
19 mailing of the notice of hearing and certificate of
20 mailing of the notice of additional hearing to the
21 rulemaking mailing list and a certificate of accuracy of
22 the mailing of those lists.

23 Exhibit H are certificates of giving
24 additional notice. H1 is a certificate of providing
25 additional notice of the August 21, 2017 notice of

1 hearing. Exhibit H2 is the certificate of providing
2 additional notice of the September 18, 2017 notice of
3 hearing, additional date and location.

4 Identified as Exhibit I, written
5 comments received during the prehearing comment period.
6 Those are not actually included in these notebooks that
7 we entered. They are available at the Office of
8 Administrative Hearings website.

9 We have a placeholder for approval to
10 omit text from the State Register. However, this is
11 indicated as not applicable because no such omission was
12 made.

13 Exhibit K are other documents or
14 evidence to show compliance with any other law or rule
15 which the agency is required to follow in adopting this
16 rule.

17 Exhibit K includes four specific
18 documents. K1, notices to legislative chairs and
19 minority leaders as required by Minnesota Statute
20 Section 14.116, dated August 21 and September 18 of 2017
21 respectively.

22 Notice to Department of Agriculture
23 is required by Minnesota Statute Section 14.111. And
24 that is dated July 19, 2017. Notice to and acknowledged
25 by Minnesota Management and Budget as required by

1 Minnesota Statute 14.13.

2 And next is notices sent to the
3 governing body of each municipality bordering or through
4 which affected waters for which standards are sought to
5 be adopted flow as required by Minnesota Statutes
6 Section 115.44, Subdivision 7. Those documents are
7 respectively K1 through K4.

8 Additionally, we have also -- we also
9 provide an Exhibit L. In Exhibit L we have materials
10 submitted -- additional materials submitted for this
11 hearing and they are a series of peer-reviewed technical
12 articles identified as L1 through L9.

13 I won't necessarily read each and
14 every one of these articles by titles. The L1 is an
15 article by Bolton and Menk dated 2017. L2 is by Ng., et
16 al, also dated 2017. L3 is by Myrbo, et al, dated 2017.
17 L4 is by Pollman, also dated 2017.

18 L5 is yet another article by Myrbo,
19 et al, dated 2017. L6 is errata correcting minor errors
20 to the SONAR and attachments to the SONAR. L7 is the
21 MPCA presentation that will be provided, given at this
22 hearing and other hearings. A copy of the slides are
23 L7.

24 L8 is a peer-reviewed technical
25 article by John Moyle dated 1975. And L9 is MPCA's

1 changes to specific water identification numbers, also
2 referred to as WIDs.

3 At this time, Judge Schlatter, the
4 MPCA would request that Exhibits A through L be received
5 and accepted into the record.

6 THE JUDGE: Before I go ahead and
7 accept those materials are there any questions from
8 members of the audience today? Ms. Maccabee, I believe
9 you are.

10 MS. MACCABEE: Are Exhibits 1 through
11 46 that were identified on the website part of one of
12 these exhibits? And if so, which one?

13 MR. NEBLETT: Yes, 1 through 46
14 represent the attachments to the SONAR, Attachments 1
15 and 2 to the SONAR. Attachment 1 would be the SONAR
16 Exhibits 1 through 21. Attachment 2 or Notebook 2 would
17 be SONAR Exhibits 22 through 46.

18 MS. MACCABEE: And that is what
19 letter exhibit?

20 MR. NEBLETT: That would be D.

21 THE JUDGE: Other questions? Yes?

22 MALE SPEAKER: I'd like to know, of
23 the articles that you went through, the list, are they
24 all accepted for publication? Have they been published?

25 I believe the materials that were

1 shared on the website, one of those articles has been
2 submitted, but it has not been accepted for publication
3 yet.

4 So, therefore, you need to be careful
5 about submitting something into the record that is not
6 absolutely accepted for publication. Can you clarify
7 that, please?

8 MR. NEBLETT: I'll ask Ed Swain to
9 clarify.

10 MR. SWAIN: The one article by Moyle
11 that was listed as submitted and not accepted was
12 accepted a few weeks ago.

13 MALE SPEAKER: The Pollman one I
14 think it was?

15 MR. SWAIN: Pollman was also
16 accepted. Yeah, L2, Ng., et al, that's spelled N-g, has
17 been published. L3, Myrbo, et al, is in press, it's
18 accepted. L4, Pollman, et al, is accepted and in press.

19 L5, Myrbo, et al, accepted and in
20 press. L6 was the errata, that's not a peer-reviewed
21 item. L7, PCA presentation that's to be made today and
22 others is not peer reviewed, it's a presentation.

23 L8, Moyle, 1975, I think that was a
24 memo, not a peer-reviewed article. And L9, MPCA changes
25 to specific water identification numbers, WIDs, is not a

1 peer-reviewed item, but it's our document.

2 MALE SPEAKER: Thank you.

3 THE JUDGE: Okay. Thank you. Any
4 other questions? Okay. The documents -- all of the
5 documents that have been identified are accepted into
6 the record. Thank you, Mr. Neblett and staff.

7 You can put them right down there
8 (indicating). Thank you. I have copies of everything
9 here as well. Is that all, Mr. Neblett?

10 MR. NEBLETT: No. If I may, I'd like
11 to thank you for a clarifying question and for the
12 clarification by Ed. Lastly -- and again, just -- we
13 have individuals here present that may be able to answer
14 questions as indicated.

15 If questions involve specific legal
16 or regulatory interpretations, et cetera, or go beyond
17 factual clarifications and procedural matters, we may
18 need time to confer amongst ourselves and determine
19 whether or not we can respond appropriately here or
20 whether we need to make reference to other documents in
21 order to provide you with a considered response.

22 In some instances it may be our
23 determination that it's best just to respond to the
24 comment or question during the post-hearing comment
25 period. That is all. We will otherwise do our best to

1 respond. Thank you.

2 THE JUDGE: Thank you. And now, I
3 think the agency has a presentation, is that --

4 MR. NEBLETT: Shannon Lotthammer.

5 THE JUDGE: Ms. Lotthammer, you may
6 proceed. Thank you.

7 MS. LOTTHAMMER: Thank you, Your
8 Honor. And thank you for everyone that's here today.
9 My name is Shannon Lotthammer, it's spelled
10 S-h-a-n-n-o-n, L-o-t-t-h-a-m-m-e-r.

11 And I am the director of the
12 Environmental Analysis and Outcomes Division, which is
13 the part of the Pollution Control Agency that does water
14 quality standards, rulemaking, and rule revisions, in
15 addition to other duties.

16 So, I appreciate the opportunity to
17 be here today to provide a brief presentation of the
18 rule revisions that we're proposing. The intent of this
19 presentation is to highlight aspects of the rule
20 proposal.

21 And all of the details can be found
22 in the documents that Adonis just submitted into the
23 record, particularly the Statement of Need and
24 Reasonableness and the attachments to that and also the
25 technical support document and attachments to the

1 technical support document.

2 So, today what I'll be covering is
3 why the Pollution Control Agency is proposing these
4 revisions to existing water quality standards, a little
5 bit of background about water quality standards in
6 general and this particular proposal, and then an
7 overview of the proposal and implications of the
8 proposal and a brief summary.

9 So, this rulemaking proposal came
10 about as a result of questions arising about the
11 existing standard for sulfates to protect wild rice
12 production that is in water quality standards right now.

13 And the questions, which I'll talk
14 about in a moment, really pointed to the need for better
15 understanding and clarity of both how and when sulfate
16 impacts wild rice and also where and how the standard
17 itself applies.

18 So, in 2010 the Pollution Control
19 Agency started a review of the existing water quality
20 standard and that's proceeded to get us to this point.
21 And throughout this effort the Pollution Control Agency
22 has been lead by key goals.

23 First; to protect wild rice
24 production, that is the intent of the original standard
25 and also the revisions going forward; to incorporate new

1 scientific findings, and I'll speak about that and how
2 that relates to the proposal; to reduce the uncertainty
3 and add clarity to the implementation of the standard,
4 which has been a real challenge over the last decade;
5 and also, to avoid unnecessary regulatory impacts where
6 it's not needed to protect wild rice and wild rice
7 production.

8 So, before I outline the elements of
9 this proposal, it's helpful to talk a little bit about
10 the nature of water quality standards themselves.

11 So, water quality standards are
12 essentially a number or a statement to protect a water
13 body for a specific use.

14 They're tools under the Federal Clean
15 Water Act that are focused on protecting water quality
16 and the type of water quality that's needed for what's
17 called the beneficial use or the intent for the water
18 that's being protected.

19 So, in this case, we're talking about
20 a water quality standard that is intended to protect
21 aspects of wild rice production or more specifically
22 harvest and use of the wild rice grain by humans and
23 wildlife.

24 A water quality standard applies in
25 the water body itself. So, again, it's intended to

1 describe the conditions, whether it's that narrative
2 statement or specific number that is protective of that
3 beneficial use in the water body.

4 Under the Federal Clean Water Act
5 water quality standards are established by states and
6 authorized Indian tribes. And they're established with
7 the oversight of the federal government in the form of
8 the Pollution Control Agency.

9 And basically standards are based on
10 the environmental science that we have today about the
11 effects of pollutants on human health and also on
12 aspects of the environment.

13 So, now to the existing wild rice
14 sulfate standard. The Pollution Control Agency first
15 adopted a standard to protect wild rice from sulfate
16 impacts back in 1973 following the administrative
17 process at the time. And that standard was approved by
18 the Federal Environmental Protection Agency.

19 That adoption process was based on
20 data that was collected in Minnesota lakes that found
21 that wild rice tended to grow in areas with lower
22 sulfate concentrations.

23 What you see on the screen is a map
24 of Minnesota with different colors representing
25 different sulfate concentrations in the surface water,

1 blue being the lowest and red being the highest. And
2 the dots are locations of waters with wild rice in
3 Minnesota.

4 So, you can see that relationship
5 between lower sulfate levels and the presence of wild
6 rice. And that led to the adoption of the noted
7 standard back in 1973.

8 But in recent years questions have
9 come up about the standard, questions like while there
10 is this tendency for wild rice to grow in waters with
11 lower sulfate levels, we know that there are some stands
12 of wild rice that grow at higher sulfate concentrations,
13 much above the existing 10 milligrams per liter
14 standard.

15 There's also been questions about
16 where exactly are the water bodies that have this
17 beneficial use of harvest and use of the grain by humans
18 and wildlife.

19 And you'll notice in the previous
20 slide that an aspect of the current standard refers to
21 the susceptibility of wild rice to sulfate impacts. And
22 there's been questions about when exactly is wild rice
23 susceptible to impact from sulfate.

24 So, I mentioned the Pollution Control
25 Agency first reviewed the scientific literature in 2010

1 to see if there was new information available to help
2 clarify these questions that had come up. And there
3 really wasn't new information about wild rice and
4 sulfate in the scientific literature.

5 Fortunately in 2011 the Minnesota
6 legislature provided funding to the agency under the
7 Clean Water Land and Legacy Amendment from the Clean
8 Water Fund to undertake studies to better understand the
9 effects of sulfate and other pollutants on wild rice.

10 The legislature also directed the
11 agency to convene an advisory committee to provide
12 feedback on the study, the analysis of the study
13 results, and also the subsequent rulemaking.

14 And then, the legislature directed
15 the agency to undertake rulemaking following the
16 completion of this study. And subsequent legislation
17 has established a deadline for that rulemaking of
18 January 15th of 2019.

19 So, this set PCA on a process of
20 gathering new information and reviewing existing
21 information and analyzing that information to move
22 towards the rule that you see -- the rule proposal that
23 you see before you today.

24 And you can see kind of the various
25 steps that have occurred through the last seven years of

1 this effort. This slide now provides a bit of
2 information about the activities that have led up to
3 this rule proposal that is before the administrative law
4 judge today.

5 So, first the agency undertook a
6 series of studies to enhance understanding of the
7 effects of sulfate and other substances on wild rice to
8 inform the evaluation of the existing 10 milligrams per
9 liter sulfate standard.

10 Those studies involved several areas
11 of investigation. One was laboratory experiments, or
12 otherwise known as hydroponic experiments, where wild
13 rice seedlings were exposed to different sulfate and
14 sulfide levels in the laboratory to see what effects
15 those different concentrations did or didn't have on the
16 wild rice seedlings.

17 There were also outdoor container
18 experiments where wild rice was grown in large tubs out
19 in the environment but not in a lake or a stream and
20 subjected to different levels of sulfate concentrations.
21 And variables were measured, including variables that
22 related to the health of wild rice.

23 There was an extensive field survey
24 where a number of lakes and streams across Minnesota
25 were measured for a lot of different constituents,

1 chemical and physical, as well as the presence and
2 density of wild rice to see what relationships occurred
3 out in the environment.

4 And then, finally, there was a series
5 of sediment experiments that looked at the changes in
6 sediment from sulfate being introduced in the overlying
7 water and then being removed from the overlying water.

8 Throughout this effort we received
9 input and feedback from an advisory committee that
10 included a broad range of interested parties, including
11 tribes, environmental groups, municipality
12 representatives, industry representatives, and also
13 researchers in areas that had to do with wild rice
14 ecology and chemistry.

15 This was not intended to be a
16 consensus group, we knew that there was a broad facet of
17 information and feedback and perspectives and we wanted
18 to be sure that all of those perspectives were heard and
19 that input was provided throughout that process.

20 The effort also involved independent
21 scientific peer review where the agency worked with a
22 third party to have the initial analysis that was
23 completed peer reviewed by scientists actually across
24 the nation and internationally, a panel of five
25 scientists.

1 There was literature review, there
2 was additional data that was collected by other entities
3 that the agency also evaluated and incorporated into our
4 analysis and ultimate proposal for the rule revisions.

5 And then, as Ed has noted, there's
6 been a number of scientific articles that either have
7 been published or now accepted for publication and in
8 press. So, another round of independent peer review
9 through that publication process.

10 Now I'll move on to the rule proposal
11 itself. The proposal actually has four main components.
12 The first is that it sets a protective level of sulfide.
13 And the next slide I'll speak to why that's important
14 when we're talking about sulfate in wild rice to be
15 talking about sulfide.

16 Then the rule specifies how to
17 determine then a numeric sulfate standard based on that
18 protective sulfide level.

19 Thirdly, the rule identifies about
20 1,300 lakes, rivers, and streams as wild rice waters
21 where that beneficial use either is currently an
22 existing use or has been a use in existence since 1975.
23 And that date is of significance because of the Clean
24 Water Act and the provisions in the Clean Water Act.

25 And fourthly, the rule proposal

1 provides specific implementation details about data and
2 how to consider data when the agency moves from the rule
3 development process and adopting the standard to
4 evaluating permits in the future to see if changes are
5 needed to those permits to ensure that the standard is
6 being protected in receiving waters of discharge.

7 So, that first part, then, is about
8 the protective sulfide level that is protective of wild
9 rice. So, what we found through the research and
10 through the literature review and the ongoing review is
11 that when oxygen is low in a mucky environment, which
12 are the types of sediments where wild rice grows, what
13 happens is that the bacteria that lives in those
14 sediments, because there's not oxygen to breathe, they
15 essentially breathe other chemicals.

16 And one of the chemicals that they
17 breathe is sulfate. And in that process they take the
18 sulfate and basically convert it into sulfide. And
19 sulfide in that sediment water, which is also known as
20 porewater, is significantly controlling of both wild
21 rice presence and also wild rice density.

22 And actually while sulfate as a
23 chemical is not all that toxic, and we've seen that both
24 through the laboratory experiments and also just our
25 understanding of environmental chemistry, sulfide

1 actually is highly toxic to humans, to wildlife, and in
2 this case it also affects wild rice.

3 And the technical support document
4 and the Statement of Need and Reasonableness lays out
5 the details of those interactions.

6 So, then we needed to determine what
7 is a protective level of sulfide if we're going to be
8 protective of wild rice. And what we found is through
9 analysis of primarily the field data, so the data that
10 was collected in Minnesota lakes and streams, we
11 identified what that protective level of sulfide is.

12 And that's what we're proposing as a
13 part of this rulemaking is to establish the protective
14 sulfide level as 120 micrograms per liter, which is the
15 same thing as parts per billion, in the sediment of the
16 wild rice waters.

17 So, once we've established what the
18 protective level of sulfide is we do still need to
19 understand, then, what is controlling that level of
20 sulfide in the sediment so that we can take the next
21 step needed to be protective of the wild rice.

22 And what we found through the
23 additional analysis was that there were three variables
24 that exert basically equal control on the presence of
25 sulfide in wild rice sediments.

1 Those variables are the sulfate in
2 the surface water, that makes sense because that's where
3 the sulfur molecule comes from. The sulfate actually
4 diffuses or moves into the sediment and then it's
5 available there for that bacteria to do the work of
6 moving it from sulfate into sulfide.

7 The other two variables are a little
8 less direct, and so take a little bit more explaining.
9 Because the other two variables that are equally
10 important in controlling the sulfide levels in the
11 sediment are the amount of total reactive iron in the
12 sediment or total extractable iron and then also total
13 organic carbon that are in the sediment.

14 And what's happening there is that
15 the organic carbon is the food source for the bacteria.
16 So, the more organic carbon you have in the sediment,
17 the more bacteria you can have, the more quickly the
18 bacteria can do their work of converting sulfate into
19 sulfide.

20 So, sediments with higher carbon
21 levels tend to be more efficient. Water bodies with
22 higher carbon levels in the sediment are more efficient
23 at converting sulfate into sulfide. Same amount of
24 sulfate, you end up with more sulfide in a water body
25 with less carbon levels in the sediment.

1 On the flip side, iron has the
2 opposite effect of actually tying up the sulfide when
3 it's produced. So, the sulfide builds up at a lesser
4 extent. So, flip side, more iron means less sulfide
5 building up in the sediment for the same amount of
6 sulfate in the overlying water.

7 So, that led us to the proposal then
8 of setting the sulfate number, the numeric sulfate
9 standard for each wild rice water at the level that's
10 needed to keep the sulfide below 120 micrograms per
11 liter, that protective level.

12 So, the proposal includes a primary
13 option for doing that, which is by measuring the
14 concentrations of iron and sediment -- or iron and
15 carbon in the sediment and then using an equation to
16 determine what is the level of sulfate that is
17 protective.

18 And the technical support document
19 and the SONAR lay out how that equation was developed
20 using data from Minnesota lakes and streams. And then,
21 there's an alternate method of directly measuring the
22 sulfide concentration as an alternate way of
23 establishing what the safe sulfate level is.

24 Now, the reason for taking this
25 equation approach is because there's not a general

1 pattern in the levels of iron and carbon in the sediment
2 of lakes and streams that have wild rice in them.

3 Often what we'll find in
4 environmental science is that there's patterns in our
5 lakes and streams either by types, the lakes tend to
6 behave in one way and streams tend to behave in a
7 similar way to other streams or there may be regional
8 patterns.

9 So, waters in the Northeast part of
10 the state are somewhat similar in their composition, but
11 different from waters in the Southwest.

12 What we found, though, when we look
13 at iron and carbon concentrations in the sediment is
14 that there's not general patterns in the environment
15 that we can identify based on, for example, the type of
16 water body, a lake or a stream, or the location of the
17 water body in the state.

18 So, two lakes right next to each
19 other can have very different iron and carbon levels.
20 So, we can't make general assumptions about those levels
21 in the sediment, that's why we need to measure them.

22 Fortunately, we have been able to
23 develop and propose a robust equation for relating the
24 sulfate, the sulfide, the iron, and the carbon together
25 so that we can then determine what is that numeric

1 sulfate standard needed to protect wild rice in a
2 particular water body.

3 The proposal also includes some
4 additional details for the numeric standard. First it
5 incorporates by reference the procedures for the
6 sediment and the porewater sampling that are necessary
7 to measure the iron and the carbon to make use of that,
8 either the equation approach or the alternate approach
9 of directly measuring sulfide.

10 It's important that everyone is aware
11 of what those procedures are and how they'll be followed
12 so that folks can check the Pollution Control Agency's
13 work or if there's interest in conducting additional
14 work, there's a road map for doing that.

15 So, those procedures are incorporated
16 by reference into the rule as part of the proposal so
17 they become the same as the rule language in effect.

18 The proposal also specifies three
19 important components of any standard, in this case the
20 proposed wild rice sulfate standard. First, the
21 magnitude, so the amount of the pollutant that can be in
22 the water and still be protective of the beneficial use,
23 that's the numeric sulfate standard.

24 Then the duration, the duration is
25 the time period over which you evaluate the pollutant

1 concentrations. And it's related to how the pollutant
2 actually affects the thing that you're trying to
3 protect.

4 And the Pollution Control Agency is
5 proposing an annual average as the duration for the
6 proposed revised standard.

7 Then the third component of water
8 quality standards is frequency. And what frequency has
9 to do with is how often the standard can be exceeded and
10 still be protective of what it is you're trying to
11 protect, in this case, the wild rice harvest and use of
12 the grain.

13 And the Pollution Control Agency is
14 proposing a one-in-ten year frequency. What that means
15 is that if one time in a given ten-year period the
16 sulfate concentration on an annual average is above the
17 numeric standard, that's not a violation of the standard
18 because there needs to be a sustained elevation in order
19 for the wild rice to be impacted.

20 And the details of that again are
21 laid out in the Statement of Need and Reasonableness and
22 the technical support document.

23 Then, the third critical or main
24 component of this rule proposal is to specifically
25 identify the waters that exhibit the beneficial use.

1 And we're proposing to term those as wild rice waters
2 instead of the current phrase, which is water use for
3 production of wild rice.

4 The Pollution Control Agency is not
5 proposing to change that beneficial use, but rather to
6 update the language and then also to specifically
7 identify which water bodies exhibit that beneficial use
8 to really add clarity to the implementation of the rule
9 and to where the standard applies.

10 So, there's actually a series of
11 lists in the proposed rule language, if you look at the
12 proposed rule itself, that identifies where that
13 beneficial use exists by the overall major basin and
14 also by the watershed.

15 And then, the Pollution Control
16 Agency has also developed an interactive map on our web
17 page. That would not be the controlling rule language,
18 it would all be in the proposed rule.

19 But to assist with user friendliness
20 and usability we've also developed a web application map
21 that you can look at to explore the proposed list of
22 wild rice waters.

23 The other thing that we needed to
24 think about in this process is that because there's not
25 a comprehensive inventory of wild rice throughout

1 Minnesota, we needed to think about what would happen in
2 the future if and when additional information becomes
3 available about the location of wild rice in waters in
4 Minnesota.

5 So, to address that, the Pollution
6 Control Agency is proposing that waters be added as
7 Class 4D wild rice waters through the rulemaking process
8 and that that beneficial use and the existing of that
9 beneficial use and the reasonableness of that
10 determination would be demonstrated then during that
11 rulemaking process.

12 We've proposed language to include in
13 the rule about the types of information that would be
14 supportive of adding additional waters.

15 And we also anticipate and intend to
16 regularly solicit that information so that as
17 information becomes available there's the opportunity to
18 move forward with rulemaking to augment that list of
19 wild rice waters.

20 Finally, the rule proposal and
21 supporting documents include information about
22 implementing the rule. And what I mean by that is how
23 the standard is considered, particularly in setting
24 permitting requirements.

25 So, under the Clean Water Act and

1 state statutes, the Pollution Control Agency has the
2 authority to implement federal national pollutant
3 discharge elimination systems permits in Minnesota.

4 And the one thing that I want to
5 point out is that permit setting process is not the same
6 thing as establishing a water quality standard.

7 Basically the water quantity standard
8 identifies what's the goal that we're trying to achieve
9 and that we need to achieve in a water body to be
10 protective of the beneficial use.

11 And that water quality standard is
12 established based on what is it that environmental
13 research and science tells us is needed to protect the
14 beneficial use, in this case, wild rice production, from
15 the pollutant of concern, in this case, sulfate.

16 What permits do is they then specify
17 the facility requirements that are needed in order to
18 ensure that a particular discharger is not causing or
19 potentially causing that water quality standard to be
20 violated or not achieved in the receiving water that
21 that discharger is discharging to.

22 It's important to note, then, that
23 not all facilities -- even if they discharge to a
24 receiving water that we're protecting for a particular
25 beneficial use, not all facilities have the potential to

1 impact that beneficial use.

2 They may have low amounts of
3 discharge, both the volume of the discharge or how much
4 of the pollutant is in the discharge. And if there's a
5 large volume in the receiving water, then that
6 particular discharger may not have the potential to
7 cause or contribute to a problem.

8 Some do have the potential to cause
9 or contribute to a problem and that's when permit limits
10 are needed in their permit in order to be protective of
11 that beneficial use.

12 But one of the things that is -- that
13 can be the case when we're talking about water quality
14 standards and certainly has been the topic of much
15 discussion around this particular rule proposal is that
16 often our understanding of environmental needs and
17 environmental protection needs can outpace our
18 understanding or the ability to treat for pollutants
19 that we find in discharges, whether it's discharges from
20 industries or waste water treatment facilities or other
21 types of activities in Minnesota.

22 In water quality standards
23 development under the Clean Water Act we're actually not
24 able to consider costs of treatment in establishing the
25 standard because the standard is all about what is

1 needed to be protective of that beneficial use.

2 And that's really something that's
3 independent of cost, whether it's really expensive to
4 treat or it's really inexpensive to treat, that doesn't
5 change how toxic a particular pollutant is to a
6 particular receiving water to the things that we're
7 trying to protect.

8 But costs absolutely are an important
9 consideration when we're thinking about the overall
10 system of protecting our resources in Minnesota. And
11 it's at the permitting phase when costs come into
12 consideration.

13 So, there's tools under the Clean
14 Water Act and under state statutes and rules that allow
15 for the consideration of costs when permits are being
16 established.

17 And if establishing a permit limit
18 based on protecting a water quality standard would
19 result in widespread social or economic impact, there is
20 the potential then to issue what's called a variance,
21 which is a temporary change to the water quality
22 standard, recognizing that technical infeasibility or
23 cost infeasibility.

24 Now, variances do require review by
25 both the Pollution Control Agency and the Federal

1 Environmental Protection Agency. And they do need to be
2 re-evaluated over time to see if changes have occurred
3 either in the economic feasibility or more often what we
4 see is that treatment technology advances and what was
5 once very expensive to treat for becomes more affordable
6 and then the variance is no longer needed and that
7 pollutant can be addressed.

8 So, I explain all of this because
9 there are some provisions within the proposal that speak
10 to some of these implementation questions that come up
11 once a standard is adopted and then we're evaluating
12 permits.

13 So, the proposal includes some
14 details on what's called effluent limit review, which is
15 the process of reviewing what's being discharged from a
16 treatment facility to see if controls are needed in
17 order to protect that water quality standard downstream.

18 And that is looking at both the
19 appropriate flow conditions to review and also the
20 approach for water bodies that are large or long that
21 have wild rice in some parts of them but not other parts
22 of them. And that's detailed again in the Statement of
23 Need and Reasonableness and the technical support
24 document.

25 There's also additional details

1 provided on variances, including a proposal to waive the
2 application fee for municipal waste water treatment
3 facilities or publicly owned treatment works that need
4 to apply for a variance given the high cost of sulfate
5 treatment at the current time.

6 The other thing that I want to point
7 out is that data will need to be gathered to fully
8 implement the water quality standard and evaluate the
9 need for any changes to permitted facility discharges.

10 So, that data gathering will be
11 prioritized based on the potential for impacts of
12 facilities on downstream wild rice waters and also
13 logistics like our monitoring schedule.

14 We have a ten-year rotating basin
15 monitoring schedule that we follow, and also when
16 permits will be coming up for reissuance. Permits are
17 issued and re-issued on a five-year schedule.

18 So, finally, I'd like to point out
19 that there's a lot of supporting information that
20 provides context and details for the proposed standards
21 revision. That includes the Statement of Need and
22 Reasonableness, the technical support document, the
23 peer-reviewed scientific papers.

24 There's also a regulatory analysis,
25 which is a required component of the Statement of Need

1 and Reasonableness under the Administrative Procedures
2 Act. That identifies who bears the cost and who will
3 benefit from the proposed rule revisions.

4 There's an alternative analysis of
5 other options that the agency considered. It's
6 important to point out that there is an existing
7 standard, so that was part of both the alternatives
8 analysis and also the overall regulatory analysis.

9 There's the cost and consequences of
10 adopting and not adopting the revisions and options for
11 mitigating those costs. And those are all part of that
12 supporting information. And certainly we welcome
13 feedback and questions about that information.

14 And then, I want to point out, too,
15 that there is a separate but related project that the
16 agency has underway that's been funded by the
17 Legislative Citizen Commission on Minnesota resources
18 that's focused on gathering additional information about
19 treatment technologies and costs and options for
20 municipal treatment works.

21 So, publicly owned treatment
22 facilities that may be looking at the potential for
23 limits on sulfate. So, that will help both inform what
24 technology is available, if there's the need for
25 variances it will help inform the variance proceeding as

1 well, that's separate from this particular rulemaking.

2 The SONAR regulatory analysis does
3 also address costs and has pulled from some of the
4 preliminary information that's from that study that is
5 underway.

6 So, in summary, I'd just like to
7 point out that something that is universally
8 acknowledged, and I know that the folks that are
9 interested and engaged in this effort very much
10 appreciate, is that wild rice is important ecologically,
11 economically, and spiritually in Minnesota. It's our
12 state grain.

13 And we have very sensitive tribal
14 communities that I -- as a nontribal person I know I
15 can't fully appreciate how important this resource is to
16 them, but we've heard very much from their voices and
17 this proposal has benefited from that perspective and
18 the perspective of all Minnesotans that are interested
19 in this particular issue.

20 We know that the sulfate standard
21 that was adopted back in 1973 needs updating to reflect
22 new science and enhance the clarity. There's a lot of
23 questions about how to implement that existing standard.
24 And there's new information that can really help clarify
25 that.

1 We also know that there are
2 environmental variables that affect the readiness or the
3 amount that sulfate impacts wild rice from one water
4 body to the next.

5 And this proposal accounts for those
6 environmental variables by tailoring the standard to the
7 environmental conditions by measuring the iron or the
8 carbon or the porewater sulfide directly.

9 And that's particularly important
10 given the significance of this resource and also the
11 current cost of sulfate treatments.

12 We want to be as precise and accurate
13 as possible given the challenging situation that's both
14 the need to protect wild rice and the importance of
15 protecting wild rice and the cost that sulfate treatment
16 presents.

17 And finally, I just want to reiterate
18 and emphasize that the Pollution Control Agency is very
19 grateful to all of those who have shared their
20 expertise, their critique, their hard questions, their
21 perspectives throughout this process and throughout the
22 administrative hearings now going forward.

23 And with that, Your Honor, thank you
24 very much for the opportunity to present.

25 THE JUDGE: Thank you. It is just

1 about 11:15 right now and I have promised a brief break
2 to our court reporter. So, we're going to take a
3 ten-minute break.

4 In the mean time I will take a look
5 at the sign-up sheets for people who want to make
6 comments. And I will, in fact, during the break I'll
7 make a brief announcement about who the first couple of
8 people are.

9 You probably know who you are, but I
10 will certainly make an announcement so you know you're
11 going to be coming up for comments. So, it's 11:14, so
12 we'll be back at 11:24. Thank you.

13 (At this time a brief recess was taken
14 from 11:14 a.m. until 11:24 a.m.)

15 THE JUDGE: Please be seated. Okay.
16 So, we are at the public comment part of this public
17 hearing. And I have the sign-in register with me.
18 There was one person who does have a time constraint, so
19 she's going to testify first.

20 And I'm not sure you were here for my
21 comments at the very beginning, but there is a
22 five-minute time limit. I will be keeping track and I
23 offered people if they prefer to use that hourglass, it
24 is a five-minute hourglass. So, if that makes it easier
25 for you feel free to use it.

1 So, please, introduce yourself,
2 please state your name, spelling your name. Let us know
3 at least your -- what town you're from. If you're not
4 comfortable giving your full address you don't have to
5 do that publicly here, but where you're from.

6 And if you represent any groups
7 please let us know who you represent. You may
8 proceed.

9 MS. LANG: Hi, my name is Jennifer
10 Lang, that is J-e-n-n-i-f-e-r, last name Lang, L-a-n-g.
11 And I am a St. Paul resident. I am not representing any
12 organizations today.

13 We gather in this room today because
14 a common, seemingly mundane concern has brought us
15 together. Wild rice is a culinary specialty and piece
16 of Minnesota state heritage that has been important for
17 me for some time.

18 I grew up in Minnesota and lived here
19 my whole life before leaving for college in Ohio,
20 followed by international teaching and work abroad.

21 My first real opportunity to share
22 wild rice, this piece of my Minnesota cultural heritage,
23 with an outside audience occurred about ten years ago.
24 I was a junior in college preparing for my first
25 long-term study abroad adventure.

1 I would be staying with a host family
2 in Marseille, France. I remember tucking a small paper
3 parcel in my luggage. The parcel was filled with
4 Minnesota wild rice that my mother had picked up. A
5 label was stuck to the parcel identifying its Minnesota
6 origins and posting a recipe for wild rice casserole.

7 I remember preparing this casserole
8 for my host family in Marseille and I recall their
9 delight at tasting this nutty rich grain that they had
10 never before encountered and that I'm proud to call our
11 state grain.

12 It is a grain that stems back to our
13 indigenous roots as a state, a grain that our native
14 people grew to sustain their populations and a grain
15 that continues to sustain us today.

16 But the meaning of wild rice for me
17 is not just about Minnesota cultural preservation
18 identity or even a source of food. Wild rice for me is
19 also about honoring Minnesota's geological roots.

20 10,000 years ago the glaciers moved
21 through the land we stand upon today, carving out the
22 valleys and peaks and forming the lakes that have come
23 to define our state today, Land of 10,000 Lakes, and
24 even closer to 12,000, according to many sources.

25 And it's within and around these

1 lakes and these beautiful clear waters carved out by the
2 glaciers that our wild rice grows. Lately I have
3 noticed lakes becoming blighted with the appearance of
4 algae.

5 Algae growth is concerning to me
6 because I want our lakes to be beautiful, both for my
7 own recreational activities and for outsiders visiting
8 our state, this land of 10,000 lakes.

9 Most concerning, though, is where
10 this algae has come from. Algae blooms result from a
11 release of phosphorus from sediments. Phosphorus
12 release from sediments is something that can occur as a
13 result of sulfate loading.

14 So, when we are proposing to increase
15 the sulfate limit, this to me is a sign of blatant
16 disregard and unwillingness to look at the source of an
17 ongoing problem, that is, the excess growth of algae
18 upon our otherwise clear waters.

19 It is a sign of disrespect for our
20 lakes, for our very geological roots, and for our
21 recreational and tourist industry that sustains us
22 today.

23 But the problem goes even deeper.
24 The fact that the MPCA is considering abandoning the
25 Clean Water Act and upholding the wild rice sulfate

1 standard is to me evidence of a blatant disregard for
2 the health and well-being of our future generations.

3 Currently one in ten infants in the
4 Minnesota Lake Superior region are born with unsafe
5 mercury levels. Mercury contamination in human fetus
6 can lead to all sorts of complications, including an
7 impact on brain development and neurological
8 functioning.

9 What astounds me is how closely
10 linked mercury contamination is with sulfates. It has
11 been proven that sulfate increases mercury in sediments,
12 resulting in bioaccumulation and toxic contamination to
13 fish.

14 If already 10 percent of infants in
15 this region are being born with unsafe mercury levels, I
16 can only imagine that this number would increase if we
17 were to neglect the sulfate standard. This strikes me
18 as extraordinarily unfair to the people and unborn
19 children of that region.

20 Finally, and perhaps most pertinent,
21 is that the MPCA is at risk of breaking the law. Eight
22 years ago in 2009 the MPCA got an order from the U.S.
23 EPA stating that we must enforce the 1973 wild rice
24 sulfate rule.

25 Currently as of 2015 the EPA is

1 actively investigating Minnesota because of our failure
2 to protect clean water.

3 For these reasons stated, I implore
4 the MPCA to uphold the Clean Water Act, keeping
5 Minnesota's wild rice sulfate standard and to apply the
6 existing wild rice sulfate standard all year around and
7 protect all wild rice waters. Thank you.

8 THE JUDGE: Thank you. The next
9 person on the list is Mr. Kwilas.

10 MR. KWILAS: Good morning everyone.
11 My name is Tony Kwilas, K-w-i-l-a-s. I'm the director
12 of environmental policy at the Minnesota Chamber of
13 Commerce, which is located at 400 Robert Street North,
14 Suite 1500, St. Paul, Minnesota 55101.

15 I want to thank you for the ability
16 today to make some brief comments about the proposed
17 wild rice sulfide standard. The Chamber represents
18 2,300 businesses statewide that employ over 500,000
19 Minnesotans.

20 The proposed rule right now would
21 replace the existing 10 milligrams per sulfate standard,
22 which we want to thank the agency for taking a look at
23 and agreeing that that is probably not the standard we
24 need to look at for wild rice and with an equation that
25 would take into account total extractable iron and total

1 organic carbon in the sediment where wild rice is
2 present or has been present.

3 This new limit on sulfide, not
4 sulfate, would be proposed, as Ms. Lotthammer has
5 mentioned, at 120 micrograms per liter.

6 The Chamber has some concerns about
7 the proposed rule and they are threefold. The first one
8 would be to the previously referred equation, which uses
9 iron and organic compound components contains an error
10 rate of 20 percent.

11 With such a high error rate, it's
12 difficult for industry to justify the capital resources
13 needed to be spent to meet this standard.

14 Uncertainty is one of the reasons
15 cited by industry, along with the time to obtain the
16 permit and the cost to get a permit which deters
17 economic development projects and expansions from
18 occurring in Minnesota.

19 By adjusting these inputs used,
20 alternative or technically sound equations with reduced
21 error rates could be generated and still protect wild
22 rice. And this will also address the uncertainty in the
23 equation.

24 There's going to be commenters behind
25 me, including Mr. Anderson and a panel of experts, who

1 will be able to elaborate a little bit further on this
2 point.

3 The second point is, the Pollution
4 Control Agency did not include conclusions from an
5 economic impact study that was requested by the
6 legislature in 2016.

7 That request for proposal included
8 engineering feasibility studies and a cost analysis of
9 the potential impacts of the rule.

10 The legislature even extended the
11 deadline during this last legislative session for the
12 rulemaking until January of 2019 so this report could be
13 incorporated in the supporting documents. The report,
14 as mentioned by Ms. Lotthammer, is going to be due in
15 June of 2018.

16 Now, the technical support documents
17 and the Statement of Need and Reasonableness both have
18 economic and social economic impacts, but they do not
19 include the factors that would be assembled in a
20 complete cost analysis of this rule.

21 The PCA has estimated that at a
22 minimum 130 permitted facilities will be impacted by
23 this new rule. It's very difficult for these impacted
24 facilities to plan and invest in future economic plans
25 and capital investment without a complete final cost

1 analysis of how much this rule will cost.

2 And finally, Judge, the federal
3 regulations that guide implementation of the Clean Water
4 Act allows states to adopt variance provisions.

5 These provisions allow granting a
6 variance to a permit applicant if a permit applicant is
7 able to demonstrate and document, despite fully
8 realizing all treatment capabilities available.

9 And as required by law the permit
10 applicant still cannot control a specific pollutant in
11 its discharge to the extent necessary to meet the
12 applicable water quality standard.

13 The PCA has testified today, as well
14 in their slide presentation, as well as before a
15 legislative hearing, that they anticipate numerous
16 applications for variances and subsequently will waive
17 the application fee for municipal applicants, but not
18 for industrial applicants. We believe that this is
19 unfair and should be addressed by the Pollution Control
20 Agency.

21 I also wanted to point out very
22 briefly that variances tend to be very expensive and
23 come with a schedule of compliance and are only
24 temporary. And right now I've been told, I think,
25 there's only five, I think, in the state that have been

1 granted.

2 So, with that, I just wanted to thank
3 you for your time today and we will be submitting
4 written comments also on the November 22nd deadline.

5 THE JUDGE: By the end of the day --

6 MR. KWILAS: By 4:30. Thank you.

7 THE JUDGE: Thank you. Okay.

8 Mr. Anderson?

9 MR. ANDERSON: Your Honor, as
10 Mr. Kwilas mentioned, we do have a panel of experts
11 that --

12 THE JUDGE: So, you're part of that
13 panel?

14 MR. ANDERSON: Yes. We're signed up
15 in order.

16 THE JUDGE: Okay. Would you like to
17 all come up here together then?

18 MR. ANDERSON: Yes, if we could, Your
19 Honor. And perhaps while they're coming up I could kind
20 of explain the basis of the group.

21 THE JUDGE: Why don't you all come up
22 first, introduce yourselves and then we'll know who
23 we've got. How many of you are there?

24 MR. ANDERSON: There's four,
25 including myself, Your Honor.

1 THE JUDGE: Okay. Can you just give
2 me the other three names so I know who I've got?

3 MR. ANDERSON: It's Robin Richards,
4 Mike Bock, and Mike Hansel.

5 THE JUDGE: You've got enough room
6 there? Okay. You signed up next to each other, so that
7 makes it easy for me. Okay. So, Mr. Anderson, I'm not
8 going to put you on the clock quite yet. Do you want to
9 introduce the panel?

10 MR. ANDERSON: I will. So, Your
11 Honor, the representatives you have up here today
12 represent members of the regulated community, including
13 some of our largest industrial dischargers that would be
14 potentially impacted by this regulation. So, we are
15 sort of an ad hoc committee of technical and regulatory
16 experts.

17 THE JUDGE: Okay. And you'll
18 introduce yourselves individually as you speak?

19 MR. ANDERSON: Yes.

20 THE JUDGE: Okay. You're going to
21 start, Mr. Anderson?

22 MR. ANDERSON: I will.

23 THE JUDGE: Okay. Go ahead.

24 MR. ANDERSON: My name is Kurt
25 Anderson, that's K-u-r-t, A-n-d-e-r-s-o-n. I'm the

1 director of Environmental and Land Management for
2 Minnesota Power. I'm responsible for the environmental
3 compliance and permitting across all Minnesota Power
4 operations.

5 Prior to coming to Minnesota Power I
6 was an aquatic toxicologist, a seedling biologist, and a
7 laboratory director at ASCI Corporation where I oversaw
8 hundreds of sediment and effluent and chemical testing
9 for a variety of organisms, including wild rice.

10 More recently I've been an active
11 member in the MPCA's wild rice advisory committee. I
12 have been co-authored on two published papers looking at
13 the impacts of both sulfate and sulfide among rice. And
14 in 2016 they appointed me to the eight-member panel for
15 the Minnesota Pollution Control Advisory Committee.

16 Your Honor, this is a complex ruling
17 with a lot of moving parts. And there's a few things,
18 which I won't get into great testimony, that I want you
19 to keep in mind.

20 My comments are really focused on the
21 third element, the need and reasonableness of this
22 rulemaking. And I want to commend the agency for where
23 they started out, looking at the existing 10 part per
24 million standard.

25 They did an excellent job looking at

1 modern research, which showed that wild rice was growing
2 in the natural environmental at levels far above 10
3 parts per million, up to 80 times higher.

4 Natural stands of wild rice in the
5 laboratory, sulfate wasn't affecting wild rice seedlings
6 until 160 to 250 times higher than the existing 10 part
7 per million standard.

8 So, they made excellent progress on
9 that part. And they made the decision to not move
10 forward with the existing 10 part per million standard
11 based on those multiple lines of evidence. And that was
12 excellent work.

13 And they could have stopped there,
14 they chose not to. Instead, they had the hypothesis
15 that it wasn't sulfate in water column affecting wild
16 rice, but sulfide in the sediment, as Ms. Lotthammer
17 referenced early.

18 And that may be problematic from a
19 regulatory standpoint, but from a scientific standpoint
20 that's still sound and still tracking with that.

21 But as the MPCA began to test that
22 hypothesis, that's where, I think, the approach really
23 starts to unravel. And here are the major issues that I
24 see with the proposed approach.

25 And it's all centered around the 120

1 parts per billion protective value, which put another
2 way means that it's unsafe for wild rice to have sulfide
3 conditions greater than 120 parts per billion.

4 When the MPCA first started testing
5 this in the laboratory, they saw no effects until levels
6 were over 3,000 parts per billion. So, almost 30 times
7 higher than what they're saying is unsafe.

8 They then chose to test the whole
9 plant, not just the rooting zone. And their theory was
10 that sulfide was impacting in the rooting zone. They
11 tested the whole plant --

12 THE JUDGE: I'm sorry, in the?

13 MR. ANDERSON: Hydroponic study.

14 THE JUDGE: Okay.

15 MR. ANDERSON: And the impacts that
16 they saw was only to the green parts of the plant, which
17 aren't in the rooting zone, and do not have the
18 likelihood that sulfide is actually present because of
19 the oxygen in the water.

20 And the peer reviewers saw that, they
21 recommended changes. The MPCA chose not to implement
22 those changes. Independent peer-reviewed published
23 research did separate those.

24 And again, there were no impact
25 unless levels were at least 12 and up to 30 times

1 higher. So, it took that much more sulfide to cause an
2 impact. So, this is on Page 70 of the SONAR as one line
3 of evidence.

4 The other major line of evidence is
5 the field research. And the major issues that I see
6 there -- as a toxicologist, when you establish a safe
7 level usually you don't see whatever organism you're
8 looking at healthy and thriving in higher levels than
9 that safe level.

10 And I think this stand of natural
11 wild rice in the state of Minnesota had levels ten times
12 higher than what the MPCA is proposing is unsafe, that's
13 Lake Monongalia.

14 And it's not the only one, there's
15 numerous other water bodies out there that have levels
16 of sulfide in the porewater well above the 120 part per
17 billion protective level that have thick wild rice.

18 And that does not even include the
19 paddy rice, which is excluded from the MPCA's analysis.
20 And that also -- most of those sites have levels of
21 sulfide well above what the MPCA has deemed as unsafe.

22 So, those are the two major issues.
23 I have a third with the mesocosm data, which I don't
24 think I'm going to get to today, but I can perhaps come
25 up later. But those are the major issues.

1 And having that level set so low
2 means that we may need to comply with a very expensive
3 standard that has no guarantee for even a reasonable
4 certainty that it's going to do anything to benefit wild
5 rice.

6 THE JUDGE: Thank you. Who wants to
7 go next? Ms. Richards?

8 MS. RICHARDS: Yes, my name is Robin
9 Richards, R-o-b-i-n, R-i-c-h-a-r-d-s. I'm from
10 Arlington, Virginia and I work for Ramboll Environ
11 Corporation, R-a-m-b-o-l-l, and the second word is
12 Environ, E-n-v-i-r-o-n.

13 I was a member of the wild rice
14 technical advisory committee. I have worked on other
15 states rulemaking committees in Indiana, Wisconsin,
16 Ohio, and in Iowa.

17 I have 30 years experience working
18 with water quality standards, development and processes.
19 And by education I'm a biochemist plant physiologist.

20 And I'm testifying on water quality
21 criteria development process. In Shannon's presentation
22 she referenced why are water quality criteria developed,
23 what is the use of a water quality standard.

24 And I'd like to address a bit what
25 was left out on the SONAR in Section 4A, Page 26 to 28.

1 Water quality criteria are intended to prevent the
2 occurrence of toxic pollutants in toxic amounts and
3 protect the beneficial use of the water.

4 In looking at how to assure that
5 toxic pollutants are not present in toxic amounts so
6 that it would cause adverse or chronic -- acute or
7 chronic adverse effects on aquatic life or human health
8 or even wild rice, one goes about developing what's
9 called a dose response curve, a way to analyze a direct
10 cause and effect relationship.

11 And in doing this in the water
12 quality criteria development process, there's clear
13 definitions of what is a toxic amount and what is the
14 adverse impact needed to be avoided, once again to make
15 sure you protect the beneficial use of the water.

16 The EPA in coming up with a process,
17 as they were required to in the Clean Water Act, as they
18 develop water quality criteria have a defined level of
19 confidence in what is defined as a toxic amount to
20 protect from this toxic response.

21 They also end up having a very
22 concrete way of communicating this is a toxic pollutant,
23 this is the adverse effect.

24 Consequently there's an anticipation
25 that when you implement this water quality criteria, not

1 only will you protect the water body for its beneficial
2 use, but that you will also anticipate if the water body
3 is above that concentration, you go in and bring down to
4 the level of concentration you've identified as safe,
5 that you will see a response in the sense that the
6 adverse impacts are gone away.

7 They started developing these
8 procedures for toxic pollutants, defining the toxic
9 amount of toxic pollutants in the 1990s, as far as
10 releasing quite a few number of water quality criteria
11 and really defining the process to develop them.

12 One of the things that we would have
13 wanted to see from the MPCA process is a clearly defined
14 dose response or clearly defined toxic amount and what
15 the resulting adverse impact was and be able to have
16 confidence in implementing that to ensure that not only
17 were we protecting the beneficial use, but that also if
18 the beneficial use was not present, that in lowering the
19 level of the toxic pollutant you would see the
20 beneficial use recovered.

21 Now, certainly science has progressed
22 and there's some state-of-the-art examples that I would
23 like to go over that EPA has put forward developing
24 water quality criteria.

25 Some of these are -- the most current

1 one is the use of fish tissue. So, like wild rice, the
2 water column itself is not causing the adverse effect to
3 aquatic life. So, for selenium, EPA figured out a fish
4 tissue level for selenium that if the fish tissue
5 concentration was below that, the aquatic use was
6 protected.

7 So, there is the ability to have a
8 direct cause and effect that is not water column
9 related. It is, in this case for selenium, related to
10 fish tissue itself.

11 In establishing that threshold value
12 for selenium, just to give you an idea, it took 19 years
13 of science. Because science was progressing, scientific
14 methods, analytical methods, and statistical methods all
15 progressed.

16 Because this was not a simple water
17 column direct effect. We have fish tissue. So, the
18 thoughtfulness that went into that, the allowance for
19 the fact that science does not evolve quickly was part
20 of the process for developing a fish tissue level to
21 protect aquatic life.

22 Also, EPA recognizes --

23 THE JUDGE: So, you're just about at
24 the end of your time. I want you to tell me what your
25 final point here is.

1 MS. RICHARDS: Okay. My final point
2 is that in looking at state-of-the-art methods, there's
3 recognition that it's not always a water column
4 concentration that can be directly related to adverse
5 effect.

6 And that, it is perfectly fine within
7 the EPA process of developing water quality criteria to
8 have it based on something intermediate. And in the
9 case of selenium, it's fish tissue. And that is a water
10 quality criteria.

11 In other words, it's reasonable not
12 to then go ahead in regulation put how you're going to
13 translate from a fish tissue to a water column because
14 that's such a complex relationship.

15 THE JUDGE: Okay. Thank you. And I
16 will invite each of you to provide me with written
17 statements, if you like, when you're all four done.
18 Thank you. Who's next?

19 MR. BOCK: My name is Mike Bock,
20 B-o-c-k. I also work with Ramboll Environ. I'm in the
21 Portland, Maine office. My background is in statistics
22 and geochemistry.

23 I want to address two topics. First
24 off, when we look at the field data that was used to
25 arrive at the 120 milligrams per standard, looking at

1 whether that was reasonable and whether the analysis of
2 that data supports that standard.

3 The next thing that I will be
4 discussing is translating this sulfide threshold to --
5 sulfide threshold to the sulfate standard and whether
6 the equation or method that MPCA is using is reasonable
7 and effective.

8 And a lot of this derives from the
9 fact, as was mentioned earlier, that in many water
10 bodies we receive sulfide concentrations much above 120
11 micrograms per liter value that are healthy stands of
12 wild rice.

13 The big question is, why is that?
14 What does that mean with respect to the standard? One
15 of the lines of evidence that MPCA used, and they
16 document this on Page 69 of the SONAR, is looking at a
17 breakpoint in a visual plot of the health metric for
18 wild rice versus the sulfide in the sediment. And they
19 use a visual analysis.

20 However, there are statistical
21 methods that you can use to pick up breakpoints. For
22 example, piecewise regression. I'll provide more
23 information on that in written testimony.

24 When you utilize piecewise regression
25 we find that when we exclude bean, that's one of the

1 laces identified as potential outback, we come up with a
2 breakpoint that's two to three times higher than the
3 value that the PCA comes up with.

4 When you include bean, you come up
5 with a value a thousand times higher. So, this suggests
6 that the 120 micrograms per liter threshold isn't a
7 reasonable value.

8 Another line of evidence that MPCA
9 used is a change point analysis. And the methodology
10 behind that is you order the water bodies from low
11 sulfide concentration to high sulfide concentrations.
12 And you see how metric of wild rice health changes as
13 you go up in concentration.

14 The authors of the methods that one
15 of the authors for calculating these change points
16 caution that you need to test for the presence of
17 multiple change points. So, test for the presence of
18 multiple concentrations change in relationship between
19 sulfide and wild rice.

20 And they call that a way of
21 validating the change analysis. When you allow that
22 analysis to include more change points, what we find is
23 that there's nothing significant or unique about 120.

24 When you allow multiple change points
25 you can see that the overall health metric balances up

1 and down as you go up in concentration. This means that
2 that particular test fails the validation check.

3 Finally, utilize some minor
4 statistics to test for the effects of sulfide on wild
5 rice health. And this analysis is fairly complicated,
6 so I will have to go into detail in written testimony.

7 The take-home message is that we find
8 that thresholds two to three times higher than the
9 MPCA's threshold are just as protective of wild rice
10 health as the MPCA threshold.

11 Furthermore, we find that because of
12 the relatively low number of water bodies with
13 concentrations above the MPCA threshold, specifically
14 about 300 or higher, it's very difficult to test the
15 significance of higher thresholds.

16 And as I said earlier, the next thing
17 that I looked at was the equation, whether the equation
18 is reasonable or logical. When you look at the
19 technical support document MPCA defines how that
20 equation was derived on Pages 46 and 47.

21 We tested the equation using
22 different sulfide thresholds. For example, we looked at
23 sulfide thresholds between 120, MPCA value, up to around
24 300. What we found is that there's an illogical
25 behavior in the equation.

1 Specifically, one would expect that
2 as you increase the permissible sulfide value in the
3 sediment that you'd also get an increase in the sulfate
4 value. What we found is that for a large number of
5 lakes, that's not what happens.

6 Sometimes when you increase the
7 permissible sulfide value, you actually get a decrease
8 in the sulfide value, which is counterintuitive. You
9 would expect that as you allow higher concentrations of
10 sulfide, you should also see a lot higher concentrations
11 of sulfate.

12 For a large number of water bodies
13 that isn't the case. It predicts a lower sulfate
14 standard for higher sulfide thresholds. That's
15 counterintuitive, illogical and clearly indicates this
16 equation.

17 Because it was derived statistically
18 and isn't a mechanistic equation, it doesn't describe
19 the mechanism by which sulfate is translated into
20 sulfide, that the equation isn't performing as it should
21 and is not doing a good job predicting sulfate threshold
22 based on permissible sulfide concentration.

23 THE JUDGE: Okay. Thank you. I need
24 to make a note here before I move on. Okay. Go ahead.

25 MR. HANSEL: Your Honor, my name is

1 Mike Hansel, H-a-n-s-e-l. I'm a principle emeritus at
2 Barr, B-a-r-r, Engineering in Minneapolis.

3 I have a bachelor and master's degree
4 in chemical engineering. I've worked in the
5 environmental engineering field for over 40 years and
6 have over 40 years of experience in water quality
7 standards.

8 I was an active observer in the PCA's
9 advisory committee. I drafted most of the comments for
10 the Minnesota Chamber during that process. I'm also a
11 co-author with Kurt on two publications on the toxicity
12 of sulfate and sulfide to wild rice.

13 I'm here to talk about three things
14 this morning. And I also will be presenting written
15 testimony. First, MPCA has not demonstrated the need
16 for or the reasonableness for two provisions of the
17 rule.

18 Those are proposed Minnesota Rules
19 7050.0224, Subpart 5A, Lines 7.17 to 7.21, the 120
20 micrograms per liter protective sulfide level. And
21 7050.0224, Subpart 5B1, Lines 7.25 to 8.17, the formula
22 for calculating the protective sulfate level from
23 sulfide.

24 The third issue is that the PCA has
25 not adequately considered the cost of this proposed

1 regulation. Sulfate and sulfide are not toxic to wild
2 rice. I think with respect to sulfate, that's certainly
3 the case at all concentrations seen in Minnesota wild
4 rice waters.

5 And the literature and the testing
6 that the agency did and Fort Labs did confirmed this.
7 Therefore, the agency was correct in striking the 10
8 milligram per liter sulfate standard in Line 7.8.

9 Sulfide, as Kurt testified, is also
10 not toxic to the parts of the wild rice plant that grow
11 in the sediment at concentrations seen in Minnesota wild
12 rice waters. This is borne out both by Pastor's
13 research and by Fort Lab research.

14 And as you've heard, the statistical
15 methods that the agency used were not robust in this
16 matter. As a result, there's large discrepancies
17 between the data that the agency used.

18 The numbers that they came up with
19 for protective sulfide from the field surveys are some
20 ten times lower than the cause and effect research that
21 was done by Dr. Pastor in Fort Labs.

22 Part of the reason for this is that
23 in the field surveys there are other stressors on wild
24 rice that will confound the impact of sulfide. PCA
25 notes that several of these are statistically

1 significant, yet it chose to ignore the effect of those
2 stressors and scribe all of the ill effects to sulfide.

3 Similarly, the mesocosm study done by
4 Dr. Pastor there was clearly depletions of iron and
5 perhaps nutrients in the experiment.

6 In the third year of the experiment
7 most of the -- most the wild rice plants died, including
8 those in the controls which were not exposed to sulfate
9 or sulfide, raising serious questions about that study,
10 which the peer review panel clearly raised.

11 So, the agency has these
12 inconsistencies. The mesocosm also had a tenfold lower
13 protective level based on the PCA's statistical
14 analysis.

15 PCA's approach was to ignore all the
16 confounding efforts or effects in the mesocosm field
17 study and go ahead and use those while ignoring the
18 controlled studies where only sulfide or sulfate was
19 varied in the lab.

20 With regard to costs, the PCA admits
21 that the cost to treat sulfate and sulfide to these
22 levels is "prohibitively expensive," see Pages 107, 182,
23 and 184 of the SONAR.

24 For cities the capital cost can range
25 from ten to over 50 million dollars by the PCA's own

1 calculations. And at the December advisory committee
2 meeting the agency admitted those factors, those costs
3 may be low.

4 Unfortunately there's no evidence
5 that reducing sulfate in the discharge will reduce
6 sulfate in the water column, will reduce sulfide in the
7 water pores or in the sediment or will protect wild
8 rice. There's been absolutely no evidence for that.

9 Therefore, we suggest that you remand
10 this rule back, particularly the two parts that I
11 mentioned earlier. And two, require the agency to
12 complete the cost analysis that was authorized by the
13 LCCMR grant prior to completing this rulemaking. Thank
14 you.

15 THE JUDGE: Thank you. Okay. And do
16 you have written exhibits that you'd like to enter into
17 the record at this time or are you going to --

18 MR. HANSEL: We're going to submit
19 those separately.

20 THE JUDGE: Okay. That's fine.
21 Thank you. Okay. Is there a Mr. Beranek, Rob Beranek?
22 I'm sorry, I have -- there's one person whose name I
23 have here who didn't come up with the panel I thought
24 was. Mr. Beranek -- is there a Mr. Hansel, Mike Hansel?

25 MR. HANSEL: Yes, I was the last one.

1 THE JUDGE: You were the last one,
2 I'm sorry. I think I missed writing your name down.
3 Let me make sure I wrote your name down. I wrote your
4 name down and then I forgot. Ms. Maccabee?

5 MS. MACCABEE: Is there an
6 opportunity to ask qualifying questions of the panels?

7 THE JUDGE: Sure. I didn't ask if
8 there were questions for the panel. Let me think --
9 actually, Mr. Beranek, would you mind taking a seat off
10 to the side for a minute? Was there a particular person
11 you wanted to ask a question of?

12 MS. MACCABEE: I had one question for
13 Mr. Bock and one for Mr. Hansel.

14 THE JUDGE: Okay. Mr. Bock and
15 Mr. Hansel, can you come back up, please? And if you
16 wouldn't mind actually, Ms. Maccabee, also coming up to
17 the table so you can be heard?

18 MS. MACCABEE: Your Honor, would this
19 be appropriate?

20 THE JUDGE: Say something again.

21 MS. MACCABEE: Would this be
22 appropriate?

23 THE JUDGE: Yes, that's being
24 recorded on the system as well. Thank you.

25 MS. MACCABEE: Thank you very much,

1 Your Honor. Mr. Bock, one point you made is that you
2 tested the equation using sulfide levels from 120 parts
3 per billion to 300 and you found illogical behavior in
4 the equation.

5 Did you change anything else in the
6 equation other than that sulfide number? Did you change
7 any other of the other factors as well?

8 MR. BOCK: When you look in the
9 technical support document it describes how you
10 calculate whether the water body exceeds the threshold
11 or not.

12 So, that was the only thing that I
13 did is recalculated the classification of each water
14 body based on rather than using the 120 unit thresholds,
15 all else was set the same.

16 MS. MACCABEE: Thank you very much.
17 Mr. Hansel, when you were talking about Dr. Pastor's
18 research finding sulfide toxicity at different levels
19 than at the level the Pollution Control Agency landed
20 on, the 120 parts per billion, you were talking
21 exclusively about hydroponic experiments, correct?

22 MR. HANSEL: That's correct.

23 MS. MACCABEE: Thank you. No further
24 questions.

25 THE JUDGE: Thank you. You're both

1 excused. So, I have again now Mr. Beranek. Thank you.
2 Okay. You can proceed.

3 MR. BERANEK: My name is Rob,
4 B-e-r-a-n-e-k. I represent Cleveland-Cliffs, I'm the
5 manager of water planning and programming.

6 Cliffs has a major presence on the
7 Iron Range, Minnesota where our company operates United
8 Taconite, Northshore Mining Company, and Hibbing
9 Taconite. We're also one of the sponsors of the panel
10 that was previously before you.

11 Together the three facilities that we
12 manage can produce up to 19.5 million tons of iron
13 pellets annually and they employ over 1,700 individuals,
14 with a total economic impact to the region of nearly 900
15 million dollars.

16 My role with Cliffs, I'm responsible
17 for regulatory planning, permitting, compliance for all
18 matters related to the regulation water that goes
19 through those facilities. For the last several years --

20 THE JUDGE: Mr. Beranek, if you could
21 slow down a little bit and speak into the microphone a
22 little bit. Thank you.

23 MR. BERANEK: For the last several
24 years I've been deeply involved in working with the
25 Minnesota Pollution Control Agency, other regulated

1 entities, water quality experts, and legal advisors to
2 understand the science behind and regulatory
3 implications of Minnesota sulfate wild rice standard. I
4 sat on the Minnesota Wild Rice Project Committee as
5 well.

6 My comments on the proposed
7 amendments of this standard are nuanced. I support the
8 proposed amendments in part and do not support others.
9 I'll provide you an overview of my comments here and I'm
10 also going to provide you with written comments by
11 November 22nd at 4:30 p.m.

12 Based on my review of the supporting
13 data, as well as the review of our experts, I support
14 the conclusion that the removal of the 10 milligram per
15 liter sulfate standard is reasonable.

16 To quote Page 35 of the SONAR, "Two
17 important research efforts on the toxicity of the
18 sulfate to wild rice," that's Pastor, et al, 2017,
19 Exhibit 19, and Fort, et al, 2014, "has shown that
20 sulfate is not directly toxic to wild rice at levels
21 commonly found in wild rice waters of Minnesota."

22 Next, I do not find the proposal to
23 establish a toxic sulfide threshold of 120 micrograms
24 per liter reasonable. First, I have to reinforce the
25 point that will be made by many during these hearings.

1 The toxic sulfide threshold is a
2 billion dollar or more water treatment issue for the
3 state of Minnesota. You will hear people say, and I
4 agree and they are correct, that establishing water
5 quality standards is nonaction of consideration of
6 costs.

7 However, later in the development of
8 this very unique water quality standard is a series of
9 policy calls that need to be heavily scrutinized.

10 Each of these policy decisions will
11 collectively determine if a billion or more dollars
12 really does expand on water treatment and will have
13 negligible impact on wild rice.

14 You're going to have your work cut
15 out for you, wading through the PCA's supporting
16 materials and considering the highly technical written
17 comments we will be providing.

18 I'll take my time here to just say
19 three things on that. First, one pillar of technical
20 support for 120 micrograms per liter as a visible
21 assessment of a graph of the portion of wild rice stands
22 sulfide above and below the graph values. These are on
23 Page 69 of the SONAR.

24 Using visible assessment of a graph
25 for post-standard that could cost billions is simply

1 reckless. The agency did back it up with additional
2 statistical review, but as Mike Bock just commented, we
3 believe that that review is incomplete and we're going
4 to supplement the record with Mike's review.

5 To summarize, we think the 120
6 micrograms per liter standard is unnecessarily low. And
7 we'll provide comments to the end of -- if a value is
8 needed at all.

9 Secondly, the field data set includes
10 both proposed wild rice waters and non-wild rice waters
11 in that set. The data from the non-wild rice waters
12 must be excluded from development of an equation based
13 standard.

14 The only support I could find for the
15 agency's policy judgment to leave these waters in is a
16 conjecture contained in a footnote on Page 68 of the
17 SONAR, making this decision arbitrary and unreasonable.

18 My comments will further detail the
19 impact of this common sense change if the agency chooses
20 to go ahead with the equation based standard.

21 Thirdly, the technical review we
22 submitted is going to detail very serious questions
23 regarding the support for this triple standard that
24 suggests no sulfate or sulfide standard is necessary.

25 If the PCA is successful, though, in

1 addressing all of these issues that we lay out, I want
2 to make you aware that the first half of 2017 Robin
3 Richards of Ramboll Environ, who was on the panel
4 previous to my testimony, submitted recommendations on
5 changes to both the protective toxic sulfite threshold
6 as well as the field study waters that were included in
7 developing the equation.

8 As mentioned, these changes will
9 reduce the error rate of the current proposed equation
10 from 20 percent down to 4 percent. For a billion dollar
11 treatment issue we think reviewing this further is
12 prudent.

13 Next, I find that the alternate
14 standard and specific standard portions of the proposal
15 are reasonable. Am I out of time?

16 THE JUDGE: You are.

17 MR. BERANEK: Excellent. I'll follow
18 up with the rest of my testimony in writing.

19 THE JUDGE: Okay. Thank you. If we
20 have time at the end and everyone has spoken you are
21 welcome to come back. Thank you. Okay. Is it Lowell
22 Carlon? Hold on just one minute.

23 MR. CARLON: You won't need that.

24 THE JUDGE: Okay. Go ahead.

25 MR. CARLON: Good afternoon everyone.

1 My name is Lowell Carlon, L-o-w-e-l-l, C-a-r-l-o-n.

2 THE JUDGE: Thank you.

3 MR. CARLON: Okay. I am the
4 president of the United Steel Workers Local 1938. I
5 represent the 1,200 hard-working men and women at
6 Minnesota Ore Minntac in Mount Iron, Minnesota.

7 Again, I'd like to thank you for
8 having -- take the time to have these hearings here in
9 St. Paul and also up in our back yard in Virginia
10 tomorrow.

11 I'd like to call attention to the
12 people behind me. We've got roughly a dozen people,
13 union representatives representing about 2,500
14 hard-working union members on the Iron Range. Thank
15 you.

16 THE JUDGE: Thank you. Okay. Is it
17 Lou Foushe?

18 MS. FOUSHE: Lea.

19 THE JUDGE: Lea, I'm sorry. And,
20 Ms. Foushe, we already have an exhibit from you, which
21 we got before the hearing started this morning. And we
22 have marked it as Hearing Exhibit -- I just started the
23 hearing exhibits numbered 1000.

24 So, we're well out of the range of
25 however we wind up numbering the agency exhibits. So,

1 your exhibit is numbered 1000.

2 MS. FOUSHE: Thank you, Your Honor.
3 I'm Lea Foushe, it's L-e-a, Foushe is F-o-u-s-h-e. I'm
4 the environmental justice director for the North
5 American Water Office in Lake Elmo, Minnesota, which I
6 co-founded in 1982.

7 I'm an honors graduate from the
8 University of Minnesota. I currently sit on the
9 Minnesota Pollution Control Agency Commissioners
10 Environmental Justice Advisory Group.

11 I've been engaged in defense of water
12 all my adult life and professionally for more than 40
13 years. Traditional ecological knowledge of indigenous
14 people can save the well-being of living creatures,
15 human, animal or plant.

16 The mining industry cannot save the
17 health of the people or of the creatures. The mining
18 industry are extractors. Profit margins are reduced
19 when the industry cannot direct discharge into our
20 precious waterways.

21 It doesn't matter to them if the food
22 that grows on the water, wild rice or manoomin, cannot
23 survive the contamination. It doesn't matter to them if
24 the fish in the water are contaminated with mercury from
25 the sulfate contamination resulting from the discharge.

1 What matters to the mining industry
2 is their bottom line, financial gains and their
3 infrastructure that supports the extraction.

4 If the mining industry did full cost
5 accounting of their extraction, i.e., clean up the
6 discharge and not contaminate the water, then their
7 blue-collar workers would indeed have legitimate
8 employment.

9 Employment based on the permanent
10 destruction of land and the pollution of water for over
11 150 years is for all purposes a one-time harvest.
12 Environmental racism runs rampant in these
13 circumstances.

14 The Anishinabe, Ojibway or Chippewa,
15 whichever word you recognize, and their primary food
16 source will be sacrificed in this extraction, just like
17 the Buffalo slaughter in the Wild West days to subdue
18 the Dakota, Lakota, and Nakota nations.

19 The existing standard of 10
20 milligrams per liter sulfate has never been enforced.
21 I'll repeat myself, it has never been enforced. We're
22 talking 44 years of violations. The State of Minnesota
23 has been turning a blind eye for the mining industry.

24 So, why is there a big push to change
25 it all now? The Minnesota Pollution Control Agency is

1 saying that 120 micrograms per liter sulfide is more
2 protective than 10 milligrams per liter sulfate.

3 Minnesota Ojibway and Dakota tribes
4 don't agree. Environmental groups don't agree. The
5 MPCA has said it will take more than ten years just for
6 them to determine what limits on sulfate discharge would
7 be for water bodies and that they would plan to give
8 variances for exceedances and the long schedule to
9 comply to industry.

10 This is just confusing for the common
11 community person, but it seems that the main thing this
12 rule would do is create a recipe for more and more delay
13 in the actual limit of sulfate pollution.

14 What is said in the fine print is
15 that the new proposed standard discharge is averaged
16 over a year. And one exceedance can be allowed over ten
17 years without killing the wild rice in question.
18 There's no factual basis for this presumption, it's
19 theory, it's the column of water in an experiment.

20 Under the proposed wild rice rule
21 language permits the mining industry would along that
22 company to collect and analyze sediment and water
23 samples from the wild rice bodies their project would
24 contaminate.

25 After years of participation in the

1 stakeholders meeting for the promulgation of this rule,
2 I can testify that that was not the proposal discussed.

3 I spoke directly to the MPCA water
4 quality staff and asked who would be responsible for
5 going lake to lake and collecting the samples. I was
6 informed by the staff that staff would be doing that
7 work, Phil Monson.

8 Funding for a lake-by-lake effort, it
9 was obviously a question and identified as a real
10 problem, given cuts to funding by the federal
11 government. We also had discussion about a neutral
12 third party being more objective for this work.

13 The polluter pays was one solution
14 mentioned, but not to do the material work. We know
15 that sampling results depend on where and when and how
16 the sediment samples are taken and that the samples for
17 the MPCA's proposed rules are much more complicated than
18 sampling the amount of sulfate in the water.

19 Letting dischargers, I have to
20 finish, do their own sampling puts another big loophole
21 right in the middle of a proposed rule and creates a
22 direct and obvious conflict of interest. You need to
23 hear this.

24 THE JUDGE: Ms. Foushe, I know that
25 you submitted something in writing --

1 MS. FOUSHE: They need to hear it.
2 Everyone in this room needs to hear it.

3 THE JUDGE: This will be posted and
4 you are welcome to come back and finish, but I have to
5 be fair to everybody here.

6 MS. FOUSHE: You're not fair.

7 THE JUDGE: Ms. Foushe, I set up a
8 rule at the beginning and I have to apply it equally.

9 MS. FOUSHE: I understand. How long
10 did the panel in front of me have?

11 THE JUDGE: They each had five
12 minutes, they each had five minutes. And you've gone
13 over six.

14 MS. FOUSHE: I thank you for your
15 time.

16 THE JUDGE: Thank you. This was very
17 helpful. And your comments will be posted and you're
18 welcome to come back if you're here.

19 MS. FOUSHE: Okay.

20 THE JUDGE: So, I think we have time
21 for one more person. George Crocker?

22 MS. FOUSHE: He's with me, he's not
23 speaking.

24 THE JUDGE: Okay.

25 MS. FOUSHE: He can speak -- he can

1 read the rest of it.

2 THE JUDGE: He's welcome to do that,
3 if you like.

4 MR. CROCKER: Good afternoon, Your
5 Honor. My name is George Crocker, C-r-o-c-k-e-r. I'm
6 the executive director of the North American Water
7 Office.

8 THE JUDGE: Thank you, Mr. Crocker.

9 MR. CROCKER: Indigenous people
10 contend with legitimate validity that the 1854 treaty
11 guarantees their human right to the wild rice beds for
12 cultural, spiritual, and physical livelihood, be it
13 economic or nutritional.

14 This permanent rank of
15 self-determination cannot be denied without causing the
16 extermination of the Anishinabe people. Elders have
17 voiced this reality in multiple forms that denial would
18 be a genocidal decision. In short, war has been
19 declared against indigenous people over the right to
20 wild rice.

21 Any waterway that is known to have
22 had wild rice be protected not just goes to waters
23 identified in the rule, but Ojibway and Dakota tribes
24 across Minnesota have spoken with one voice to attempt
25 to an arbitrary limitation based on how lush the wild

1 rice may be at one time, often after years of pollution
2 and harm.

3 The identified lakes were those that
4 managed a specific number of stands in a specific area
5 at a specific time of measurement. Wild rice may be
6 absent for one year and bountiful the next in any given
7 waterway that has ever had rice.

8 Under the proposed rule this
9 variability has a potential of eliminating many water
10 bodies that should be included.

11 Speaking for the North American Water
12 Office and its interest of environmental justice and
13 respect for tribal science, please reject the MPCA's
14 proposed rule.

15 Preserve the existing limit on
16 sulfate in wild rice waters and protect all of the wild
17 rice waters already listed by the DNR, include any
18 additional data on wild rice lakes and their existence
19 provided by Minnesota's indigenous peoples.

20 It is time to respect indigenous
21 science on an equal basis as lesbian science. Support
22 tribal wisdom and make sure that the protection of
23 sacred waters and the wild rice is based on sustaining
24 the sacred resources of water and manoomin for
25 generations to come.

1 And then you have the attachments.
2 Exhibit 1 is a map that Lea requested from the MPCA,
3 wild rice rule, our staff produced.

4 This map displays the wild rice lakes
5 in question and the sulfate mining permits based on
6 attachment to MPCA's list of out-of-date mining permits,
7 which we found in the process of researching comments in
8 the northern map, PolyMet lime permit.

9 These maps illustrate the degree of
10 destruction that the mining industry alone that will
11 occur if the proposed rule is adopted. Such destruction
12 is not acceptable amongst civilized people. Thank you.

13 THE JUDGE: Thank you, Mr. Crocker.
14 Okay. It is just about 12:30. So, we're going to take
15 a break now of 30 minutes. Meet back here at just a
16 couple minutes before 1:00 and we will continue. And
17 the next person on my list is Paula Maccabee.

18 (At this time a lunch recess was taken
19 from 12:30 p.m. until 1:05 p.m.)

20 THE JUDGE: Good afternoon everybody.
21 I think we are ready to start with the afternoon's
22 comments. Is there anybody -- are there any questions
23 or comments about anything so far before we proceed?

24 And, Ms. Maccabee, I think you're
25 next up. Anything? Okay. All right. So, Paula

1 Maccabee is the next speaker.

2 If you can hold on one minute. Okay.

3 And we are back on the digital record as well. Okay.

4 You can proceed. Thank you.

5 MS. MACCABEE: Thank you, Your Honor.

6 And please let me know, I've never done this with a

7 computer, might have a technical glitch.

8 Your Honor, my name is Paula

9 Maccabee, M-a-c-c-a-b-e-e. I graduated from law school

10 in 1981 and have 36 years of experience in public

11 interest law. I serve as advocacy director and counsel

12 for Water Legacy, which is a nonprofit founded in 2009

13 to protect Minnesota water resources.

14 I live in St. Paul. Water Legacy is

15 based in Duluth. Water Legacy objects to MPCA's

16 proposal to replace Minnesota's wild rice sulfate

17 standard with an equation and to restrict the wild rice

18 waters protected from sulfate pollution.

19 Our written comments will detail

20 these concerns. Today my focus is history and law.

21 What does Minnesota's experience and the rule text tell

22 us about proposed rules purpose and its probable result?

23 A mentor who served in the Minnesota

24 legislature taught me not to complain that "govern

25 wasn't doing its job." If year after year agency action

1 was leading to a certain result, no matter what the law
2 books might say, that result was the job that
3 politicians who directed in front of the agency wanted
4 them to do.

5 Minnesota's existing sulfate limit of
6 10 parts per million in wild rice waters was adopted and
7 approved by the U.S. Environmental Protection Agency
8 under the Clean Water Act in 1973.

9 For most of the past 44 years since
10 Minnesota's wild rice sulfate standard was adopted the
11 job that MPCA has been doing is clear, avoid imposing
12 sulfate limits on polluters upstream of wild rice
13 waters.

14 Only once in Minnesota's entire
15 history has the MPCA used the wild rice sulfate standard
16 to limit pollution. In 1975 the MPCA tried to apply the
17 10 parts per million standard to sulfate discharge from
18 Minnesota Power's Clay Boswell coal plant.

19 Minnesota Power got a variance with a
20 higher limit on sulfate. However, by about 2000, with
21 no explanation in the PCA files, Clay Boswell permits no
22 longer limited sulfate.

23 From the mid '70s to 2010 the
24 Minnesota Pollution Control Agency did not enforce the
25 wild rice sulfate standard at all. In 2010 the EPA

1 wrote letters to the PCA advising that Minnesota must
2 apply its 10 parts per million wild rice sulfate
3 standards in upcoming mine permits.

4 In 2011 two United States Steel
5 permits for mine expansion did have a wild rice sulfate
6 permit, but one permit delayed its application for six
7 years, the other for seven years. Since 2011 no permits
8 issued by MPCA have included a limit on sulfates to
9 protect wild rice.

10 In 2015, while the MPCA was working
11 on its proposed rule, the Minnesota legislature passed a
12 law telling the MPCA they could not issue, modify or
13 renew water pollution discharge permits that "require
14 permittees to expend money for treatment or mitigation
15 of sulfate."

16 At 2016 session law went even one
17 step further. The U.S. Steel final sulfate limits that
18 were set in 2011 were "no longer valid" and compliance
19 was no longer required.

20 So, right now no Minnesota permits
21 currently impose any limits on sulfate to protect wild
22 rice. With this context I'd like to turn to the MPCA's
23 proposed rule text.

24 In our written comments I'll include
25 rule citations and explain in more detail that none of

1 the rule sections described below are needed and
2 reasonable.

3 First, Minnesota's existing rule
4 state a sulfate limit of 10 milligram per liter, same as
5 parts per million, should apply when wild rice is
6 present.

7 Minnesota's proposal to delete this
8 text is not needed and reasonable. And neither is the
9 proposed equation that would allow much higher levels of
10 sulfate in the presence of iron.

11 PCA's proposed sulfate rule would
12 only apply to wild rice with an undefined subjective
13 density or lushness. This unprecedented constraint
14 applying density to a beneficial use is unreasonable.

15 Sulfate pollution would be averaged
16 over the entire year before it could be considered a
17 violation. No other standard does this, it's
18 unreasonable.

19 Even if a polluter discharged too
20 much sulfate averaged over an entire year the MPCA rules
21 would only count an exceedance that took place at least
22 two years out of ten. No other rule allows years of
23 effluent violation.

24 Under the proposed rules MPCA could
25 set a less stringent alternative sulfate limit if the

1 data showed a lower than expected sulfide level. It
2 could not set a more stringent sulfate limit if sulfate
3 limits were higher than expected.

4 Under the proposed rules the MPCA
5 calls for a less stringent site specific sulfate limit
6 if the MPCA determined that wild rice wasn't being
7 harmed at a site, but could not set a more stringent
8 sulfate limit if the wild rice was actually being
9 harmed.

10 Finally, just in case these other
11 rules were to subtle, MPCA's proposed rules have a
12 provision I've never seen anywhere in law, that if the
13 MPCA determines that a polluter's effluent will not
14 affect "wild rice beneficial use" the Commissioner must
15 not establish a water quality based effluent limitation
16 for sulfate to protect wild rice.

17 This type of plan is unprecedented in
18 setting standards. And it really creates an
19 individualized view rather than an overall standard and
20 creates multiple opportunities at every step of this
21 rule for the interested parties, the polluters, to
22 interfere with application of the standard.

23 From our perspective MPCA's proposed
24 rules would not protect wild rice, they are not needed
25 or reasonable. And from our Legacy's advice, we believe

1 even these rules that MPCA proposed will never bend over
2 backwards far enough to satisfy the industrial
3 polluters.

4 What they are seeking is the result
5 they've had for 44 years, that the Pollution Control
6 Agency would continue to avoid setting limits on sulfate
7 pollution upstream of wild rice waters. Thank you.

8 THE JUDGE: Thank you. Did somebody
9 have a question? Okay. Well, I think we've just gotten
10 through everybody who's checked off they wanted to speak
11 at the hearing. Let me make sure that I'm right.
12 Because then we can go back and see if anybody wants to
13 speak again.

14 Actually, no, then what I will do is
15 ask if there's people who didn't say they wanted to
16 speak but have decided that they do want to speak. And
17 I'm going to go through these pages one more time.
18 Everybody who has said that they wanted to speak at the
19 hearing has spoken.

20 So, are there people who have -- who
21 are here, either who signed up or didn't sign up, but
22 who didn't say that they wanted to speak who would like
23 to speak at this time? Feel free if you do, just raise
24 your hand and I'll call you up. Anybody? Okay.

25 Are there people who have already

1 spoken who would like to speak again? Anybody else?
2 Okay. I have Mr. Beranek and Mr. Anderson. Anybody
3 else? Okay. The other thing is I know that the -- some
4 members -- staff of the PCA have said that they would
5 like to speak.

6 So, I could either have them respond
7 to some of the comments that have already been made or I
8 can have you two speak first. Would you folks like to
9 go first or would you like to hear more from the
10 audience?

11 MR. NEBLETT: We'd like to finish.

12 THE JUDGE: Hear more comments?

13 Okay. Mr. Beranek or Mr. Anderson, do you have a
14 preference as to which of you goes first?

15 MR. BERANEK: I'll go first.

16 THE JUDGE: Okay. If you could when
17 you come up to the front reintroduce yourself for the
18 record, that would be good. Thank you.

19 And I'm going to -- well, we
20 certainly seem to have time now, so I will move my time
21 limit at this point to ten minutes and we'll see how
22 we're doing at that point. So, okay.

23 MR. BERANEK: Hello again, Your
24 Honor, Rob Beranek, B-e-r-a-n-e-k. And as a reminder I
25 represent Cleveland-Cliffs, Inc.

1 What I was going to finish with is
2 that within the rule there's a proposal that the PCA put
3 in there for leaving the Commissioner the opportunity to
4 develop an alternate standard or a site specific
5 standard where there's information presented.

6 Ms. Maccabee characterizes us in the
7 industrial community as a group that's looking to
8 continue polluting for many decades. I strongly
9 disagree.

10 I'm a staunch environmental steward
11 and spend a lot of my free time outdoors and look to
12 protect it, in both my professional and personal life.

13 This is an exceptionally complicated
14 and unique water quality standard. I think that with
15 the amount of information available today in front of
16 the PCA and in front of us as a regulated community,
17 that we need to preserve alternate methods when new
18 information comes to light for developing different
19 standards than what the proposed equation predicts.

20 I'm certainly not looking to keep my
21 foot in the door for 44 years of pollution, that's not
22 the case, but am looking to make sure that this rule
23 provides the opportunity when new information or site
24 specific information is presented that that can be
25 incorporated into development of the sulfate water

1 quality standard.

2 In particular, you'll see on Page 69
3 of the technical support document that a research
4 project that was done on Second Creek found that there
5 were elevated sulfate levels above what the proposed
6 equation would predict, would be toxic to wild rice and
7 the sulfide in the sediment was significantly lower than
8 the toxic threshold.

9 So, we already have site specific
10 information in hand that supports these alternatives or
11 the need for them, I should say.

12 So, with that rationale -- I'm sorry,
13 the proposals for the alternate standard and the site
14 specific standard are on Pages 89 through 91 of the
15 SONAR. Moving on from that --

16 THE JUDGE: I just want to clarify.
17 You're saying that you support those; is that correct?

18 MR. BERANEK: I do, I find that it's
19 reasonable. In Section 6D3 of the SONAR and elsewhere
20 the PCA proposed using a collection of different sources
21 of information to support the decision to list a wild
22 rice water.

23 Two specific comments on this. And
24 I'll provide more detail in my written comments. First,
25 the legislature in 2011 directed the agency to develop

1 criteria and include at a minimum a history of harvest,
2 acreage, and density.

3 In my written comments the word "and"
4 will be bolded and underlined. The agency is proposing
5 a system whereby any one of these three criteria may be
6 used.

7 To point you directly to where I see
8 this in the proposal, there's the word "or" is in the
9 ruling, which is at 7050.0471, Subpart 2.C and that's on
10 Page 122 of the SONAR.

11 So, I believe that that "or" that's
12 on Page 122 of the SONAR is not consistent with the
13 directive of the legislature, which by my reading of the
14 2011 legislation on this matter requires that order be
15 an "and."

16 Further, certain water bodies of
17 interest to Cliffs do not have sufficient information to
18 be listed. For example, Day Brook and that has Water ID
19 Number 07010103 --

20 THE JUDGE: Say that one more time,
21 0701 --

22 MR. BERANEK: 0103-542.

23 THE JUDGE: Okay.

24 MR. BERANEK: Is proposed for
25 listing. There is one report that was prepared in the

1 listings as permitted, that was Hibbing Taconite
2 Company. And I reviewed the report that's referenced.
3 The report referenced as support and conclude -- can you
4 hear me?

5 THE JUDGE: I can hear you.

6 MR. BERANEK: All right. I reviewed
7 that report and concluded insufficient information is
8 present to assess if it meets the listing criteria.
9 I'll provide details of the portions of that report that
10 I reviewed and support for that conclusion.

11 So, to sum up my remarks from now and
12 before, I find there to be overwhelming scientific
13 support for the elimination of the current 10 milligram
14 per liter sulfate standard.

15 My comments will further detail the
16 serious questions that we have about the support for
17 there needing to be a sulfate or sulfide standard at
18 all.

19 As I mentioned before, if these
20 questions are successfully addressed by the Pollution
21 Control Agency though, I want to remind both the agency
22 and yourself that Robin Richards from Ramboll made
23 recommendations earlier in this year that greatly
24 improve the error rate of the proposed equation from an
25 area of 20 percent down to 4 percent.

1 The magnitude of the potential impact
2 of this water quality standard is far too great --
3 simply far too great to not give these improvements more
4 serious consideration.

5 Thanks again for your time, Your
6 Honor. And I'm happy to answer any questions you have
7 on my comments.

8 THE JUDGE: I think I took this note
9 earlier, but the error rate in the equation that
10 Ms. Richards proposed was 4 percent; is that right?

11 MR. BERANEK: That's correct.

12 THE JUDGE: And -- well, I'm
13 guessing -- will the agency be addressing that in your
14 comments? Okay. I believe the agency will address that
15 then. Any questions for Mr. Beranek? Any questions?
16 Okay. Thank you.

17 MR. BERANEK: Thank you.

18 THE JUDGE: Mr. Anderson?

19 MR. ANDERSON: Thank you, Your Honor.
20 For the record, Kurt Anderson, K-u-r-t, A-n-d-e-r-s-o-n.
21 Again, I'll be submitting detailed written comments on
22 some of these technical issues.

23 Briefly, by way of background, I also
24 wanted to point out the importance of wild rice not only
25 to myself, but to the community I'm in.

1 I live in Brookston, Minnesota,
2 B-r-o-o-k-s-t-o-n, which is on the Fond du Lac Indian
3 Reservation. I'm not a band member, but I have family
4 and friends who are and fully recognize the importance
5 of wild rice. It's not only important ecologically, but
6 important culturally.

7 And that's what makes this so
8 important, this regulation, that we get this right
9 because wild rice has a variety of challenges in front
10 of it.

11 In fact, if you talk to wild rice
12 researchers and others who hand harvest or work in
13 paddies, they all say there's numerous challenges that
14 wild rice faces, including water flows, elevations,
15 invasive species.

16 So, I want to be certain that if
17 we're going to implement something like this in the
18 community I live and work in, that we get the science
19 right, that's really the most important part to me.

20 There are a few things that I didn't
21 get to earlier that I just wanted to point out. I have
22 a lab background and laboratory studies are very useful
23 because they're very precise. And they can isolate the
24 impacts of something like sulfide against something very
25 specific like wild rice.

1 When the original study was submitted
2 from the MPCA to their own peer reviewers, the peer
3 reviewers recommended various changes, including they
4 should redo the hydroponic studies, they should do the
5 exposure so that only the rooting zone is impacted, and
6 they should look at the effects of iron, further
7 hypothesis.

8 Again, that study did all of those
9 things. And in the SONAR on Page 69 and 71, the MPCA
10 has stated that no design is necessarily more correct
11 than the other. And I would disagree with that.

12 Because sulfide by its very nature
13 doesn't exist in the water column when there's oxygen
14 present. The only parts of the plants in the MPCA study
15 would show that whole level, the 120 level of impact,
16 were the green parts of the plant, the shoots and
17 leaves.

18 So, you need to be very careful to
19 expose the right part of the plant or correct part of
20 the animal. Otherwise, the results aren't going to be
21 accurate or aren't going to give you a clear picture of
22 what's actually happening.

23 That second line of evidence, Your
24 Honor, that I think really needs to be understood is
25 these outdoor container studies had significant

1 challenges in front of them from a test design
2 standpoint. And that includes the size of the
3 containers, the water flow, the renewal rates, et
4 cetera.

5 When I was working in the laboratory
6 business we had a threshold of only 20 percent of our
7 controls, which is no toxic added. Only 20 percent
8 basically could suffer mortality otherwise the test was
9 invalid, you had to throw it out.

10 You could never use it to register a
11 chemical product or to submit to an effluent testing
12 permit requirement for the State.

13 And in the outdoor container study 72
14 to 84 percent of the seedlings in the controls died.
15 And the MPCA has still chosen to take that data and use
16 it as part of their multiple lines of evidence.

17 And that could not be done in the
18 regulated world if you were looking to satisfy a permit
19 condition or register a product. So, that's very
20 important. Again, I'll have more on this in my written
21 testimony.

22 But on the field studies the one
23 thing I do want to say is that when you look at a
24 conventional metric, basically as sulfide increases, do
25 you get a toxic response. The MPCA's field data has a

1 wealth of information on this, fantastic source of
2 information.

3 And when you look at the stem
4 density, I argued this earlier that the density stand,
5 which is 150 stems in a square meter, about the size of
6 a hula hoop, if you look at the stem density and you
7 remove a couple high sulfide waters that have a lot of
8 recreational development, you actually see wild rice
9 increase as sulfide increases.

10 So, at 120, as MPCA is proposing in
11 this rule, anything above that is unsafe. Yet,
12 57 percent of the water bodies in the state that are
13 above 120 have wild rice present to some degree. So,
14 that doesn't make a lot of sense. I don't think that's
15 a reasonable interpretation of that field data.

16 And, finally, Your Honor, just to
17 give a brief background on my specific experience at
18 Minnesota Power, the Boswell Energy facility does indeed
19 have a sulfate limit, it's a mass base limit, and it was
20 increased from the proposed 10 to a seasonal limit of 40
21 to 60 parts per million.

22 The most recent studies we have on
23 that show that downstream of our discharge the wild rice
24 is actually growing better than it is upstream of our
25 discharge point, where upstream there's lower sulfate

1 levels.

2 Unfortunately, for a real life
3 example of what this proposed regulation can do, based
4 on the information we have thus far, had we had this
5 regulation with 120 part per billion sulfide limit back
6 in the 1970s, if that was implemented, our customers at
7 Minnesota Power, residential, industrial, would have had
8 to help pay for sulfate treatment to reduce sulfate.

9 That's what this equation would have
10 meant back then to Boswell. And it could have been
11 millions of dollars. And yet, we would have reduced
12 sulfate and the wild rice wouldn't have benefited.

13 That's a real thing that our
14 customers and Minnesota Power would have had to face had
15 this regulation been in place back then.

16 So, those are some of the highlights
17 of my concerns with this proposed regulation and that
18 120 protective limit. Thank you.

19 THE JUDGE: Thank you. Anybody with
20 any questions for Mr. Anderson? Okay. Thank you. I
21 have another sign-in sheet here. Any additional
22 speakers? Yes. Alex Spitzer?

23 So, Mr. Spitzer, I had been initially
24 limiting people to five minutes, but now it's ten
25 minutes. So, I think we can give you the ten-minute

1 limit, given the time that -- we've got plenty of time
2 at this point.

3 Speak slowly so the court reporter
4 can take down what you're saying. If I need to I will
5 slow you down, ask you to spell something. And people
6 are able to ask you questions, I will ask you a question
7 if I have one. Okay?

8 And please introduce yourself, spell
9 your name, let us know where you live and if you're
10 representing anyone. If you're here on behalf of an
11 organization let us know who that is. Okay? Ready?

12 MR. SPITZER: Yeah.

13 THE JUDGE: All right. Thanks.

14 MR. SPITZER: Hi, my name is Alex
15 Spitzer, S-p-i-t-z-e-r. And I'm from Minneapolis, I'm a
16 senior at the University of Minnesota and I'm studying
17 environmental law.

18 I have learned a plethora of things
19 about environmental law and in general from the
20 University of Minnesota.

21 One of the most prominent things that
22 I have learned thus far from the university is how
23 indigenous people are continuously taken advantage of
24 and treated unfairly when it comes to law, especially
25 environmental law. This is why I'm here today to urge

1 you not to change the wild rice sulfate standard.

2 Minnesota Chippewa and Dakota tribes
3 have uniformly stated on numerous occasions that they
4 are strongly against changing the sulfate standard rule
5 based on their extensive environmental experience, as
6 well as the importance of wild rice in their cultures.

7 The tribes have pointed out a
8 collection of scientific fallacies in the new proposed
9 rule that cannot be overlooked.

10 In addition to having no
11 scientifically defensible basis for changing the sulfate
12 standard, changing the rule would also require a
13 misunderstanding of the beneficial uses of wild rice.

14 The 1854 and 1837 treaty reserved the
15 tribes' pre-existing sovereign to hunt, fish, and gather
16 wild rice in territories that were ceded by the tribes
17 of the United States.

18 One needs to acknowledge the unique
19 ecological and cultural values of wild rice when
20 determining its true beneficial uses. Wild rice is used
21 as an essential food source for humans and wildlife.

22 Even small isolated stands of wild
23 rice are imperative to promoting biodiversity. In
24 addition to providing food, wild rice also provides a
25 nesting habitat for some wildlife. Wild rice also

1 increases water quality, improving biodiversity for
2 aquatic life as well.

3 It is difficult to accurately
4 estimate the real value of the ecological significance
5 that wild rice has, but it is impossible to value the
6 cultural significance. This is because wild rice is
7 priceless to the tribes of Minnesota. It is sacred to
8 their culture and needs to be considered as such.

9 This rulemaking decision partly
10 impacts the indigenous tribes of Northeastern Minnesota
11 most fundamentally and the State should not just ignore
12 them and discount their importance.

13 We should not take advantage of the
14 tribes because they don't have the political power to
15 fight back. We need to acknowledge that changing the
16 rule is not just environmentally absurd, but would also
17 irresponsibly and unjustly decimate the culture of the
18 indigenous people in Minnesota. Thank you.

19 THE JUDGE: Thank you. Anybody have
20 any questions for Mr. Spitzer? Ms. Maccabee?

21 MS. MACCABEE: Your Honor, I wonder
22 if we could have a couple minutes I could respond to a
23 few of the things that were just raised by Mr. Anderson
24 and --

25 THE JUDGE: I just want to see -- you

1 will certainly have an opportunity. I want to see if
2 there's other -- a couple new people just walked in, so
3 if they have things they want to say I want to let them
4 go first. Thank you.

5 Are there -- Ms. Nankivel, are there
6 more new people to speak?

7 MS. NANKIVEL: No.

8 THE JUDGE: Okay. Ms. Maccabee, do
9 you want to come up to the front?

10 MS. MACCABEE: Thank you for the
11 extra time, Your Honor. Just a couple points. The
12 statement was made, I think it was in representative of
13 Cleveland-Cliffs that there should be no standard for
14 either sulfate or sulfide. And that was actually one of
15 the things proposed by the mining industry to the
16 legislature in 2011.

17 And what happened at that time was
18 the United States Environmental Protection Agency called
19 attention to the fact that the Clean Water Act doesn't
20 allow a state to simply remove a standard unless there
21 is a reviewable preservation of the designated use and a
22 scientific basis.

23 So, even though it is clear that the
24 industry has wanted to simply remove the standard, the
25 Clean Water Act, as well as our own rules about need and

1 reasonableness of rule changes, requires that there be a
2 protection of the resource, especially when you're
3 taking away a rule that was adopted under the Clean
4 Water Act.

5 Just a couple more small details. I
6 think the statement about Minnesota Power that I made
7 was not that there was no limit at all on sulfates, but
8 the wild rice sulfate limit wasn't applied.

9 And that is correct, mass based
10 sulfate limits are different and they've been applied
11 irrespective of the presence of wild rice.

12 THE JUDGE: I just want to ask for
13 point of clarification, I should have asked this
14 earlier, can you explain the difference between a mass
15 based limit and the 10 milligram per liter limit as its
16 stated that way?

17 MS. MACCABEE: There are mass based
18 limits even in very old permits that have not been
19 updated for a quarter of a century. And they're based
20 on the general volume of sulfate in the process.

21 What's unusual and distinctive about
22 the wild rice sulfate limit is it's based on
23 concentration. And it says that the concentration in
24 the receiving water can't be more than 10 parts per
25 million because of observations -- in John Moyle's

1 observations, he was a Department of Natural Resources
2 scientist and made observations over hundreds, I think
3 the last thing I read was in over 2,000 lakes.

4 And he observed that the large wild
5 rice stands were found almost exclusively in waters with
6 concentrations in the surface water of 10 parts per
7 million or less. And above about 50 milligrams per
8 liter there basically were -- he used different words to
9 frame it, but basically there weren't stands of wild
10 rice.

11 What's really one of the interesting
12 things about the field study that was done by the
13 University of Minnesota under the PCA's control in this
14 situation is they found almost the same thing that John
15 Moyle did. Almost all the waters that had wild rice
16 were clustered at 10 parts per million or less.

17 And if you just look at the data on
18 where there was wild rice at anything greater than
19 5 percent of coverage, there are few -- less than
20 5 percent situations where a lake or a stream had wild
21 rice in that higher sulfate.

22 So, what is important in looking at
23 this standard is that it's a concentration standard,
24 it's a concentration of how much sulfate you can have in
25 the water. And the field study, one of the wonderful

1 things is that -- we like to say if it was done before
2 2000 it's old.

3 But the data shows the same
4 distribution that was published in 1944 by John Moyle
5 and updated in his memoranda to the Pollution Control
6 Agency in 1975. So, I hope that helps.

7 I mean, you're hearing a layman's
8 understanding. I'm not pretending that I'm a scientist,
9 but as a layman who's been working with scientists since
10 2009.

11 You heard several comments from
12 industries disparaging the outdoor container or mesocosm
13 studies. And I've been working with this research, I
14 was on the advisory committee, I've read every report,
15 every published report, hundreds and hundreds of pages
16 of Data Practices Act.

17 I spent hours and hours talking to
18 both the tribal scientists and John Pastor to understand
19 his research. The mesocosm studies, from my perspective
20 and the perspective of the tribal scientists, the most
21 important research base in this entire huge study that
22 was done by the Pollution Control Agency.

23 And the idea that they should be
24 discounted because there was mortality of certain tanks
25 in one year, John Pastor's article, which I think

1 several Pollution Control Agency staff were also
2 co-authors, was published. And that one-year mortality
3 is explained.

4 In the peer review committee that was
5 responsible for publishing that article did not believe
6 that that discounted the results. And I think that is
7 somewhat cynical to discount them.

8 What the experiments allowed John
9 Pastor to do and his research team were vary things like
10 sulfate and iron and see what happens. Look at sulfate
11 at various levels and see how long it took for there to
12 be effects.

13 Look at the whole plant and see does
14 sulfate at 150 milligrams per liter affect the growth of
15 seedlings? Does it affect how big the plant gets? Does
16 it affect if the seeds ripen?

17 And his article, which the Pollution
18 Control Agency has included in their exhibits, and I'm
19 sure others will also, demonstrated that sulfate
20 additions to the water do impair the wild rice. And
21 that, there are also sulfide increases in the sediments
22 that correspond to that.

23 So, I think it's very important the
24 mesocosms be looked at. And the peer review committee
25 did say that there should be experiments done with iron.

1 Unfortunately, those were done after the study was
2 ended. So, they weren't funded by the State, but there
3 are those studies done.

4 And finally, this last young man who
5 I sometimes work with, cited what the tribes believe.
6 And I'm sure that the tribes will put this into your
7 record. But the Minnesota Chippewa tribes have signed a
8 letter with all the Chippewa bands signing on.

9 And the Minnesota Indian Affairs
10 Council has also signed a letter which includes both the
11 Ojibway tribes, which we also call Chippewas, and the
12 Lakota tribes. And they are uniform in saying that wild
13 rice sulfate standards should apply to all the wild rice
14 waters and support the existing standard.

15 So, there will be written
16 documentation in your record of those things.

17 THE JUDGE: Thank you. We have
18 somebody else here? Ms. Reyer? Is that the correct
19 pronunciation?

20 MS. REYER: Yes.

21 THE JUDGE: So, you're at a
22 ten-minute time limit at this point. And please, when
23 you begin, introduce yourself, let me know where you
24 live and if you're representing anybody, any group or
25 organization, please let us know that, too.

1 If you have a statement that you
2 would like to have -- and I should have said this to the
3 other people who have spoken recently.

4 If you have a written statement that
5 you would like to have entered into the record I can
6 take that and mark that as an exhibit today. You can
7 certainly also file things electronically with us and it
8 will be part of the record that way as well.

9 MS. REYER: Thank you. My name is
10 Jane Reyer and I am here representing Friends of the
11 Boundary Waters Wilderness. I live in Minneapolis. Do
12 you need my address?

13 THE JUDGE: Minneapolis is good
14 enough. And, Ms. Reyer, your last name is spelled?

15 MS. REYER: R-e-y-e-r.

16 THE JUDGE: Thank you.

17 MS. REYER: And Friends of the
18 Boundary Waters will be submitting more extensive
19 written comments. I just prepared something very brief
20 today because I thought I would have five minutes.

21 There's one point in particular that
22 I wanted to talk about that I think -- I think most of
23 the things that we will have to say have been covered by
24 other parties. So, I don't want to repeat things.

25 There is one point that I'm not sure

1 that others will have covered. I just came in, so I'm
2 not sure about that. I hadn't heard about it so much
3 from other people. It has to do with the identification
4 of 120 micrograms per liter as the standard based on the
5 EC10 level of protection.

6 So, those who sat through the peer
7 review panel discussions, and I was one of them, may
8 remember that the discussion about the evidence that
9 could be garnered from each of the three different types
10 of studies that were done, the hydroponic and the
11 mesocosm and the field studies, the panel cautioned the
12 MPCA not to confuse these studies with each other and to
13 confuse what evidence could be garnered from each one
14 with the evidence which could be garnered from the
15 others.

16 All three of the studies do point to
17 porewater sulfide as a causative factor in the decline
18 of wild rice, but the three studies are not all equally
19 indicative of the long-term survival of wild rice in the
20 field.

21 My recollection of the peer panel
22 discussion was that the field study was well designed
23 and had a sufficient number of data points to be
24 scientifically defensible and really gave the best
25 indication of what actually happens in the field, which

1 is not surprising because it was a field study.

2 So, I'd like to point out the
3 differences between what EC10 means when -- in the
4 context of the hydroponic and mesocosm studies versus in
5 the context of field study.

6 When applied to the hydroponic and
7 mesocosm studies that EC10 measures the difference in
8 emergence C production and -- or these studies measure
9 the difference in emergence C production and weight gain
10 under controlled circumstances.

11 So that, that's a level at which
12 90 percent did not see a difference in any of these
13 measurements. And that's the EC10 that the MPCA's
14 materials about this standard that they're proposing.

15 That's really the EC10 that they're
16 referring to. And that's the EC10 that the proposed
17 standard is based on. But that's a different EC10 than
18 the EC10 that applies to the field study.

19 And that EC10 is, in essence, the
20 number at which 90 percent of wild rice waters will be
21 protected. In other words, 10 percent of the waters
22 themselves will not be protected based on the way that
23 EC10 is being used in the context of the field study.

24 It's a very different factor than the
25 number of plants that will survive, which is kind of the

1 idea behind the hydroponics and the mesocosm. And I
2 think MPCA's analysis has confused the two.

3 It's very important for regulatory
4 reasons because the Clean Water Act is written to
5 protect all of our waters and not just 90 percent of
6 them. It seems quite clear from the evidence that MPCA
7 has provided that standards based on the proposed
8 equation will not protect all wild rice standards.

9 They are, in essence, making the
10 decision to allow 10 percent of the waters to eventually
11 lose their wild rice.

12 So, I think that other people have
13 probably talked about some of the scientific evidence
14 that MPCA hasn't seemed to include in setting the
15 standard.

16 I think the study that John Pastor
17 has been doing of root plaque from iron precipitation
18 and also there's quite a bit -- there has been quite a
19 bit of discussion about increased eutrophication
20 resulting from sulfates.

21 I'm not a scientist, so I can't
22 really talk anything more about that, but those are two
23 factors that really tend to affect the rate of wild rice
24 reproduction and survival over more than one growing
25 season.

1 So, it's something that's going to
2 stand out over time as opposed to in a study, for
3 instance, with the mesocosms and the hydroponics that
4 are just evidence of sort of one generation of plants.

5 And I think others probably had more
6 to say about that, but I just want to repeat that the
7 peer review panel felt the survival of wild rice over
8 time, over decades rather than a one-year growing season
9 was necessary to account for these types of factors.

10 And it seems to me that they might
11 also be the reason why we might see a decline in wild
12 rice in particular water bodies, even though the sulfide
13 level in the porewater and the sulfate level in the
14 water might be at a level that these hydroponic and
15 mesocosm studies indicate perhaps should be protective.

16 So, I think that's pretty much --
17 that's the main point that I wanted to talk about. I do
18 want to also just mention something that I'm sure other
19 people have mentioned today. And that is that we think
20 the standard is simply unlikely as a practical matter to
21 be enforced in a way that will protect and restore wild
22 rice.

23 And I think that most of the people
24 in the state who care about wild rice understand that
25 it's not just a matter of protection at the level that

1 we have now, but it's also about restoration.

2 Minnesota Pollution Control Agency
3 has become immobilized in its attempts to renew waste
4 water discharge permits for taconite facilities in the
5 situation where the sulfate standard is relatively
6 straightforward as it is today.

7 I cannot imagine how creating a
8 situation where no standard applies to any water until
9 MPCA does the field studies and takes the action to set
10 the standard is going to actually improve conditions for
11 wild rice.

12 Whatever it says on paper the reality
13 of the agency is that I just cannot see how wild rice is
14 actually going to increase in our waters with this
15 change in the standard.

16 So, in closing, I'd like to remind
17 the agency that the point of this proceeding and the
18 point of setting a water quality standard is to protect
19 the resource. What this entire proceeding should be
20 about is protecting wild rice.

21 I remember the peer review panel
22 making this very point during their discussions. The
23 agency is going about this backwards. And those who
24 were there for the peer review panel I think will
25 understand that the peer review panel really felt that

1 there was something a little backwards about the way the
2 agency is going about this.

3 The agency has been looking for the
4 highest level of sulfide, and by extension sulfate, that
5 wild rice is able to tolerate in order to allow the
6 highest possible level of discharge. And I really think
7 that's what the PCA is about when they're doing this.

8 But instead the agency should be
9 setting the standard at the lowest level that is
10 justified based on the science in order to actually
11 protect wild rice.

12 So, that's all I had to say. And I'd
13 like to thank you for the opportunity to provide input.

14 THE JUDGE: Thank you. Are there any
15 questions for Ms. Reyer? Okay. Thank you. Anybody
16 else have additional comments? Okay.

17 Were there agency staff who wanted to
18 make some comments responsive to things that have
19 been -- to comments that have been made?

20 MR. NEBLETT: Yes, Judge Schlatter,
21 there are. We request, if possible, maybe five minutes
22 to organize with respect to who is going to respond to
23 what points because there's a number of points to
24 address.

25 THE JUDGE: Sure. Why don't we take

1 a ten-minute break, give the court reporter a chance to
2 take a break here and then we can come back and take
3 your comments.

4 MR. NEBLETT: Thank you.

5 THE JUDGE: Thank you.

6 (At this time a brief recess was taken
7 from 1:55 p.m. until 2:10 p.m.)

8 THE JUDGE: Okay. So, the agency has
9 some comments. Is this going to come from one or
10 several of you? Mr. Neblett, do you have a plan here?

11 MR. NEBLETT: Two individuals, Scott
12 Kyser will talk about the -- provide additional clarity
13 regarding mass versus concentration limits. And then,
14 Ed Swain will also talk about protective levels of
15 sulfides and development of the equation.

16 THE JUDGE: Okay. Why don't you go
17 ahead and proceed then. And you've got microphones in
18 front of you. Is my little microphone on your table?
19 You know what? It may be that you don't need it.

20 Why don't you try talking without it
21 because I found that when I turn my microphone off it
22 actually acts as kind of a speaker. So, that might be
23 enough to work with this recording. Let me try it. Go
24 ahead and let's see how it works.

25 MR. KYSER: Can you hear me?

1 THE JUDGE: Yes.

2 MR. KYSER: Hi, my name is Scott
3 Kyser, that's S-c-o-t-t, K-y-s-e-r. I'm a professional
4 engineer and I work in the Effluent Limits Unit for the
5 State of Minnesota, the Pollution Control Agency.

6 So, earlier the question was asked
7 about the difference between mass and concentration
8 water quality based effluent limits. So, I'll just take
9 a stab at answering that.

10 So, limits are a function of the
11 standards. So, limits are an expression of the
12 standards, they are not the same thing. So, we have
13 different ways of expressing limits that are protective
14 of the standard.

15 And two ways we do that are
16 concentration limits and mass limits. So, a
17 concentration limit that's maybe more intuitive, you can
18 think of it as a proportion. For example, several
19 presenters today have used 1 milligram per liter and 1
20 part per million interchangeably.

21 That's because they are. 1 milligram
22 per liter is equal to 1 part per million, it's one part
23 in one million parts of volume. A mass limit -- so,
24 that was the concentration limit, it's a proportion.

25 A mass limit, you can think of it as

1 the amount of pollutant that can be discharged in a
2 given day. So, mass per time, amount of pollutant per
3 time. So, there's different ways of expressing limits
4 that are protective of water quality standards. Does
5 that clarify for you?

6 THE JUDGE: I think so. Is it
7 functionally, then -- is the choice of expression used
8 when you're talking about essentially a discharge versus
9 receiving? Is that when the choice is made to talk
10 about mass versus volume?

11 MR. KYSER: Yeah, so our choice of
12 which one we choose is a function of how we decide to
13 express a limit. So, we consider things like receiving
14 water dilution capacity or the amount of variability and
15 the effluent.

16 So, that's why we use the two
17 interchangeably, to allow us maximum flexibility to
18 protect the water quality standard.

19 THE JUDGE: So, I'm going to come
20 back here with one more question related to that. Is it
21 accurate, then, to assume that you might be more
22 likely -- well, I'm thinking about if there were
23 multiple sources of discharge and you're thinking about
24 one body of water, you would be, I would think, more
25 inclined to think about the receiving standard, the

1 concentration because -- as opposed to if there is a
2 single source and a single body of water relationship?

3 MR. KYSER: Yes. So, we would use a
4 combination. In a situation where you had multiple
5 dischargers going into one single, for example, say a
6 lake, we would assume that that lake can receive a
7 certain amount of pollution load.

8 And then we would use a process
9 called waste load allocation to allocate that load
10 equitably among those three dischargers.

11 And we -- typically we would use a
12 combination of mass and concentration limits to protect
13 that one single receiving water.

14 THE JUDGE: Okay. Thank you.

15 MS. LOTTHAMMER: Your Honor, if I
16 could just add one item to this. Again, Shannon
17 Lotthammer with the Minnesota Pollution Control Agency.

18 Just to be sure that there isn't any
19 confusion between what Scott was just talking about and
20 the proposal for the standard, the standard is proposed
21 to be expressed as a concentration.

22 So, the protective level of sulfide
23 is parts per billion, micrograms per liter. And then,
24 the numeric standard that is calculated or based on a
25 measurement is milligrams per liter or parts per

1 million.

2 What Scott was referring to was that
3 when we then have a standard in place and we need to
4 evaluate permits to determine if they're being
5 protective of the standard, we can do that evaluation
6 and express any restrictions that end up being necessary
7 in two different ways, either as a mass limit or as a
8 concentration limit.

9 And that's more about the facility
10 and the nature of the facility and discharge. But the
11 standard itself is a concentration.

12 THE JUDGE: Okay. Thank you.

13 MR. KYSER: So, I also want to
14 clarify a little bit about what this LCCMR study that
15 investigates sulfate treatment for municipal treatment
16 plants, what that study entails.

17 So, I guess I'll say what that study
18 will do, what it won't do and some reasons why the MPCA
19 wanted to investigate sulfate treatment for municipal
20 waste water treatment plants.

21 So, I'll start with what this study
22 will do. What it will do is it will review and rank
23 treatment technologies for municipal waste water plants
24 they can use to treat sulfate. It's going to select the
25 best available technology.

1 And then what it will do is it will
2 take that best available treatment technology for
3 treating sulfate at a municipal waste water plant and
4 assign likely costs to that technology for a municipal
5 waste water treatment. So, that's what the study will
6 do.

7 I'm going to talk about why we wanted
8 to sponsor this study. One of the reasons we wanted to
9 sponsor it was because if the MPCA can kind of narrow
10 down the costs associated -- the uncertainties around
11 the costs associated with sulfate treatment, if we can
12 discover it and then share it with other communities,
13 that will avoid them having to hire consultants to do
14 that work for them.

15 So, this kind of engineering level
16 analysis costs between 15 and \$150,000 at a consulting
17 firm. If we can do it once at the MPCA, then we can
18 save all the affected communities that individual cost,
19 that collective cost.

20 And so, I also want to emphasize what
21 this project will not do. The study will not estimate
22 costs for industrial facilities, it's only supposed to
23 focus on municipalities.

24 And it is not a site specific
25 facility level plant, this is a high-level plant. You

1 can think of it as a 10,000-foot level treatment plant.
2 If a full design is needed, more rigorous analysis will
3 be required.

4 And another reason we wanted to do
5 this study is so that we can associate costs with
6 sulfate treatment so we can better estimate
7 affordability for municipal waste water plants across
8 the state.

9 I also want to clarify that this
10 study is for -- part of the reason we wanted to perform
11 this study was to aid in the implementation of the
12 sulfate standard in the future. This study was not
13 meant to be part of the rulemaking process.

14 MR. NEBLETT: Thank you, Scott. Ed,
15 when you're ready.

16 MR. SWAIN: My name is Edward Swain,
17 that's E-d-w-a-r-d, S-w-a-i-n. I'm a research scientist
18 with the Pollution Control Agency and I've worked on
19 this wild rice project since it started in 2010.

20 I want to clarify by discussing two
21 topics that are different from each other and get
22 convoluted sometimes. The first is the identification
23 of the protective concentration of sulfide.

24 And the second topic is how to
25 translate that sulfide concentration that's identified

1 as protective into a sulfate standard for that
2 particular wild rice water.

3 So, first, how did the Pollution
4 Control Agency identify protective concentration of
5 sulfide. We performed three different types of studies,
6 hydroponic, mesocosm, and field. And a peer review
7 panel evaluated our data.

8 THE JUDGE: Either your microphone is
9 cutting out or you're just not quite close enough to it.

10 MR. SWAIN: I'll try closer first.
11 The peer review panel did identify the field study as
12 being particularly strong and pertinent to identifying
13 protective sulfide concentration and urged us to examine
14 it in more detail. And we performed a lot more
15 statistical analysis after that peer review panel.

16 Nevertheless, the three types of
17 studies, the hydroponic, mesocosm, and field did agree
18 with each other in identifying a protective sulfide
19 concentration quite well, as we graphed on Figure 3 on
20 Page 70 of the SONAR.

21 Quite often the calculation was done
22 as so-called EC10, which is the effect concentration 10,
23 10 percent reduction from controlled condition. I think
24 there's a misunderstanding about what that means.

25 It doesn't mean that 10 percent of

1 the wild rice is going to die at a concentration above
2 the identified protective concentration. Instead, it's
3 an internationally recognized way to calculate a
4 negligible effect level.

5 So, an EC10, we're not expecting any
6 effect on the species that's being studied, in this case
7 wild rice. So, all three approaches tended to agree
8 with each other pretty well.

9 In our analysis we did identify
10 120 micrograms per liter as a protective concentration.
11 That's not the same as a toxic concentration at all. In
12 fact, it's a low concentration that we're confident that
13 the organism is not having any effect.

14 And above that, it's not a bright
15 line, we don't start having an impact immediately above
16 120. Instead there's a progressive slight decline in
17 the probability of wild rice being present in the water
18 body and the density of that wild rice when it is
19 present.

20 So, 120 was identified and then we
21 had the task of translating that to sulfate
22 concentration that corresponded to it for the different
23 wild rice waters.

24 And as Shannon explained in the
25 beginning presentation, there's three variables that are

1 equally responsible for controlling the sulfate
2 production, the sulfate, the iron, and the organic
3 carbon. We can't control the organic carbon or the
4 iron, but we can control the sulfate. And that's why we
5 regulate the sulfate.

6 Now, in this kind of statistical
7 analysis it gave us the opportunity to look at how often
8 we're wrong. And this is something that is just
9 beginning to be done anywhere in the world, to look at
10 the error rate of a water quality standard.

11 Vermont was the only other state
12 that's done it, they did it for phosphorus standard. It
13 is recommended though, EPA endorses this approach.

14 So, what does an error rate of
15 20 percent mean that's been quoted today? That's the
16 sum of being too low or too high on the standard.
17 Because no standard is perfect. This is all statistical
18 and the environment is a complicated place where
19 different things happen.

20 The 20 percent is a sum of picking
21 numbers that were either underprotective or
22 overprotective. So, in this case they're about
23 10 percent each. So, about 10 percent of them, for
24 instance, are overprotective.

25 And that's a concern, of course, for

1 any regulated party, that they might be required to
2 control sulfate when it's not necessary, it's an
3 overprotective number. But our alternate standard will
4 mitigate this number a bit.

5 We don't have a calculation about how
6 often we can mitigate the overprotective numbers, but
7 the true overprotective calculation would be lower than
8 10 percent.

9 So, the situation we get into where
10 we require somebody to control sulfate when it's
11 actually not necessary to keep the sulfate below 120,
12 which is what overprotective means, would be somewhat
13 less than 10 percent of the time.

14 THE JUDGE: From a practical
15 perspective how would the alternate standard come into
16 play to mitigate that overprotective standard, the
17 overprotective occurrences there?

18 MR. SWAIN: The alternate standard
19 would likely come into play when sulfate is already
20 elevated above the calculated sulfate standard from the
21 equation, which I haven't talked about the equation yet.

22 If the sulfate is already higher and
23 it's a wild rice water and as far as anybody can tell
24 the wild rice has been there for a long time and there's
25 no reason to suspect that it's in decline, then it

1 appears to be an overprotective number. But then the
2 alternate standard procedure would kick in.

3 MS. LOTTHAMMER: Your Honor, if I
4 could just add two more things to the provisions that Ed
5 just made. First of all, Ed mentioned that we can't
6 control the organic carbon or the iron and that's why
7 we're focused on the sulfate.

8 The reason for that is because the
9 organic carbon and the total extractable iron in the
10 sediment act very naturally. So, there's natural
11 conditions that result in those differences from one
12 lake to the next.

13 It's sulfate that is being added to
14 some waters due to human activities. So, that's why the
15 focus of developing the standard then is on the part
16 that humans influence and that's that sulfate
17 concentration that's being discharged in some cases.

18 And then, I also want to point out
19 about the discussion about the alternative standard, is
20 that -- all water quality standards have some level of
21 imprecision to them.

22 And as Ed had mentioned, this concept
23 of both understanding and reducing error rates is
24 relatively new in water quality standards development.

25 So, though there is a percentage of

1 the equation results that we would expect would not be
2 on point, so that 20 percent error rate, a portion of
3 that would be addressed by the alternate standard
4 approach.

5 And then, there's still an alternate
6 pathway called the true site specific standard that's
7 available for addressing those other areas of
8 impreciseness.

9 So, because we have so much
10 information about iron, carbon, total organic carbon,
11 the total extractable iron and the sulfate and the
12 sulfide, we're actually able to propose a standard that
13 is much more precise than the current standard.

14 It doesn't get rid of all of the
15 imprecision, but there are pathways available for
16 addressing that as site specific information becomes
17 available about a particular water body.

18 THE JUDGE: Okay.

19 MR. SWAIN: I do have a little more
20 clarification that I'd like to offer.

21 THE JUDGE: Okay. Go ahead.

22 MR. SWAIN: We are proposing to
23 revise the current 10 milligram per liter standard
24 because we think there is evidence that this proposed
25 equation offers advantages.

1 And just to focus in on the error
2 rate, the error rate of the fixed 10 milligram per liter
3 standard is 32 percent rather than 20 percent that the
4 equation offers. And that 32 percent is evenly divided
5 between overprotective and underprotective, 16 percent
6 each.

7 I do want to emphasize that while
8 it's desirable to have a low error rate, it's -- picking
9 an equation by its error rate is not the way to go
10 because the first highest priority is to protect wild
11 rice.

12 And the 4 percent error rate that's
13 been offered in discussion today is dependent on
14 changing the protective concentration to 300 micrograms
15 per liter higher than our 120 that we believe is
16 necessary for protection.

17 So, yes, you can get a 4 percent
18 error rate by moving to 300, but we don't think it's
19 defensible because the density is significantly lower at
20 300, wild rice density and stems per square meter
21 significantly lower.

22 And then, just one last thing that's
23 related to equation, I'm confused by Mr. Anderson's
24 assertion that if the equation had been applied to the
25 Clay Boswell facility that it would cost millions of

1 dollars.

2 Our data both upstream and downstream
3 from Clay Boswell indicate that the Mississippi River as
4 it flows by that facility is about 1 milligram per liter
5 sulfate above and about ten below. And our calculated
6 standard below is higher than ten. So, according to our
7 equation, no control would have been needed at that
8 facility.

9 THE JUDGE: Okay. I'm going to let
10 the PCA folks finish and then if people have questions
11 or comments in response I will invite those.

12 MR. NEBLETT: That concluded our --

13 THE JUDGE: One last thing,
14 Mr. Swain?

15 MR. SWAIN: I just remembered one
16 additional point. The point of the equation is to
17 relate sulfate to sulfide given the amount of iron and
18 carbon at a particular site.

19 And it's a chemical relationship, it
20 doesn't matter whether there's wild rice there or not.
21 So, in calculating the equation, we include sites with
22 no wild rice because it's the chemistry that we're
23 performing statistics on.

24 MR. NEBLETT: That concludes our
25 remarks.

1 THE JUDGE: Thank you. Are there
2 people who have questions or comments directly related
3 to what the PCA folks have been saying? And can you
4 raise your hands if you do?

5 So, Mr. Anderson and Ms. Maccabee --
6 oh, and Mr. Bock. Okay. I think Ms. Maccabee was the
7 first hand I saw go up. And it would help if you have a
8 microphone, either come up here or there's a hand held
9 there.

10 MS. MACCABEE: Thank you, Your Honor.
11 Paula Maccabee. Am I audible?

12 THE JUDGE: You are.

13 MS. MACCABEE: Just a clarification
14 for Mr. Swain. So, do I understand correctly that when
15 we're talking about the error rate of the calculation
16 with 120 parts per billion or the error rate that was
17 proposed by the Chamber of Commerce that ended up
18 4 percent or the error rate for the current standard,
19 what we're really talking about is the capacity to
20 predict the specific sulfate/sulfide number, rather than
21 the capacity to protect wild rice?

22 MR. SWAIN: These error rates are
23 calculated as to whether they're predicting the sulfide
24 concentration correctly. In our technical support
25 document we do go into what happens to the wild rice

1 presence and absence at particular levels also.

2 MS. MACCABEE: So, the question of
3 whether 300 or 120 is the better number can be separate
4 from the error rate. And the "error rate" for the
5 current 10 parts per million standard would be how
6 effectively it predicts the correct sulfide number?

7 MR. SWAIN: Yes.

8 MS. MACCABEE: Thank you very much.

9 THE JUDGE: Mr. Anderson, I think,
10 was next. Thank you.

11 MR. ANDERSON: Yes, Your Honor. Just
12 a point of clarification to Ed's confusion on the
13 Boswell permit. That was not a 10 milligram per liter
14 standard, if you recall.

15 Based on research from quite a few
16 scientist at the time that was set at 40 to 60
17 milligrams per liter, four to six times higher than the
18 10 milligrams per liter standard.

19 So, based on our preliminary
20 research, the sediment chemistry downstream seems to
21 suggest something far lower than that. Our sulfate
22 levels have decreased over the years from what they were
23 back in the 1970s.

24 At that time it would have resulted
25 in a much lower limit than what the 40 to 60 prescribed,

1 based on that research. So, we would have had to do
2 something to control sulfate, probably would have been
3 very expensive. So, that's the difference between the
4 10 and what we have at Boswell.

5 THE JUDGE: So, if there's a response
6 there, I see you nodding, but that won't be taken down
7 in the record. Is there an actual verbal response?

8 MR. SWAIN: Thank you, Mr. Anderson.
9 I believe that you had said that if the equation had
10 been used it would cost millions of dollars.

11 MR. ANDERSON: If this equation had
12 been used back in the 1970s in lieu of the 40 to 60, it
13 would have required somewhere around 20 to 25, which
14 would have been lower than the 40 to 60, which meant we
15 would have had to reduce sulfate back in the 1970s.

16 MR. SWAIN: How high was the actual
17 sulfate in the river the year of discharge?

18 MR. ANDERSON: In the 1970s?

19 MR. SWAIN: Yeah.

20 MR. ANDERSON: I was a couple years
21 old, I don't recall. I don't have that data in front of
22 me.

23 MR. SWAIN: I would imagine that it's
24 not that different from the discharge in recent years.

25 MR. ANDERSON: Actually, it would be,

1 Ed, because we have significantly changed operations
2 since then, including ceasing a major discharge from one
3 of our ponds into the river due to our environmental
4 retrofit. So, we significantly changed it. It
5 certainly would have been higher before.

6 MR. SWAIN: Thank you for the
7 discussion.

8 THE JUDGE: Thank you. And one more
9 comment here?

10 MR. BOCK: So, I think he pretty much
11 -- am I coming through?

12 THE JUDGE: If you can just state
13 your name again for the record.

14 MR. BOCK: Michael Bock. I think she
15 already stated my question or clarifying. When you're
16 talking about error rates, you're talking about the
17 ability to predict the sulfide concentration above and
18 below the threshold and not -- and that area has nothing
19 to do with the presence or absence of wild rice if the
20 equation predicts it's above or below the threshold
21 based on the sulfate. Is that a correct interpretation?

22 MR. SWAIN: The error rates we've
23 been discussing are how accurately the sulfide
24 concentration is predicted and has nothing to do with
25 wild rice presence and absence, I agree.

1 THE JUDGE: Anyone else have
2 questions or comments for PCA staff? Okay. Are there
3 others who wish to make additional comments at this
4 time? Okay.

5 Well, this hearing was noticed
6 until -- to last until 4:00. So, I think that we will
7 be here until 4:00. You all may stay or go as you wish.
8 I may actually -- let's go off the record.

9 (At this time a discussion was held off
10 the record and a brief recess was taken
11 from 2:40 p.m. until 3:55 p.m.)

12 THE JUDGE: Okay. We are back on the
13 record. And it is 4:00 p.m. on October 23, 2017. And
14 there is no one left who wishes to speak at the hearing
15 today.

16 So, we are adjourned and we will
17 reconvene tomorrow, October 24th, in Virginia,
18 Minnesota. Thank you all. We're off the record.

19 (Hearing adjourned at 4:00 p.m.)
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1 REPORTER'S CERTIFICATE

2
3 I, MARCIA L. MENTH, do hereby certify that I
4 recorded in stenotype the hearing on the foregoing
5 matter on the 23rd day of October, 2017 at St. Paul,
6 Minnesota;

7
8 That I was then and there a Notary Public in
9 and for the County of Wright, State of Minnesota;

10
11 I further certify that thereafter and on that
12 same date I transcribed into typewriting under my
13 direction the foregoing transcript of said recorded
14 hearing, which transcript consists of the typewritten
15 pages 1 through 154;

16
17 I further certify that said hearing transcript
18 is true and correct to the best of my ability.

19
20 WITNESS MY HAND AND SEAL this the 26th day of
21 October, 2017.

22
23
24 _____
25 MARCIA L. MENTH
Court Reporter