

STATE OF WEST VIRGINIA
DEPARTMENT OF
ENVIRONMENTAL PROTECTION

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HHC Workgroup

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MEETING: Wednesday, October 28, 2020

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LOCATION: Remote via Zoom

Reporter: Kara West

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A P P E A R A N C E S

1
2
3 KATIE BENTLEY
4 KERRY BIRD
5 ROSS BRITTAIN
6 LAURA COOPER
7 AUTUMN CROWE
8 KATHY EMERY
9 COLLEEN FLAHERTY
10 ERICA FLEISIG
11 DENISE HAKOWSKI
12 LARRY HARRIS
13 JOHN HEALEY
14 JENNIE HENTHORN
15 ED MAGUIRE
16 SCOTT MANDIROLA
17 REBECCA MCPHAIL
18 JAMES RAY
19 ANGIE ROSSER
20 NATALIE SANCHEZ-GONZALEZ
21 CHRIS SMITH
22 JAMIE STRONG
23 GREG VOIGT
24 JASON WANDLING

I N D E X

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By Ms. Cooper

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P R O C E E D I N G S

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2
3 MS. COOPER: I first wanted to go around
4 the room today since we have so many new faces. And
5 let's start with --- I want to start with the folks from
6 DEP just to keep it straight who's who if everybody
7 doesn't know everybody.

8 So I'm Laura Cooper. I'm the water
9 quality standards program manager, and I host these
10 meetings. These are monthly meetings that we're having
11 at --- in West Virginia to review human health criteria
12 and to look into detail at how EPA calculated human
13 health criteria and what went into it and really just
14 delve into all the details that we can --- we can find.

15 And let's go around to our other DEP folks
16 now, starting with Chris.

17 Can you introduce yourself, Chris?

18 MR. SMITH: Hello, I'm Chris Smith, DEP
19 Water Quality Standards.

20 MS. COOPER: And Kerry?

21 MR. BIRD: I'm Kerry Bird. I'm with Water
22 Quality Standards.

23 MS. COOPER: Thank you.

24 Ross?

1 MR. BRITTAIN: I'm Ross Brittain,
2 environmental toxicologist with the Office of
3 Environmental Remediation in DEP. And just lending my
4 skills to the Office of Water Quality Standards.

5 MS. COOPER: All right.

6 Thank you.

7 Jason, I see you popped on. Can you go
8 next?

9 ATTORNEY WANDLING: Yeah.

10 Jason Wandling, general counsel for the
11 agency.

12 I will be in and out on video because I'm
13 handling something else as well. So glad to be here.

14 MS. COOPER: Thanks.

15 Kathy?

16 MS. EMERY: Hi, it's Kathy Emery. I am
17 the acting director for the Division of Water and Waste
18 Management.

19 MS. COOPER: And Scott. I think that's
20 the last of the DEP folks --- oh, no, and Ed --- but
21 Scott, please.

22 We can't hear you, Scott.

23 MR. MANDIROLA: Scott Mandirola, deputy
24 cabinet secretary with the West Virginia DEP, used to be

1 water quality standards program manager, and director of
2 DWWM.

3 MS. COOPER: Thank you.

4 And Ed.

5 MR. MAGUIRE: I am Ed Maguire. I'm the
6 environmental advocate for DEP. I also serve as chair of
7 the Environmental Protection Advisory Council.

8 MS. COOPER: Thank you. Okay.

9 Now, let's go to our Environmental
10 Protection Advisory Council folks that are here and their
11 guests, starting with Angie.

12 MS. ROSSER: Good morning.

13 I'm Angie Rosser. I am the executive
14 director of the West Virginia Rivers Coalition.

15 And I have my colleague with me, Autumn.
16 She can go next.

17 MS. CROWE: I'm Autumn Crowe. I'm the
18 staff scientist for West Virginia Rivers Coalition.

19 MS. COOPER: Rebecca, can you chime in?

20 You were unmuted, Rebecca. Now it looks
21 like you are muted.

22 Okay.

23 Maybe she's having some audio difficulty.

24 Let's go to Jennie.

1 MS. HENTHORN: Jennie Henthorn. And I'm
2 an environmental consultant here on behalf of the
3 regulating community.

4 MS. COOPER: Thank you.

5 And now to our EPA folks, if you guys want
6 to go around.

7 Let's start with Denise.

8 MR. HARRIS: You missed Larry Harris.

9 MS. COOPER: Oh, Larry. Sorry, I just ---
10 oh, there you are. There's so many faces on the screen.

11 Larry, can you go next, please?

12 MR. HARRIS: Yeah.

13 I'm Larry Harris. I'm on the DEP Public
14 Advisory Council, representing environmental groups.
15 Originally, Trout Unlimited was why I was put on this
16 council.

17 MS. COOPER: Great. Thank you.

18 And now to Denise.

19 MS. HAKOWSKI: Actually, forgetting Larry
20 gave me a chance to find the unmute.

21 Hi, I'm Denise Hakowski. I work in Region
22 3 EPA. I work primarily with West Virginia Water Quality
23 Standards.

24 MS. COOPER: And now you tag somebody

1 else, Denise.

2 MS. HAKOWSKI: Greg.

3 MR. VOIGT: Good morning, everyone.

4 Greg Voigt. I'm the chief of the water
5 quality standards and total maximum daily loads section
6 with EPA's Region 3 office in Philadelphia.

7 James.

8 MR. RAY: Hey, I'm James. I'm at
9 headquarters Water Quality Standards program and the
10 region liaison for Region 3.

11 MS. FLEISIG: Hey, this is Erica Fleisig.
12 I am James's team leader in the Water Quality Standards
13 program at headquarters.

14 And I will tag John Healy.

15 MR. HEALY: Folks, I'm John Healy. I work
16 in the national branch at headquarters in the Water
17 Quality Standards program.

18 So we tend to just sometimes get questions
19 about criteria implementation, so that's why I'm here to
20 listen. Thanks.

21 MS. COOPER: Thank you.

22 MS. SANCHEZ-GONZALEZ: Hi, this is
23 Natalie. I am an employee with the Water Quality
24 Standards at EPA Region 3, Philadelphia.

1 I'll be working primarily with Delaware
2 Water Quality Standards, but I'm on the call just to get
3 some familiarity with human health criteria.

4 MS. COOPER: Natalie, did you get a copy
5 of the slides? Because you won't be able to see them
6 since you're on the phone.

7 MS. SANCHEZ-GONZALEZ: Yes.

8 MS. COOPER: Okay.

9 MS. SANCHEZ-GONZALEZ: I believe I
10 received that email, yes.

11 MS. COOPER: Great. Thank you.

12 MS. SANCHEZ-GONZALEZ: Thank you.

13 MS. COOPER: I think maybe --- Jamie, you
14 want to go? Because we have a few more folks.

15 MS. STRONG: Sure.

16 My name is Jamie Strong, and I'm the chief
17 of the Human Health Risk Assessment branch in the Office
18 of Water, Office of Science and Technology, where we
19 develop the human health criteria.

20 Colleen?

21 MS. FLAHERTY: Hi, I'm Colleen Flaherty.
22 I'm in Jamie's division, the health and ecological
23 criteria division, in the Office of Water at headquarters,
24 EPA.

1 MS. COOPER: And is Katie the last one?

2 MS. STRONG: Yes.

3 So Katie Bentley is on?

4 MS. BENTLEY: Hi, I'm Katie Bentley. I'm
5 currently working in the Office of Water at headquarters.

6 MS. COOPER: All right.

7 Thank you.

8 So I think that was everybody. Speak up
9 if we missed you.

10 Thanks, everybody, for doing that so that
11 we all know who we are. I know this is probably the first
12 time many of you have seen each other.

13 So we can go ahead and get started.

14 I'm going to make this screen smaller. I
15 sent out the slides to you all --- might have been
16 yesterday or Monday --- so hopefully, you've had a chance
17 to see them. If you can't see the screen, then you can
18 bring them up.

19 I am going to go ahead and start that.

20 Does everybody see the slide --- the first
21 slide now?

22 MS. FLAHERTY: Laura, did you send the
23 slides to the whole group or just the Region 3 folks?

24 MS. COOPER: I sent it to everybody. I

1 think I replied to the meeting invitation, so anybody who
2 was --- had the meeting on their calendar. So maybe it
3 didn't go --- I don't know if it went to everybody.

4 MS. FLAHERTY: I don't have it for some
5 reason.

6 MS. COOPER: Denise, could you forward
7 that to the EPA folks who might not have received it?

8 It's just a few --- it's not that many
9 slides, and it's mostly just to illustrate what we've been
10 looking at and then the questions that I --- I sent to you
11 all earlier.

12 So do you all see the opening slide now?
13 Oh, no, because I haven't shared my screen at all. Excuse
14 me.

15 Okay, screen two. That's better. That
16 makes more sense.

17 Do you see it now?

18 Okay. All right.

19 So --- This is weird. Hold on.

20 So we've been having these meetings
21 monthly since July. In June, we had a meeting with the
22 Environmental Protection Advisory Council to ask if they
23 were willing to conduct these meetings with us, which they
24 voted to do so. And that basically formed this human

1 health criteria workgroup.

2 I'm not going over, like, the whole
3 background of how we got to the workgroup. I'm just
4 basically starting at the --- the fact that we started it
5 in June. We're going to be looking through the human
6 health criteria in these monthly meetings until next
7 spring, when we will provide our recommendations to our
8 cabinet secretary as to what additional human health
9 criteria we feel like we should adopt or revise in our
10 rule. So that's how we got here in a nutshell.

11 And I want to encourage everybody --- I do
12 this every time we meet --- but, of course, there are many
13 of you who are you new --- just pop in any time. If you
14 have a question, just unmute yourself and speak up just as
15 if we were in a conference room together. This isn't a
16 formal setting. We don't need to worry about just popping
17 in and interrupting, no matter what. So that's totally
18 fine. And a lot of times, there'll just be questions that
19 will pop up. And that's completely understandable.

20 So this first slide here you received
21 earlier. It's just our agenda for the day. We already
22 did the first bullet on the agenda.

23 And now I'm going to go into a quick
24 review of our first few meetings so the EPA folks have a

1 general idea of what we've been talking about, what we've
2 been looking at, and also for our own --- for ourselves to
3 remember what we went over. But again, it's going to be
4 really brief.

5 We may only have --- I think the folks
6 from EPA may only be with us until 11:00 today, so we need
7 to get started. So it will be quick review. Then we're
8 going to go through questions that we have and any
9 additional questions that we can think of.

10 Okay.

11 So we started these meetings in July. We
12 looked in general --- at the calculation --- how the
13 calculation was done in the 2015 criteria. We recognized
14 that there was an increase in body weight, drinking water,
15 fish consumption rate. And then they used BAFs instead of
16 BCFs and they added --- they added relative source
17 contribution.

18 We also talked about the --- like it says
19 in our water quality standards rule in West Virginia ---
20 that we --- we have a risk factor for carcinogens of one
21 in a million as opposed to some other states around us
22 that do it differently. But that's right in our rules, so
23 that's how we do it, which is the same risk factor that
24 EPA uses. We also did some --- We went over each factor

1 in EPA's equation.

2 And we also talked about what other states
3 around us are doing right now. Pennsylvania seems to be
4 just about --- I believe they're completely finished
5 adopting the new --- the 2015 criteria, as well as
6 Virginia. But Virginia does use a different risk factor,
7 a 1/100,000 risk factor. Ohio is in the stages of
8 adopting water quality standards --- these new criteria.
9 And Kentucky is --- attempted it several years ago and
10 isn't sure what they're going to do next. That's kind of
11 where the other states around us are in general.

12 So just one quick slide here about the ---
13 the things that we reviewed in July. This is --- We put
14 up this slide back then and talked about all the parts of
15 the equation: you know, what's on the numerator of the
16 equation, what's on the denominator, and how that affects
17 the outcome. And again, we recognize that --- the parts
18 of it that have changed since the 2002 criteria: the water
19 intake increased to 2.4 liters; bodyweight increased from
20 70 to 80 kilograms; and, of course, bioaccumulation
21 factors were used instead of bioconcentration factors,
22 which is a big --- a big part of what we're talking about
23 today. The toxicity values were updated depending on if
24 there was new research in the databases that were used.

1 And again, like I said, they added relative source
2 contribution, which was a new thing from the previous
3 criteria.

4 So then in August, we looked into --- we
5 went through a really --- one specific EPA criteria
6 document from top to bottom so that we really understood
7 what those criteria documents said. And, you know, we
8 made it clear that looking at these --- looking at many of
9 these criteria documents, like 80 to 90 percent of it says
10 the same thing, and then that remaining bit specifically
11 talks about the chemical that it's about and how it was
12 --- how it was calculated specifically. But for the most
13 part, there's a lot of information in those documents
14 that's general to all criteria. So we learned from ---
15 from one of them specifically.

16 We also talked about IRIS updates that
17 have been made since the 2015 criteria revision,
18 especially the updates that are in reference to
19 benzo(a)pyrene, which affect several others. Those ---
20 Those toxicity changes would really end up multiplying the
21 criteria that depend on benzo(a)pyrene by about seven. So
22 that's an interesting change that's happened since 2015.

23 And we went into --- we talked about the
24 decision tree. We've looked at the --- basically the

1 framework decision tree each time that we've met. And we
2 talked about how EPA --- and let me go to the next slide
3 because this is kind of an example --- the decisions that
4 were made based on --- to determine what would be used for
5 bodyweight and what would be used for drinking water
6 intake.

7 So this slide is similar to one that we
8 looked at that month when we had Ross Brittain, our
9 environmental toxicologist, talk that day about the --- He
10 looked up the tables that were used to decide this.

11 And basically, for water --- and this is
12 the one for water intake --- they calculated an
13 age-weighted value for the mean and each percentile with
14 this data. And then they used the birth to 78 years ---
15 let me click again so you can see --- yeah, the adult ---
16 basically, it's that 90th percentile of adults --- adult
17 weights. And this is the --- from the exposure factors
18 handbook that was used to come up with this number.

19 And so we basically looked at how --- how
20 these decisions were made and where they came from. We
21 generally agreed that the way that EPA looked at
22 bodyweight and drinking water intake both made sense.
23 Although they were looked at a little differently, it made
24 good sense.

1 So we kind of moved on from there after we
2 reviewed those decision-makings (sic).

3 So then in September, we really wanted to
4 delve into bioaccumulation factors. We had --- Chris
5 Smith gave us a great overview of bioaccumulation factors,
6 what they mean and how they're different from
7 bioconcentration factors. And then Jennie Henthorn gave
8 us a good presentation on looking into the spreadsheets
9 that EPA has shared with us regarding the details of how
10 those were looked at. And we --- of course --- we talked
11 about questions that we wanted to ask at this meeting.

12 And like I mentioned, we've gone through
13 the decision tree framework several times throughout these
14 meetings so far. And this was an example of one of the
15 slides we used at the meeting when we went through a
16 criteria document from top to bottom.

17 We used anthracene. So we went through
18 that one with the decision tree, basically just showing
19 this is how you move through it. You look at the
20 hydrophobicity of the chemical, if it is moderate to high,
21 meaning greater than --- if the log K_{ow} is greater than 4,
22 you end up --- then you look at the metabolism has ---
23 it's highly metabolized; then you end up with looking at
24 Procedure 2, which has a hierarchy of procedures that

1 should be used depending on what data is available for
2 that chemical. And for this particular one, for
3 anthracene, EPA wasn't able to locate peer-reviewed
4 bioaccumulation factors or lab-measured bioconcentration
5 factors for all three trophic levels, so they used the BCF
6 for trophic level two and three to estimate the national
7 BAF.

8 And that was just an example. Basically,
9 went through --- each chemical was done in that kind of
10 --- going through that decision tree. And then in the
11 end, looking at what data was actually available and
12 coming up with a national BAF based on that.

13 So that is --- that concludes my quick
14 review of where we've been, what we've been looking at.
15 We've had some great discussions so far.

16 And we --- I want to get now into the
17 questions that we have for you all.

18 We --- I sent these out a couple weeks
19 ago, and then I sent the slides out this week so you kind
20 of get an idea of what we're --- what we're looking for
21 here.

22 So I don't know exactly who I'm addressing
23 specifically, who is going to speak the most. But
24 generally ---

1 So when we were looking at the data, it's
2 obvious that in many times, like, the log K_{ow} was used
3 even though that was generally the least-preferred method.

4 And we wanted to get a sense for the confidence
5 of the log K_{ow} method given that it was used a majority of
6 the time even though it was --- it's the least-preferred
7 method to use. And, you know, how did that preference
8 develop? What's better about a lab-measured BCF or a
9 field-measured BAF that would, if it was available, be
10 better than the log K_{ow}?

11 MS. FLAHERTY: I think I can start to
12 answer that question, Laura.

13 Can you hear me?

14 MS. COOPER: Yes.

15 Thank you.

16 MS. FLAHERTY: Sure.

17 So it sounds like you guys have done a lot
18 of --- had a lot of discussion about the hierarchy, so I'm
19 not going to go into that too much unless you want me to.

20 So like you said, we followed hierarchy
21 and we had this, you know, preferential based on our
22 methods. We used BAF estimates for the three trophic
23 levels if we had them. And then if we didn't, we'd want a
24 BCF method. And if we didn't have that, then we used the

1 K_{ow} method if it was a nonionic organic. And we followed
2 Procedure 1 or 3 from that framework.

3 So, you know, there are strengths and
4 limitations to all three of these ways, I would say. And
5 they are described in our technical support document from
6 2003. There is a table that summarizes the strengths and
7 weaknesses and limitations.

8 But I guess I would say --- So for when we
9 use the K_{ow} method for Procedure 1 or 3, when that
10 applied, we made sure to use peer-reviewed,
11 publically-available K_{ow} information from reputable
12 sources. So I think, you know, that was the way that we
13 ensured the accuracy with --- of the K_{ow} depends,
14 obviously --- you know, it's always dependent on the
15 quality of data that you have.

16 But we used primarily assessments from
17 Agency for Toxic Substances and Disease Registry, ATSDR.
18 We use that preferentially because it's such a --- it's a
19 reputable, publicly-available, peer-reviewed source. And
20 then if there wasn't an assessment for a chemical with
21 ATSDR, we then went to the hazardous substances databank.
22 So we use K_{ow}'s from those sources. So I think we feel
23 like they're --- you know --- they're accurate.

24 If we had multiple K_{ow}'s, we followed the

1 methods to do a mean K_{ow} . And all of that information is
2 available on the spreadsheet --- that I'm sure you guys
3 have looked at a lot --- that we posted online.

4 Does that help?

5 MS. COOPER: Yeah.

6 When you have data from a study that is
7 not available, how did you determine what the K_{ow} was
8 then? Like, if you didn't know whether a study on a
9 dry-weight basis, how would you determine lipid content at
10 that point?

11 MS. FLAHERTY: For K_{ow} ? The K_{ow} method?

12 MS. COOPER: Yeah.

13 MS. FLAHERTY: Sorry, I'm not following.

14 MS. COOPER: Those studies that you might
15 --- you may not know whether --- like, the study doesn't
16 actually report whether it was dry weight or wet weight.
17 So how do we determine at that point what the lipid
18 content is --- go through the framework? Like, if the ---

19 Sorry, I can move through here.

20 Maybe we can save that for another --- I
21 have a slide later on where we have the ---

22 MS. FLAHERTY: Okay.

23 MS. COOPER: --- different data that'll
24 show what I'm talking about.

1 MS. FLAHERTY: Okay.

2 MS. COOPER: Does anybody have any
3 follow-up questions on this question about K_{ow}, the use of
4 K_{ow}? I mean, I know this is something we've talked about
5 a lot, but --- the log K_{ow} was the least-preferred method
6 in the hierarchy, but it was the most used. Was there
7 anything else that would help to clarify that for anyone?

8 All right.

9 MR. BRITTAIN: Laura --- Actually, I have
10 a follow-up question. I'm sorry, this is Ross.

11 I have a follow-up question on that. Not
12 necessarily about that specifically, but just for EPA in
13 general because, you know, what it is ---

14 It seems like you went to K_{ow} a lot because
15 there wasn't a lot of good research done on the things
16 that you really need in calculating your BAF directly.

17 So I was wondering: Do you know if there
18 is an impetus now within EPA to fund more research along
19 those lines to get better data for us to use?

20 MS. FLAHERTY: Gee.

21 Jamie, do you happen to know that? You've
22 been more plugged into the ORD (phonetic) work.

23 I mean, I know we're working on specific
24 cases. For example, some of the fluorinated chemicals,

1 there's great interest in understanding their
2 bioaccumulation. And so we have been working on a couple
3 of specific chemicals to look at bioaccumulation.

4 I believe our lab in Duluth --- the Office
5 of Research and Development lab in Duluth, Minnesota, does
6 some bioaccumulation work. But I'm not sure if, you know,
7 the update of the human health criteria has spurred any of
8 that research on.

9 I think it's more kind of emerging
10 contaminate bioaccumulation. And metals, there's been a
11 great amount of work in looking at bioaccumulation of
12 metals, to get our arms around that.

13 MR. BRITTAIN: So emerging contaminants?
14 Am I hearing PFAS then?

15 MS. FLAHERTY: That's the hot one lately,
16 was that they're --- you know --- So it's hard to define
17 emerging contaminants.

18 MR. BRITTAIN: Yeah.

19 MS. FLAHERTY: It's --- A lot of people
20 say it's anything that's not regulated, which is a lot of
21 chemicals.

22 MR. BRITTAIN: Yes.

23 Okay.

24 Thanks.

1 MS. FLAHERTY: Yeah.

2 Jamie, do you have anything to add?

3 MS. STRONG: No. I was just going to say
4 the same thing. It's more concentrated on chemicals that
5 are kind of the --- the emerging contaminants grouping of
6 ---- sorry, I have a puppy.

7 So like you said, Colleen, that in a
8 nutshell is where I've seen the ORD research focusing.

9 MS. FLAHERTY: Thanks.

10 MS. COOPER: Do we have any more questions
11 on this topic?

12 Just real quick since we've brought up
13 PFAS.

14 Is there any plan to incorporate PFAS into
15 the human health criteria updates?

16 MS. FLAHERTY: Great question.

17 MS. STRONG: This is Jamie.

18 As part of our PFAS action plan that's
19 available online and part of the update that was put out,
20 I think, in February of last year, we've put forward that
21 we would be looking at the data available for the
22 development of aquatic life and human health criteria for
23 PFAS. And so we're looking into whether there's the data
24 there to do that.

1 MS. COOPER: All right.

2 Thank you.

3 Does that --- Is there a timeline set on
4 that process?

5 MS. STRONG: In the action plan ---
6 Colleen, correct me if I'm wrong --- there's too many
7 deadlines related to PFAS these days --- but I believe in
8 2021 is the date that we put out that we would look at the
9 data and see if there's a potential for development there
10 that's not in the criteria. We would be looking at
11 bioaccumulation information and toxicity information,
12 building off of what we've been doing for every, like,
13 regular determination.

14 MS. COOPER: All right.

15 Thank you, Jamie and Colleen.

16 MS. FLAHERTY: Yeah.

17 There's also work being done on the
18 aquatic life side for PFOA and PFAS. And that's
19 describing the PFAS action plan as well. I think our date
20 for those criteria are in 2022, to determine if we can
21 develop aquatic life criteria.

22 That's a much more complicated process, I
23 think, because we can't just pull a reference dose off the
24 shelf for those. We have to look at all of the aquatic

1 toxicity studies and then --- and do the species
2 distribution ourselves. So that's a pretty big
3 undertaking. And I bet a lot of states would be
4 interested in that one as well.

5 MS. COOPER: All right.

6 Thank you.

7 Let's move on to the next question.

8 So there were several times when data was
9 used from a study for some chemicals but not for others.
10 And it was --- we were kind of wondering how that
11 happened.

12 I don't know if that's my audio that's
13 doing that.

14 But for instance, there was a study,
15 *Freitag et al.*, conducted in 1985. It was used for ---
16 Can you guys hear me okay?

17 MS. FLAHERTY: I can. I don't hear
18 whatever you're hearing.

19 MS. COOPER: All right. Good.

20 It was used for several chemicals. But
21 the paper actually reported many others that are under
22 human health criteria. And we were wondering how that
23 data was --- was accessed and why it would have shown up
24 for some but not for others.

1 MS. FLAHERTY: Yeah, that's a good
2 question.

3 So we used the Arno and Gobus (phonetic)
4 Database and Environment Canada database. And for
5 example, for the Freitag paper, the ones from the Freitag
6 paper that were included in the Arno and Gobus database or
7 the Environment Canada database were included in our raw
8 data spreadsheet that you guys have access to.

9 But for some reason, Arno and Gobus didn't
10 include all of the data from the Freitag paper. And I
11 haven't had the chance to look into why that was
12 necessarily.

13 But I do know that they --- Arno and Gobus
14 rated many of the data points from this paper as poor and
15 they were given a poor score. So they did a data
16 evaluation as they entered things into the database. And
17 they were rated poor because they were considered to have
18 insufficient exposure duration and they weren't at
19 steady-state. They --- This Freitag paper had data for
20 algae, which is trophic level one, which we actually don't
21 consider in the BAF calculation. We look at two, three,
22 and four trophic levels.

23 So we looked at the fish data for those
24 that were included in the Arno and Gobus database and the

1 Environment Canada database, which was a subset of these.
2 But for those, they were considered not to be at
3 steady-state.

4 And so we didn't use any of the Freitag
5 data to develop national bioaccumulation factors for those
6 reasons.

7 MS. COOPER: Okay.

8 Is that --- I'm not sure --- Is that
9 evident in the spreadsheet --- that data, Freitag data?
10 Was it?

11 MS. FLAHERTY: Yeah.

12 So I don't know if you have the
13 spreadsheet up.

14 If you look at the ---

15 MS. COOPER: I have part of it.

16 MS. FLAHERTY: Okay.

17 So the tab that's called Raw BAF and BCF
18 would summarize all of the raw data we looked at. And
19 then you kind of go through the tabs from left to right to
20 get --- to see the baseline calculations.

21 MS. COOPER: Right.

22 MS. FLAHERTY: Sorry, the BAF
23 calculations.

24 In the version that I have, which I think

1 is the one that you have --- I was going to double check
2 that, and I didn't have time --- there are some cells that
3 are shaded gray.

4 Do you see that in your version, on the
5 National BAF tab? Those were considered unverified. And
6 in most cases, that was due to units not being given or
7 other, kind of, fundamental flaws.

8 MS. COOPER: Okay.

9 MS. FLAHERTY: And we just didn't have
10 confidence in the data. So we --- you know, we considered
11 what Arno and Gobus --- how they evaluated the data. We
12 also looked at --- against the data quality guidelines
13 presented in the TSD from 2003 ---

14 MS. COOPER: Right.

15 MS. FLAHERTY: --- to make decisions about
16 that. But we didn't end up using any of the Freitag data.

17 MS. COOPER: Okay.

18 Do we have some follow-up questions on
19 this --- this question? I know that Jennie is a lot more
20 familiar with this --- part of this than most of us.

21 So you have any questions, Jennie --- or
22 anyone?

23 MS. HENTHORN: Not for now.

24 MS. COOPER: Okay.

1 So another question we have is if you have
2 any plans to recalculate these criteria due to recent
3 updates in the toxicity research from the IRIS database
4 or, like --- kind of like Ross mentioned before --- to
5 recalculate BAFs based on any new data.

6 If no, we've noticed that a lot of the
7 bioaccumulation factor data was from a long time ago. And
8 I know that you've used those --- those specific
9 databases. But some of those databases have been updated
10 since we accessed them. So we were wondering if that's
11 going to be looked at again.

12 MS. FLAHERTY: We would really like to try
13 to find a way to more efficiently be able to update
14 criteria of aquatic life and human health. And, you know,
15 unfortunately, we just haven't --- It would be great, for
16 example, if every time a new IRIS assessment was published
17 that, you know, we could go in and just update our number.
18 Once you have the methods established, it's a pretty easy
19 calculation to do. But we just haven't been able to do it
20 that efficiently.

21 I mean, in 2015, that was the first time
22 we'd followed the 2000 method. So it was 15 years later
23 that we finally were able to put out some new numbers.
24 And before that, they were very old criteria.

1 So I think --- so the answer is no. Right
2 now, we don't have any plans to update any of these.

3 So that doesn't mean that you can't take
4 the latest IRIS value and use that. But I will say the
5 ones that we didn't update in 2015 were some of the, I
6 guess, harder ones: a lot of metals, PCBs. And I think if
7 we were to do kind of a heavy lift in updating human
8 health criteria, those would probably be the next ones
9 that we would tackle along with some of the emerging ---

10 MS. COOPER: Do you want to address the
11 ones that weren't updated in 2015 first?

12 MS. FLAHERTY: Yeah.

13 I mean, it's really --- so it's a resource
14 issue for us and --- as it is with everybody on the phone,
15 I'm sure --- and it's just the process that we have to
16 follow. So these all go into a peer review; they go out
17 for public comment. There's a lot of process internally
18 and --- you know, just to get the publication out ---
19 published and registered.

20 MS. COOPER: And who ---

21 MS. FLAHERTY: It's not a great answer. I
22 wish we were more nimble than that, you know.

23 MS. COOPER: Okay.

24 So you kind of touched on it.

1 Was --- Is there a --- Is there a --- Will
2 there be a focus on trying to revise that process to make
3 it more --- more nimble?

4 MS. FLAHERTY: I don't anticipate it
5 getting any easier. In fact, I think it's going to be
6 harder as we go.

7 MS. COOPER: Right.

8 I mean, because the methodology was
9 developed, and then 15 years later, the criteria came out.
10 So that's a big chunk of time. And in that time, of
11 course, new research was being done. And ---

12 MS. FLAHERTY: Yeah.

13 MS. COOPER: --- it's hard to keep up.

14 MS. FLAHERTY: Right.

15 You know, it's something we put in a
16 tremendous amount of thought into how we might do it.

17 You know, the only thing I can think of
18 doing --- this isn't something --- this is just me
19 talking; it's not something that we have talked about, you
20 know, with my management or anything --- but if you could
21 somehow have a table of all of the inputs online and then
22 just be able to swap out, you know, those inputs for the
23 latest science, that would be the way to do it, I think.
24 But that's my opinion.

1 MS. COOPER: I mean, it seems like that
2 would be kind of the --- might have been the goal of
3 having that big fancy spreadsheet, that you could replace
4 things ---

5 MS. FLAHERTY: Yeah.

6 MS. COOPER: --- in that.

7 MS. FLAHERTY: Right.

8 MS. COOPER: I have a question --- Go
9 ahead.

10 MS. FLAHERTY: No, go ahead.

11 I was just going to say like I said, you
12 know, if you got a new tox value that is peer-reviewed,
13 publically-available, it's a final number from IRIS, you
14 know, go for it if it's more current.

15 MS. COOPER: Okay.

16 MR. HARRIS: Can I make a point?

17 MS. FLAHERTY: Sure.

18 MS. COOPER: Yes, Larry.

19 MR. HARRIS: This is Larry.

20 You know, as an old scientist, I'm
21 familiar with a lot of data that are still good.

22 Is our feelings that old data is not as
23 good as new data, isn't that data ageism?

24 MS. FLAHERTY: That's a great point.

1 Yeah, you know, I think --- I think where
2 it makes the most difference is probably not in the
3 bioaccumulation area, but probably in the toxicity area.
4 So if you've got, you know, a brand new IRIS assessment or
5 something of that caliber that takes a look at all of the
6 toxicity information over the decades and comes to, you
7 know, a decision on the critical effect, to me, that would
8 --- well, not just to me but to --- according to our
9 method, you know, that would trump everything else,
10 really, a brand-new assessment like that that would
11 consider all of the old studies in addition to the new
12 studies.

13 I think, you know, some of the older
14 bioaccumulation studies, you have to look at data quality.
15 Sometimes, the --- they weren't conducted --- and I'm not
16 trying to be ageist here at all --- but sometimes, they
17 weren't conducted up to snuff compared to our data
18 guidelines.

19 But, you know, we still use a method for
20 aquatic life criteria from 1985 because it's a fantastic
21 method that the world uses, frankly. So it's not to say
22 that there aren't things that could be improved and
23 whatnot. But it's still --- you know --- it has stood the
24 test of time. And I think a lot of these data can do

1 that.

2 MR. HARRIS: Thank you.

3 MS. FLAHERTY: Sure.

4 MS. HENTHORN: It's Jennie.

5 Do you mind if I hop in and ask a
6 question?

7 MS. FLAHERTY: Sure.

8 MS. HENTHORN: Okay.

9 This is the one that kind of troubles me.
10 Because it seems like to make the determination of
11 whether you're going to use K_{ow} or bioaccumulation factor
12 data, you've first got to have a modern database. And it
13 seems like relying on the Arno and Gobus and Environmental
14 Canada data, if it hasn't been updated, you don't really
15 know if there's reliable BAF data that could be used.

16 So I think that that's --- that's my
17 concern. You defaulted to the K_{ow} because you don't have
18 a modern database to use. And if there's not an effort to
19 ever do that --- There's a bunch of BAF, BCF data that's
20 been done in the last 20 years, but it doesn't sound like
21 there's any focus on compiling that.

22 MS. FLAHERTY: Right now, that hasn't been
23 a priority for us. It could be if we get, you know,
24 requests from folks like you to do that. I mean, that's

1 really --- You know, it's something we could do in the
2 future, but it hasn't been a priority right now.

3 This --- The Arno and Gobus database and
4 Environment Canada databases are the same ones that we use
5 in our pesticide and toxics office as well to --- to
6 develop BAFs. So it's a --- it's a well-used,
7 well-respected database. But we don't --- right now, as I
8 said, we don't have plans to update it.

9 It doesn't mean that you couldn't use the
10 one that's --- if there's a more current version out there
11 right now. I'm not sure if there is.

12 MS. HENTHORN: I haven't been able to find
13 where those are living and breathing databases like some
14 of the others, like IRIS.

15 MS. FLAHERTY: Okay.

16 That, we can probably help track down.

17 Let me look in the ---

18 We had a person on our staff who was our
19 guru in bioaccumulation --- all things bioaccumulation,
20 and she left the agency earlier this summer. So I'm
21 pinch-hitting on this today. I apologize.

22 MS. HENTHORN: That, I understand.

23 MS. COOPER: So along the lines of --- of
24 bioaccumulation data, we have heard that Delaware is

1 working on using their --- like, different bioaccumulation
2 factors. I think that they're putting their
3 bioaccumulation factors out to public notice maybe next
4 month.

5 And I think --- Is it Natalie that we have
6 on here that is --- that works directly with Delaware?

7 Can you give us some update on where
8 Delaware is at with their BAFs?

9 MS. SANCHEZ-GONZALES: So based on my last
10 discussion with Delaware, it looks like the BAFs have been
11 developed but they're still undergoing, I guess, internal
12 review. They do, I think, plan to public notice them at
13 some point in the coming weeks. But that's still --- it
14 still hasn't been done yet.

15 MS. COOPER: Are they doing that with
16 newer data, with newer research?

17 MS. SANCHEZ-GONZALEZ: Yes, I believe they
18 are. Yes.

19 MS. COOPER: So West Virginia folks, I
20 mean, I know we've talked about this quite a bit. But
21 this is kind of newer information for us, that it seems
22 like maybe Delaware is doing a lot of work that we can
23 look at pretty soon and see what they're doing. Because
24 they're also concerned that the bioaccumulation factors

1 are based on data that is pretty dated --- or maybe not
2 dated, maybe just aged, you know, for Larry. We don't
3 want to be ageist with data. But there might be more
4 information out there that could better inform
5 bioaccumulation factors. I think we might be able to see
6 if Delaware is --- what they're doing on that and see if
7 that can help us too.

8 Do we have any more questions on this
9 point before we move on to the next thing?

10 All right.

11 Let's move on.

12 I don't know why --- For a second there, I
13 just muted myself just as I was getting ready to speak.

14 Okay.

15 So thanks for that discussion, Colleen and
16 everyone.

17 So I --- This last one, I have part of the
18 database --- or part of the spreadsheet on the next slide.

19 It was too big to put on this one.

20 But just to preface this --- this
21 question:

22 So when we get down to the bottom of the
23 decision tree, when we're moving among the bottom row and
24 we're deciding between using BAF, BCF, or the log K_{ow} to

1 determine the national bioaccumulation factor --- You kind
2 of spoke about this a little bit before, but can you tell
3 us more about how you moved through this? We can see in
4 the spreadsheet what decisions were made, but it's kind of
5 hard to figure out how --- how you went --- decided in one
6 way with one chemical and went a different way with
7 others. We kind of talked about this a little before on a
8 call that we had with you guys last month.

9 But generally, when we look at this
10 spreadsheet --- I hope you guys can see it all right.
11 It's as big as I can make it --- this part of the
12 spreadsheet --- And this is just the top of it. It's not
13 any specific area. It's just in alphabetical order.

14 But when we look at these things, we see
15 sometimes you have trophic level three data and trophic
16 level four data or maybe you don't have two or maybe you
17 have it but you went with the K_{ow} anyway for different
18 reasons. And we just were curious about how --- how these
19 decisions were made between the methods when you got to
20 the bottom and you can use --- you used the data that
21 you've got.

22 MS. FLAHERTY: So I think you brought up
23 two examples. Maybe it would helpful if we walked through
24 those.

1 MS. COOPER: Great. That would be great.

2 MS. FLAHERTY: Okay.

3 So you asked about aldrin and
4 benzo(a)anthracene. So let's do aldrin first.

5 So for aldrin, there are no
6 bioaccumulation factors available for the two trophic
7 levels, right?

8 MS. COOPER: Right.

9 MS. FLAHERTY: And then --- sorry, I
10 haven't had time with this --- then it looks like there's
11 one BCF.

12 MS. COOPER: For trophic level three?

13 MS. FLAHERTY: Right.

14 And so we didn't have all of the BCF
15 trophic levels represented.

16 Now, we can only use the K_{ow} method if the
17 chemical falls under Procedure 1 or 3, if it's applicable
18 using the framework.

19 And so for aldrin, the K_{ow} method was
20 applicable because it fell under Procedure 1.

21 You know, I think it would be helpful on
22 this table if we had included which procedure --- like a
23 column with procedure that we --- that was applicable to
24 each chemical. That might make it easier to see.

1 MS. COOPER: Right.

2 MS. FLAHERTY: So we --- So for aldrin,
3 the K_{ow} method was applicable. So we used that even
4 though we had the one BCF trophic level because the K_{ow}
5 method was applicable. We felt like that was a better
6 representation for a national recommendation, to use that
7 method.

8 For benzo(a)anthracene, the K_{ow} method was
9 not applicable. And we used Procedure 2 following the
10 hierarchy. So there were two BCFs --- If you look in the
11 table, there are two BCFs for benzo(a)anthracene: 3,800
12 and 21,000. But --- it's not in your spreadsheet ---
13 those were unverified, meaning there were data quality
14 issues with those.

15 So if you want, I have a spreadsheet that
16 has the unverified data shaded in gray. I think it's the
17 one that's on the web.

18 MS. COOPER: No --- And you mentioned that
19 before.

20 Is --- Do we have --- I'm kind of asking
21 Jennie here, who's the most familiar with the spreadsheet.

22 Do we have the data that's shaded in gray
23 for when it was unverified or it was not used?

24 MS. HENTHORN: Yeah, I have to admit, I

1 removed the gray shading because I didn't know what it
2 was. I don't think there's anything that says that gray
3 equals unverified.

4 MS. COOPER: Okay.

5 MS. FLAHERTY: Yeah, it's --- I had to
6 look for it too, Jennie. But it says it in the data
7 dictionary. On the first tab, it says the gray --- the
8 grade shade, results were based on unverified data and is
9 not used for criteria development.

10 MS. HENTHORN: Thank you.

11 I missed that. I was actually --- When I
12 did this little thing, I was trying to get it as simple as
13 possible. So yeah, there was ---

14 MS. FLAHERTY: Right.

15 No worries. This is complicated stuff. I
16 mean, it's good to talk through it.

17 Okay.

18 So we have two BCFs for
19 benzo(a)anthracene.

20 Now, so instead --- because we didn't have
21 --- so it didn't --- benzo(a)anthracene, we can't use the
22 K_{ow} method. And the two BCFs we had were not verified.
23 They had data quality issues.

24 So what we ended up doing for those benzos

1 was using benzo(a)pyrene as a surrogate for the other PAHs
2 (phonetic). And that approach was consistent with another
3 approach that suggested that benzo(a)pyrene is a good
4 indicator. And we actually --- as you know, we talked
5 about earlier --- we used the tox value for benzo(a)pyrene
6 for all those other benzos as well.

7 So that's how --- So in the end, for that
8 one, we ended up using the benzo(a)pyrene BCFs to derive
9 the BAF value for it, for benzo(a)anthracene.

10 Is that clear? That was a lot.

11 MS. COOPER: Yeah, that actually helps a
12 lot.

13 MS. FLAHERTY: Okay.

14 MS. COOPER: That clears a lot up for me.

15 And yeah, it's a lot of complicated
16 information. And we're ---

17 MS. FLAHERTY: Yeah.

18 MS. COOPER: --- doing our best to
19 understand it. But there --- it's really helpful to have
20 you here to explain and talk to us about it.

21 Do we have any more questions along the
22 lines of this while we have this part of the spreadsheet
23 up?

24 MS. HENTHORN: Just for clarity, how did

1 you draw the line between verified and unverified? What
2 did you need for it to be considered verified?

3 MS. FLAHERTY: Yeah.

4 So in most cases, unverified was the units
5 were not available or it wasn't at steady-state. And that
6 was identified in the Arno and Gobus.

7 So they had, I think, three rankings for
8 criteria.

9 If you want, I can go back and look for
10 the data quality guidelines. I have a write-up of that. I
11 don't have it in front of me, but I can share that with
12 you if you'd like.

13 I know Arno and Gobus had three kind of
14 tiers: poor, better, best kind of things.

15 And then we also evaluated data against
16 our --- against the guidelines in the support document
17 from 2003.

18 MS. COOPER: All right.

19 Thank you.

20 Anything else before we move on to
21 additional questions? Like any questions that popped up?

22 MS. MCPHAIL: Hey, Laura, can you hear me?

23 MS. COOPER: Yes, I can.

24 MS. MCPHAIL: Wow, I can't --- Oh, that

1 worked.

2 I had one. And I'm sorry if I'm looping
3 back around to something that Colleen had already talked
4 about. This is Rebecca with the West Virginia (audio
5 broke).

6 So just a quick question with regard to
7 the ways that the EPA has identified to come up with the
8 human health criteria.

9 Does each of those methods, in your
10 opinion, result in a safe criterion that the EPA would
11 accept in establishing future criteria?

12 MS. FLAHERTY: I kind of missed the ---
13 the middle of that question.

14 So I heard the part --- If you use what
15 will it result in a safe criterion?

16 MS. MCPHAIL: Well, the EPA identified
17 four ways, essentially, to establish the criteria.

18 So presumably, you know, using one of
19 those, do you --- Does each of those methods result in a
20 safe criterion that the EPA would accept for future human
21 health criteria proposals?

22 MS. FLAHERTY: So we didn't --- Are you
23 saying that if you calculated the BAFs using any of the
24 four --- well, it's actually three --- ways, that we

1 would ---

2 MS. MCPHAIL: Yeah.

3 MS. FLAHERTY: No, I --- So we follow a
4 process that had, you know, the framework that we talked
5 about in the beginning, the figurative tree one from the
6 TSD.

7 So we had six different procedures. And
8 we followed the process based on the type of chemical and
9 where it fell out into those procedures, which one was
10 appropriate. So we --- it wasn't a haphazard kind of
11 thing where we picked, you know, BCF over K_{ow} just
12 because. So we followed the steps in the method.

13 Is that --- I hope that really answers
14 your question.

15 MS. COOPER: Maybe, like, you're saying
16 that as long as we would follow --- we were following
17 those same steps, getting to the same conclusion, then
18 with your data, maybe --- That's what Rebecca's asking,
19 maybe.

20 MS. FLAHERTY: Oh.

21 MS. MCPHAIL: Yeah, I think that's right.

22 MS. COOPER: Yeah.

23 So if we went through --- if we were ---
24 had your data and we went through the same framework and

1 came to, you know, Procedure 1, 2, 3, or 4, relying on
2 method BAF, BCF, or the log K_{ow}, would any of those ---
3 would that be something that we could do?

4 I'm not sure if that's exactly what
5 Rebecca was asking.

6 MS. MCPHAIL: I think that's on it, Laura.
7 Thanks.

8 MS. FLAHERTY: Yeah, I think we want you
9 to use, you know, the best scientific information you
10 have. And if you feel like there's a reason you can't
11 use, you know, something that we did and you've found
12 something better and it's defensible, I don't think we'd
13 have a problem with that.

14 Getting a little bit out of my area
15 because the standards in health protection folks on the
16 phone are much better at this than I.

17 MS. COOPER: Is there somebody else that
18 wants to speak to that?

19 MS. HAKOWSKI: I think Colleen got to the
20 point when she said it's defensible. So, I mean,
21 certainly, you have options for reviewing the criteria.
22 But when it comes down to it, it's like, you know, we're
23 going to need to look at the information and make sure
24 --- I mean, it's probably best as you're moving along if

1 you want to get our opinions on things and then moving on
2 rather than, like, taking it to the end and then us going,
3 this doesn't work.

4 But Colleen got the point when she said it
5 needs to be defensible --- so you're --- and the best
6 science.

7 I mean, you know, it's kind of a
8 combination of things. It's kind of hard to answer that
9 question in a vacuum.

10 MS. COOPER: Right.

11 And as Colleen said at the beginning of
12 her answer, we couldn't just select one of the procedures
13 willy-nilly. We would have to go --- you know, we would
14 have to use the framework and use the ---

15 MS. HAKOWSKI: Right.

16 Because every chemical is different.

17 MS. COOPER: Right.

18 MS. HAKOWSKI: In the case.

19 MS. FLAHERTY: You know, I am afraid I
20 have to jump off in a minute.

21 Are there any final questions for me?

22 MS. COOPER: So any additional questions
23 that anyone has while Colleen is still with us?

24 MS. HENTHORN: Is there --- Is there

1 something that we could get that could tell us which
2 procedure you used for each of the chemicals? Is that in
3 the overall guidance document or somewhere that I just
4 had missed it?

5 MS. FLAHERTY: It's in each of the
6 criteria documents for sure.

7 MS. HENTHORN: Okay.

8 So it'll say Procedure 1 through 4?

9 MS. FLAHERTY: Yes.

10 MS. HENTHORN: And it's one through six?

11 MS. FLAHERTY: Yeah. Got you.

12 But I agree that it'd be really handy to
13 have it on that table so that you don't have to look up
14 every one of the 94 documents. So let me see about
15 getting that added to the spreadsheet as a column. And
16 if that --- if that works for you.

17 MS. HENTHORN: That's great. Just knowing
18 that I can go back to those documents. I hadn't put two
19 and two together with that. So thank you.

20 MS. COOPER: Well, it is in the documents.
21 But having it as a column in the spreadsheet would really
22 be helpful.

23 MS. FLAHERTY: Yes.

24 MS. COOPER: Because the documents are

1 long, and it's kind of hard to find the chemical specific
2 info in the documents. But I just brought this slide up
3 because that little paragraph there is what came from the
4 document. That's --- That's the one where they say,
5 "Here's actually what we did for anthracene."

6 But again, if that was part of the
7 spreadsheet, that would be a huge help.

8 MS. FLAHERTY: Okay. I can do that.

9 And just one note about navigating those
10 criteria documents. If you go to the table of contents,
11 the contents are hyper-linked to different sections of
12 the paper. So you can just click on them.

13 MS. COOPER: Yeah. Thanks.

14 MS. FLAHERTY: Okay.

15 MS. COOPER: And once you become familiar
16 with them, it's easy to find where they are.

17 Go ahead, Angie.

18 MS. ROSSER: Just, I know Colleen needs to
19 go. The EPA folks, I mean. We've got some questions,
20 some related to BAFS, some not directly.

21 Would you be open to coming back and, I
22 guess, would the work group be open to having them back?

23 MS. FLAHERTY: Yeah. I sure would be. I
24 mean, I think this is our job to help you guys figure

1 this stuff out and see if it works for you. So if I'm
2 available.

3 MS. ROSSER: We really --- we really
4 appreciate it. And I think that we would absolutely want
5 to have --- have you back whenever we have some more
6 questions for you.

7 UNIDENTIFIED MALE: And could I add to
8 that? If you can send some written questions ahead of
9 --- ahead of future meetings, that would be helpful too.
10 We'd be --- maybe get through them more quickly.

11 MS. FLAHERTY: Yeah.

12 MR. BRITTAIN: That was actually going to
13 be my --- my comment. Because I have a follow-up
14 question. But in the interest of time and Colleen's
15 schedule, I was thinking that it would be better to maybe
16 email the questions and then see --- and you could
17 respond.

18 So Laura, is it okay with ---

19 MS. COOPER: Yeah. Of course.

20 MR. BRITTAIN: I think --- I think I have
21 everybody's email. If not, I'll email you and ask for --

22 MS. COOPER: Right.

23 You can just reply all to any of the
24 meetings.

1 MR. BRITTAIN: Yeah.

2 MS. COOPER: And I'll take an email to all
3 of us.

4 MR. BRITTAIN: Yeah. And I'll ---

5 MS. FLAHERTY: Can I just --- I just want
6 to make one suggestion. Let's just follow the normal
7 channels that you usually do for asking questions about
8 criteria or standards. So whether, you know, that's
9 going through Region 3 before it comes to headquarters or
10 whatever. I just don't want to get everybody, you know,
11 mixed up with emails, so ---.

12 MS. COOPER: Right.

13 MS. FLAHERTY: And so the normal ---

14 MS. COOPER: Ross and the other members of
15 the work group have access to our emails, the members of
16 the work group. And then I would send anything to
17 Denise.

18 MS. FLAHERTY: Okay.

19 MS. COOPER: And then Denise can figure it
20 out from there.

21 MR. BRITTAIN: Yeah.

22 MS. FLAHERTY: That'd be great.

23 MR. BRITTAIN: Yeah.

24 Maybe, Laura, that's what I'll do, is I'll

1 email my question to you, Laura. And then you can
2 forward it out to anybody that you deem appropriate.

3 MS. COOPER: Okay.

4 MR. BRITTAIN: Thank you.

5 MS. COOPER: And you can feel free, Ross,
6 to send that to our group. Because that's --- that's
7 everybody that's in our work group.

8 MR. BRITTAIN: Okay. Sounds good.

9 MS. FLAHERTY: Okay.

10 I'm going to jump off. But it's been nice
11 to meet you all. And I'm sure we'll be in touch soon.

12 MS. COOPER: Thank you, Colleen.

13 MS. FLAHERTY: Okay. Bye.

14 MS. COOPER: So while we have other EPA
15 folks still on the call, did we have any other questions
16 that might be appropriate for them?

17 MS. CROWE: Yes, I have a question.

18 MS. COOPER: Yes, Autumn?

19 MS. CROWE: We talked a little bit about
20 Delaware updating their criteria. They're actually going
21 through and assigning BAFs based on more recent data.

22 Do we know of any other states that are
23 doing something similar? Are there any other states that
24 are looking as deeply into this as West Virginia?

1 MS. COOPER: I am looking to see if
2 anybody un-mutes themselves. But in the meantime,
3 Delaware is the only one that I know of. And that's a
4 Region 3 state, which is probably why I'm more --- why
5 I've heard about it. Well, I know because I have talked
6 about it with Denise and Greg a couple weeks ago.

7 But do any of the EPA folks know of any
8 other states that have
9 --- are doing what Delaware is doing or doing what West
10 Virginia is doing as far as looking into this in greater
11 --- greater detail?

12 MS. FLEISIG: This is Erica Fleisig with
13 headquarters.

14 I can just add --- I don't have them all
15 in my head. And I think for the most part, states that
16 are updating human health criteria are just, you know,
17 using our recommendations. Possibly tweaking the fish
18 consumption rate or the cancer risk level, but not so
19 much digging into the BAFs or the toxicity values on
20 their own.

21 You all might be familiar with Florida's
22 effort a couple years ago. They were --- They were
23 adjusting some of the BAFs for state-specific information
24 like percent lipid content. They did a couple-year

1 effort to, you know, gather data and then adjust our
2 national recommendations for Florida.

3 But they ended up getting held up with
4 some, you know, litigation within the state. And now
5 they're exploring a different fish consumption rate,
6 possibly --- or exploring doing a fish consumption survey
7 to understand how much fish people in the state are
8 eating. So that effort is ongoing.

9 But I would say it's --- yeah --- it's
10 more the rare occurrence where a state is looking to
11 adjust or, you know, delve deeply into the BAFs.

12 MS. COOPER: Thanks, Erica.

13 MR. BRITTAIN: I guess I could actually
14 ask my follow-up question, then, to the rest of the folks
15 that are still here with EPA.

16 One of my --- my concerns was the
17 potential for cumulative impacts of various compounds
18 being in the water at the same time. You can think of
19 PAHs, because PAHs usually come in a mixture, not just
20 one at a time. And there's several PAHs that we don't
21 have health criteria for. Like you said, they aren't
22 even on the list.

23 And I know you can --- you can account for
24 some of that in certain --- in terms of, like, your

1 cancer target risk level in terms of it's one to 100,000
2 or one in a million, et cetera.

3 But on the non-cancer side, are you guys
4 using a hazard quotient of 1 or 0.1 for overall to try to
5 help account for some of those cumulative impacts? And
6 I'd like to see what your answers are.

7 MS. FLEISIG: I can chime in and then
8 maybe John Healey also. It's probably more of a Colleen
9 question.

10 But I believe we use one. But you're
11 probably also familiar with the fact that for non-
12 carcinogens we have the relative source ---

13 MR. BRITTAIN: Yeah.

14 MS. FLEISIG: --- component. That's just
15 to account for the same pollutant coming from other
16 sources.

17 MR. BRITTAIN: Uh-huh (yes).

18 MS. FLEISIG: I think mixtures is
19 something we've never, you know, on the human health and
20 aquatic life side, you know, not sort of come up with a
21 perfect pontific way to handle. So you're right that a
22 lot of it is sort of uncertain. And, you know, that some
23 of that is accounted for with uncertainty factors and
24 cancer risk level and contribution. We try to ensure

1 that, you know, these are protective criteria and
2 possibly account for the fact that you're exposed to a
3 lot of different pollutants. But that is an uncertainty
4 that, you know, we just ---

5 MR. BRITTAIN: Yeah.

6 MS. FLEISIG: --- acknowledge exists.

7 MR. BRITTAIN: Okay.

8 And on the --- on the cancer side, do you
9 guys recommend 10^{-6} to account for maybe cumulative ---
10 potential cumulative impacts in general? I know some
11 states, like Virginia, I believe, does one in 100,000.
12 But do you recommend one in a million?

13 MS. FLEISIG: Well, our --- yeah. Our
14 guidance from 2000 recommends either 10^{-5} or 10^{-6} to
15 protect your general population.

16 MR. BRITTAIN: Uh-huh (yes).

17 MS. FLEISIG: We also recommend looking
18 whether you have any sort of high consuming populations,
19 consuming a lot of fish, for example.

20 MR. BRITTAIN: Uh-huh (yes).

21 MS. FLEISIG: Making sure that they are
22 protected, at no greater risk than 10^{-4} .

23 So states generally use minus fifth or
24 minus sixth for their statewide criteria.

1 When we develop our national
2 recommendations, you know, the values on our website, we
3 use 10^{-6} . And we also stated back in 2000 that if we are
4 ever, you know, promulgating for a state, we will use
5 10^{-6} .

6 But we --- we defer to states on the
7 choice of minus five versus minus six.

8 MR. BRITTAIN: Okay.

9 Thanks. I just wanted some clarification
10 on that. I appreciate it.

11 MS. COOPER: Anyone else want to chime in
12 with a question?

13 MS. CROWE: Yeah.

14 Kind of related to that. We talked about
15 --- You know, we're talking about a lot of the
16 bioaccumulation factors in fish consumption. But we have
17 public health experts in West Virginia that are concerned
18 about the bioaccumulation in humans, especially in the
19 fat tissue with the more overweight.

20 And we talked about this kind of at our
21 last meeting, how, you know, the only --- the only factor
22 to consider that is the body weight.

23 Is there any other ways that we could
24 consider that, that accumulation in humans?

1 MS. FLEISIG: I'll give John a chance to
2 speak.

3 MR. HEALEY: Yeah.

4 Well, I want to make sure I understand the
5 question. So the --- the exposure factor is --- yes,
6 it's a function of body weight but also your drinking
7 water and fish consumption intakes. So those are the
8 three main considerations of how a human would be exposed
9 to a contaminate.

10 Providing an accumulation within humans,
11 we --- we don't --- we don't account for that in a sense
12 because humans are the end point here. We are not
13 looking at anyone else coming --- we look at
14 bioaccumulation through their food or through fish, but
15 not through the human consumer. So I don't know if I
16 understand the question.

17 MS. COOPER: I think that Autumn is kind
18 of saying that if a --- if a person has a higher fat
19 content, then they're going to accumulate a chemical
20 faster than someone who would have a lower fat content.

21 MR. HEALEY: Well, yeah, in a sense. A
22 larger person could be subject or could accumulate ---
23 could intake more of a harmful chemical and maybe not
24 have adverse effects. Right. So the bigger the body

1 weight actually results in lowering the criteria value
2 --- or allowing more pollution, so making a less urgent
3 criteria value.

4 So we have a national default body weight
5 of 80 kilograms. But if a region had a --- like a lot of
6 regional data showing that their default body weight was
7 much larger and they want to use that as a justification,
8 then that would need to be based on kind of regionally
9 specific data that's been collected and considered in
10 that --- that way.

11 MS. CROWE: Right.

12 And that's something that we've talked
13 about in this group before, that we don't really have
14 that data. We have general CDC data that talks about the
15 obesity rate among states and that it's higher in West
16 Virginia. But that's not the same as detailed data on
17 distribution of weight and body fat content.

18 MR. HEALEY: Right.

19 MR. BRITTAIN: And as a quick follow-up to
20 that.

21 That does bring up the issue of ---
22 Because I've --- I've had the same concern about whether a
23 chemical is lipophobic or lipophilic as well. So if you
24 have your more obese people, a more obese population,

1 yes, they can absorb more. But that's really only if
2 it's a lipophobic chemical. A lipophilic chemical is you
3 can actually take on a lot more.

4 Are you accounting for that in any way?

5 MS. FLEISIG: Only in the BAFs and the
6 count of percent lipid in fish.

7 But I think John said, yeah, we're not ---
8 I mean --- and like Autumn summarized --- I mean, it's
9 the bodyweight and the lifetime exposure that is
10 accounting for the, you know, accumulation in humans.

11 MR. BRITTAIN: Sure.

12 And similarly with that, I was also
13 worrying about mutagenic. Because I know that, like,
14 your body weight is based on adults. It doesn't account
15 for the age adjustment of --- of small children and
16 whether or not your chemical --- do you --- for starters.

17 But also, which you know here in West Virginia, we know
18 we're more obese.

19 So 80 kilograms, probably, even over a
20 lifespan, is probably fairly good. That's one of the
21 reasons why we're okay with it.

22 But I was also wondering about mutagenic
23 components then or chemicals then, in terms of how were
24 you accounting for mutagenic qualities in some of the

1 chemicals.

2 MR. HEALEY: I would point to the ---
3 Like, the exposure factors handbook has more data based
4 on different age group classifications. So that would
5 include the bodyweight and drinking water intake at
6 different age groups, if the state wanted to look at
7 those different groups within the population.

8 We --- Our national default, as I
9 mentioned, are based on adult populations. So we have
10 the 80 kilograms. And the water intake is based on the
11 90th percentile of adults drinking water, the same with
12 the fish intake. But if one wanted to go into further
13 details of developmental effects, it would look to more
14 specific age groups at the younger ages.

15 MS. FLEISIG: And I think some states like
16 Colorado may have done that, for things like PAHs, which
17 John is describing. We had some engagement with them
18 earlier this year on that.

19 MS. COOPER: All right.

20 Thank you.

21 Ross, you're talking, but we can't hear
22 you.

23 MR. BRITTAIN: Sorry. Sorry.

24 So at the national level, you're ---

1 you're not --- are you trying --- are you accounting for
2 mutagenic qualities via your uncertainty factors? Is
3 that what you were hoping? Or --- Or are you just not
4 accounting for them at all?

5 MS. FLEISIG: I can't answer that without
6 Colleen. I don't know for sure if that went into any
7 considerations on --- on things like PAHs with the
8 national criteria.

9 MR. BRITTAIN: Okay.

10 MR. HEALEY: Right.

11 I would add that to the list of questions
12 that you'd be sending to us, please.

13 MR. BRITTAIN: Sure. Thank you.

14 MS. COOPER: And I think there's some
15 information in the criteria documents when the chemicals
16 are considered mutagenic. So I am not exactly sure how
17 that affected it. But I know that it's mentioned in some
18 of the criteria documents.

19 All right.

20 Do we have any more questions for these
21 generous EPA folks that are --- are with us?

22 MS. CROWE: I could keep going if they're
23 willing. Yeah.

24 MS. FLEISIG: Yeah.

1 I am missing another call. But I can do,
2 like, ten --- ten more minutes if that's okay.

3 MS. COOPER: That would be perfect. Thank
4 you.

5 What have you got, Autumn?

6 MS. CROWE: Related to some of the
7 standards that would be weakened. We noticed that some
8 of the standards would actually be below the --- or they
9 would actually --- the changes would actually increase
10 them to above the maximum contaminant levels for drinking
11 water facilities.

12 So I'm wondering how the EPA responds to
13 concerns where it's shifting the burden from industry
14 treating the water to water utilities being able to
15 provide safe drinking water when those --- when those
16 criteria then go above the MCLs.

17 MS. FLEISIG: Yeah.

18 I think we tried to note where that occurs
19 and --- you know --- in our --- in our recommendations
20 that states may want to consider using the MCL instead of
21 our criteria recommendation in those instances where they
22 have a drinking water use and they are trying to protect
23 that use. I don't know if we've, like, perfectly
24 captured that in all of the notes on our website. If

1 there's any that we missed, please feel free to point
2 that out and we can --- we can do that.

3 But yeah, we're sort of strictly coming up
4 with these health-based numbers. And maybe the MCLs are,
5 you know, likely older in those cases. And so the best
6 we do is sort of point out a potential discrepancy and
7 let states choose in those cases and make sure they're
8 aware if the MCL is more stringent and they're needing to
9 protect a source water, they might want to consider just
10 applying that MCL.

11 MS. COOPER: Is there any chance that MCLs
12 will be adjusted based on the health data that you have
13 put together --- I mean --- based on the criteria?

14 MS. FLEISIG: That's another good question
15 for Colleen.

16 I mean, Jamie's group works on the sort of
17 health-based information that feeds into the drinking
18 water program. So I know they are constantly doing some
19 of that work. I don't know at any given time what
20 pollutants they're focused on.

21 But that could go in the list of
22 questions. And I also --- I am not in the drinking water
23 program because I don't know enough about their
24 priorities.

1 MS. COOPER: All right.

2 And we had that question in our comments
3 on our rule this year. And we checked with your guys,
4 and it was generally that the Safe Drinking Water Act
5 folks will review MCLs periodically. But we weren't sure
6 when or if they were doing it soon. That's our general
7 response.

8 UNIDENTIFIED MALE: I have one other
9 question. In the past, we've often relied on the EPA for
10 our standards in West Virginia. And as you can hear from
11 this call, we've got a lot of smart people here now in
12 the DEP and on --- on locally.

13 But I wondered how many other states rely
14 a hundred percent on what the EPA suggests for safe ---
15 safety in --- in what we've been talking about.

16 MS. FLEISIG: Yeah.

17 I think that's kind of similar to the
18 question of other states that are looking at, you know,
19 adjusting the BAFs and things. I would say for the most
20 part --- I mean, we could get you guys an accounting of
21 which states have adopted all or portions of our 2015
22 human health criteria updates. We try to keep some
23 accounting of that internally.

24 We have now an external search tool that

1 allows people to look at what criteria other states have.
2 But we also just try to note for ourselves, like, the
3 state picked up our, you know, latest recommended
4 criteria.

5 I think for the most part, states that are
6 updating their human health criteria, they do just, you
7 know, adopt our recommended numbers. Like I said,
8 possibly some adjustments for, like, the cancer risk
9 level if they use 10^{-5} instead of our recommended --- the
10 10^{-6} that our website, you know, is based off of.
11 Sometimes some adjustments to fish consumption rate, but
12 that has been rarer.

13 And then I would say it's --- it's much
14 more rare for a state to be actually adjusting BAFs or
15 looking at new toxicity information. But some states,
16 you know, they do that sort of regularly.

17 MS. COOPER: And along those lines, Erica,
18 while we have you for a few more minutes, we had many
19 comments on our rule this summer that were in regards to
20 whether the criteria --- whether the EPA-recommended
21 criteria became more or less stringent, meaning whether
22 it went down or up. And the environmental community
23 specifically was requesting that we only revise criteria
24 that became more stringent.

1 Do you have any comments on that? Like
2 how --- if that's a factor --- if that would be
3 considered a factor in any kind of adoption of criteria?

4 MS. FLEISIG: No.

5 I mean, I think like Colleen described, we
6 just followed the science. And so if the science spoke
7 to that pollutant being less, you know, toxic than
8 previously understood, then that's what the science says.

9 And so if a state wants to update their
10 criteria to our latest recommendation, even if it gets,
11 you know, less stringent, if that's what the science
12 says, that's what it says. And that's not sort of
13 consideration in our review of what they submit.

14 States can certainly, at their discretion
15 --- I think we just heard --- I don't actually remember
16 the state, but it was a state in Region 4 that wanted to
17 only adopt the criteria that are getting more stringent.
18 And that's what they chose to do. And that's what their,
19 you know, public supported. So that's --- that's at a
20 state's discretion to choose to do that.

21 But I think it's also fair to, you know,
22 use the latest science and follow that where it goes. I
23 don't 100 percent --- I think we've gotten some questions
24 about how that plays out in permitting and backsliding

1 and things like that. That is, you know, beyond my area
2 of expertise.

3 But I think just, you know, using the
4 latest science is --- is a reasonable approach.

5 MS. COOPER: Yes.

6 And I think it's important to note that
7 because a criterion becomes larger based on new science
8 doesn't necessarily mean that a permit will be rewritten
9 on that. Because a lot of other factors than just the
10 water quality standard that affect what is in a permit,
11 like technology.

12 MS. CROWE: Yeah.

13 We wondered about the anti-backsliding
14 issue and can submit that in writing.

15 But I've got one more, like, other states
16 general question if you have time.

17 So one of --- one of our concerns from
18 West Virginia Rivers' perspective that we've been
19 relating to DEP is not adopting all of the 94 updates and
20 only looking at what the state has currently had
21 standards for. Yet, we're aware that some of the
22 compounds in the updated criteria aren't in use in West
23 Virginia, but there's no standards in place.

24 Are you basing this on other states? How

1 are you responding to other states who don't have all of
2 these criteria in place but are currently in use in that
3 state?

4 MS. FLEISIG: That's a good question,
5 yeah.

6 So, I mean, you guys probably know that
7 there are requirements for priority pollutants under the
8 Clean Water Act. So if it's a priority pollutant, the Clean
9 Water Act says, you know, where EPA has a 304A
10 recommendation for that pollutant, if that pollutant is
11 reasonably expected to interfere with uses in the state,
12 the state should have and must have a numeric criterion
13 for that. So there's sort of stricter requirements for
14 priority pollutants. And you probably know our
15 recommended human health criteria are for both priority
16 and non-priority pollutants. So I'd sort of look first
17 at that. And then --- and just, you know, ensure that
18 West Virginia has criteria for priority pollutants and/or
19 an explanation for not.

20 But if it's a non-priority pollutant, it's
21 more at the state's discretion, you know, whether they
22 think it's necessary to protect their uses. We always
23 have, you know, the authority to make a determination
24 after looking at available information that a particular

1 criterion is necessary for a given state, whether it's
2 priority or non-priority. But generally, we defer to the
3 state to decide, you know, if they need numeric criteria
4 for non-priority pollutant.

5 And so I would suggest just providing that
6 comment and making sure the state is aware of --- of that
7 issue and then for the state to respond to that during
8 the public comment period.

9 There's also the requirement for states to
10 explain, you know, if they're not choosing to, you know,
11 update their science when EPA comes out with new 304As.
12 So that applies also to non-priority and priority
13 pollutants. And so hopefully in those instances, the
14 state would, you know, consider if they need criteria for
15 those pollutants. And if not, explain why not.

16 MS. COOPER: Thank you very much.

17 Thanks, Erica, for jumping in there while
18 Colleen had to go and for --- John, for your help too.

19 And I think this will wrap up our --- the
20 portion of our meeting that --- that we needed you guys
21 for. We're just --- we're going to move onto just
22 planning for next month.

23 And I want to thank you wholeheartedly for
24 making yourselves available for this. It's been a huge

1 help to us. And we would love to have you back in the
2 future. And we'll send you --- we'll make sure we invite
3 you way ahead of time like we did this time and send you
4 some questions so you have an idea of what we're --- what
5 we're getting at next time. But we would love to have
6 you back.

7 MS. FLEISIG: All right.

8 Thanks, guys. Talk to you soon.

9 MR. HEALEY: Nice meeting you. Thanks.

10 MS. COOPER: Thanks Erica, John.

11 All right, everybody.

12 How do you --- How do you think that went?

13 MS. CROWE: That was helpful.

14 MS. COOPER: Yeah, I think so too. I
15 learned a lot. And it was really, really great to hear
16 Colleen explain that, you know, here's why --- here is
17 why we didn't use some of that data when we had it,
18 because it wasn't verified or it wasn't as good as the
19 other data or it wasn't --- it wasn't good enough to be
20 included so we had to go back to the K_{ow} or whatever.
21 That specifically was --- was really helpful. But just
22 having them all --- all available to ask these questions
23 to was really great.

24 I think it was hard for them to come in,

1 even with just the few questions that --- that we sent
2 them or --- and the questions that I sent were kind of
3 like general idea questions. They weren't really super
4 specific. So they braved our meeting anyway, and I'm
5 really glad that they made it.

6 And again, we can invite them back at a
7 future meeting to --- to talk about more if that's what
8 we want to do.

9 I just have two more things I want to look
10 at really quick.

11 This is just wrap up stuff for the end of
12 the meeting. But we --- every time we look at this ---
13 this slide, we talk about our goals. I didn't change it
14 this time.

15 But we didn't have some discussion about
16 it at our previous meeting, especially in regards to
17 approvable by a legislature. I didn't change the --- the
18 language of these goals. But I just wanted to note that
19 we had talked about that before. And even though it is,
20 of course, our goal and our job that we're getting
21 together to do this to --- to make these criteria that we
22 --- that we have proposed and any future criteria that we
23 propose the next time approvable but also defensible at
24 the same time.

1 You know, we will know that when we ---
2 when we come to a consensus and propose something for
3 next year, it's going to be, you know, quite defensible
4 because we've all gone through it in great detail to
5 understand where --- where we're coming from with these
6 criteria.

7 So I just wanted to touch on this slide
8 one more time --- or not one more time, but again --- and
9 see if anybody had anymore comments on our work group
10 goals.

11 MR. HARRIS: Yeah, I --- You know, I think
12 I questioned --- This is Larry. I think I questioned it
13 early on about the number one goal. And from what the
14 EPA said today --- today, they're not influenced as the
15 West Virginia legislature is by the users or the
16 polluters. I don't think they are. I was going to ask
17 that, but I thought that was too crude of a question.

18 But our legislature, let's face it, is not
19 the right organization to approve these standards. It
20 should be the EPA. So anyway, that's --- that's ---

21 MS. COOPER: Well, then --- yeah. And
22 we've --- we've gone over this. I mean, we've talked
23 about this a few times. But that's --- the way that it's
24 set up in West Virginia is that it will go to the

1 legislature and they will ask us, as far as DEP and
2 anyone else who wants to speak --- which is typically,
3 you know, members of this group --- to speak to what has
4 been proposed.

5 So they do look to us for, you know, "Does
6 this --- Does this make sense. Did you do due diligence
7 when you were proposing this?" You know, "How does
8 everybody feel about it?" They'll ask those kinds of
9 questions to us.

10 But ultimately, it needs to go through
11 them. They're just --- They're just part of the process.
12 And, of course, EPA, it also goes to them ultimately,
13 too, after West Virginia is finished with what we are ---
14 what we do with it.

15 MS. ROSSER: Laura, I'd just --- I'd just
16 say that I'd be more comfortable with defensible to the
17 legislature --- with defensible standards.

18 MS. COOPER: Okay.

19 MS. ROSSER: Provable.

20 MS. COOPER: Okay.

21 So if there's no more comments on our
22 goals --- Usually, we just --- we just beleaguer number
23 one and two. Three and four are pretty unchanged.

24 Protective: We want to learn and gain a

1 better understanding. Which we're totally onboard, we're
2 totally doing that. I think we're meeting that with ---
3 the last time I asked the question, and we gaining a
4 better understanding. But this time, I'm not even going
5 to ask because I know we are.

6 And then, of course, the consensus part is
7 really important to our leadership at DEP, that we can
8 come up with something that we all agree on on this
9 group.

10 So finally, I just wanted to talk about
11 our November meeting. November is right around the
12 corner. And you may all recall that in November, we have
13 Thanksgiving, which is kind of like a weeklong holiday
14 for many people. So I am just staying away from that
15 week altogether even though we like to meet at the end of
16 the month.

17 So would November the 18th, which is the
18 Wednesday before that week, work for everyone?

19 And it would have to be 9:00 a.m. because
20 --- I can't remember, but there's something on my
21 calendar that I can't do. I wasn't available at 11:00.
22 So it would have to be 9:00 to 11:00.

23 If we have no objections --- And if we
24 have any objections to this cute little diagram that I

1 added --- I'm kind of sick of the circle-headed people,
2 so we're going to try and get into some more colorful
3 icons.

4 MS. HENTHORN: Laura, I'm likely to be
5 late. I'll still be getting Mom up. So just as long as
6 you guys know that I'll probably be five or so minutes
7 late, five or ten minutes late.

8 MS. COOPER: Of course.

9 MS. HENTHORN: Yeah.

10 MS. COOPER: Oh, and also, we need to ---
11 I mean, I can lay this out myself.

12 But if anybody has any input on what
13 exactly we should cover in the next meeting? That's
14 probably a more important question even.

15 MS. ROSSER: Well, I would like a better
16 understanding from DEP's perspective on what the EPA
17 person is talking about, priority pollutants and how you
18 all determine those versus not.

19 MS. COOPER: Oh.

20 Well, priority pollutants aren't
21 determined by the states. They're defined, I think, by
22 the EPA.

23 MS. ROSSER: Okay.

24 Then I -- honestly, I'd ---

1 MS. COOPER: Those are just --- Those are
2 pollutants that are --- that are --- that are flagged as
3 priority pollutants. Somebody else might be able to
4 speak to this a little bit better. But just off the top
5 of my head, I am pretty sure that if we look at the human
6 health criteria table, I think there is a notation in
7 there as to which ones are priority pollutants. And I'm
8 --- I am not certain, but I --- well, I'm not going to
9 say it because we just have to look at them. But we will
10 look the next time we will talk about priority
11 pollutants. We'll talk about which ones are and which
12 ones aren't.

13 MS. ROSSER: Right.

14 And --- And alongside with what West
15 Virginia has in its standards and what it doesn't. Maybe
16 a guide to at least our interests and to addressing ---

17 MS. COOPER: Okay.

18 MS. ROSSER: --- ones that aren't.

19 MS. COOPER: All right.

20 I think that's --- I think that's a good
21 topic for --- for next month --- three weeks from now if
22 there are no major objections to that.

23 The other thing that I was thinking that
24 it might be worth our while is to actually look at the

1 study that has informed that major change in the IRIS
2 database to benzo(a)pyrene, which affects several
3 chemicals.

4 Unless we think that it's just not worth
5 our effort or our time or maybe ---

6 When --- When we --- When I started this
7 group, you know, there was a possibility that we would be
8 looking at tons and tons of research papers. But we just
9 don't -- we don't have the capacity to do that
10 specifically.

11 But if we grab one, specifically the one
12 study that has informed the IRIS database to have revised
13 in the last few years benzo(a)pyrene, maybe that would be
14 kind of like when we went through the chemical --- the
15 chemical criteria document. We could go through this
16 research study and get a sense of what did they do, what
17 did they find, and how did that change so --- so much the
18 toxicity for that --- that chemical which also informed
19 several others.

20 Because I think that's something that
21 we're really going to want to look at as we move forward.
22 Because the IRIS database is the accepted database that's
23 used for toxicity. And if it's been updated, then that's
24 --- that's a change that EPA would --- and as they said

1 today, they would --- they would completely accept us
2 making a revision to any of these criteria based on that.

3 So if you think it'd be worth our time to
4 go through that study as part --- like maybe half --- of
5 the meeting next time?

6 MR. BRITTAIN: I think so.

7 MS. COOPER: I know you would think so,
8 Ross.

9 MS. CROWE: Are you going to be able to
10 send it out ahead of time so we have time to review it
11 before the meeting?

12 MS. COOPER: I am going to say yes. I
13 think that when I --- my study, I should be able to share
14 it with a few people. But I'm not really sure as to the
15 rights and how that works. I know Jenny is more familiar
16 with that. But she is from a different perspective and a
17 private group. I would --- I don't know that.

18 Do you have any idea about that, Ross?
19 Sharing studies that you've purchased?

20 MR. BRITTAIN: Sharing --- Yeah. That ---
21 That's the thing. Sharing studies for a general
22 workgroup I think would probably be oaky. But, you know,
23 it's a fine line.

24 One thing you can definitely do is you can

1 go to the IRIS database. They will have in the IRIS
2 database --- specifically look at their summary and their
3 report --- their latest report, their report for
4 benzo(a)pyrene.

5 They will --- In that summary will list
6 the criterion that they used to make any of their
7 decisions. And that's publically available information.
8 Just go to the IRIS database, type in benzo(a)pyrene, and
9 then you'll get all the information on benzo(a)pyrene to
10 come up. And then there will be several documents if you
11 start looking through that.

12 Now, if --- Now, that specific report on
13 the other hand, you have, you know, proprietary
14 scientific information in terms of whether or not you can
15 share that ---

16 MS. COOPER: Do we feel like it would be a
17 better use of our time to examine the IRIS database,
18 especially with benzo(a)pyrene?

19 MR. BRITTAIN: That's what --- That's one
20 of the things I was going to say, is that we might want
21 to just look at --- start off by looking at the IRIS
22 report on --- on that particular chemical,
23 benzo(a)pyrene.

24 MS. COOPER: Right.

1 MR. BRITTAIN: Because --- Because we need
2 to understand ---

3 MS. COOPER: Okay.

4 MR. BRITTAIN: --- we need to understand
5 what IRIS is and how this is --- We don't even understand
6 how IRIS works, how that whole procedure ---

7 MS. COOPER: Yeah.

8 And that would help us learn how --- how
9 that database works and how to find things in it.
10 Because we'll be using it for that purpose.

11 MR. BRITTAIN: Yeah.

12 Because otherwise, you'll be looking at
13 that study, saying, "Well, this is all great information,
14 but what does it mean?"

15 MS. COOPER: How does it ---

16 MR. BRITTAIN: Yeah.

17 MS. COOPER: How does that sound?

18 MR. HARRIS: It sounds good if you get it
19 --- a link to us ---

20 MR. BRITTAIN: Yeah.

21 MS. COOPER: Yeah.

22 MR. HARRIS: --- sooner than a night
23 before the meeting.

24 MS. HENTHORN: And I'll commit to trying.

1 I'll look and see whether it's something that I can get,
2 extract, and send. And whether I'm going to hit a legal
3 boundary with that particular study or not. Some are
4 public, some are not.

5 MR. BRITAIN: Yeah.

6 MS. HENTHORN: So I'll see what I can do
7 there. I'll at least look and see if I can do it
8 legally.

9 MS. COOPER: Yeah.

10 MS. HENTHORN: And if not, I think there's
11 an exception that you're allowed to take excerpts from
12 the study. So I'll look to see if I can find that there
13 as well. I can't remember how that goes. It's been too
14 long since I looked at that.

15 MS. COOPER: Okay.

16 MS. HENTHORN: I can at least pull the
17 study and see whether it's something that can be
18 shared ---

19 MS. COOPER: Right.

20 MS. HENTHORN: --- or if it's in the
21 public domain.

22 MS. COOPER: Thank you.

23 MR. BRITAIN: If you had to pay for it,
24 it's not in the public domain.

1 MS. COOPER: And I haven't got it yet.
2 It's just one of those things that kind of irks me, that
3 I should be able to share whatever I have. But at the
4 same time, you know, somebody spent a lot of their time
5 and their effort and money on that research and they need
6 to be paid for it too. So I don't want to just say I
7 email it out to everybody and then once I did that you
8 could email it to everybody in your whole --- you know,
9 if you wanted to. So I don't want to overshare.

10 MR. BRITTAIN: Laura, I have another
11 option for you.

12 Are you familiar with the inter-library
13 loan ---

14 MS. COOPER: Yeah.

15 MR. BRITTAIN: --- capabilities?

16 What we may be able to do is see if DEP
17 has access. And Scott Mandirola may know --- may know
18 about this. But whether or not we have access to, say,
19 WVU's inter-library loan capability. In which case, we
20 would have pre-access to that ---

21 MS. COOPER: Okay.

22 MR. BRITTAIN: --- via inter-library loan
23 from a major --- one of our major universities ---

24 MS. COOPER: Okay.

1 MR. BRITTAIN: --- as a paid entity.

2 MS. COOPER: So let's ---

3 MR. BRITTAIN: The data ---

4 MS. COOPER: Let's say, though, that for
5 the next meeting, we will talk about the topic that Angie
6 brought up as far as what West Virginia has in standard
7 and what we don't, how that relates to priority
8 pollutants. And then we will look at the IRIS database
9 and see their document for benzo(a)pyrene and how they
10 went through that. And way ahead of time, I will send
11 out links to that IRIS database so you can get right to
12 where --- where we're going to be looking at it. And I
13 think that will --- that will fill two hours in November
14 pretty easily.

15 MR. BRITTAIN: Yeah.

16 MS. COOPER: And we'll move on from there.

17 MR. BRITTAIN: Yeah.

18 And the priority pollutants, there's like
19 126 of them. It started off at like 128. They removed a
20 couple for various reasons. But there's a lot of ---
21 there are more priority pollutants than there are actual
22 human health criteria.

23 MS. COOPER: Okay.

24 MR. BRITTAIN: So there is a lot of

1 overlap.

2 MS. COOPER: Okay. All right.

3 Do we have anything else to wrap up for
4 today?

5 MS. CROWE: I just want to put a
6 placeholder in for our December meeting.

7 MS. COOPER: Okay.

8 MS. CROWE: I would be interested in
9 seeing more of what --- The EPA briefly mentioned
10 Colorado and how they were handling PAHs. And then if
11 the Delaware BAFs are out, maybe we could schedule that
12 for our December meeting.

13 MS. COOPER: Yes.

14 I think that --- I think we'll know more
15 from Delaware by then. I think so.

16 I was a little discouraged with --- with
17 what Natalie told us today. It sounded a little less
18 certain that Delaware is going to put them out for public
19 comment in a couple of weeks. But that's generally the
20 idea that I get from them.

21 I am not sure if they would share anything
22 with us before that, but I can check with them.

23 So by December, that stuff should have
24 been out to public comment unless they have some kind of

1 hold up in Delaware, which happens, you know, with
2 various states when they're dealing with stuff like that.

3 So I am not sure. But we can try to learn more from
4 Delaware BAFs in the December meeting and see if we can
5 find out more from the EPA on the questions --- the other
6 questions we had.

7 All right.

8 Do we have anything else?

9 UNIDENTIFIED MALE: Sorry. It took me
10 forever to find the un-mute button.

11 MS. COOPER: I wasn't sure if you were
12 trying to talk or not, but ---

13 UNIDENTIFIED MALE: I know, I can't
14 switch. I'm only on 80 different platforms every day. I
15 was on School Achieve for a couple minutes. Sorry.

16 To the Delaware thing, I just talked to
17 the general counsel for DEP's group. So let me call him
18 back Friday. And I can just point blank ask him that
19 question and see if he knows.

20 MS. COOPER: Okay.

21 Thank you.

22 All right.

23 If there is nothing else, I'll go ahead
24 and put the November meeting on our calendar and start

1 looking at the IRIS database to send you guys information
2 that you can review before then. But if you don't have
3 time to review, we'll be ready to show you all about it
4 during the November meeting.

5 MR. BRITTAIN: Laura, I am going to send
6 you the links.

7 MS. COOPER: Great.

8 MR. BRITTAIN: And the PDF of the IRIS
9 summary document for benzo(a)pyrene.

10 MS. COOPER: Perfect. Thank you.

11 MR. BRITTAIN: Uh-huh (yes).

12 MS. COOPER: I wanted to ask Kara really
13 quick: Did you have any questions on any words that we
14 used or that you wanted to ask now? Or we could
15 follow-up later.

16 COURT REPORTER: So your slideshow was
17 really helpful with that.

18 Is it tropic level or trophic level?

19 MS. COOPER: Trophic, with a P-H.

20 COURT REPORTER: All right.

21 Got it. I think --- yeah. That's the
22 only one I was questioning about.

23 MS. COOPER: Yeah.

24 And I don't know if you --- I can send you

1 the PDF of the slides so you can look at them again.
2 Probably all the chemicals that we mentioned today were
3 on those slides, so you can see how they're spelled or
4 whatnot.

5 COURT REPORTER: Yeah.

6 I kept track of it. I have it all written
7 down.

8 MS. COOPER: Okay. All right.

9 Thank you so much.

10 COURT REPORTER: No problem.

11 MS. COOPER: All right.

12 I think that's all --- if anybody else has
13 anything else. Thank you all for being here today.
14 Thanks for being cordial with EPA. I am sure they were
15 all grateful that it all went well. It's a little scary
16 for them to get on with just random people.

17 So thank you all very much, and have a
18 great Wednesday.

19 * * * * *

20 MEETING CONCLUDED AT 11:48 A.M.

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CERTIFICATE

I hereby certify, as the stenographic reporter, that the foregoing proceedings were taken stenographically by me, and thereafter reduced to typewriting by me or under my direction; and that this transcript is a true and accurate record to the best of my ability. This notarial act involved the use of communication technology.

A handwritten signature in cursive script, reading "Kara M. West", is written over a horizontal line.

Kara M. West,

Court Reporter