

03/24/2021

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24

In Re: Transcript of proceedings from the meeting of the Former Wurtsmith Air Force Base Clark's Marsh Interim Remedial Action, on the 24th day of March, 2021, at the hour of 5:00 p.m. via Webinar.

(Proceedings concluded at 6:56 p.m.)

REPORTED BY ELVIRA M. MOLNAR
CERTIFIED SHORTHAND REPORTER LICENSE NO. 84-3309

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24

APPEARANCES :

MR. TIMOTHY SUELTFENFUSS

MS. GINA JONES

MS. SHARON VRIESENKA

MS. PAULA BOND

DR. CATHARINE VARLEY

1 MR. SUELTFUSS: Let's go ahead and begin, if
2 we could. Welcome everyone. Good evening, and
3 welcome to the Clark's Marsh Interim Remedial
4 Action Proposed Plan Public Meeting. This meeting
5 relates to environmental cleanup of the former
6 Wurtsmith Air Force Base.

7 My name is Tim Sueltenfuss, with
8 contractor Galen Driscoll, and I'll serve as
9 facilitator for tonight's meeting.

10 If we can move to the next slide, please.

11 Our court reporter is on the line to
12 capture a verbatim transcript of tonight's meeting.
13 This online meeting is also being recorded, so we
14 ask that you hold questions until the end of
15 presentation.

16 During the informal Q & A session, please
17 let us know if you have a question by raising your
18 hand electronically. I'll call on you to pose your
19 question. We ask that microphones be muted when
20 you're not speaking. This will minimize any
21 background noise that we have.

22 During the formal comment session toward
23 the end of tonight's meeting the court reporter
24 will record your comment word for word. The

1 Air Force will not respond to your comments
2 tonight. Instead the Air Force will respond to
3 comments within the responsiveness summary prepared
4 after the end of the 30-day public comment period.

5 Slide three, if we could.

6 So after brief introductions, we'll move
7 into the technical presentation. The major
8 elements of the presentation are displayed here.
9 We'll then have an informal question and answer
10 session.

11 Finally, you will have the opportunity to
12 make formal comments, and we will conclude this
13 meeting by 7 o'clock p.m.

14 I'd like to now introduce Dr. Catharine
15 Varley, the base realignment and closure
16 environmental coordinator for the former Wurtsmith
17 Air Force Base.

18 Over to you, Dr. Varley.

19 DR. VARLEY: Hi. I am Dr. Catharine Varley,
20 the Wurtsmith program manager and environmental
21 coordinator. I would like to welcome you all
22 today. Thank you for joining us for the Clark's
23 Marsh Interim Remedial Action Public Meeting.

24 As our moderator just said, a

1 court reporter will be capturing our meeting today.
2 This meeting will take part in three parts. First,
3 the Air Force will begin with an overview of the
4 proposed plan.

5 Then we will have our open question and
6 answer discussion. This replaces the conversations
7 we would usually have at a poster session. When
8 this portion occurs, we ask that you virtually
9 raise your hand and wait for the moderator to call
10 on you and, then, state your name before you ask
11 your question.

12 The third and final portion of this
13 meeting will be verbal formal comments. And,
14 again, we ask that you raise your hand and wait to
15 be called on before submitting your comment. And
16 as Tim, our moderator, just mentioned, those
17 comments will not be answered on the spot. There
18 first will take time to actually consider each of
19 those comments with all the comments that are
20 submitted through the formal comment process, which
21 can be e-mails or through the U.S. Postal Service
22 to me.

23 And as has been stated before, the
24 proposed plan is as the name suggests, it is

1 proposed. It is the best that we have been able to
2 come up with based on information that we have had
3 available. So your reviews matter, and we will
4 consider each formal comment before any final
5 decisions are made.

6 So what we will do today is we will view,
7 discuss and capture comments on the proposed plan
8 for Clark's Marsh Interim Remedial Action. I would
9 now like to introduce you to the person who has
10 been actively communicating this project throughout
11 ECT and RAO updates, Ms. Paula Bond.

12 MS. BOND: Thanks, Catharine, and thanks
13 everyone for joining us this evening.

14 So like Catharine said, I am going to give
15 you the proposed plan that has been posted to the
16 Air Force administrative record and placed in the
17 information repository at the library. So I am
18 going to run through that.

19 So, Gina, the next slide, please.

20 So the Clark's Marsh Interim Remedial
21 Action that we are looking at and the proposed plan
22 for that action, why are we looking at even doing
23 an interim remedial action?

24 It's to reduce the volume of PFOS and PFOA

1 impacted groundwater entering Clark's Marsh. We
2 are building on the successes of the fire training
3 area, FT002 treatment system, that's already there,
4 while we are continuing to determine the nature and
5 extent of the groundwater plume there.

6 And I just want to remind everyone that
7 this is an early interim action that's being
8 conducted before the remedial investigation and the
9 feasibility study have been completed. So the
10 proposed plan that we are looking at today is just
11 that, the proposed plan.

12 Next slide, please.

13 So this is a slide that if you attended
14 the RAO meeting back in January, this is the same
15 slide that we presented there. And this just kind
16 of gives you an overview of the interim remedial
17 action process. You know, we started with the IRA
18 scoping. That portion of the project has been
19 completed. The remedial design and the proposed
20 plan, which is the phase that we had just
21 completed. And the gray circle, the 30-day public
22 comment, is what we are in right now. And that's,
23 of course, the reason for the public meeting
24 tonight.

1 So that will be followed by the interim
2 record of decision, the interim remedial action
3 work plan and, then, finally implementing the
4 actual interim remedial action.

5 Next slide, please.

6 So just to give everybody some information
7 before we get started on where you can access the
8 proposed plan and how to submit those comments.
9 The proposed plan is available for review at the
10 Air Force Administrative Record electronically, and
11 the website is shown on the presentation where you
12 can go download that.

13 There is a hard copy in the information
14 repository at the Robert J. Parks Public Library.
15 And we have listed the library times here on the
16 slide for you.

17 The 30-day public comment period is
18 March 18th through April the 17th, 2021. And what
19 that means is you have, the public has, until
20 April 17th to submit their questions to Dr. Varley
21 through the e-mail or through the regular mail.

22 I will let you know if you look at -- you
23 download the hard copy -- or go to the library and
24 get the hard copy or you download a copy from the

1 Air Force Administrative Record, on the last page
2 of the proposed plan is a comment form. If you
3 print that off, you can write your comments on the
4 form. It's you just fold it, tri-fold it, and
5 there is a place for a stamp, and you just drop it
6 in the mail. So I just want to let everybody know
7 that.

8 Okay. Next slide, please.

9 So, like I said, the Air Force will accept
10 written comments through April 17th. And, then, I
11 have already talked about the comment letters being
12 post marked by April 17th and submitted to
13 Dr. Varley. Her address is here and, then, her
14 e-mail address is, also, if you would rather e-mail
15 her your comments.

16 Next slide, please.

17 So the Clark's Marsh Proposed Plan
18 presents background information and the rationale
19 for the interim remedial action that's being
20 proposed. It explains the remedial alternatives
21 that were considered by the Air Force for the IRA.
22 It presents the preferred alternative that the
23 Air Force has -- believes is the best alternative.
24 It explains how the public can participate in the

1 decision making process. So that information is
2 all included.

3 Next slide, please.

4 So just a little bit of background on the
5 fire training area FT002. It's located in the
6 southwest corner of the former Wurtsmith Air Force
7 Base. It operated as a fire training area from
8 1958 to 1991. Aqueous film-forming foam was used
9 at the fire training area between 1970 and 1991.
10 And AFFF containing PFOS and PFOA were released
11 during those fire training exercises to the soil
12 where it leached into groundwater and where it has
13 migrated into groundwater and, then, on into
14 Clark's Marsh.

15 PFOS and PFOA concentrations in the
16 groundwater at FT002 and Clark's Marsh exceed
17 Michigan's Part 201 groundwater cleanup criteria.

18 Next slide, please.

19 So, again, if you attended the RAO meeting
20 in January and October, actually last October,
21 these figures were presented. The figure on the
22 left shows just the location of the fire training
23 area, and hopefully you guys can see that on your
24 screens. And, then, you can see the fire training

1 area is kind of in the north central portion of the
2 figure. And, then, as you move south, you can see
3 Clark's Marsh and the wildlife area. And the blue
4 represents one of the ponds within the marsh there.

5 The figure on the right shows the combined
6 PFOS and PFOA groundwater plume as we understand it
7 today, and it also shows the location of the
8 proposed extraction wells for the interim remedial
9 action. And, then, it also identifies where the
10 current FT002 groundwater pump and treat system is
11 actually located. So this is just to kind of
12 orient you as we go through the summary.

13 Next slide, please.

14 So there is an existing pump and treat
15 system at FT002. It was installed in 2014 and 2015
16 as a time-critical removal action to reduce the
17 migration of PFOS and PFOA into Clark's Marsh.
18 Groundwater is pumped from those seven existing
19 extraction wells that are approximately 241 gallons
20 per minute, and the extracted groundwater is
21 treated by granular activated carbon adsorption
22 before it is discharged into groundwater
23 infiltration galleries. FT002 has reduced PFOS and
24 PFOA concentrations at locations down gradient of

1 the extraction wells bells by up to 90 percent
2 since startup.

3 Next slide, please.

4 The objective, the interim remedial action
5 objective, or RAO, is to increase the amount of
6 contaminated groundwater that the fire training
7 area FT002 treatment system captures and treats,
8 reducing the migration of groundwater containing
9 PFOS and PFOA into Clark's Marsh.

10 The remedial remediation alternatives that
11 were evaluated to do this included no action,
12 expanded hydraulic control using pump and treat
13 with ion exchange and expanded hydraulic control
14 using pump and treat with GAC.

15 Next slide, please.

16 So the alternatives that we evaluated in
17 the proposed plan started with no action. This is
18 required by CERCLA that we evaluate the no action
19 alternative, and we use that as a baseline against
20 which all other alternatives are compared. Under
21 this alternative, no actions are taken, including
22 monitoring, and obviously the cost is zero. Under
23 this scenario no additional work would be done, but
24 the existing FT002 treatment system would continue

1 to operate. So we are not considering that the
2 existing system is there. We are just looking at
3 the RAO for this particular interim remedial
4 action.

5 Next slide, please.

6 The second remedial alternative that we
7 evaluated was expanded hydraulic control using pump
8 and treat with ion exchange resin. Under this
9 remedy it increases hydraulic control by adding
10 five new extraction wells. It increases the
11 groundwater extraction capacity by 40 percent. It
12 would use ion exchange resin to treat the extracted
13 groundwater. It does require a new treatment
14 facility to be constructed to house the ion
15 exchange system. It will continue to discharge the
16 treated effluent to groundwater into a new
17 infiltration gallery. The existing GAC system
18 would also continue to operate under this
19 alternative and, then, the estimated total cost
20 including operations and maintenance is
21 11.8 million.

22 Next slide, please.

23 So the third alternative is expanded
24 hydraulic control using pump and treat with GAC.

1 Under this alternative, we would increase the
2 hydraulic control by adding again five new
3 extraction wells, increasing the groundwater
4 extraction capacity by 40 percent. We would use
5 GAC to treat the extracted groundwater. It does
6 require the expansion of the existing treatment
7 facility to increase the GAC treatment capacity.
8 It would continue to discharge treated effluent to
9 groundwater with a new infiltration gallery. And
10 the estimated cost, including O & M, is 9.9
11 million.

12 Next slide, please.

13 So each remediation alternative, the three
14 alternatives, were evaluated against nine CERCLA
15 criteria. So under the CERCLA process, we are
16 required to look at these nine criteria to evaluate
17 each alternative and compare them to one another.

18 So the nine criteria are listed here on
19 the slide: Overall protectiveness of human health
20 and environment; compliance with ARARs; long-term
21 effectiveness; does the remedy reduce the toxicity
22 or mobility or volume through treatment; short-term
23 effectiveness; implementability; cost; support
24 agency acceptance; and community acceptance.

1 So each of these criteria are looked at
2 with regard to each remedial alternative.

3 Next slide, please.

4 So I put together a table just to kind of
5 show you the evaluation criteria. Each of the
6 remedial -- the nine CERCLA criteria. Each of the
7 alternatives one, two and three. And, then, just
8 kind of some notes over to the side for each one.

9 So under No. 1, protection of human health
10 and the environment, obviously, no action would do
11 nothing to protect human health and the environment
12 other than the treatment system that's already
13 there. Pump and treat with ion exchange is
14 protective of the environment, as well as GAC,
15 alternative three. So two and three reduce
16 migration of PFOS and PFOA INTO Clark's Marsh, and
17 alternative No. 1 does not.

18 Complies with ARARs. No action does not
19 comply with the ARARs. Alternatives 2 and 3 do
20 comply with our ARAR and both would meet the
21 substantive discharge requirement limits under the
22 SRDs that we currently have for the fire training
23 area.

24 Long-term effectiveness. No action does

1 not meet that criteria for long term effectiveness.
2 Two and three are effective in the long term with
3 continued routine O & M of the system components.
4 You know, change out of the ion exchange resin and
5 the GAC as you move forward. So that would be a
6 long term.

7 Reduction of toxicity and mobility or
8 volume through treatment. No action does not
9 reduce toxicity or mobility or volume.
10 Alternatives 2 and 3 would both reduce mobility via
11 hydraulic control and absorption either through GAC
12 or ion exchange resin.

13 Under short-term effectiveness, no action
14 is not effective in the short term. Both
15 Alternative 2 and 3 are effective in the short term
16 and would not adversely affect workers or nearby
17 residents or impacts to the environment would be
18 mitigated. And under the short-term effectiveness,
19 those are some of the criteria that we look at
20 under that category is how the construction of the
21 remedy would affect local workers and residents in
22 the environment.

23 Under implementability, No. 6, this
24 category looks at is the remedy implementable. Are

1 there other infrastructure in the way that would
2 prevent or preclude the remedy from being
3 implemented. So those are the kind of things that
4 we look at under this category. And under no
5 action, yes, that is equally implementable, as well
6 as Alternative 2 and 3. Both of those are
7 implementable.

8 No. 7, cost. No action is zero dollars.
9 Pump and treat with ion exchange is 11.8, and pump
10 and treat with GAC is 9.9.

11 Support agency acceptance. The EGLE has
12 reviewed the proposed plan, and they have not
13 objected to either Alternative 2 or 3 as an interim
14 remedial action.

15 No. 9, community acceptance. Those
16 categories are all listed as to be determined, and
17 that would be based on comments received during the
18 proposed plan comment period.

19 Next slide, please.

20 The Air Force has -- the Air Force
21 preferred IRA, interim remedial action, is
22 Alternative No. 3, expanded hydraulic control using
23 pump and treat with GAC. This alternative meets
24 the interim remedial action objective of reducing

1 the migration of PFOS and PFOA into Clark's Marsh.
2 It is protective of human health and the
3 environment. It does comply with the ARARs. It's
4 effective in both the short and long term. It does
5 reduce the mobility of PFOS and PFOA through
6 treatment. And it's implementable and it is more
7 cost effective than Alternative 2.

8 Next slide, please.

9 So Alternative 3, the key elements of the
10 proposed FT002 expansion under Alternative 3
11 includes installing five new groundwater extraction
12 wells and one additional infiltration gallery. It
13 increases the groundwater extraction capacity by
14 40 percent. It increases the backwash capability
15 with additional settling tanks. We would install
16 three 6-foot diameter media beds, each containing
17 of 5,000 pounds of GAC. It includes pre-treatment
18 to reduce treatment system fouling. And it would
19 expand the existing FT002 treatment system building
20 to add the new treatment components.

21 Next slide, please.

22 Did you skip one there, Gina? Sorry.

23 So what you see on the slide in front of
24 you now is the conceptual layout for how the

1 expansion of the existing FT002 building. So the
2 area in blue on the top is the existing treatment
3 system and, then, kind of the brown shaded area on
4 the bottom part of the slide are the components
5 that would be add under the Alternative 3 with GAC.

6 So you can see that the three new carbon
7 vessels, three new GAC vessels, would be slightly
8 smaller than the existing vessels. We would add
9 two additional settling tanks under this system
10 scenario. And, then, the influent water would come
11 into the existing equalization tank. It will be
12 routed through the new carbon tank and, then,
13 through the existing carbon tank and, then, back
14 out through the infiltration galleries.

15 Next slide, please.

16 So a written summary of significant
17 comments and new relevant information submitted
18 during the public comment period and the
19 Air Force's response will be in the responsiveness
20 summary, which is included in the Clark's Marsh
21 interim record of decision. The Clark's Marsh
22 interim ROD will be developed following the public
23 comment period. Once we receive all the comments
24 and address those, the ROD will be developed.

1 Next slide, please.

2 So I am going to turn this back over to
3 Tim. This will be the informal question and
4 Air Force response session. As Dr. Varley had
5 mentioned, if we were there in person, it would be
6 great, and folks would be walked through the
7 session and informally asking questions and
8 talking. So that's what this portion of the
9 meeting is for. And, then, formal comments will
10 come after this session.

11 So like Tim had mentioned, if folks could
12 raise your hand, and we'll unmute you as you raise
13 your hand and Tim calls on you, and I will just go
14 ahead and turn that over to Tim.

15 MR. SUELTFUSS: Great. All right. Well,
16 thank you very much, Paula. We appreciate that.

17 So, again, we are moving now into that
18 second segment of tonight's agenda, the informal
19 Q & A portion. So as Paula just mentioned, if you
20 have a question, please raise your hand
21 electronically using that small button that looks
22 like a hand there. And when I call on you, then
23 Gina will bring you off mute. Please start off by
24 stating your name and asking your question. And,

1 then, I'd also ask any of those who may respond to
2 your question to start by stating their name and,
3 then, responding.

4 So I noticed that Mr. Mike Munson of the
5 Oscoda Wurtsmith Air Force Authority had his hand
6 raised for a question. So we'll go to you,
7 Mr. Munson.

8 MR. MUNSON: Yes, this is Mike Munson. Can you
9 hear me okay?

10 MR. SUELTFUSS: We can, sir. Go ahead.

11 MR. MUNSON: All right. I think this is a good
12 plan. However, I do not see even a tentative date
13 to implement some of these actions. I think that's
14 important for the community to understand that this
15 isn't like when I plan to take my kids to
16 Disney World, and they ask me, I said soon. Well,
17 what does soon me? Give us an idea.

18 MS. BOND: Thank you, Mike. We have right now
19 our schedule shows that we are going to be
20 mobilizing to the field to start the IRA in July,
21 pending the approval of the record of decision. So
22 that document needs to be prepared and go through
23 review. So we are hopeful right now that this
24 summer or early July we will be moving to the field

1 to start the IRA.

2 MR. MUNSON: Okay. So that's the investigation
3 part of it. And, then, once the investigation,
4 which knowing the government takes a year, we are
5 probably talking a year or two before we see any
6 really action on this, on this plan, if, if, it
7 comes true, correct?

8 MS. BOND: No. I think you're misunder -- or
9 confusing the investigation with the interim
10 remedial action. So the IRA for Clark's Marsh that
11 we are talking about here, we will be moving to the
12 field in July to actually start that interim
13 remedial action.

14 MR. MUNSON: So is what you're saying that you
15 will be putting the wells in then, correct, if
16 that's the plan we go with?

17 MS. BOND: Right. Yes. So let's -- we'll
18 assume at this point if this is the -- in the end
19 if this is the preferred alternative or whatever
20 the alternative is, we will start construction in
21 July based on the current schedule. Again
22 pending --

23 MR. MUNSON: Okay. Thank you for that. I
24 think that's the other shoe that needs to get

1 dropped to give people some idea this is not
2 something that's going to be five or six years down
3 the road. This is something that's going to start
4 in July. That's important for I think all of our
5 folks that are really concerned about this to know.
6 Thank you very much.

7 MR. SUELTFUSS: Great. Thank you very much,
8 Mike. I appreciate that.

9 I see Jeff Moss has his hand raised, so
10 we'll go to Jeff Moss. Go ahead, Jeff.

11 MR. MOSS: Hello.

12 MR. SUELTFUSS: Go ahead, Jeff. We can hear
13 you now.

14 MR. MOSS: Okay. Thanks. So with the diagram
15 it appears that there are going to be some new
16 extraction wells at FT002, correct?

17 MS. BOND: That is correct, yes.

18 MR. MOSS: Okay. So the existing water that's
19 coming out of Clark's Marsh currently and headed
20 into the river flowing out into Lake Huron, and if
21 it's going to be July or a year for it to be
22 effected, how is that -- what's being done to go in
23 to effect the actual PFOS and PFOA going into the
24 river now and in the long term future? So you're

1 going to be effecting the groundwater, but what
2 about the surface water inside of this plan?

3 MS. BOND: Okay. That's a great question. So
4 this interim remedial action is addressing the goal
5 that we talked about is to reduce PFOS and PFOA
6 from going into Clark's Marsh.

7 MR. MOSS: Right.

8 MS. BOND: We know the groundwater moves
9 through the marsh, and that's part of the remedial
10 investigation is to trying to determine where and
11 how that groundwater makes its way to the surface.
12 We know that in the pond that we show in the figure
13 that there is seeping there. We know that there
14 are surface water seeps that come from groundwater.
15 And we have to understand that before we can move
16 to a remedy for the river.

17 So this interim remedial action is focused
18 on reducing the amount of PFOS and PFOA entering
19 Clark's Marsh.

20 MR. MOSS: Okay. Well, it's coming from FT002,
21 and the data that we have clearly states that. But
22 the issue for the community is is that the surface
23 water is contaminating the river and the big lake,
24 and there inside of the remedial action my

1 understanding was is that the surface water was
2 part of the investigation and the remedial action
3 the surface water was going to be part of the
4 program, but I don't -- it's clearly not in there.

5 DR. VARLEY: This is Dr. Catharine Varley. So
6 I think you're mixing two projects. We have the
7 remedial investigation. That's not what this
8 meeting is for.

9 MR. FOSS: Right.

10 DR. VARLEY: The remedial investigation is
11 separate. This is an interim remedial action. The
12 goal is to implement the interim remedial action as
13 soon as possible with the goal that we have
14 hydraulic capture so that we are not continuing to
15 have that effect that you are stating.

16 MR. MOSS: And I think that it's a -- what
17 you're doing is to extend the curtain from of FT002
18 leaching into the marsh. And I think that's a
19 great action. I guess the community would like to
20 hear if there is additional actions that can be
21 taken for the water that's leaching into the river
22 from the surface water and actions that can be
23 taken to be included in this project to reduce the
24 high levels of toxins that are leaching into the

1 river system now.

2 DR. VARLEY: Absolutely, and this is the reason
3 why you have this public comment period so that you
4 can submit those questions to me and provide your
5 constructive criticism, because I believe you
6 actually have some ideas on how to do that, right?

7 MR. MOSS: There have been ideas presented by
8 Mr. Henry, and this question has been ongoing for
9 three years that I am aware of. But if that's the
10 next process, then that's the next process. So we
11 will address that through the public comment
12 period.

13 DR. VARLEY: Correct. And, yes, it's very,
14 very, important that we do get your comments,
15 because your comments actually help us make
16 decisions. So I appreciate you bringing that to
17 the table.

18 MR. MOSS: Thank you.

19 MR. SUELTFUSS: Well, thank you. This is
20 Tim Sueltenfuss again. Let me jump in and mention
21 the sequence of questions that I will move to. In
22 just a moment we will go to Mark Henry. Then we'll
23 go to Matt Baltusis, to Tess Nelkie, then
24 Tony Spaniola, then Jacob Bennett. And I'll keep a

1 running list of those who raise hands, as well.

2 So let's move to Mr. Mark Henry now.

3 Mark.

4 MR. HENRY: I am sorry, I must have put my hand
5 up by mistake.

6 MR. SUELTFUSS: You were just stretching, I
7 think.

8 MR. HENRY: No. I just noticed that my hand
9 was up, and I must have hit that while messing with
10 the screen. I apologize. I don't have a comment.

11 MR. SUELTFUSS: Let's move, then, to
12 Matt Baltusis.

13 Let's see. Mr. Baltusis. Gina, if you
14 can ensure that Matt Baltusis is off of mute.

15 Okay. We will come back to Mr. Baltusis.
16 Let's go to Tess Nelkie.

17 MS. NELKIE: I was wondering -- I was looking
18 at the conceptual layout that you have for FT002,
19 and I wondered why would you install smaller carbon
20 tanks, rather than the two large tanks like that
21 are there right now, and would the two larger tanks
22 possibly process more water. That space looks like
23 it could handle the bigger tanks rather than three
24 small tanks.

1 MS. BOND: Okay. That's a great question. So
2 the drawing is a conceptual drawing, so it's not to
3 scale. So it's not possibly as large as it looks.
4 But the reason that we are doing three smaller
5 tanks instead of larger tanks is because of the
6 processing of that water.

7 And when we do our O & M and our
8 maintenance and we backwash those tanks, we need to
9 have -- we wanted to use smaller tanks, three
10 smaller ones, so that we can get a much better
11 backwash of those tanks. And, then, because that
12 backwash water will go into those two settling
13 tanks that you see drawn on the right.

14 So if we use smaller tanks, we can do a
15 better job of O & M, which will result in a more
16 efficient treatment system if we can do a better
17 backwash on those smaller tanks.

18 So that was the reason for going with
19 three smaller tanks than doing one larger tank.
20 The volume of water is the same that will be
21 processed, but it will make it more efficient to do
22 O & M on the system with the smaller ones.

23 MS. NELKIE: And O & M means?

24 MS. BOND: Oh, I'm sorry. Operations and

1 maintenance.

2 MS. NELKIE: Okay. Thank you.

3 MR. SUELTFUSS: Thank you, ma'am.

4 Let's go now to Mr. Tony Spaniola. Tony.

5 MR. SPANIOLA: Can you hear me?

6 MR. SUELTFUSS: Yes, I can.

7 MR. SPANIOLA: Thank you, Tim. I have two
8 questions. First, the plan is very clear in that
9 the Air Force does not intend to comply with
10 Michigan law in either the groundwater cleanup
11 standards or the Rule 57 GSI standard.

12 And so my first question is that in March
13 of 2017 the Air Force in writing notified the
14 Michigan Senate that -- and gave its assurance that
15 the Air Force is working, and I am quoting, with
16 the Michigan Department of Environmental Quality to
17 ensure compliance with applicable Michigan
18 promulgated surface water standards for PFOA and
19 PFOS in groundwater entering Clark's Marsh.

20 That's specifically the GSI standard. Why
21 is the Air Force not living up to that promise?

22 DR. VARLEY: This is Catharine Varley. So we
23 are following CERCLA. This is a CERCLA process.
24 We are trying to get interim remedial action in

1 place right now while we are still conducting the
2 RI, then the FS, then the proposed plan, and that's
3 where the ARARs come into play. So we are
4 following the law. And with that we are doing our
5 best to protect the area, protect the environment,
6 protect the people.

7 MR. SPANIOLA: So and this will lead into my
8 second question. So in effect the Air Force is
9 going to be pumping treating water and then pumping
10 it back into the ground in excess of what's
11 allowable under Michigan law at least for the time
12 being.

13 The second question that I have is that as
14 we all know there are several plumes and maybe more
15 continuous one depicted on the small map that was
16 shown on the proposal. I am concerned about the
17 lack of context there because there is a lot more
18 involved at the marsh. And I am concerned because
19 we often hear from the Air Force that Congress
20 doesn't give them enough money. And unless we let
21 Congress know how big the problem is, we are never
22 going to get enough money.

23 But my question is that under CERCLA
24 interim actions are called for when there is an

1 imminent and substantial threat to human health or
2 the environment. And I didn't see anywhere in the
3 plan how that's delineated. What are the threats?
4 Where do they exist? And, then, how does the plan
5 propose to address those specific risks? Not just
6 by popping in three or four wells -- I am not
7 trying to diminish the fact that that's being done,
8 but there is no real context given or rationale for
9 measuring success against the CERCLA standard. Can
10 you explain why that's not in the plan?

11 DR. VARLEY: So, sir, let's back it up a little
12 bit. I am going to ask Ms. Sharon Vriesenga to go
13 ahead and address your legal questions first and,
14 then, we will go ahead and continue on. Sharon.

15 MS. VRIESENKA: Hi, this is Sharon Vriesenga.
16 I am an attorney with the Air Force. I have worked
17 in the restoration program.

18 Back to your first question about why
19 there aren't ARARs in this interim remedial action
20 that take in the state standards. This is, as
21 Catharine said, an interim action, and it's
22 building on an existing system that's in place.
23 The existing system is governed by state
24 substantive requirements documents which set

1 standards for what we can have in our discharge
2 from that system for PFOA and PFOS.

3 Since we are building on an existing
4 system, it makes sense that in the interim while we
5 are trying to figure out what the final answer is
6 going to be at the end of the remedial
7 investigation feasibility study, the final record
8 of decision.

9 Until we get there and we are building on
10 an existing system, the standards governing that
11 existing system hasn't changed. So those are, as
12 we explained in the proposed plan, those are the
13 standards this interim action will meet. But we
14 were very clear in the proposed plan that when we
15 get to a final action that the state's groundwater
16 cleanup criteria or any other state standards that
17 qualify as applicable or relevant requirements,
18 which is what ARAR stands for, for those in the
19 presentation who may not have known what that
20 acronym was, we are going to comply with those when
21 we get to that point.

22 Rule 57 is surface water only. We are
23 talking about groundwater and the groundwater
24 surface water interface. So the 12 parts per

1 trillion for the groundwater surface water
2 interface.

3 The other groundwater cleanup criteria, if
4 those apply, are applicable, are relevant and
5 appropriate when we get to the final action, which
6 I quite frankly fully expect they will be, then
7 they are going to be chosen as ARARs at that time.
8 They just aren't ARARs for this interim action
9 that's building on an existing system.

10 MR. SUELTFUSS: Great. Thank you, Sharon.
11 And, Mr. Spaniola, do you mind just restating that
12 second question, then, so Dr. Varley can respond?

13 MR. SPANIOLA: Yes. The second question is
14 under CERCLA interim remedial measures are called
15 for when there is an imminent and substantial
16 threat to human health and the environment. In
17 this plan there is no delineation of the threats
18 and no correlation stated as to how those threats
19 are going to be addressed by the plan. In other
20 words, how widespread are the problems.

21 My personal opinion is that they are much
22 wider than what is shown in this plan given all the
23 other plumes there, or any other basis then for
24 measuring success. So I guess my question is why

1 that omission?

2 DR. VARLEY: Ms. Vriesenga, will you take this
3 one, as well?

4 MS. VRIESENKA: Yes, this is Sharon Vriesenga
5 again. When you talk about the imminent and
6 substantial endangerment, that is something we use
7 as a measure when we are taking a removal action,
8 which as you know we have done several removal
9 actions at the former Wurtsmith Air Force Base to
10 address PFOA and PFOS, particularly if we were
11 worried about it being in drinking water.

12 This is an interim remedial action, which
13 is a little different than that. So it's not that
14 we have identified another imminent and substantial
15 endangerment right now where there is a pathway
16 that to somebody's drinking water that we have to
17 stop.

18 This is taking a system that exists. And
19 while we are trying to evaluate through the
20 remedial investigation and the rest of the CERCLA
21 process what the holistic answer will be either for
22 Wurtsmith as a whole or for Clark's Marsh as a
23 whole, we are looking at what can we do in the
24 interim literally to improve on the system that was

1 put in place under a removal action.

2 So it's a different sort of analysis than
3 what we do in a removal action. And this is just
4 optimizing a system that's in place to do as much
5 as we can until we have the data that we need to
6 come up with a final answer.

7 MR. SUELTFUSS: Okay. Thank you very much.
8 This is Tim Sueltenfuss again. Mr. Spaniola, did
9 you have any further question, or can we move on to
10 Mr. Bennett?

11 MR. SPANIOLA: Just one more. And that's there
12 is no delineation of any of the groundwater cleanup
13 standards for any of the other constituents, other
14 than PFOA and PFOS. I have been under the
15 impression that that information was going to at
16 least be provided. Could you explain?

17 DR. VARLEY: So the expansion hydraulic control
18 of PFOS and PFOA by optimizing the way that we have
19 modeled and that we have planned, but I do expect
20 critiques, and I do expect questions to come in to
21 me on this. And we should get the capture of all
22 of the constituents by modeling for those two.

23 Paula, would you like to go ahead and
24 further explain that?

1 MS. BOND: Yeah. And, again, under this
2 interim remedial action we were looking at PFOS and
3 PFOA. The other PFAS that Michigan has established
4 groundwater cleanup project or are in the process
5 of doing that but have MCOs for will be addressed
6 in the remedial investigation. So that is part
7 number one.

8 In the figure that you see that has the
9 PFOS and PFOA plume, this area of the fire training
10 that we are showing in this figure, you know, are
11 some of the higher concentrations that we have.
12 And that's the goal of this remedy is to reduce the
13 volume of that material that's moving into Clark's
14 Marsh, PFOS and PFOA.

15 Even though the other PFAS may be within
16 this plume, as well, it's just not depicted. Those
17 concentrations are not depicted on that map,
18 because it just -- it kind of gets too busy in just
19 that one figure. But we are capturing everything
20 that's in the water. We are not just capturing
21 PFOS and PFOA. But this is the focus of this
22 action is PFOS and PFOA.

23 MR. SUELTFUSS: Thank you, Paula. This is
24 Tim Sueltenfuss again. Let me move on to our

1 additional folks that have their hands raised.
2 This is the order I will go in. Jacob Bennett,
3 then Matt Baltusis, Tim Cummings, Donna Tinley and,
4 then, Mark Henry.

5 So, first to Jacob Bennett.

6 MR. BENNETT: This is Jake Bennett from
7 Congressman Kildee's office. I just have two kind
8 of technical questions, because I wasn't sure.

9 So when you're looking at the different
10 plans and are they in compliance with ARAR levels,
11 what is that? What's that goal level in parts per
12 trillion for PFOS that you're judging by the ARAR?

13 And the other question I had is out of
14 those two options, the ion and the GAC one, are one
15 of them better? Do they filter the PFOS at a lower
16 rate than just over the other? I am just wondering
17 because I thought they said they are both in
18 compliance with the ARAR, but is one of them better
19 than the other?

20 MS. BOND: I'll start with the ion exchange and
21 carbon question first.

22 They are -- they are both absorption
23 technology. So as the water moves through there,
24 the PFOS and PFOA will absorb onto either the ion

1 exchange resin or the GAC. They are both very
2 efficient. The difference really becomes in the
3 quality of the water entering the system to for the
4 ion exchange resin to be the most effective. The
5 quality of that water has to be much better so that
6 we don't have biofalling in those tanks. So there
7 would be additional pretreatment to remove bacteria
8 and different things like that. So that's kind of
9 what makes the difference there. They are both
10 very effective. It just depends on the quality of
11 the water coming through.

12 We know the biotraining area that the
13 conditions there would require some substantial
14 pretreatment for the use of ion exchange resin.
15 But once you take care of that, then they are both
16 effective at absorbing the PFOS and PFOA.

17 So on the second question, I don't know,
18 Sharon, if you want to answer that question.

19 MS. VRIESENKA: Hi, this is Sharon Vriesenga
20 again. I think, Mr. Bennett, you're asking about
21 the ARARs for this particular interim remedial
22 action, is that correct?

23 MR. BENNETT: Yes.

24 MS. VRIESENKA: Okay. And, Paula, I am trying

1 to remember the exact discharge requirements in the
2 substantive requirements document. Is it 15 and 40
3 or 20 and 40?

4 MS. BOND: It's 15 and 40.

5 MS. VRIESENKA: And 15 is for PFOS?

6 MS. BOND: I'm sorry, Sharon. It's 20 and 40.
7 20 is PFOS and 40 is PFOA.

8 MS. VRIESENKA: So it's 20 parts per trillion
9 for PFOS and 40 parts per trillion for PFOA. Those
10 are the limits that we can't discharge any more
11 than those.

12 MR. BENNETT: Okay. And both options are
13 equally as efficient as getting it down to that
14 level is your understanding?

15 MS. BOND: Yes, both alternatives would meet
16 those levels.

17 MR. BENNETT: Okay, because I know in some of
18 the other options other things they were saying it
19 was even quite a bit lower, so that's why I didn't
20 know if you had a number what do you expect the
21 levels to be when they come out of this unit,
22 whether it's a GAC or the ion.

23 MS. BOND: Well, I will say realistically, you
24 know, the fire training area that's operating there

1 now, they are achieving even non-detect levels
2 while they are discharging at this point. So as
3 you know as absorption sites get taken up, of
4 course the concentrations that are making their way
5 through increase. So that's when we did the O & M
6 to change out those media bids. So but currently
7 the fire training area is achieving in some cases
8 non-detect levels of those going through.

9 MR. BENNETT: Okay. So, I guess, theoretically
10 it could meet the 12 parts per trillion, if that
11 was the level, then, I am guessing?

12 MS. BOND: Correct, yes. That's just when
13 you're looking at numbers lower, as you go lower in
14 concentration, it just increases your O & M, I'll
15 say, but they are both effective.

16 MR. BENNETT: Okay. That's all I had. Thanks.

17 MR. SUELTFUSS: All right. Thank you,
18 Mr. Bennett.

19 Let's now move to Mr. Matt Baltusis.

20 Matt, that looks like you're self muted.
21 If you would like to take yourself off mute.
22 Okay. We will come back.

23 Let's now move to Mr. Tim Cummings, then.
24 Sir.

1 MR. CUMMINGS: Hi, this is Tim Cummings from
2 Oscoda Township Board of Trustees. I am interested
3 in following up on Mr. Bennett's question regarding
4 efficiency. So just like the fact that the second
5 option meets additional pre-treatment, I am curious
6 to know if there is anything you can provide
7 regarding rates of cleanup in something like
8 gallons per hour or gallons per day, because, you
9 know, even though there may be some additional
10 pre-treatment required, is it possible we can get
11 more cleanup done faster with the second option, or
12 is the third option the better choice?

13 MS. BOND: I was going to say that the gallons
14 per minute that we'll be treating will be the same
15 for both options. So we are adding five extraction
16 wells, which will increase the capacity of the
17 treatment system by 40 percent. So both of those
18 options will achieve that.

19 MR. CUMMINGS: Thank you.

20 MR. SUELTFUSS: And, Dr. Varley, did you also
21 have a response?

22 DR. VARLEY: Yes. Just from a technical
23 standpoint, the big problem with ion exchange and
24 why I am a little bit worried that being able to

1 provide the capture that is needed for this project
2 is that it doesn't work well when you have high
3 microbial growth. And we have already been seeing
4 biofalling in the area and the biofalling coming
5 from microbial growth, and the excretion of the
6 polysaccharide-like film that they could produce
7 could actually mean less treatment than if we just
8 do a GAC system that would not have that microbial
9 problem.

10 MR. CUMMINGS: Thank you.

11 MR. SUELTFUSS: All right. Thank you,
12 Mr. Cummings.

13 And, again, Tim Sueltenfuss here. The
14 order that we'll go in now is Donna Tinley, then
15 Mark Henry, then A.J. Birkbeck, then Tony Spaniola,
16 then Greg Cole.

17 So we'll turn to Donna Tinley.

18 MS. TINLEY: Hello. Actually, my questions
19 have already been answered. I was going to ask
20 about the two different systems and how the current
21 GAC was working, what the levels were coming out of
22 there, but I think it's all been answered.

23 MR. SUELTFUSS: Great. Well, thank you.

24 MS. TINLEY: Thank you.

1 MR. SUELTFUSS: I appreciate that. Let's
2 see. Looks see like Mark Henry has a question. Go
3 ahead, Mark.

4 MR. DELANEY: Hi. I think this is Bob Delaney
5 that you're supposed to be getting. I think that
6 somehow I am under Mark's name, because you called
7 on me before, unmuted me, and Mark stepped in. So,
8 can you hear me?

9 MR. SUELTFUSS: I can hear you, yes. For
10 some reason we have two Mark Henry names listed
11 here, but go ahead.

12 MR. DELANEY: It's supposed to be Bob Delaney.
13 So one of the things that occurs to me
14 from listening in on the public's questions and
15 comments is that they don't know the true
16 conceptual model of what's going on at the
17 Clark's Marsh.

18 There are essentially five or maybe six
19 plumes that flow into Clark's Marsh, not just
20 FT002. Just not that one that we are talking about
21 right now. And one of the very huge plume that's
22 flowing into it is coming from the wastewater
23 treatment lagoons and the old infiltration beds
24 that the Air Force used. And that that is coming

1 into Clark's Marsh and it is also going into the
2 swamps to the west of Clark's Marsh.

3 The other thing the public doesn't
4 understand, and I don't know if the Air Force does,
5 too, but there are plumes in groundwater that go
6 past Clark's Marsh, they don't discharge into
7 Clark's Marsh, rather they discharge into the
8 Au Sable River directly. And the concern that the
9 public isn't told or shown these things, and it's
10 really impossible for them to evaluate how good
11 this remedy is.

12 So when people are talking about, well,
13 you're going to do this, but what about the water
14 in the Clark's Marsh, that water is not going to
15 clean up because FT002 is no longer discharging.
16 There is still going to be other plumes coming into
17 Clark's Marsh. The water will continue to be
18 contaminated and continue to move into the Au Sable
19 River. Plus the groundwater -- the plumes will
20 continue to go, too.

21 So my questions really are these. What
22 documents is the conceptual site model for Clark's
23 Marsh and that the Air Force has produced, where is
24 it in the administrative record so we can look at

1 that?

2 And, then, is there currently a physical
3 -- demonstration of physical capture by the current
4 system? By that I mean showing flow lines and
5 monitoring results that show that, yeah, indeed,
6 the extraction system is capturing the whole plume.
7 And if that's -- there should be cross-sections and
8 there should be flow maps that show that. And,
9 then, also, where would I look to find
10 cross-sections of the plume in this area?

11 And, then, the last thing I wanted to also
12 say for the public's understanding is that the
13 Air Force isn't showing all the different
14 contaminants that's out there on their maps, in
15 their diagrams, in nothing. So you really don't
16 understand the magnitude of the problem out in
17 Clark's Marsh.

18 They are also not talking about how much
19 sediment contamination is that will continue to
20 bleed off for years and years and years.

21 Those are important things for the public
22 to know, and I would like to know that the
23 Air Force is going to be presenting that stuff.

24 MS. BOND: Okay. Well, thank you for your

1 questions, and I will try to keep them in order as
2 we go through.

3 So I think the first question was all of
4 the documents that have -- that have been produced
5 that are related to the investigations of
6 Clark's Marsh, the fire training area, are all
7 available on the Air Force administrative record
8 electronically or in the information repository at
9 the library. So there are multiple documents. The
10 site inspection report is there. The expanded site
11 inspection report, the expanded site inspection
12 report addendum. All of those documents are in
13 those two locations.

14 So there are many documents to look at.
15 There are annual groundwater marsh reports from the
16 fire training area that are also available that
17 show the concentrations of the groundwater results,
18 the potentiometric maps or the groundwater flow
19 maps for the area. So all of that information is
20 available in the AR -- administrative record and
21 the information repository.

22 The conceptual site model that we are
23 currently working on that will be presented in the
24 remedial investigation work plan or the UFP plan

1 for the remedial investigation, that is under
2 development, and that will be available when the
3 remedial investigation report is produced and gone
4 final. So that information, a more refined site
5 conceptual model is being produced there, but all
6 the other information that has been collected to
7 date are in those two locations.

8 Now you're going to have to remind me the
9 other questions. Sorry.

10 MR. DELANEY: Okay. Where would I find the
11 physical -- a demonstration of physical capture?
12 You said the annual reports you have got maps with
13 flow lines on them. So I assume that area you're
14 pointing me to on those and, then, obviously the
15 results would be there, also.

16 MS. BOND: Yes, the capture of the -- are you
17 talking about the capture of the existing FT002
18 treatment system?

19 MR. DELANEY: Yes. That system you see how
20 it's functioning currently, because we had some
21 questions on engineering, but those are too
22 detailed to bring up in a public meeting. We are
23 just wanting to know about the, you know, bring up
24 the big picture stuff for here.

1 One of the things I am concerned about is
2 in those site inspection reports you never reported
3 any of the state data. And so those site
4 inspection reports don't show all the information
5 that's available and people won't see the plumes
6 discharging into -- into the Au Sable River
7 directly.

8 So, anyway, I just would like to see a
9 better job done as far as explaining to people what
10 the situation is as we know it right now, because
11 whenever we see these kind of things, if I hadn't
12 worked on this site for so long, nobody out here,
13 except for maybe Mark Henry, would be able to
14 actually evaluate whether this interim remedial
15 action is a good idea or not. So, anyway, my point
16 is that there needs to be a lot more exchange in
17 information with the public.

18 MS. BOND: All right. All those the documents
19 that you are -- like I said, they are either on the
20 ARARs, the annual groundwater sampling reports for
21 FT002 are out there that show the concentrations of
22 the current plume capture of the treatment system,
23 those O & M reports are there, so I think that's
24 the best place to go to look for that information.

1 It's available in those locations.

2 MR. DELANEY: Okay. Thank you.

3 DR. VARLEY: And Mr. Delaney, this is
4 Catharine Varley again. So EGLE did evaluate this
5 proposed plan as well as the flora surface. So we
6 have given our best shot at it. We look forward to
7 your comments. I hope that you do provide
8 something new that we haven't thought of and give
9 us recommendations as to how you would see us
10 moving forward. And hopefully, you know, you are
11 talking about Wurtsmith contamination, not the
12 township's wastewater treatment plans or something
13 else, because our modeling is all based on
14 Wurtsmith and our sites on base.

15 MR. DELANEY: Yes, the wastewater treatment
16 plant that is on the former base was transferred
17 over to the township, but the old fire training
18 area, the disc that everybody is familiar with, the
19 drainage from that was directed out into the
20 wastewater treatment plant for many, many years,
21 and so that went -- the treatment plant did not
22 touch that contamination and deposited it directly
23 into the infiltration beds. So there is an
24 enormous plume generated from those infiltration

1 beds.

2 MR. SUELTFUSS: Okay. And, Mr. Delaney, this
3 is Tim Sueltenfuss. Let me just jump in real
4 quick. Know we have a number of folks who want to
5 ask questions. We have about 15 minutes left in
6 our informal Q & A session before we go to formal
7 comments.

8 Let me just check to see if Mark Henry had
9 a question that he would like to pose.

10 Okay. Well, let's move to A.J. Birkbeck.

11 And, Gina, if you could --

12 MR. BIRKBECK: Hello. Can you hear me?

13 MR. SUELTFUSS: I can. Yes, sir. Go ahead.

14 MR. BIRKBECK: Fantastic. Sorry about that. I
15 am A.J. Birkbeck with the PFOS. I wanted to follow
16 up on a question that Tony posed, which was a very
17 good one, regarding ARARs. And, you know, for
18 those that aren't familiar with the CERCLA system,
19 CERCLA contains federal law and what you need to do
20 under federal law. And as we know federal law is
21 lacking with respect to PFOS. So you need to turn
22 to state law.

23 And the way that works itself into the
24 federal paradigm under the NCP for a cleanup is

1 through ARARs. And I heard mention that we don't
2 need to look at all the ARARs at this point. We
3 need to look at them for the final remedy. And I
4 agree we need to look at them for the final remedy,
5 but there was reference to an existing system, and
6 because we don't have an existing system, we are
7 not going to be needing all those ARARs.

8 Under my understanding, ARARs for interim
9 actions should be every bit as stringent as for
10 final remedy, unless there is a waiver or some
11 other real legitimate reason that they should not
12 be followed. And certainly the Part 201 cleanup
13 standards for seven different PFOS compounds should
14 be considered ARARs for the interim system that's
15 being proposed.

16 You know, whether or not it can meet them,
17 there are physical limitations on what can be met,
18 but, you know, I am hearing that discharges are
19 going to be at very low levels. And I am just
20 wondering what is your basis for not including all
21 seven cleanup criteria as ARARs for the IRM.

22 MS. VRIESENKA: This is Sharon Vriesenga with
23 the Air Force.

24 Again, we are building off an existing

1 system that has state requirements already put on
2 that system for what we have to do discharging from
3 that system. So if you're expanding an existing
4 system, you don't -- you stay with the limits that
5 have already been put on that system.

6 In the proposed plan, I am sure you
7 already read it, but I'll just give you the page
8 reference, it's on Page 11. We quote the CERCLA
9 provision that says if the remedial action selected
10 is only part of a total remedial action that will
11 attain such level or standard of control when
12 completed, then the interim action doesn't have to
13 meet all of those ARARs that will apply to the
14 formal final action.

15 And that's what we are doing here. This
16 is a piece of the bigger puzzle. And we are
17 working just on this one piece right now. And this
18 one piece is trying to optimize a system that's
19 already in place so that we can increase the amount
20 of PFOA and PFOS that we pull out of the
21 groundwater from this existing plant.

22 So as Paula already said, in many cases
23 the levels we are pulling out are going to be lower
24 than the levels that are set in the substantive

1 requirements document. But when you're trying to
2 develop a plan that builds off an existing system,
3 you stick with the limits that have already been
4 put on that existing system.

5 MR. BIRKBECK: Okay. So what you're saying,
6 then, is the state would need to adjust those
7 limits if we wanted something that approached the
8 state standards that you're just proceeding under
9 an existing -- under an existing permit then from
10 the state?

11 MS. VRIESENKA: It's not a permit because
12 legally the state cannot issue a permit to the
13 Air Force for an on-site discharge kind of action.
14 That's in CERCLA. They have issued us a
15 substantive requirements document which is similar.
16 The Air Force would be complying with discharge
17 limits. We would be talking to them about that.
18 This is what they set for us is 20 for PFOS and
19 40 for PFOA.

20 MR. BIRKBECK: Okay. So the substantive
21 requirements document is your basis for not meeting
22 the Part 201 cleanup standards as an ARAR, is that
23 what you're saying?

24 MS. VRIESENKA: I think that's twisting it a

1 little bit. What we are saying is we are looking
2 at the system that we are optimizing and looking at
3 what is the appropriate ARARs -- are the
4 appropriate ARARs for the system that we are
5 optimizing. And for that we are using the
6 standards that have been put on that system by the
7 state.

8 And the proposed plan also talks about
9 there will be some other ARARs having to do with
10 solid waste disposal requirements and things like
11 that about the construction of the extraction
12 wells. But as far as the discharge to groundwater,
13 those requirements are coming from the substantive
14 requirements document.

15 MR. BIRKBECK: Okay. I don't want to use up
16 any more of the time. I would posit that the
17 Part 201 cleanup standards should be ARARs
18 governing this IRM more than they do, but thank
19 you.

20 MR. SUELTFUSS: Thank you, Mr. Birkbeck. We
21 appreciate that.

22 The sequence of questions we have now is
23 Tony Spaniola, then Greg Cole, then Mike Munson and
24 Arnie Leriche.

1 So we will go to Mr. Spaniola.

2 MR. SPANIOLA: Thank you. In light of the
3 comments that we have had tonight about the both
4 from Mr. Moss and Mr. Delaney about other things
5 that could and maybe should be addressed here, we
6 have been presented with really two alternatives,
7 which is the installation of some monitoring wells
8 and it's pick one technology or the other.

9 Will the Air Force consider comments
10 suggesting that the capture zone or capture zones
11 be extended or expanded in light of some of the
12 comments we have heard tonight?

13 DR. VARLEY: This is Catharine Varley. We will
14 consider all comments as we make our path forward.
15 That's why it's important that you submit your
16 comments, that you make sure they are thoughtful,
17 that you make sure that you know what you're asking
18 and we actually know what you're asking, if that
19 makes sense. So I encourage you to submit your
20 comments.

21 And if you believe that another well is
22 needed, then say so. However, we have done our
23 modeling, and we'll need to consider what you're
24 saying with respect to the modeling. EGLE's

1 reviews or service reviews and everything else.
2 Everything works together to come up with a final
3 moving point or a final decision.

4 MR. SUELTFUSS: Okay. Thank you, Dr. Varley.
5 And I appreciate the question, Mr. Spaniola.

6 Let's go to Mr. Greg Cole.

7 MR. COLE: Yes, Greg Cole, member of the NOW,
8 Need Our Water, group here in Oscoda.

9 My question is, we have two different
10 technologies on the base right now. I understand
11 that we are doing ion resin exchange. And what my
12 question is, if that's true, will you be
13 eliminating the ion process to use what you're
14 saying is a more effective and cost saving GAC
15 technology?

16 MS. BOND: We're -- I guess --

17 DR. VARLEY: This is Catharine Varley. Let me
18 answer that. That's a programatic question, Paula.

19 So right now we are at the beginning
20 stages. We are at the RI. So our final treatment
21 systems have not been determined for what we will
22 actually do to take care of the PFOS and PFOA.
23 This is an interim remedial action building on the
24 system that we already have in place. The current

1 ion exchange system, without doing another IRA or
2 another process to change it out, it doesn't make
3 sense to change it out at this point in time. It's
4 already functioning. It might be dealing with some
5 microbial population growth that reduces its
6 efficiency, but that can all be overcome by the
7 pre-treatment that's currently in place. And we
8 don't know what we are going to be putting in
9 there.

10 As the proposed plan, not the interim
11 proposed plan, like where we are currently at, we
12 are doing a proposed plan for intermediary action
13 right now, but the proposed plan that will reach
14 the record decision for the actual technology that
15 will be employed at the site.

16 So there is a lot of moving parts. There
17 is a lot to be considered. But this is only one
18 small piece of the puzzle. And the whole reason
19 for this interim remedial action is to gain
20 hydraulic capture. It does not affect any other
21 interim remedial action.

22 MR. COLE: Okay. Thank you.

23 MR. SUELTFUSS: Okay. Well, thank you very
24 much. We appreciate that.

1 We have five more minutes for informal Q &
2 A, and so we will go to Mike Munson. Go ahead,
3 Mike.

4 MR. MUNSON: I had a hard time unmuting. I am
5 sorry. My question was answered between the two
6 attorneys. It appears that the Air Force is
7 sticking to their guns in regards to higher
8 contamination levels, but I guess that will all
9 work itself out hopefully in the future when our
10 congress people get involved. Thank you very much.

11 MR. SUELTFUSS: Thank you very much.

12 DR. VARLEY: This is Catharine Varley. I would
13 like to comment on that. We are putting a new
14 treatment system or new GAC in place, and that new
15 system should provide non-detect. So whether or
16 not we are currently saying we are adhering to the
17 SRD in place, the decision document or the
18 substantive requirement document that's actually in
19 place, we are still expecting to get non-detect
20 from this system.

21 So I want to be clear. We are still
22 expecting non-detect. We are still expecting to be
23 below the Michigan levels when we install this
24 system or install a system because it can still

1 change.

2 MR. MUNSON: Okay. Thank you for that clarity.
3 I appreciate it. Mike Munson out.

4 MR. SUELTFUSS: Thank you very much, sir.
5 Last question most likely here in the informal
6 Q & A session is to Mr. Arnie Leriche. Go ahead,
7 Arnie.

8 And, Gina, if you can go ahead and unmute
9 Arnie Leriche.

10 And, then, Arnie, you will have to unmute
11 yourself, as well. And, Arnie, yes, I see you. Go
12 ahead.

13 MR. LERICHE: Sorry. Okay. Regarding the SRD
14 quasi permit that the state issued in 2014, I think
15 it was, and, then, in '15 when it was put in place,
16 the first FT002 GAC, that was based on technology
17 based standard and SRD requirements. Even the
18 Air Force did not have much experience with GACs.
19 I believe it was the first the Air Force installed
20 maybe in the DOD. We are six years beyond that
21 with technology.

22 I strongly request that the Air Force
23 review all of the GACs, all of the ionic exchange
24 units that have been installed in the last four to

1 five years, and update and offer to the state a
2 new -- new limits for the SRD to be modified.

3 It is not fair because the CERCLA, you're
4 right the person who said this, CERCLA on site does
5 -- prohibits the state from issuing or requiring a
6 permit. However, the Air Force under the interim
7 remedial action and any technology review that you
8 do implementing CERCLA, you can offer your
9 experience at other sites. And as a matter of fact
10 you just stated a few minutes ago that you're
11 meeting non-detect. So why not bring that standard
12 down?

13 And, secondly, as far as the two, ionic
14 exchange versus GAC, why isn't the Air Force
15 looking at a pilot study on that pre-treatment of
16 the biology, the biologic issue and blinding of
17 ionic exchange, and use the system, put in a
18 biologic control as a pre-treatment as a pilot
19 study, because you may not be able to meet the
20 Hexanesulfonate, which is a lower chain, smaller
21 chain. But at least you will have that data to use
22 in your IR later on. If you can address the first
23 question, I would appreciate it.

24 MR. SUELTFUSS: Arnie, I think we are trying

1 to figure out exactly how to approach that first
2 question. Could you just re-summarize what that
3 first question is?

4 MR. LERICHE: The first question is the SRD
5 that the state issued to or negotiated with the
6 Air Force in 2014 was a technology-based standard
7 that is a long time ago and it was a lot more
8 technology. I believe the Air Force has new
9 information that they can offer a better standard
10 and design for their system to meet. And why isn't
11 the Air Force offering that newer technology limit
12 in the SRD for this new interim remedial action?

13 MR. SUELTFUSS: Okay. Thank you. I
14 appreciate that. Any responses for Mr. Leriche?

15 DR. VARLEY: Yes, this is Catharine Varley.
16 The key things right here that we are talking about
17 is that this is an interim remedial action to
18 obtain hydraulic capture. It is not the final
19 remedy, sir. And we will address that as we move
20 through the CERCLA process. We are doing our best
21 with what we have right now.

22 And, honestly, we do need that remedial
23 investigation data to really truly understand where
24 the plumes are, how their extent, their sole

1 strength, and that's a different project, but we
2 will get to that, okay? Right now we are focused
3 on the interim remedial action, which builds upon a
4 current system, and that's where we are at.

5 MR. LERICHE: Well, other sites have done pilot
6 studies like these in 2015 and '16 based on the
7 knowledge that was developed at Wurtsmith.

8 DR. VARLEY: Oh, trust me, Arnie. I am
9 advocating for pilot studies. I have been
10 advocating since I came on board. I put in
11 numerous pilot studies over my Air Force career,
12 and before my Air Force career. So, trust me, I am
13 working on it, okay?

14 MR. LERICHE: Okay. Well, hopefully, you have
15 got the money, because there was 13 million
16 originally given to you last -- to the Air Force
17 last year. Thank you.

18 MR. SUELTFUSS: Thank you very much,
19 Mr. Leriche. I appreciate that.

20 Now I wanted to ask Gina to move us to
21 Slide 23. So I appreciate your questions, and I do
22 want to make sure that we have enough time reserved
23 for the formal public comment period. So we are
24 now transitioning out of that second segment of the

1 agenda, the informal Q & A session, and into the
2 final segment of the agenda, the formal public
3 comment portion of tonight's meeting.

4 MS. BOND: Tim, this is Paula. I want to ask
5 Gina to advance to the next slide, if she could.
6 The next slide, it has Dr. Varley's contact
7 information. I just want to leave that slide up so
8 that as folks listen to the comments being made,
9 they can jot down this information if they need to
10 have it.

11 MR. SUELTFUSS: Thank you. So this is
12 Tim Sueltenfuss again. If you would like to make a
13 comment tonight, please raise your hand
14 electronically. We will use the same procedure as
15 we used before. When I call on you, please state
16 your name and make your comment. Please make it as
17 succinctly as you can so that we have time to hear
18 from others, as well.

19 Just as a reminder, the court reporter
20 will record your comment word for word. The
21 Air Force will not respond to your comment tonight.
22 Instead, the Air Force will respond to comments
23 within a responsiveness summary prepared at the end
24 of the 30-day public comment period. So as you can

1 see here, this slide indicates other ways that you
2 can submit formal comments throughout this entire
3 30-day public comment period, as well.

4 So I have just continued with the names
5 that were on the list. I'll check to see.

6 DR. VARLEY: Hey, Tim, this is
7 Catharine Varley. So this is where the AR is
8 located. Can you go back to the slide that has my
9 contact information on it, or Gina? Can you go
10 back to the Slide 7, I believe? I want to make
11 sure everybody has my e-mail address and my
12 address. Thank you.

13 MR. SUELTFUSS: Okay. Thank you very much.
14 I'm just checking to see those who have hands
15 raised. I think Mark Henry has his hand raised, so
16 we'll go to Mark Henry.

17 And, Gina, that's the first one.

18 MR. HENRY: Okay. Sorry I didn't get to the
19 microphone fast enough during the public discussion
20 section. I did take a look at the administrative
21 record for Wurtsmith Air Force Base because I have
22 been frustrated by not being able to find documents
23 related to the fire training area, or at least
24 recent documents. And in looking through them over

1 the last ten minutes, there is very little there
2 about fire training area. And when you do a
3 search, there is nothing there since 2018. So
4 there doesn't seem to be any mechanism to be able
5 to -- for the public to be able to look at the
6 details of the plume there and be able to provide
7 rational arguments for positions that might be
8 made.

9 And I would request that if those
10 documents are there, and I am missing them for the
11 past two years, that the AR numbers be provided to
12 us, and I will share them with everybody that would
13 have an interest, because I am not seeing them
14 there.

15 MR. SUELTFUSS: All right. Thank you very
16 much, Mr. Henry. We appreciate that.

17 Gina, I see that the entry also labeled
18 Mark Henry, but the second entry, I think that may
19 be Bob Delaney, so let's go ahead and unmute that.

20 And, Mr. Delaney, go ahead.

21 MR. DELANEY: Yes, this is Robert Delaney or
22 Bob Delaney, and I will be making my comments for
23 the most part in written form, but I did want to
24 say one of the things that the Air Force needs to

1 do is to develop a base line ecological impact out
2 there, determine what's out there as far as the
3 fish and mouse and other things, and that may be
4 being done in conjunction with the forest service
5 or with the state of Michigan, which is all fine.
6 But, you know, one of the things as you guys reduce
7 contamination and do various things, seeing the
8 effect on wildlife is really critical, because
9 that's the pathway to people. And so I would just
10 encourage that to be done in the near future to get
11 a really good baseline of the impacts on the
12 wetlands and the wildlife there. That's it. Thank
13 you.

14 MR. SUELTFUSS: Okay, thank you very much,
15 Mr. Delaney. I appreciate that.

16 Looks like next on the list is Jeff Moss.
17 So go ahead, Mr. Moss.

18 MR. MOSS: Thank you. I guess my confusion
19 throughout this whole conversation is a remedial
20 action for Clark's Marsh, and what seems to be
21 happening is is that you have identified that you
22 have an existing treatment plant at FT002, which is
23 on base, that has direct plume that you have
24 identified and you're looking to contain it

1 further, but what's the remediation in
2 Clark's Marsh?

3 So there is a lot of money that you're
4 talking, 10 to \$12 million to remediate FT002,
5 which is phenomenal, a site which has been
6 identified for a myriad of time that we want an
7 extension of wells in that area, but I am wondering
8 what is the consideration of spending that \$10
9 million to affect the surface water that's being
10 contaminated at thousands of parts per trillion
11 currently and ongoingly in Clark's Marsh.

12 So I am thrilled that the detection levels
13 at FT002 coming from the GAC are near non-detect.
14 But that's not the case of the water flowing at
15 Clark's Marsh from the surface water, not the
16 Aquifer. And what we are talking about remediation
17 of Clark's Marsh is not FT002. And I don't quite
18 understand how you're calling this action a
19 remediation in Clark's Marsh, because what you're
20 doing is extending the curtain at FT002, which
21 affects Clark's Marsh.

22 And as a community member of Oscoda and
23 Au Sable Township, we are seeing the ramifications
24 of that Au Sable Township to where we don't know

1 where we are getting the contamination from,
2 because it can't be identified, because of the
3 dilution levels and the foam in the river and the
4 foam in the lake and everything being addressed.
5 The big lake and the river at the mouth is not
6 attributed to Clark's Marsh, which is exactly the
7 point source of where it's all coming from.

8 So I would really like to know where that
9 \$10 million can be spent where we can see some
10 action taken in the marsh itself along with
11 addressing extending the curtain at FT002. Thank
12 you.

13 MR. SUELTFUSS: Thank you very much for your
14 comment, Mr. Moss. I appreciate that.

15 We'll next turn to Mr. Mark Munson for a
16 comment.

17 MR. MUNSON: No, I raised my hand by mistake.
18 I am all set. Thank you, much. Mark Munson out.

19 MR. SUELTFUSS: Thank you, sir. I appreciate
20 that.

21 I see David Winn had a hand raised, as
22 well. David.

23 MR. WINN: Can you hear me now?

24 MR. SUELTFUSS: Yes, sir.

1 MR. WINN: A statement was made earlier
2 relative to the fact that the state of Michigan and
3 the forestry service had reviewed this proposal and
4 provided their comments back to the Air Force. It
5 would sure be nice to understand what those
6 comments were and hope that the state of Michigan
7 and the forestry service's comments were
8 incorporated as part of this proposal.

9 As I understand those comments were only
10 put together in the last probably one to two weeks
11 that were presented. So I sure hope that this
12 proposal that was presented tonight had included
13 the state of Michigan's and the forestry service
14 comments.

15 The other question or the other comment
16 that I would like to make is that I noticed on one
17 of the slides that it stated that the data used
18 most recently monitor data for the extraction wells
19 was dated 2012 to 2019. And I am wondering and I
20 am hoping that current data -- that that data could
21 be updated and used as part of the proposal going
22 forward. Thank you.

23 MR. SUELTFUSS: Thank you very much. I
24 appreciate that.

1 I see Greg Chaffin had a comment, as well.
2 So, Greg.

3 MR. CHAFFIN: Thank you. This is Greg Chaffin
4 from Representative Slotkin's office, and I was
5 hoping to make this comment and question during the
6 informal session, but unfortunately I didn't make
7 it on the wire.

8 I wanted to go back to a comment that was
9 made earlier about commitments the Air Force made
10 to Michigan state legislature in 2017 and, then,
11 referencing statements about, you know, getting
12 down to a non-detect standard.

13 Given the commitments that the Air Force
14 made, I am curious as to why if the plan is to get
15 to a non-detect standard that why those commitments
16 can't be upheld and sort of what happens in the
17 intervening period between when those commitments
18 were made and now. So thank you for that.

19 MR. SUELTFUSS: All right. Thank you very
20 much, sir. I appreciate that.

21 Tony Spaniola has a comment. Go ahead,
22 Mr. Spaniola.

23 MR. SPANIOLA: Thank you, Tim. I would just
24 like to say in light of the questions that were

1 raised earlier tonight, it's even more clear, and
2 this issue has been percolating for several weeks
3 now, that it would have been far more efficient and
4 appropriate for these comments to have been and
5 questions to have been taken, received and thought
6 about much earlier in this process, not after two
7 alternatives have been pointed to and presented.

8 This process by which this proposal has
9 been developed has been conducted in secret and has
10 not involved a single soul from Oscoda. There is
11 nothing in CERCLA that says the Air Force and the
12 state agencies are to conduct this review in
13 secret. There is nothing in anywhere that would
14 have prevented the Air Force from contacting the
15 community when this went up on the administrative
16 record on March 1st. We had to find out from the
17 news media.

18 And I think that many of these questions
19 could have been addressed and incorporated in this
20 plan, and we would be much further along in the
21 process. I suspect that the plan might also be far
22 more comprehensive because it's much too narrow.

23 And I hope that the Air Force will take
24 this into consideration on the Van Etten Lake plan

1 that's being developed, include people much more
2 earlier in the process.

3 Secondly, I want to point out that I keep
4 hearing that because this is an interim remedial
5 action that somehow we can do or the Air Force can
6 do something less than what should be done in the
7 end. That is a poor use and poor management of
8 taxpayer dollars. Do it right and do it right now.

9 And I go back again to the fact that the
10 Air Force made a promise to the state of Michigan
11 that it was working in 2017, four years ago, to
12 comply with the GSI at Clark's Marsh. Again, there
13 is nothing in CERCLA, nothing, that prohibits the
14 Air Force from fulfilling that commitment.

15 And to say that the Air Force is going to
16 wait for another so many years and do some more
17 studies really undercuts the veracity and the
18 integrity of that promise that was made to the
19 state of Michigan and to our community.

20 We are looking for the Air Force to be a
21 partner. And by those comments and the way that
22 this process has been handled, we really are
23 treated more as an outsider and almost as the enemy
24 in this. I see we have an unclassified document

1 here on the slides. Before tonight everything was
2 classified as if somehow we are the enemy. That
3 needs to change. Thank you.

4 MR. SUELTFUSS: Thank you, Mr. Spaniola. I
5 appreciate your comment, sir.

6 I see Jeff Moss you have your hand up
7 still. Would you like to make a comment, sir?

8 MR. MOSS: No, thank you. I am all set. Thank
9 you.

10 MR. SUELTFUSS: All right. Thank you, sir.

11 I see Alyssa Stewart has a comment. So go
12 ahead, Alyssa.

13 MS. STEWART: Hi, my name is Alyssa Stewart. I
14 am a NOW member. I'm also the varsity swim coach
15 in our area. And, first of all, I want to say
16 thank you for the work that you have put in, but we
17 need to continue to push for that. There
18 definitely needs to be more done at Clark March.
19 As someone who is involved in aquatics in the area,
20 it is extremely important to us.

21 And as I'm a clean water ambassador for
22 the state of Michigan, as well, so if you were
23 interested in getting a committee of Oscodains put
24 together so that we can be more in contact and know

1 more of what's going on, I would be happy to do so.

2 MR. SUELTFUSS: All right. Thank you very
3 much, Ms. Stewart. We appreciate your comments.

4 Let's see. Are there other comments?
5 Just indicate by raising your hand electronically,
6 if you would, and we will record those comments
7 word for word.

8 I see Mr. Arnie Leriche has a comment, so
9 Mr. Leriche we'll go to you.

10 MR. LERICHE: Hi, Tim. Can you hear me?

11 MR. SUELTFUSS: Yes, sir.

12 MR. LERICHE: On Page 20 of your -- of the
13 presentation, there's a diagram of the new
14 conceptual layout. Does the plumbing of that new
15 system allow for a better increased uptime of the
16 pumping of the well fields? Because of change out
17 of the old GAC versus the new GAC, can you make
18 sure that there is always 100 percent of the water
19 flowing from the capturing, including a power
20 backup? So we increase the -- to increase the
21 uptime and capture time above the 95 percent or
22 have better assurance that you will do that. Thank
23 you.

24 MR. SUELTFUSS: All right. Thank you very

1 much, Mr. Leriche. We appreciate that.

2 I see that Christina Coulon is attempting
3 to make a comment or has before. Looks like a PIN
4 needs to be entered, so Gina let me just see if you
5 can connect with Christina and try to sort that
6 out.

7 While that occurs, are there other
8 comments, other folks who would like to make
9 comments?

10 I see Shannon Abbott would like to make a
11 comment. So, Ms. Abbott, your way.

12 MS. ABBOTT: Here we go. Hi, my name is
13 Shannon Abbott. I work within the environmental
14 nonprofit world, but I am actually leaving a
15 comment on behalf of myself tonight. I wasn't
16 planning on doing that. I just wanted to echo
17 something Tony said earlier. And that is we
18 continuously are hearing in this conversation
19 tonight that you are meeting the minimums with this
20 IRA and that you don't have to do better than you
21 are with it.

22 And I just want to say that we need to as
23 the Air Force and as a community and as a state and
24 as a federal government, we all need to do better

1 and not just put forth the bare minimum. We need
2 to do better and know that it's going to benefit us
3 all. It's going to save us money, time, in the
4 long run, but it's also going to impact our health
5 and the safety of all of our community members if
6 we do the work now and take the extra step now.
7 That's all I have to say.

8 MR. SUELTFUSS: Thank you, Ms. Abbott. I
9 appreciate that. This is Tim Sueltenfuss again.
10 And do we have others who would like to make a
11 comment?

12 I see Rex Vaughn has raised his hand. So
13 we'll turn to you, Mr. Vaughn. Go ahead, Rex.

14 Rex, it looks like you just need to take
15 yourself off mute, and we should be good to go.

16 Okay. So, Rex, when you have the
17 opportunity, just click that mute button to take
18 yourself off mute and we'll come your way.

19 Let's see. As that technical issue is
20 being worked through, please let me see if anyone
21 else would like to make a comment.

22 I see Jennifer Hill has a hand up, so
23 we'll turn to Jennifer Hill. And, Jennifer, if you
24 can just click off of mute, and we should be able

1 to hear you.

2 MS. HILL: Hi. Can you hear me?

3 MR. SUELTENFUSS: I can, yes. Go ahead.

4 MS. HILL: Okay. Thank you. Yes, this is
5 Jennifer Hill from National Wildlife Federation,
6 and I --

7 MR. SUELTENFUSS: Jennifer, we may have lost
8 you there. Are you with us?

9 And do we have Jennifer Hill with us?

10 Okay. While Jennifer works with the mute
11 button, let's see if anyone else has a comment to
12 make.

13 Rex Vaughn I see your hand is up. Would
14 you like to make a comment?

15 MR. VAUGHN: Can you hear me now?

16 MR. SUELTENFUSS: I can, yes, sir.

17 MR. VAUGHN: All right. Sorry for the
18 technological faux pas earlier trying to unmute
19 myself.

20 MR. SUELTENFUSS: Go ahead.

21 MR. VAUGHN: During tonight's discussion
22 related to the differences between the SRD at
23 20/40, and the current state regulations at much
24 lower levels, which will probably be in effect at

1 the time that you go to final solution, it seems to
2 be an unwise and really inefficient approach to
3 spend \$10 million on a system that will only do
4 20/40, when if you drop in a couple of more carbon
5 tanks and maybe change a couple more pumps, you
6 could be in the position that that system would be
7 ready to meet those requirements down the road
8 without spending another nickel.

9 So I think it's an unwise use of taxpayer
10 money to restrict that system to a 20/40 condition,
11 when you know right now that you're going to have
12 to do a lot better in a couple of years. Thank you
13 very much.

14 MR. SUELTFUSS: Thank you, Mr. Vaughn. I
15 appreciate your comment.

16 Let's check in with Jennifer Hill to see
17 if Jennifer is with us.

18 Okay. And, Jennifer, if you are free, go
19 ahead and take yourself off mute.

20 Thank you all for your patience with the
21 technology we have all had to learn to deal with
22 over this last year or more.

23 And, Jennifer, go ahead.

24 MS. HILL: Can you hear me?

1 MR. SUELTFUSS: I can. Go ahead.

2 MS. HILL: Okay. I am so sorry. Technological
3 difficulties.

4 Okay. Yes. So I was in the middle of
5 saying that, you know, I just wanted to echo a lot
6 of the comments that were heard tonight. And, you
7 know, there are a lot of concerns being raised, and
8 I really hope that the sentiment that I heard
9 tonight from the Air Force that you all are really
10 going to thoughtfully take these --

11 MR. SUELTFUSS: Okay. And, Jennifer, we have
12 lost audio on you. We will come back your way and
13 see if you're able to reconnect. But, of course,
14 as displayed here there are various other ways to
15 get comments in during this 30-day public comment
16 period here. So please continue to work on that.
17 And if not, you can use one of those other methods.

18 We'll go now to Mr. Paul Rekowski for
19 comment. Over to you, Mr. Rekowski.

20 MR. REKOWSKI: How is that?

21 MR. SUELTFUSS: I can hear you, sir. Go
22 ahead.

23 MR. REKOWSKI: Okay. Good. I just wanted to
24 speak up and congratulate the Air Force with the

1 job they are doing, and I think they are going
2 above and beyond what might be necessary, and I
3 commend them for wanting to take an approach where
4 they have all the data that they need to gather
5 during the RI before they make a decision on the
6 final remedy. I think that's the right approach.
7 That's all I got. Thanks.

8 MR. SUELTFUSS: All right. Thank you very
9 much, sir. I appreciate that.

10 And let's see. Do we have Jennifer Hill
11 back with us just yet?

12 Okay. I see Rex Vaughn has a hand raised.
13 Rex, do you have an additional comment you would
14 like to make for the record?

15 MR. VAUGHN: No, I do not. Let me make sure
16 it's shut off.

17 MR. SUELTFUSS: Thank you very much, sir. I
18 appreciate that.

19 And do we have other comments from folks?
20 This is a good opportunity for a quick commercial.
21 As you see the slide displayed here, there are a
22 variety of other ways to submit comments during
23 this public comment period, as well.

24 I am just continuing to check if hands are

1 raised. I see Arnie Leriche has a comment, so
2 let's go to Mr. Leriche.

3 MR. LERICHE: Can you hear me?

4 MR. SUELTFUSS: Yes, sir. Yes, we can.

5 MR. LERICHE: Is this interim remedial action
6 dictated by technology and analysis, or is it
7 limited by budget? And the point that I want to
8 bring into this question is that there was 13 and a
9 half million dollars authorized by Congress FY 21
10 to bring interim actions to Wurtsmith, and
11 Congressman Kildee spoke to that on two occasions.

12 So I would like an answer for the record
13 on that. Thank you.

14 MR. SUELTFUSS: Thank you very much. I
15 appreciate that. And, as indicated, the Air Force
16 will be gathering comments and responding to those
17 in a responsiveness summary at the conclusion of
18 that 30-day public comment period. And this is one
19 way to submit those in.

20 Are there other comments that folks would
21 like to make? I see A.J. Birkbeck would like to
22 make a comment. Go ahead.

23 MR. BIRKBECK: Again, I would just like to
24 repeat that I believe that the seven Part 201

1 groundwater cleanup criteria should all be
2 considered as ARARs in spite of the fact that the
3 state did issue some guidance some time ago before
4 those were put into place to the Air Force for
5 discharges from their system.

6 So I guess my question would be what is
7 the basis for not including those as ARARs at this
8 interim action.

9 Again, those are targets, and I don't see
10 why we shouldn't be aiming towards targets that
11 are, in fact, existing here in Michigan. That's
12 the whole purpose of ARAR system is to incorporate
13 state standards that may be more stringent than
14 federal. Thank you.

15 MR. SUELTFUSS: Thank you very much. I
16 appreciate that.

17 Are there other comments? And as I was
18 indicating previously, so written summary of
19 comments and information submitted during the
20 public comment period and the Air Force response
21 would be in the responsiveness summary included in
22 the Clark's Marsh Interim ROD.

23 Dr. Varley, let me just make sure that
24 that is accurately relayed by me.

1 DR. VARLEY: Yes, sir, you are correct.

2 MR. SUELTFUSS: Thank you.

3 Okay. Do we have other comments to
4 include?

5 I see Jennifer Hill is with us. Go ahead,
6 Jennifer.

7 MS. HILL: Okay. Hello. This is Jennifer Hill
8 with National Wildlife Federation. I'll just start
9 over.

10 So I really, you know, there are a lot of
11 I think concerning comments that came up tonight
12 about the scope and the stringency of the plans and
13 the standards that are being talked about to be met
14 for these plans. And, you know, I was glad to hear
15 it, and I just really encourage the Air Force to
16 follow through on the commitment to thoughtfully
17 consider comments from the community about what
18 needs to happen to make these plans meet the needs
19 that are being expressed by the community.

20 And I would just say and reiterate this
21 point has been made many times, but that the, you
22 know, while there may be minimum standards that
23 need to be met, you know, the longer we wait to
24 address problems, the more costly the solutions are

1 and the more impacts we have to people, wildlife,
2 and to the economy in Oscoda.

3 So I encourage you to meet the strongest
4 standards that you're able to meet. And it sounds
5 like those are able to be met at this time. And I
6 encourage the Air Force to look at that again and
7 think about doing that. Thanks so much.

8 MR. SUELTFUSS: Great. And thank you very
9 much for your patience. We appreciate your
10 persistence, as well, Ms. Hill.

11 Are there other comments?

12 And just as a reminder, we are in that
13 final section of the agenda, the formal public
14 comment portion of the agenda. And comments are
15 being recorded by a court reporter, as well.

16 Rex Vaughn has a hand up. Mr. Vaughn.

17 MR. VAUGHN: Thank you, Tim. A follow-up
18 comment I would like to make is if economic
19 technology exists that would allow the effluent
20 discharge off the FT002 system that would allow it
21 to meet the Part 201 standards, it would be
22 economically foolish not to deploy them at this
23 time, because the cost to go back in and change
24 that system again to comply with the ARARs that are

1 going to come out of this whole process at the end
2 of the RI and the feasibility study would be a
3 classic case of government waste of taxpayer
4 monies.

5 There was a congressman years ago that
6 used to issue a Golden Fleece Award to where he
7 thought wasteful spending took place in government,
8 and I would nominate the decision not to meet the
9 Part 201 as a potential candidate for the Golden
10 Fleece Award if the Air Force doesn't change their
11 position.

12 So in the public or in their comments to
13 the response of these formal comments, I would like
14 to have the Air Force do a much better job of
15 explaining why they wouldn't want to meet those
16 standards today, instead of doing it all over again
17 a few years down the road. Thank you very much.

18 MR. SUELTFUSS: Thank you, Mr. Vaughn. I
19 appreciate that.

20 I see Bentley Johnson has a hand raised,
21 so we'll turn to Bentley Johnson.

22 MR. JOHNSON: Hi. Thank you. Can you hear me
23 all right?

24 MR. SUELTFUSS: Yes, sir. Go ahead.

1 MR. JOHNSON: All right. Thank you. I'll keep
2 my comments quick because I think I will follow up
3 with written comments, or rather my organization,
4 Michigan League Conservation Voters, will follow up
5 with some specific, you know, comments, technical
6 comments, probably join some other groups on
7 written comments, as well.

8 But I wanted to emphasize a couple things.
9 First, I think transparency needs to be at the
10 forefront. And not only just transparency, but as
11 I listen to some of the back and forth and some of
12 the challenges of local elected officials, local
13 residents, you know, non-governmental organization
14 groups, there seems to be a challenge in getting
15 information.

16 And with presumably everyone with the --
17 with similar goals of protecting public health,
18 cleaning up this mess, I think it's really vital
19 that we have -- that we are working off of the same
20 information and that those inputs from really
21 knowledgeable experts, some of whom have been
22 working on this for years, really be brought in,
23 because I am worried about the big picture and
24 about different plumes and different areas being

1 missed because of a piecemeal approach and not
2 making whether it's underlying data or maps
3 available and making it clear about where and how
4 you can access that information. So that's one
5 piece.

6 And, then, I would echo -- I would just
7 associate my comments with folks that went before
8 me about cleaning up to the state standard and
9 really re-evaluating, you know, best available
10 technology along the way to make sure that we can
11 do that. And that will -- and as people said
12 before, that not only most importantly will help
13 save lives and help prevent exposure and health
14 impacts, but it will help use taxpayer dollars
15 wisely.

16 And I guess I'll stop there, because I
17 think I am eager to continue to hear from a variety
18 of experts about some of the technical aspects of
19 this plan. From what I have heard so far, you
20 know, it seems like there could be more monitoring,
21 it seems like there are some -- there is some
22 analysis about the location of different extraction
23 wells. And I want to make sure that, you know,
24 this particular plan and future remedial actions

1 and remedial investigation is done in the way that
2 we can get the most bang for our buck and
3 prevention.

4 So thanks for the opportunity to comment,
5 and you can expect to hear more from Michigan
6 League of Conservation Voters and our members.
7 Thank you.

8 MR. SUELTFUSS: Thank you very much,
9 Mr. Johnson. I appreciate that.

10 Looks like we have time for maybe one more
11 comment. I see Arnie Leriche has his hand raised,
12 so Arnie your way.

13 MR. LERICHE: Before 2015 when the original
14 FT002 GAC unit was installed, the Air Force in my
15 opinion was doing a pretty good job listening to
16 the state DEQ on that action needed to be taken.
17 And they put that GAC unit in not knowing all the
18 information that they would have liked. But they
19 took a chance on it.

20 Since 2014 and '15 and '16 with the new
21 EPA drinking water standards, the Air Force, in my
22 opinion, has backed away and not been innovative,
23 not been thinking about what could be done, but
24 only what someone at a higher level has been

1 dictating the budget will be or the criteria will
2 be set.

3 And I am addressing this to the higher
4 managers of the Air Force and the department of
5 defense. And there has to be a change. And I want
6 to end with that. Thank you.

7 MR. SUELTFUSS: All right. Thank you very
8 much, Mr. Leriche, I appreciate that.

9 And I think we are coming rapidly on the
10 end of the time that we have allotted here for the
11 public meeting tonight. I would like to thank
12 everyone for their participation and turn to
13 Dr. Varley. Do you have any closing comments you
14 would like to share?

15 DR. VARLEY: Yes. I would just like to thank
16 everybody for making this meeting and putting time
17 into their schedules to be able to provide
18 constructive criticism into the process. We look
19 forward to getting additional comments and
20 hopefully providing action at the space where we
21 know that action has been asked for and we want to
22 provide it. Thank you.

23 MR. SUELTFUSS: Thank you very much, ma'am.
24 We appreciate your comments. We appreciate

1 everyone's participation. And our public meeting
2 for the proposed plan is adjourned. Have a nice
3 evening. Thank you.

4 (Whereupon, which were all the
5 proceedings had.)
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24

STATE OF ILLINOIS)

) SS:

COUNTY OF L A K E)

Elvira M. Molnar being first duly sworn on oath says that she is a court reporter doing business in the State of Illinois;

That she reported in shorthand the proceedings given at the taking of said meeting;

That the foregoing is a true and correct transcript of her shorthand notes so taken as aforesaid and contains all the proceedings given at said meeting.



—
Elvira M. Molnar, CSR
Lic. No. 084-003309

<hr/> \$ <hr/>	51:12 53:22 54:17 81:24 84:21 85:9	<hr/> 6 <hr/>	accurately 82:24	actively 6:10
\$10 67:8 68:9 78:3	2012 69:19	6 16:23	achieve 41:18	actual 8:4 23:23 57:14
\$12 67:4	2014 11:15 59:14 61:6 88:20	6-foot 18:16	achieving 40:1,7	add 18:20 19:5,8
<hr/> 1 <hr/>	2015 11:15 62:6 88:13	<hr/> 7 <hr/>	acronym 32:20	addendum 46:12
1 15:9,17	2017 29:13 70:10 72:11	7 4:13 17:8 64:10	action 3:4 4:23 6:8,21, 22,23 7:7,17 8:2,4 9:19 11:9,16 12:4, 11,17,18 13:4 15:10,18,24 16:8,13 17:5, 8,14,21,24 22:6,10,13 24:4,17,24 25:2,11,12,19 29:24 31:19, 21 32:13,15 33:5,8 34:7, 12 35:1,3 36:2,22 38:22 48:15 52:9, 10,12,14 53:13 56:23 57:12,19,21 60:7 61:12,17 62:3 66:20 67:18 68:10 72:5 81:5 82:8 88:16 89:20,21	adding 13:9 14:2 41:15
10 67:4	2018 65:3	<hr/> 9 <hr/>	action 3:4 4:23 6:8,21, 22,23 7:7,17 8:2,4 9:19 11:9,16 12:4, 11,17,18 13:4 15:10,18,24 16:8,13 17:5, 8,14,21,24 22:6,10,13 24:4,17,24 25:2,11,12,19 29:24 31:19, 21 32:13,15 33:5,8 34:7, 12 35:1,3 36:2,22 38:22 48:15 52:9, 10,12,14 53:13 56:23 57:12,19,21 60:7 61:12,17 62:3 66:20 67:18 68:10 72:5 81:5 82:8 88:16 89:20,21	additional 12:23 18:12, 15 19:9 25:20 37:1 38:7 41:5,9 80:13 89:19
100 74:18	2019 69:19	9 17:15	address 9:13, 14 19:24 26:11 31:5,13 34:10 60:22 61:19 64:11, 12 83:24	addressed 33:19 36:5 55:5 68:4 71:19
11 52:8	2021 8:18	9.9 14:10 17:10	addressing 24:4 68:11 89:3	addressing 24:4 68:11 89:3
11.8 13:21 17:9	21 81:9	90 12:1	addressing 24:4 68:11 89:3	addressing 24:4 68:11 89:3
12 32:24 40:10	23 62:21	95 74:21	addressing 24:4 68:11 89:3	addressing 24:4 68:11 89:3
13 62:15 81:8	241 11:19	<hr/> A <hr/>	addressing 24:4 68:11 89:3	addressing 24:4 68:11 89:3
15 39:2,4,5 50:5 59:15 88:20	<hr/> 3 <hr/>	A.J. 42:15 50:10,15 81:21	addressing 24:4 68:11 89:3	addressing 24:4 68:11 89:3
16 62:6 88:20	3 15:19 16:10, 15 17:6,13,22 18:9,10 19:5	Abbott 75:10, 11,12,13 76:8	addressing 24:4 68:11 89:3	addressing 24:4 68:11 89:3
17th 8:18,20 9:10,12	30-day 4:4 7:21 8:17 63:24 64:3 79:15 81:18	Absolutely 26:2	addressing 24:4 68:11 89:3	addressing 24:4 68:11 89:3
18th 8:18	<hr/> 4 <hr/>	absorb 37:24	addressing 24:4 68:11 89:3	addressing 24:4 68:11 89:3
1958 10:8	40 13:11 14:4 18:14 39:2,3, 4,6,7,9 41:17 53:19	absorb 37:24	addressing 24:4 68:11 89:3	addressing 24:4 68:11 89:3
1970 10:9	<hr/> 5 <hr/>	absorbing 38:16	addressing 24:4 68:11 89:3	addressing 24:4 68:11 89:3
1991 10:8,9	5,000 18:17	absorption 16:11 37:22 40:3	addressing 24:4 68:11 89:3	addressing 24:4 68:11 89:3
1st 71:16	57 29:11 32:22	accept 9:9	addressing 24:4 68:11 89:3	addressing 24:4 68:11 89:3
<hr/> 2 <hr/>		acceptance 14:24 17:11, 15	addressing 24:4 68:11 89:3	addressing 24:4 68:11 89:3
2 15:19 16:10, 15 17:6,13 18:7		access 8:7 87:4	addressing 24:4 68:11 89:3	addressing 24:4 68:11 89:3
20 39:3,6,7,8 53:18 74:12			addressing 24:4 68:11 89:3	addressing 24:4 68:11 89:3
20/40 77:23 78:4,10			addressing 24:4 68:11 89:3	addressing 24:4 68:11 89:3
201 10:17			addressing 24:4 68:11 89:3	addressing 24:4 68:11 89:3

adversely 16:16	51:23 53:13, 16 55:9 58:6	analysis 35:2 81:6 87:22	21 52:13 54:3,4,9,17	audio 79:12
advocating 62:9,10	59:18,19,22 60:6,14 61:6,	annual 46:15 47:12 48:20	82:2,7 84:24	Authority 21:5
affect 16:16, 21 57:20 67:9	8,11 62:11, 12,16 63:21,	apologize 27:10	area 7:3 10:5, 7,9,23 11:1,3	authorized 81:9
affects 67:21	22 64:21 65:24 69:4	appears 23:15 58:6	12:7 15:23 19:2,3 30:5	Award 85:6, 10
AFFF 10:10	70:9,13 71:11,14,23	applicable 29:17 32:17	36:9 38:12 39:24 40:7	aware 26:9
agencies 71:12	72:5,10,14, 15,20 75:23	apply 33:4 52:13	42:4 45:10 46:6,16,19	<hr/> B <hr/>
agency 14:24 17:11	79:9,24 81:15 82:4,20 83:15	approach 61:1 78:2	47:13 49:18 64:23 65:2	back 7:14 19:13 20:2
agenda 20:18 63:1,2 84:13, 14	88:14,21 89:4 allotted 89:10	approached 53:7	67:7 73:15,19	27:15 30:10 31:11,18
agree 51:4	allowable 30:11	approval 21:21	areas 86:24	40:22 64:8,10 69:4 70:8
ahead 3:1 20:14 21:10	alternative 9:22,23	approximately 11:19	arguments 65:7	72:9 79:12 80:11 84:23
23:10,12 31:13,14	12:19,21 13:6,19,23	April 8:18,20 9:10,12	Arnie 54:24 59:6,7,9,10,	86:11
35:23 43:3,11	14:1,13,17 15:2,15,17	aquatics 73:19	11 60:24 62:8 74:8 81:1	backed 88:22
50:13 58:2	16:15 17:6, 13,22,23	Aqueous 10:8	88:11,12	background 3:21 9:18
59:6,8,12	18:7,9,10 19:5 22:19,20	Aquifer 67:16	aspects 87:18	10:4
65:19,20	alternatives 9:20 12:10,	AR 46:20 64:7 65:11	associate 87:7	backup 74:20
66:17 70:21	16,20 14:14 15:7,19 16:10	ARAR 15:20 32:18 37:10,	assume 22:18 47:13	backwash 18:14 28:8,
73:12 76:13	39:15 55:6 71:7	12,18 53:22 82:12	attain 52:11	11,12,17
77:3,20	Alyssa 73:11, 12,13	ARARS 14:20 15:18,19 18:3	attempting 75:2	bacteria 38:7
78:19,23	ambassador 73:21	30:3 31:19 33:7,8 38:21	attended 7:13 10:19	Baltusis 26:23 27:12,13,14,
79:1,22 81:22	amount 12:5 24:18 52:19	48:20 50:17 51:1,2,7,8,14,	attorney 31:16	15 37:3 40:19
83:5 85:24			attorneys 58:6	bang 88:2
aiming 82:10			attributed 68:6	bare 76:1
Air 3:6 4:1,2, 17 5:3 6:16			Au 44:8,18 48:6 67:23,24	base 3:6 4:15, 17 10:7 34:9
8:10 9:1,9,21, 23 10:6 17:20				49:14,16 56:10 64:21
19:19 20:4				66:1,23
21:5 29:9,13, 15,21 30:8,19				based 6:2 17:17 22:21
31:16 34:9				
43:24 44:4,23				
45:13,23 46:7				

49:13 59:16, 17 62:6 baseline 12:19 66:11 basis 33:23 51:20 53:21 82:7 beds 18:16 43:23 49:23 50:1 begin 3:1 5:3 beginning 56:19 behalf 75:15 believes 9:23 bells 12:1 benefit 76:2 Bennett 26:24 35:10 37:2,5, 6 38:20,23 39:12,17 40:9,16,18 Bennett's 41:3 Bentley 85:20, 21 bids 40:6 big 24:23 30:21 41:23 47:24 68:5 86:23 bigger 27:23 52:16 biofalling 38:6 42:4 biologic 60:16,18 biology 60:16 biotraining 38:12	Birkbeck 42:15 50:10, 12,14,15 53:5,20 54:15,20 81:21,23 bit 10:4 31:12 39:19 41:24 51:9 54:1 bleed 45:20 blinding 60:16 blue 11:3 19:2 board 41:2 62:10 Bob 43:4,12 65:19,22 Bond 6:11,12 21:18 22:8,17 23:17 24:3,8 28:1,24 36:1 37:20 39:4,6, 15,23 40:12 41:13 45:24 47:16 48:18 56:16 63:4 bottom 19:4 bring 20:23 47:22,23 60:11 81:8,10 bringing 26:16 brought 86:22 brown 19:3 buck 88:2 budget 81:7 89:1 building 7:2 18:19 19:1 31:22 32:3,9 33:9 51:24	56:23 builds 53:2 62:3 busy 36:18 button 20:21 76:17 77:11 <hr/> C <hr/> call 3:18 5:9 20:22 63:15 called 5:15 30:24 33:14 43:6 calling 67:18 calls 20:13 candidate 85:9 capability 18:14 capacity 13:11 14:4,7 18:13 41:16 capture 3:12 6:7 25:14 35:21 42:1 45:3 47:11, 16,17 48:22 55:10 57:20 61:18 74:21 captures 12:7 capturing 5:1 36:19,20 45:6 74:19 carbon 11:21 19:6,12,13 27:19 37:21 78:4 care 38:15 56:22	career 62:11, 12 case 67:14 85:3 cases 40:7 52:22 categories 17:16 category 16:20,24 17:4 Catharine 4:14,19 6:12, 14 25:5 29:22 31:21 49:4 55:13 56:17 58:12 61:15 64:7 central 11:1 CERCLA 12:18 14:14, 15 15:6 29:23 30:23 31:9 33:14 34:20 50:18,19 52:8 53:14 60:3,4, 8 61:20 71:11 72:13 Chaffin 70:1, 3 chain 60:20, 21 challenge 86:14 challenges 86:12 chance 88:19 change 16:4 40:6 57:2,3 59:1 73:3 74:16 78:5 84:23 85:10	89:5 changed 32:11 check 50:8 64:5 78:16 80:24 checking 64:14 choice 41:12 chosen 33:7 Christina 75:2,5 circle 7:21 clarity 59:2 Clark 73:18 Clark's 3:3 4:22 6:8,20 7:1 9:17 10:14,16 11:3,17 12:9 15:16 18:1 19:20,21 22:10 23:19 24:6,19 29:19 34:22 36:13 43:17,19 44:1,2,6,7,14, 17,22 45:17 46:6 66:20 67:2,11,15, 17,19,21 68:6 72:12 82:22 classic 85:3 classified 73:2 clean 44:15 73:21 cleaning 86:18 87:8 cleanup 3:5 10:17 29:10 32:16 33:3
--	---	---	--	---

35:12 36:4 41:7,11 50:24 51:12,21 53:22 54:17 82:1 clear 29:8 32:14 58:21 71:1 87:3 click 76:17,24 closing 89:13 closure 4:15 coach 73:14 Cole 42:16 54:23 56:6,7 57:22 collected 47:6 combined 11:5 commend 80:3 comment 3:22,24 4:4 5:15,20 6:4 7:22 8:17 9:2, 11 17:18 19:18,23 26:3,11 27:10 58:13 62:23 63:3,13,16, 20,21,24 64:3 68:14,16 69:15 70:1,5, 8,21 73:5,7, 11 74:8 75:3, 11,15 76:11, 21 77:11,14 78:15 79:15, 19 80:13,23 81:1,18,22 82:20 84:14, 18 88:4,11	comments 4:1,3,12 5:13, 17,19 6:7 8:8 9:3,10,15 17:17 19:17, 23 20:9 26:14,15 43:15 49:7 50:7 55:3,9, 12,14,16,20 63:8,22 64:2 65:22 69:4,6, 7,9,14 71:4 72:21 74:3,4, 6 75:8,9 79:6, 15 80:19,22 81:16,20 82:17,19 83:3,11,17 84:11,14 85:12,13 86:2,3,5,6,7 87:7 89:13, 19,24 commercial 80:20 commitment 72:14 83:16 commitments 70:9,13,15,17 committee 73:23 communicatin g 6:10 community 14:24 17:15 21:14 24:22 25:19 67:22 71:15 72:19 75:23 76:5 83:17,19	compare 14:17 compared 12:20 completed 7:9,19,21 52:12 compliance 14:20 29:17 37:10,18 Complies 15:18 comply 15:19, 20 18:3 29:9 32:20 72:12 84:24 complying 53:16 components 16:3 18:20 19:4 compounds 51:13 comprehensiv e 71:22 concentration 40:14 concentrations 10:15 11:24 36:11,17 40:4 46:17 48:21 conceptual 18:24 27:18 28:2 43:16 44:22 46:22 47:5 74:14 concern 44:8 concerned 23:5 30:16,18 48:1	concerns 79:7 conclude 4:12 conclusion 81:17 condition 78:10 conditions 38:13 conduct 71:12 conducted 7:8 71:9 conducting 30:1 confusing 22:9 confusion 66:18 congratulate 79:24 congress 30:19,21 58:10 81:9 congressman 37:7 81:11 85:5 conjunction 66:4 connect 75:5 Conservation 86:4 88:6 consideration 67:8 71:24 considered 9:21 51:14 57:17 82:2 constituents 35:13,22 constructed 13:14	construction 16:20 22:20 54:11 constructive 26:5 89:18 contact 63:6 64:9 73:24 contacting 71:14 contaminants 45:14 contaminated 12:6 44:18 67:10 contaminating 24:23 contamination 45:19 49:11, 22 58:8 66:7 68:1 context 30:17 31:8 continue 12:24 13:15, 18 14:8 31:14 44:17,18,20 45:19 73:17 79:16 87:17 continued 16:3 64:4 continuing 7:4 25:14 80:24 continuous 30:15 continuously 75:18 contractor 3:8 control 12:12, 13 13:7,9,24 14:2 16:11
---	---	---	--	---

17:22 35:17 52:11 60:18 conversation 66:19 75:18 conversations 5:6 coordinator 4:16,21 copy 8:13,23, 24 corner 10:6 correct 22:7, 15 23:16,17 26:13 38:22 40:12 83:1 correlation 33:18 cost 12:22 13:19 14:10, 23 17:8 18:7 56:14 84:23 costly 83:24 Coulon 75:2 couple 78:4,5, 12 86:8 court 3:11,23 5:1 63:19 84:15 criteria 10:17 14:15,16,18 15:1,5,6 16:1, 19 32:16 33:3 51:21 82:1 89:1 critical 66:8 criticism 26:5 89:18 critiques 35:20 cross-sections	45:7,10 Cummings 37:3 40:23 41:1,19 42:10,12 curious 41:5 70:14 current 11:10 22:21 42:20 45:3 48:22 56:24 62:4 69:20 77:23 curtain 25:17 67:20 68:11 <hr/> D <hr/> data 24:21 35:5 48:3 60:21 61:23 69:17,18,20 80:4 87:2 date 21:12 47:7 dated 69:19 David 68:21, 22 day 41:8 deal 78:21 dealing 57:4 decision 8:2 10:1 19:21 21:21 32:8 56:3 57:14 58:17 80:5 85:8 decisions 6:5 26:16 defense 89:5 Delaney 43:4, 12 47:10,19	49:2,3,15 50:2 55:4 65:19,20,21, 22 66:15 delineated 31:3 delineation 33:17 35:12 demonstration 45:3 47:11 department 29:16 89:4 depends 38:10 depicted 30:15 36:16, 17 deploy 84:22 deposited 49:22 DEQ 88:16 design 7:19 61:10 detailed 47:22 details 65:6 detection 67:12 determine 7:4 24:10 66:2 determined 17:16 56:21 develop 53:2 66:1 developed 19:22,24 62:7 71:9 72:1 development 47:2 diagram 23:14 74:13	diagrams 45:15 diameter 18:16 dictated 81:6 dictating 89:1 difference 38:2,9 differences 77:22 difficulties 79:3 dilution 68:3 diminish 31:7 direct 66:23 directed 49:19 directly 44:8 48:7 49:22 disc 49:18 discharge 13:15 14:8 15:21 32:1 39:1,10 44:6, 7 53:13,16 54:12 84:20 discharged 11:22 discharges 51:18 82:5 discharging 40:2 44:15 48:6 52:2 discuss 6:7 discussion 5:6 64:19 77:21 Disney 21:16 displayed 4:8 79:14 80:21 disposal 54:10	document 21:22 39:2 53:1,15,21 54:14 58:17, 18 72:24 documents 31:24 44:22 46:4,9,12,14 48:18 64:22, 24 65:10 DOD 59:20 dollars 17:8 72:8 81:9 87:14 Donna 37:3 42:14,17 download 8:12,23,24 drainage 49:19 drawing 28:2 drawn 28:13 drinking 34:11,16 88:21 Driscoll 3:8 drop 9:5 78:4 dropped 23:1 <hr/> E <hr/> e-mail 8:21 9:14 64:11 e-mails 5:21 eager 87:17 earlier 69:1 70:9 71:1,6 72:2 75:17 77:18 early 7:7
---	---	--	--	---

21:24	elements 4:8 18:9	29:16 75:13	10:11	explaining 48:9 85:15
echo 75:16 79:5 87:6	eliminating 56:13	EPA 88:21	exist 31:4	explains 9:20, 24
ecological 66:1	emphasize 86:8	equalization 19:11	existing 11:14,18 12:24 13:2,17 14:6 18:19 19:1,2,8,11, 13 23:18 31:22,23 32:3,10,11 33:9 47:17 51:5,6,24 52:3,21 53:2, 4,9 66:22 82:11	exposure 87:13
economic 84:18	employed 57:15	equally 17:5 39:13	essentially 43:18	expressed 83:19
economically 84:22	encourage 55:19 66:10 83:15 84:3,6	established 36:3	established 36:3	extend 25:17
economy 84:2	end 3:14,23 4:4 22:18 32:6 63:23 72:7 85:1 89:6,10	estimated 13:19 14:10	Etten 71:24	extended 55:11
ECT 6:11	endangerment 34:6,15	evaluate 12:18 14:16 34:19 44:10 48:14 49:4	evaluate 12:18 14:16 34:19 44:10 48:14 49:4	extending 67:20 68:11
effect 23:23 25:15 30:8 66:8 77:24	enemy 72:23 73:2	evaluation 15:5	evaluated 12:11,16 13:7 14:14	extension 67:7
effected 23:22	engineering 47:21	evening 3:2 6:13 90:3	exists 34:18 84:19	extent 7:5 61:24
effecting 24:1	enormous 49:24	everyone's 90:1	expand 18:19	extra 76:6
effective 16:2, 14,15 18:4,7 38:4,10,16 40:15 56:14	ensure 27:14 29:17	exact 39:1	expanded 12:12,13 13:7,23 17:22 46:10,11 55:11	extracted 11:20 13:12 14:5
effectiveness 14:21,23 15:24 16:1, 13,18	entered 75:4	exceed 10:16	expanding 52:3	extraction 11:8,19 12:1 13:10,11 14:3,4 18:11, 13 23:16 41:15 45:6 54:11 69:18 87:22
efficiency 41:4 57:6	entering 7:1 24:18 29:19 38:3	excess 30:10	expansion 14:6 18:10 19:1 35:17	extremely 73:20
efficient 28:16,21 38:2 39:13 71:3	entire 64:2	exchange 12:13 13:8, 12,15 15:13 16:4,12 17:9 37:20 38:1,4, 14 41:23 48:16 56:11 57:1 59:23 60:14,17	expect 33:6 35:19,20 39:20 88:5	
effluent 13:16 14:8 84:19	entry 65:17, 18	excretion 42:5	expecting 58:19,22	
EGLE 17:11 49:4	environment 14:20 15:10, 11,14 16:17, 22 18:3 30:5 31:2 33:16	exercises	experience 59:18 60:9	<hr/> F <hr/>
EGLE's 55:24	environmental 3:5 4:16,20		experts 86:21 87:18	facilitator 3:9
elected 86:12			explain 31:10 35:16,24	facility 13:14 14:7
electronically 3:18 8:10 20:21 46:8 63:14 74:5			explained 32:12	fact 31:7 41:4 60:9 69:2 72:9 82:2,11
				fair 60:3

familiar 49:18 50:18	fine 66:5	44:4,23	frustrated 64:22	23
Fantastic 50:14	fire 7:2 10:5, 7,9,11,22,24	45:13,23 46:7	FS 30:2	gain 57:19
fast 64:19	12:6 15:22	51:23 53:13,	FT002 7:3	Galen 3:8
faster 41:11	36:9 39:24	16 55:9 58:6	10:5,16	galleries 11:23 19:14
faux 77:18	40:7 46:6,16	59:18,19,22	11:10,15,23	gallery 13:17 14:9 18:12
feasibility 7:9 32:7 85:2	49:17 64:23	60:6,14 61:6,	12:7,24	gallons 11:19 41:8,13
federal 50:19, 20,24 75:24	65:2	8,11 62:11,	18:10,19 19:1	gather 80:4
82:14	fish 66:3	12,16 63:21,	23:16 24:20	gathering 81:16
Federation 77:5 83:8	Fleece 85:6,10	22 64:21	25:17 27:18	gave 29:14
field 21:20,24 22:12	flora 49:5	65:24 69:4	43:20 44:15	generated 49:24
fields 74:16	flow 43:19	70:9,13	47:17 48:21	Gina 6:19 18:22 20:23
figure 10:21 11:2,5 24:12	45:4,8 46:18	71:11,14,23	59:16 66:22	27:13 50:11
32:5 36:8,10, 19 61:1	47:13	72:5,10,14,	67:4,13,17,20	59:8 62:20
figures 10:21	flowing 23:20	15,20 75:23	68:11 84:20	63:5 64:9,17
film 42:6	43:22 67:14	79:9,24 81:15	88:14	65:17 75:4
film-forming 10:8	74:19	82:4,20 83:15	fulfilling 72:14	give 6:14 8:6 21:17 23:1
filter 37:15	foam 10:8	84:6 85:10,14	fully 33:6	30:20 49:8
final 5:12 6:4 32:5,7,15	68:3,4	88:14,21 89:4	functioning 47:20 57:4	52:7
33:5 35:6	focus 36:21	Force's 19:19	future 23:24	glad 83:14
47:4 51:3,4, 10 52:14	focused 24:17	forefront 86:10	58:9 66:10	goal 24:4 25:12,13
56:2,3,20	62:2	forest 66:4	87:24	36:12 37:11
61:18 63:2	fold 9:4	forestry 69:3, 7,13	FY 81:9	goals 86:17
78:1 80:6	folks 20:6,11	form 9:2,4	<hr/> G <hr/>	Golden 85:6,9
84:13	23:5 37:1	65:23	GAC 12:14	good 3:2 21:11 44:10
finally 4:11 8:3	50:4 63:8	formal 3:22	13:17,24	48:15 50:17
find 45:9	75:8 80:19	4:12 5:13,20	14:5,7 15:14	66:11 76:15
47:10 64:22	81:20 87:7	6:4 20:9 50:6	16:5,11	79:23 80:20
71:16	follow 50:15	52:14 62:23	17:10,23	88:15
	83:16 86:2,4	63:2 64:2	18:17 19:5,7	governed 31:23
	follow-up 84:17	84:13 85:13	37:14 38:1	governing
	foolish 84:22	forward 16:5	39:22 42:8,21	
	Force 3:6 4:1, 2,17 5:3 6:16	49:6,10 55:14	56:14 58:14	
	8:10 9:1,9,21, 23 10:6 17:20	69:22 89:19	59:16 60:14	
	20:4 21:5	FOSS 25:9	67:13 74:17	
	29:9,13,15,21	fouling 18:18	88:14,17	
	30:8,19 31:16	frankly 33:6	GACS 59:18,	
	34:9 43:24	free 78:18		
		front 18:23		

32:10 54:18	guess 25:19	87:13	hope 49:7	21:13 25:12
government	33:24 40:9	hear 21:9	69:6,11 71:23	implementabil
22:4 75:24	56:16 58:8	23:12 25:20	79:8	ity 14:23
85:3,7	66:18 82:6	29:5 30:19	hopeful 21:23	16:23
gradient	87:16	43:8,9 50:12	hoping 69:20	implementabl
11:24	guessing	63:17 68:23	70:5	e 16:24 17:5,7
granular	40:11	74:10 77:1,2,	hour 41:8	18:6
11:21	guidance 82:3	15 78:24	house 13:14	implemented
gray 7:21	guns 58:7	79:21 81:3	huge 43:21	17:3
great 20:6,15	guys 10:23	83:14 85:22	human 14:19	implementing
23:7 24:3	66:6	87:17 88:5	15:9,11 18:2	8:3 60:8
25:19 28:1	<hr/>	heard 51:1	31:1 33:16	important
33:10 42:23	H	55:12 79:6,8	Huron 23:20	21:14 23:4
84:8	<hr/>	87:19	hydraulic	26:14 45:21
Greg 42:16	half 81:9	hearing 51:18	12:12,13	55:15 73:20
54:23 56:6,7	hand 3:18 5:9,	72:4 75:18	13:7,9,24	importantly
70:1,2,3	14 20:12,13,	Henry 26:8,22	14:2 16:11	87:12
ground 30:10	20,22 21:5	27:2,4,8 37:4	17:22 25:14	impossible
groundwater	23:9 27:4,8	42:15 43:2,10	35:17 57:20	44:10
7:1,5 10:12,	63:13 64:15	48:13 50:8	61:18	impression
13,16,17	68:17,21 73:6	64:15,16,18	<hr/>	35:15
11:6,10,18,	74:5 76:12,22	65:16,18	I	improve
20,22 12:6,8	77:13 80:12	Hexanesulfon	<hr/>	34:24
13:11,13,16	84:16 85:20	ate 60:20	idea 21:17	include 72:1
14:3,5,9	88:11	Hey 64:6	23:1 48:15	83:4
18:11,13	handle 27:23	high 25:24	ideas 26:6,7	included 10:2
24:1,8,11,14	handled 72:22	42:2	identified	12:11 19:20
29:10,19	hands 27:1	higher 36:11	34:14 66:21,	25:23 69:12
32:15,23	37:1 64:14	58:7 88:24	24 67:6 68:2	82:21
33:1,3 35:12	80:24	89:3	identifies 11:9	includes
36:4 44:5,19	happen 83:18	Hill 76:22,23	imminent	18:11,17
46:15,17,18	happening	77:2,4,5,9	31:1 33:15	including
48:20 52:21	66:21	78:16,24 79:2	34:5,14	12:21 13:20
54:12 82:1	happy 74:1	80:10 83:5,7	impact 66:1	14:10 51:20
group 56:8	hard 8:13,23,	84:10	76:4	74:19 82:7
groups 86:6,	24 58:4	hit 27:9	impacted 7:1	incorporate
14	headed 23:19	hold 3:14	impacts 16:17	82:12
growth 42:3,5	health 14:19	holistic 34:21	66:11 84:1	incorporated
57:5	15:9,11 18:2	honestly	87:14	69:8 71:19
GSI 29:11,20	31:1 33:16	61:22	implement	increase 12:5
72:12	76:4 86:17			

14:1,7 40:5 41:16 52:19 74:20 increased 74:15 increases 13:9,10 18:13,14 40:14 increasing 14:3 indicating 82:18 inefficient 78:2 infiltration 11:23 13:17 14:9 18:12 19:14 43:23 49:23,24 influent 19:10 informal 3:16 4:9 20:3,18 50:6 58:1 59:5 63:1 70:6 informally 20:7 information 6:2,17 8:6,13 9:18 10:1 19:17 35:15 46:8,19,21 47:4,6 48:4, 17,24 61:9 63:7,9 64:9 82:19 86:15, 20 87:4 88:18 infrastructure 17:1	innovative 88:22 inputs 86:20 inside 24:2,24 inspection 46:10,11 48:2,4 install 18:15 27:19 58:23, 24 installation 55:7 installed 11:15 59:19, 24 88:14 installing 18:11 integrity 72:18 intend 29:9 interest 65:13 interested 41:2 73:23 interface 32:24 33:2 interim 3:3 4:23 6:8,20, 23 7:7,16 8:1, 2,4 9:19 11:8 12:4 13:3 17:13,21,24 19:21,22 22:9,12 24:4, 17 25:11,12 29:24 30:24 31:19,21 32:4,13 33:8, 14 34:12,24 36:2 38:21 48:14 51:8,14 52:12 56:23	57:10,19,21 60:6 61:12,17 62:3 72:4 81:5,10 82:8, 22 intermediary 57:12 intervening 70:17 introduce 4:14 6:9 introductions 4:6 investigation 7:8 22:2,3,9 24:10 25:2,7, 10 32:7 34:20 36:6 46:24 47:1,3 61:23 88:1 investigations 46:5 involved 30:18 58:10 71:10 73:19 ion 12:13 13:8,12,14 15:13 16:4,12 17:9 37:14, 20,24 38:4,14 39:22 41:23 56:11,13 57:1 ionic 59:23 60:13,17 IR 60:22 IRA 7:17 9:21 17:21 21:20 22:1,10 57:1 75:20 IRM 51:21 54:18	issue 24:22 53:12 60:16 71:2 76:19 82:3 85:6 issued 53:14 59:14 61:5 issuing 60:5 <hr/> J <hr/> Jacob 26:24 37:2,5 Jake 37:6 January 7:14 10:20 Jeff 23:9,10, 12 66:16 73:6 Jennifer 76:22,23 77:5,7,9,10 78:16,17,18, 23 79:11 80:10 83:5,6, 7 job 28:15 48:9 80:1 85:14 88:15 Johnson 85:20,21,22 86:1 88:9 join 86:6 joining 4:22 6:13 jot 63:9 judging 37:12 July 21:20,24 22:12,21 23:4,21 jump 26:20 50:3	<hr/> K <hr/> key 18:9 61:16 kids 21:15 Kildee 81:11 Kildee's 37:7 kind 7:15 11:1,11 15:4, 8 17:3 19:3 36:18 37:7 38:8 48:11 53:13 knowing 22:4 88:17 knowledge 62:7 knowledgeabl e 86:21 <hr/> L <hr/> labeled 65:17 lack 30:17 lacking 50:21 lagoons 43:23 lake 23:20 24:23 68:4,5 71:24 large 27:20 28:3 larger 27:21 28:5,19 law 29:10 30:4,11 50:19,20,22 layout 18:24 27:18 74:14 leached 10:12
---	---	---	--	---

leaching 25:18,21,24	51:17	lot 30:17 48:16 57:16, 17 61:7 67:3 78:12 79:5,7 83:10	32:4 38:9 55:19	45:17 46:6,15 66:20 67:2, 11,15,17,19, 21 68:6,10 72:12 82:22
lead 30:7	limited 81:7	lower 51:19	management 72:7	material 36:13
League 86:4 88:6	limits 15:21 39:10 52:4 53:3,7,17 60:2	low 51:19	manager 4:20	Matt 26:23 27:12,14 37:3 40:19,20
learn 78:21	lines 45:4 47:13	low 51:19	managers 89:4	matter 6:3 60:9
leave 63:7	list 27:1 64:5 66:16	lower 37:15 39:19 40:13 52:23 60:20 77:24	map 30:15 36:17	MCOS 36:5
leaving 75:14	listed 8:15 14:18 17:16 43:10	<hr/> M <hr/>	maps 45:8,14 46:18,19 47:12 87:2	means 8:19 28:23
left 10:22 50:5	listen 63:8 86:11	made 6:5 63:8 65:8 69:1 70:9,14,18 72:10,18 83:21	March 8:18 29:12 71:16 73:18	measure 34:7
legal 31:13	listening 43:14 88:15	magnitude 45:16	Mark 26:22 27:2,3 37:4 42:15 43:2,3, 7,10 48:13 50:8 64:15,16 65:18 68:15, 18	measures 33:14
legally 53:12	literally 34:24	mail 8:21 9:6	marked 9:12	measuring 31:9 33:24
legislature 70:10	lives 87:13	maintenance 13:20 28:8 29:1	marsh 3:3 4:23 6:8,20 7:1 9:17 10:14,16 11:3,4,17 12:9 15:16 18:1 19:20,21 22:10 23:19 24:6,9,19 25:18 29:19 30:18 34:22 36:14 43:17, 19 44:1,2,6,7, 14,17,23	mechanism 65:4
legitimate 51:11	living 29:21	major 4:7	Mark's 43:6	media 18:16 40:6 71:17
Leriche 54:24 59:6,9,13 61:4,14 62:5, 14,19 74:8,9, 10,12 75:1 81:1,2,3,5 88:11,13 89:8	local 16:21 86:12	make 4:12 26:15 28:21 55:14,16,17 57:2 62:22 63:12,16 64:10 69:16 70:5,6 73:7 74:17 75:3,8, 10 76:10,21 77:12,14 80:5,14,15 81:21,22 82:23 83:18 84:18 87:10, 23	marked 9:12	meet 15:20 16:1 32:13 39:15 40:10 51:16 60:19 61:10 78:7 83:18 84:3,4, 21 85:8,15
letters 9:11	located 10:5 11:11 64:8	maintainance 13:20 28:8 29:1	Mark's 43:6	meet all 52:13
level 37:11 39:14 40:11 52:11 88:24	location 10:22 11:7 87:22	major 4:7	marked 9:12	meeting 3:4,9, 12,13,23 4:13,23 5:1,2, 13 7:14,23 10:19 20:9 25:8 47:22 53:21 60:11 63:3 75:19 89:11,16 90:1
levels 25:24 37:10 39:16, 21 40:1,8 42:21 51:19 52:23,24 58:8,23 67:12 68:3 77:24	locations 11:24 46:13 47:7 49:1	make 4:12 26:15 28:21 55:14,16,17 57:2 62:22 63:12,16 64:10 69:16 70:5,6 73:7 74:17 75:3,8, 10 76:10,21 77:12,14 80:5,14,15 81:21,22 82:23 83:18 84:18 87:10, 23	marsh 3:3 4:23 6:8,20 7:1 9:17 10:14,16 11:3,4,17 12:9 15:16 18:1 19:20,21 22:10 23:19 24:6,9,19 25:18 29:19 30:18 34:22 36:14 43:17, 19 44:1,2,6,7, 14,17,23	mechanism 65:4
library 6:17 8:14,15,23 46:9	long 16:1,2,6 18:4 23:24 48:12 61:7 76:4	maintainance 13:20 28:8 29:1	Mark's 43:6	media 18:16 40:6 71:17
light 55:2,11 70:24	long-term 14:20 15:24	major 4:7	marked 9:12	meet 15:20 16:1 32:13 39:15 40:10 51:16 60:19 61:10 78:7 83:18 84:3,4, 21 85:8,15
limit 61:11	longer 44:15 83:23	make 4:12 26:15 28:21 55:14,16,17 57:2 62:22 63:12,16 64:10 69:16 70:5,6 73:7 74:17 75:3,8, 10 76:10,21 77:12,14 80:5,14,15 81:21,22 82:23 83:18 84:18 87:10, 23	marked 9:12	meet all 52:13
limitations	looked 15:1	major 4:7	marked 9:12	meeting 3:4,9, 12,13,23 4:13,23 5:1,2, 13 7:14,23 10:19 20:9 25:8 47:22 53:21 60:11 63:3 75:19 89:11,16 90:1
	lost 77:7 79:12	makes 24:11		

<p>meets 17:23 41:5</p> <p>member 56:7 67:22 73:14</p> <p>members 76:5 88:6</p> <p>mention 26:20 51:1</p> <p>mentioned 5:16 20:5,11, 19</p> <p>mess 86:18</p> <p>messing 27:9</p> <p>met 51:17 83:13,23 84:5</p> <p>methods 79:17</p> <p>Michigan 29:10,14,16, 17 30:11 36:3 58:23 66:5 69:2,6 70:10 72:10,19 73:22 82:11 86:4 88:5</p> <p>Michigan's 10:17 69:13</p> <p>microbial 42:3,5,8 57:5</p> <p>microphone 64:19</p> <p>microphones 3:19</p> <p>middle 79:4</p> <p>migrated 10:13</p> <p>migration 11:17 12:8 15:16 18:1</p> <p>Mike 21:4,8,</p>	<p>18 23:8 54:23 58:2,3 59:3</p> <p>million 13:21 14:11 62:15 67:4,9 68:9 78:3 81:9</p> <p>mind 33:11</p> <p>minimize 3:20</p> <p>minimum 76:1 83:22</p> <p>minimums 75:19</p> <p>minute 11:20 41:14</p> <p>minutes 50:5 58:1 60:10 65:1</p> <p>missed 87:1</p> <p>missing 65:10</p> <p>mistake 27:5 68:17</p> <p>misunder 22:8</p> <p>mitigated 16:18</p> <p>mixing 25:6</p> <p>mobility 14:22 16:7,9, 10 18:5</p> <p>mobilizing 21:20</p> <p>model 43:16 44:22 46:22 47:5</p> <p>modeled 35:19</p> <p>modeling 35:22 49:13 55:23,24</p>	<p>moderator 4:24 5:9,16</p> <p>modified 60:2</p> <p>moment 26:22</p> <p>money 30:20, 22 62:15 67:3 76:3 78:10</p> <p>monies 85:4</p> <p>monitor 69:18</p> <p>monitoring 12:22 45:5 55:7 87:20</p> <p>Moss 23:9,10, 11,14,18 24:7,20 25:16 26:7,18 55:4 66:16,17,18 68:14 73:6,8</p> <p>mouse 66:3</p> <p>mouth 68:5</p> <p>move 3:10 4:6 11:2 16:5 24:15 26:21 27:2,11 35:9 36:24 40:19, 23 44:18 50:10 61:19 62:20</p> <p>moves 24:8 37:23</p> <p>moving 20:17 21:24 22:11 36:13 49:10 56:3 57:16</p> <p>multiple 46:9</p> <p>Munson 21:4, 7,8,11 22:2, 14,23 54:23 58:2,4 59:2,3 68:15,17,18</p>	<p>mute 20:23 27:14 40:21 76:15,17,18, 24 77:10 78:19</p> <p>muted 3:19 40:20</p> <p>myriad 67:6</p> <hr/> <p style="text-align: center;">N</p> <hr/> <p>names 43:10 64:4</p> <p>narrow 71:22</p> <p>National 77:5 83:8</p> <p>nature 7:4</p> <p>NCP 50:24</p> <p>nearby 16:16</p> <p>needed 42:1 55:22 88:16</p> <p>needing 51:7</p> <p>negotiated 61:5</p> <p>Nelkie 26:23 27:16,17 28:23 29:2</p> <p>newer 61:11</p> <p>news 71:17</p> <p>nice 69:5 90:2</p> <p>nickel 78:8</p> <p>noise 3:21</p> <p>nominate 85:8</p> <p>non-detect 40:1,8 58:15, 19,22 60:11 67:13 70:12, 15</p> <p>non-governmental</p>	<p>86:13</p> <p>nonprofit 75:14</p> <p>north 11:1</p> <p>notes 15:8</p> <p>noticed 21:4 27:8 69:16</p> <p>notified 29:13</p> <p>number 36:7 39:20 50:4</p> <p>numbers 40:13 65:11</p> <p>numerous 62:11</p> <hr/> <p style="text-align: center;">O</p> <hr/> <p>objected 17:13</p> <p>objective 12:4,5 17:24</p> <p>obtain 61:18</p> <p>occasions 81:11</p> <p>occurs 5:8 43:13 75:7</p> <p>October 10:20</p> <p>offer 60:1,8 61:9</p> <p>offering 61:11</p> <p>office 37:7 70:4</p> <p>officials 86:12</p> <p>omission 34:1</p> <p>on-site 53:13</p> <p>ongoing 26:8</p> <p>ongoingly 67:11</p> <p>online 3:13</p>
--	---	--	---	---

open 5:5	overview 5:3 7:16	pending 21:21 22:22	38:16 39:7,9 52:20 53:19 56:22	plan 3:4 5:4, 24 6:7,15,21 7:10,11,20 8:3,8,9 9:2,17 12:17 17:12, 18 21:12,15 22:6,16 24:2 29:8 30:2 31:3,4,10 32:12,14 33:17,19,22 46:24 49:5 52:6 53:2 54:8 57:10, 11,12,13 70:14 71:20, 21,24 87:19, 24 90:2
operate 13:1, 18	<hr/> P <hr/>	people 23:1 30:6 44:12 48:5,9 58:10 66:9 72:1 84:1 87:11	PFOS 6:24 10:10,15 11:6,17,23 12:9 15:16 18:1,5 23:23 24:5,18 29:19 32:2 34:10 35:14,18 36:2,9,14,21, 22 37:12,15, 24 38:16 39:5,7,9 50:15,21 51:13 52:20 53:18 56:22	planned 35:19
operated 10:7	p.m. 4:13	percent 12:1 13:11 14:4 18:14 41:17 74:18,21	phase 7:20	planning 75:16
operating 39:24	paradigm 50:24	percolating 71:2	phenomenal 67:5	plans 37:10 49:12 83:12, 14,18
operations 13:20 28:24	Parks 8:14	period 4:4 8:17 17:18 19:18,23 26:3,12 62:23 63:24 64:3 70:17 79:16 80:23 81:18 82:20	physical 45:2, 3 47:11 51:17	pick 55:8
opinion 33:21 88:15,22	part 5:2 10:17 19:4 22:3 24:9 25:2,3 36:6 51:12 52:10 53:22 54:17 65:23 69:8,21 81:24 84:21 85:9	permit 53:9, 11,12 59:14 60:6	pick 55:8	picture 47:24 86:23
opportunity 4:11 76:17 80:20 88:4	participate 9:24	persistence 84:10	piece 52:16, 17,18 57:18 87:5	plant 49:16, 20,21 52:21 66:22
optimize 52:18	participation 89:12 90:1	person 6:9 20:5 60:4	piecemeal 87:1	play 30:3
optimizing 35:4,18 54:2, 5	partner 72:21	personal 33:21	pilot 60:15,18 62:5,9,11	plumbing 74:14
option 41:5, 11,12	parts 5:2 32:24 37:11 39:8,9 40:10 57:16 67:10	PFAS 36:3,15	place 9:5 30:1 31:22 35:1,4 48:24 52:19 56:24 57:7 58:14,17,19 59:15 82:4 85:7	plume 7:5 11:6 36:9,16 43:21 45:6,10 48:22 49:24 65:6 66:23
options 37:14 39:12,18 41:15,18	pas 77:18	PFOA 6:24 10:10,15 11:6,17,24 12:9 15:16 18:1,5 23:23 24:5,18 29:18 32:2 34:10 35:14,18 36:3,9,14,21, 22 37:24	plum 30:14 33:23 43:19 44:5,16,19 48:5 61:24 86:24	
order 37:2 42:14 46:1	past 44:6 65:11			
organization 86:3,13	path 55:14			
orient 11:12	pathway 34:15 66:9			
original 88:13	patience 78:20 84:9			
originally 62:16	Paul 79:18			
Oscoda 21:5 41:2 56:8 67:22 71:10 84:2	Paula 6:11 20:16,19 35:23 36:23 38:24 52:22 56:18 63:4			
Oscodains 73:23				
outsider 72:23				
overcome 57:6				

point 22:18 32:21 40:2 48:15 51:2 56:3 57:3 68:7 72:3 81:7 83:21	57:7 60:15,18 preclude 17:2 preferred 9:22 17:21 22:19 prepared 4:3 21:22 63:23 presentation 3:15 4:7,8 8:11 32:19 74:13 presented 7:15 10:21 26:7 46:23 55:6 69:11,12 71:7 presenting 45:23 presents 9:18, 22 pretreatment 38:7,14 pretty 88:15 prevent 17:2 87:13 prevented 71:14 prevention 88:3 previously 82:18 print 9:3 problem 30:21 41:23 42:9 45:16 problems 33:20 83:24 procedure 63:14 proceeding	53:8 proceedings 90:5 process 5:20 7:17 10:1 14:15 26:10 27:22 29:23 34:21 36:4 56:13 57:2 61:20 71:6,8, 21 72:2,22 85:1 89:18 processed 28:21 processing 28:6 produce 42:6 produced 44:23 46:4 47:3,5 program 4:20 25:4 31:17 programatic 56:18 prohibits 60:5 72:13 project 6:10 7:18 25:23 36:4 42:1 62:1 projects 25:6 promise 29:21 72:10,18 promulgated 29:18 proposal 30:16 69:3,8, 12,21 71:8 propose 31:5 proposed 3:4	5:4,24 6:1,7, 15,21 7:10, 11,19 8:8,9 9:2,17,20 11:8 12:17 17:12,18 18:10 30:2 32:12,14 49:5 51:15 52:6 54:8 57:10, 11,12,13 90:2 protect 15:11 30:5,6 protecting 86:17 protection 15:9 protective 15:14 18:2 protectiveness 14:19 provide 26:4 41:6 42:1 49:7 58:15 65:6 89:17,22 provided 35:16 65:11 69:4 providing 89:20 provision 52:9 public 3:4 4:4, 23 7:21,23 8:14,17,19 9:24 19:18,22 26:3,11 44:3, 9 45:21 47:22 48:17 62:23 63:2,24 64:3, 19 65:5 79:15 80:23 81:18	82:20 84:13 85:12 86:17 89:11 90:1 public's 43:14 45:12 pull 52:20 pulling 52:23 pump 11:10, 14 12:12,14 13:7,24 15:13 17:9,23 pumped 11:18 pumping 30:9 74:16 pumps 78:5 purpose 82:12 push 73:17 put 15:4 27:4 35:1 52:1,5 53:4 54:6 59:15 60:17 62:10 69:10 73:16,23 76:1 82:4 88:17 putting 22:15 57:8 58:13 89:16 puzzle 52:16 57:18
<hr/> Q <hr/>				
qualify 32:17 quality 29:16 38:3,5,10 quasi 59:14 question 3:17, 19 4:9 5:5,11 20:3,20,24 21:2,6 24:3 26:8 28:1				

<p>29:12 30:8, 13,23 31:18 33:12,13,24 35:9 37:13,21 38:17,18 41:3 43:2 46:3 50:9,16 56:5, 9,12,18 58:5 59:5 60:23 61:2,3,4 69:15 70:5 81:8 82:6</p> <p>questions 3:14 8:20 20:7 26:4,21 29:8 31:13 35:20 37:8 42:18 43:14 44:21 46:1 47:9,21 50:5 54:22 62:21 70:24 71:5,18</p> <p>quick 50:4 80:20 86:2</p> <p>quote 52:8</p> <p>quoting 29:15</p> <hr/> <p style="text-align: center;">R</p> <hr/> <p>raise 5:9,14 20:12,20 27:1 63:13</p> <p>raised 21:6 23:9 37:1 64:15 68:17, 21 71:1 76:12 79:7 80:12 81:1 85:20 88:11</p> <p>raising 3:17 74:5</p>	<p>ramifications 67:23</p> <p>RAO 6:11 7:14 10:19 12:5 13:3</p> <p>rapidly 89:9</p> <p>rate 37:16</p> <p>rates 41:7</p> <p>rational 65:7</p> <p>rationale 9:18 31:8</p> <p>re-evaluating 87:9</p> <p>re-summarize 61:2</p> <p>reach 57:13</p> <p>read 52:7</p> <p>ready 78:7</p> <p>real 31:8 50:3 51:11</p> <p>realignment 4:15</p> <p>realistically 39:23</p> <p>reason 7:23 26:2 28:4,18 43:10 51:11 57:18</p> <p>receive 19:23</p> <p>received 17:17 71:5</p> <p>recent 64:24</p> <p>recently 69:18</p> <p>recommendations 49:9</p> <p>reconnect 79:13</p> <p>record 3:24 6:16 8:2,10 9:1 19:21</p>	<p>21:21 32:7 44:24 46:7,20 57:14 63:20 64:21 71:16 74:6 80:14 81:12</p> <p>recorded 3:13 84:15</p> <p>reduce 6:24 11:16 14:21 15:15 16:9,10 18:5,18 24:5 25:23 36:12 66:6</p> <p>reduced 11:23</p> <p>reduces 57:5</p> <p>reducing 12:8 17:24 24:18</p> <p>Reduction 16:7</p> <p>reference 51:5 52:8</p> <p>referencing 70:11</p> <p>refined 47:4</p> <p>regard 15:2</p> <p>regular 8:21</p> <p>regulations 77:23</p> <p>reiterate 83:20</p> <p>Rekowski 79:18,19,20, 23</p> <p>related 46:5 64:23 77:22</p> <p>relates 3:5</p> <p>relative 69:2</p> <p>relayed 82:24</p>	<p>released 10:10</p> <p>relevant 19:17 32:17 33:4</p> <p>remedial 3:3 4:23 6:8,20, 23 7:8,16,19 8:2,4 9:19,20 11:8 12:4,10 13:3,6 15:2,6 17:14,21,24 22:10,13 24:4,9,17,24 25:2,7,10,11, 12 29:24 31:19 32:6 33:14 34:12, 20 36:2,6 38:21 46:24 47:1,3 48:14 52:9,10 56:23 57:19,21 60:7 61:12,17,22 62:3 66:19 72:4 81:5 87:24 88:1</p> <p>remediate 67:4</p> <p>remediation 12:10 14:13 67:1,16,19</p> <p>remedy 13:9 14:21 16:21, 24 17:2 24:16 36:12 44:11 51:3,4,10 61:19 80:6</p> <p>remember 39:1</p> <p>remind 7:6 47:8</p> <p>reminder</p>	<p>63:19 84:12</p> <p>removal 11:16 34:7,8 35:1,3</p> <p>remove 38:7</p> <p>repeat 81:24</p> <p>replaces 5:6</p> <p>report 46:10, 11,12 47:3</p> <p>reported 48:2</p> <p>reporter 3:11, 23 5:1 63:19 84:15</p> <p>reports 46:15 47:12 48:2,4, 20,23</p> <p>repository 6:17 8:14 46:8,21</p> <p>Representative 70:4</p> <p>represents 11:4</p> <p>request 59:22 65:9</p> <p>require 13:13 14:6 38:13</p> <p>required 12:18 14:16 41:10</p> <p>requirement 15:21 58:18</p> <p>requirements 31:24 32:17 39:1,2 52:1 53:1,15,21 54:10,13,14 59:17 78:7</p> <p>requiring 60:5</p> <p>reserved</p>
--	--	--	---	--

62:22	Rex 76:12,13, 14,16 77:13	schedules 89:17	settling 18:15 19:9 28:12	73:5,7,10 74:11 77:16
residents 16:17,21 86:13	80:12,13 84:16	scope 83:12	shaded 19:3	79:21 80:9,17
resin 13:8,12 16:4,12 38:1, 4,14 56:11	RI 30:2 56:20 80:5 85:2	scoping 7:18	Shannon 75:10,13	81:4 83:1 85:24
respect 50:21 55:24	risks 31:5	screen 27:10	share 65:12 89:14	site 44:22 46:10,11,22 47:4 48:2,3, 12 57:15 60:4 67:5
respond 4:1,2 21:1 33:12 63:21,22	river 23:20,24 24:16,23 25:21 26:1 44:8,19 48:6 68:3,5	screens 10:24	Sharon 31:12, 14,15 33:10 34:4 38:18,19 39:6 51:22	sites 40:3 49:14 60:9 62:5
responding 21:3 81:16	road 23:3 78:7 85:17	search 65:3	short 16:14,15 18:4	situation 48:10
response 19:19 20:4 41:21 82:20 85:13	Robert 8:14 65:21	secret 71:9,13	short-term 14:22 16:13, 18	skip 18:22
responses 61:14	ROD 19:22,24 82:22	section 64:20 84:13	shot 49:6	slide 3:10 4:5 6:19 7:12,13, 15 8:5,16 9:8, 16 10:3,18 11:13 12:3,15 13:5,22 14:12,19 15:3 17:19 18:8, 21,23 19:4,15 20:1 62:21 63:5,6,7 64:1, 8,10 80:21
responsiveness 4:3 19:19 63:23 81:17 82:21	routed 19:12	selected 52:9	show 15:5 24:12 45:5,8 46:17 48:4,21	slides 69:17 73:1
rest 34:20	routine 16:3	Senate 29:14	showing 36:10 45:4,13	slightly 19:7
restating 33:11	Rule 29:11 32:22	sense 32:4 55:19 57:3	shown 8:11 30:16 33:22 44:9	Slotkin's 70:4
restoration 31:17	run 6:18 76:4	sentiment 79:8	shows 10:22 11:5,7 21:19	small 20:21 27:24 30:15 57:18
restrict 78:10	running 27:1	separate 25:11	shut 80:16	smaller 19:8 27:19 28:4,9, 10,14,17,19, 22 60:20
result 28:15	<hr/> S <hr/>	sequence 26:21 54:22	side 15:8	soil 10:11
results 45:5 46:17 47:15	Sable 44:8,18 48:6 67:23,24	serve 3:8	significant 19:16	
review 8:9 21:23 59:23 60:7 71:12	safety 76:5	service 5:21 56:1 66:4 69:3,13	similar 53:15 86:17	
reviewed 17:12 69:3	sampling 48:20	service's 69:7	single 71:10	
reviews 6:3 56:1	save 76:3 87:13	session 3:16, 22 4:10 5:7 20:4,7,10 50:6 59:6 63:1 70:6	sir 21:10 31:11 40:24 50:13 59:4 61:19 68:19, 24 70:20	
	saving 56:14	set 31:24 52:24 53:18 68:18 73:8 89:2		
	scale 28:3			
	scenario 12:23 19:10			
	schedule 21:19 22:21			

<p>sole 61:24</p> <p>solid 54:10</p> <p>solution 78:1</p> <p>solutions 83:24</p> <p>somebody's 34:16</p> <p>sort 35:2 70:16 75:5</p> <p>soul 71:10</p> <p>sounds 84:4</p> <p>source 68:7</p> <p>south 11:2</p> <p>southwest 10:6</p> <p>space 27:22 89:20</p> <p>Spaniola 26:24 29:4,5, 7 30:7 33:11, 13 35:8,11 42:15 54:23 55:1,2 56:5 70:21,22,23 73:4</p> <p>speak 79:24</p> <p>speaking 3:20</p> <p>specific 31:5 86:5</p> <p>specifically 29:20</p> <p>spend 78:3</p> <p>spending 67:8 78:8 85:7</p> <p>spent 68:9</p> <p>spite 82:2</p> <p>spoke 81:11</p> <p>spot 5:17</p> <p>SRD 58:17 59:13,17 60:2</p>	<p>61:4,12 77:22</p> <p>SRDS 15:22</p> <p>stages 56:20</p> <p>stamp 9:5</p> <p>standard 29:11,20 31:9 52:11 59:17 60:11 61:6,9 70:12,15 87:8</p> <p>standards 29:11,18 31:20 32:1, 10,13,16 35:13 51:13 53:8,22 54:6, 17 82:13 83:13,22 84:4,21 85:16 88:21</p> <p>standpoint 41:23</p> <p>stands 32:18</p> <p>start 20:23 21:2,20 22:1, 12,20 23:3 37:20 83:8</p> <p>started 7:17 8:7 12:17</p> <p>startup 12:2</p> <p>state 5:10 31:20,23 32:16 48:3 50:22 52:1 53:6,8,10,12 54:7 59:14 60:1,5 61:5 63:15 66:5 69:2,6,13 70:10 71:12 72:10,19 73:22 75:23</p>	<p>77:23 82:3,13 87:8 88:16</p> <p>state's 32:15</p> <p>stated 5:23 33:18 60:10 69:17</p> <p>statement 69:1</p> <p>statements 70:11</p> <p>states 24:21</p> <p>stating 20:24 21:2 25:15</p> <p>stay 52:4</p> <p>step 76:6</p> <p>stepped 43:7</p> <p>Stewart 73:11,13 74:3</p> <p>stick 53:3</p> <p>sticking 58:7</p> <p>stop 34:17 87:16</p> <p>strength 62:1</p> <p>stretching 27:6</p> <p>stringency 83:12</p> <p>stringent 51:9 82:13</p> <p>strongest 84:3</p> <p>strongly 59:22</p> <p>studies 62:6,9, 11 72:17</p> <p>study 7:9 32:7 60:15,19 85:2</p> <p>stuff 45:23 47:24</p> <p>submit 8:8,20 26:4 55:15,19 64:2 80:22</p>	<p>81:19</p> <p>submitted 5:20 9:12 19:17 82:19</p> <p>submitting 5:15</p> <p>substantial 31:1 33:15 34:6,14 38:13</p> <p>substantive 15:21 31:24 39:2 52:24 53:15,20 54:13 58:18</p> <p>success 31:9 33:24</p> <p>successes 7:2</p> <p>succinctly 63:17</p> <p>Sueltenfuss 3:1,7 20:15 21:10 23:7,12 26:19,20 27:6,11 29:3, 6 33:10 35:7, 8 36:23,24 40:17 41:20 42:11,13,23 43:1,9 50:2,3, 13 54:20 56:4 57:23 58:11 59:4 60:24 61:13 62:18 63:11,12 64:13 65:15 66:14 68:13, 19,24 69:23 70:19 73:4,10 74:2,11,24 76:8,9 77:3,7, 16,20 78:14</p>	<p>79:1,11,21 80:8,17 81:4, 14 82:15 83:2 84:8 85:18,24 88:8 89:7,23</p> <p>suggesting 55:10</p> <p>suggests 5:24</p> <p>summary 4:3 11:12 19:16, 20 63:23 81:17 82:18, 21</p> <p>summer 21:24</p> <p>support 14:23 17:11</p> <p>supposed 43:5,12</p> <p>surface 24:2, 11,14,22 25:1,3,22 29:18 32:22, 24 33:1 49:5 67:9,15</p> <p>suspect 71:21</p> <p>swamps 44:2</p> <p>swim 73:14</p> <p>system 7:3 11:10,15 12:7,24 13:2, 15,17 15:12 16:3 18:18,19 19:3,9 26:1 28:16,22 31:22,23 32:2,4,10,11 33:9 34:18,24 35:4 38:3 41:17 42:8 45:4,6 47:18, 19 48:22</p>
---	--	---	---	--

50:18 51:5,6, 14 52:1,2,3,4, 5,18 53:2,4 54:2,4,6 56:24 57:1 58:14,15,20, 24 60:17 61:10 62:4 74:15 78:3,6, 10 82:5,12 84:20,24 systems 42:20 56:21	taxpayer 72:8 78:9 85:3 87:14 technical 4:7 37:8 41:22 76:19 86:5 87:18 technological 77:18 79:2 technologies 56:10 technology 37:23 55:8 56:15 57:14 59:16,21 60:7 61:8,11 78:21 81:6 84:19 87:10 technology- based 61:6 ten 65:1 tentative 21:12 term 16:1,2,6, 14,15 18:4 23:24 Tess 26:23 27:16 theoretically 40:9 thing 44:3 45:11 things 17:3 38:8 39:18 43:13 44:9 45:21 48:1,11 54:10 55:4 61:16 65:24 66:3,6,7 86:8 thinking 88:23	thought 37:17 49:8 71:5 85:7 thoughtful 55:16 thoughtfully 79:10 83:16 thousands 67:10 threat 31:1 33:16 threats 31:3 33:17,18 thrilled 67:12 Tim 3:7 5:16 20:3,11,13,14 26:20 29:7 35:8 36:24 37:3 40:23 41:1 42:13 50:3 63:4,12 64:6 70:23 74:10 76:9 84:17 time 5:18 30:11 33:7 54:16 57:3 58:4 61:7 62:22 63:17 67:6 74:21 76:3 78:1 82:3 84:5,23 88:10 89:10, 16 time-critical 11:16 times 8:15 83:21 Tinley 37:3 42:14,17,18, 24	today 4:22 5:1 6:6 7:10 11:7 85:16 told 44:9 tonight 4:2 7:24 55:3,12 63:13,21 69:12 71:1 73:1 75:15,19 79:6,9 83:11 89:11 tonight's 3:9, 12,23 20:18 63:3 77:21 Tony 26:24 29:4 42:15 50:16 54:23 70:21 75:17 top 19:2 total 13:19 52:10 touch 49:22 township 41:2 49:17 67:23, 24 township's 49:12 toxicity 14:21 16:7,9 toxins 25:24 training 7:2 10:5,7,9,11, 22,24 12:6 15:22 36:9 39:24 40:7 46:6,16 49:17 64:23 65:2 transcript 3:12 transferred 49:16	transitioning 62:24 transparency 86:9,10 treat 11:10,14 12:12,14 13:8,12,24 14:5 15:13 17:9,10,23 treated 11:21 13:16 14:8 72:23 treating 30:9 41:14 treatment 7:3 12:7,24 13:13 14:6,7,22 15:12 16:8 18:6,18,19,20 19:2 28:16 41:17 42:7 43:23 47:18 48:22 49:12, 15,20,21 56:20 58:14 66:22 treats 12:7 tri-fold 9:4 trillion 33:1 37:12 39:8,9 40:10 67:10 true 22:7 43:15 56:12 trust 62:8,12 Trustees 41:2 turn 20:2,14 42:17 50:21 68:15 76:13, 23 85:21 89:12
T				
table 15:4 26:17 takes 22:4 taking 34:7,18 talk 34:5 talked 9:11 24:5 83:13 talking 20:8 22:5,11 32:23 43:20 44:12 45:18 47:17 49:11 53:17 61:16 67:4,16 talks 54:8 tank 19:11,12, 13 28:19 tanks 18:15 19:9 27:20, 21,23,24 28:5,8,9,11, 13,14,17,19 38:6 78:5 targets 82:9, 10				

twisting 53:24		Voters 86:4 88:6	74:18 88:21	76:6 79:16
<hr/>	<hr/>			
U	V	Vriesenga	ways 64:1 79:14 80:22	worked 31:16 48:12 76:20
<hr/>	<hr/>	Van 71:24	website 8:11	workers 16:16,21
U.S. 5:21	variety 80:22 87:17	31:12,15 34:2,4 38:19, 24 39:5,8 51:22 53:11, 24	weeks 69:10 71:2	working 29:15 42:21 46:23 52:17 62:13 72:11 86:19,22
UFP 46:24	Varley 4:15, 18,19 8:20 9:13 20:4 25:5,10 26:2, 13 29:22		wells 11:8,19 12:1 13:10 14:3 18:12 22:15 23:16 31:6 41:16 54:12 55:7 67:7 69:18 87:23	works 50:23 56:2 77:10
unclassified 72:24	31:11 33:12 34:2 35:17 41:20,22 49:3,4 55:13 56:4,17 58:12 61:15 62:8 64:6,7 82:23 83:1 89:13,15	<hr/>	wider 33:22	world 21:16 75:14
undercuts 72:17	Varley's 63:6	W	wildlife 11:3 66:8,12 77:5 83:8 84:1	worried 34:11 41:24 86:23
underlying 87:2	varsity 73:14	wait 5:9,14 72:16 83:23	winn 68:21, 23 69:1	write 9:3
understand 11:6 21:14 24:15 44:4 45:16 56:10 61:23 67:18 69:5,9	Vaughn 76:12,13 77:13,15,17, 21 78:14 80:12,15 84:16,17 85:18	waiver 51:10	wire 70:7	writing 29:13
understanding 25:1 39:14 45:12 51:8	veracity 72:17	walked 20:6	wisely 87:15	written 9:10 19:16 65:23 82:18 86:3,7
unit 39:21 88:14,17	verbal 5:13	wanted 28:9 45:11 50:15 53:7 62:20 70:8 75:16 79:5,23 86:8	wondered 27:19	Wurtsmith 3:6 4:16,20 10:6 21:5 34:9,22 49:11,14 62:7 64:21 81:10
units 59:24	verbatim 3:12	wasting 47:23 80:3	wondering 27:17 37:16 51:20 67:7 69:19	years 23:2 26:9 45:20 49:20 59:20 60:1 65:11 72:11,16 78:12 85:5,17 86:22
unmute 20:12 59:8,10 65:19 77:18	versus 60:14 74:17	waste 54:10 85:3	word 3:24 63:20 74:7	
unmuted 43:7	vessels 19:7,8	wasteful 85:7	words 33:20	
unmuting 58:4	view 6:6	wastewater 43:22 49:12, 15,20	work 8:3 12:23 42:2 46:24 58:9 73:16 75:13	
unwise 78:2,9	virtually 5:8	water 19:10 23:18 24:2, 14,23 25:1,3, 21,22 27:22 28:6,12,20 29:18 30:9 32:22,24 33:1 34:11,16 36:20 37:23 38:3,5,11 44:13,14,17 56:8 67:9,14, 15 73:21		
update 60:1	vital 86:18			
updated 69:21	volume 6:24 14:22 16:8,9 28:20 36:13			
updates 6:11				
upheld 70:16				
uptime 74:15, 21				
				<hr/>
				Y
				<hr/>

Z

zone 55:10

zones 55:10