STATE OF WEST VIRGINIA

DEPARTMENT OF ENVIRONMENTAL PROTECTION

* * * * * * * * *

IN RE: WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION-HUMAN HEALTH CRITERIA WORKGROUP MEETING

* * * * * * * * *

BEFORE: LAURA K. COOPER,
Environmental Resources Program Manager,
CHAIR
CHRISTOPHER B. SMITH,
Environmental Resources Analyst
SCOTT G. MANDIROLA, Deputy Cabinet Secretary
ROSS A. BRITTAIN, Environmental Toxicologist
ANGIE ROSSER, Human Resources Generalist 2
KATHERYN D. EMERY, Acting Director
REBECCA MCPHAIL, Technical Analyst
AUTUMN CROWE
CHARLES "LARRY" HARRIS

MEETING: Wednesday, November 18, 2020
10:00 a.m.

LOCATION: VIDEOCONFERENCE MEETING

WITNESSES: None

Reporter: Danielle S. Ohm

A P P E A R A N C E S

JASON WANDLING, ESQUIRE
Director of the Office of Legal Services
West Virginia Department of Environmental Protection
601 57th Street, S.E.
Charleston, WV 25304
Counsel for West Virginia Department of Environmental Protection

ALSO PRESENT:
JENNIE HENTHORN, Owner of Henthorn Environmental Services, LLC

I N D E X

E X H I B I T S

Number	Description	Page Offered
	NONE OFFERED	

P R O C E E D I N G S

CHAIR: All right. Well, good morning everybody. Welcome to our November Human Health Criteria Workgroup Meeting.

It has been a whirlwind of three weeks since our last meeting. We have adjusted somewhat what we're going to be able to go over today, because it has only been three weeks. And it turns out the IRIS database had been delayed. Benzo(a)pyrene is really a complicated subject.

So once I got into reviewing what --- I wanted to go over what we talked about with EPA last month, because that was such a valuable discussion. And I want to make sure that we reviewed that and have any additional discussions that we would have had about any of those questions. And also talk about priority pollutants and how they are incorporated into water quality standards at the federal level, and what's expected of states.

So that's generally what we're going over today. And we're also doing a --- a quick overview of the IRIS database and just talking really quickly about that Benzo(a)pyrene but not really getting into the

details of it at this point.

I've asked Ross if he would help us with it for next month, so maybe we'll try to get to it --- we'll try to get it to it then. But we can go ahead and we can get started.

How is everybody doing this morning?

Kerry, I can't hear you. But it looks like there's like a ---.

Is it cold where everybody is? It's cold in my little room.

Mr. . BIRD: It's cold here, too, whoa.

Angie has a beautiful fireplace behind her. I'd have that thing booming.

CHAIR: Yeah, Angie you're --- you're inside.

Right?

I --- for some reason, I felt like you were outside before. But is --- is this a different location or same location?

MS. ROSSER: Yeah, this is my living room. I have a fireplace.

CHAIR: Right.

MS. ROSSER: But I have big windows. And helps me feel like I'm outside, but yeah.

CHAIR: That's fine.

MS. ROSSER: I don't want to feel like I'm outside.

CHAIR: No.

MS. ROSSER: It's --- it's rather drafty.

CHAIR: It's super cold.

And we do have the person from Sargent's with us today.

I'm sorry, you're --- I --- I'd like to rename you. Because it says your name is Sargent's. And I know that's not your name. And you told me your name at the beginning.

COURT REPORTER: My name is Danielle.

CHAIR: Danielle?

Thanks for being with us today.

COURT REPORTER: Of course. Anytime.

CHAIR: So we do have a transcript from the last meeting. I haven't sent it out yet, because I haven't had a chance to really read through the whole thing, but I'll get that out to you guys soon.

AUDIENCE MEMBER: We --- we have two transcripts that need to be sent out.

CHAIR: Yes?

AUDIENCE MEMBER: One is ---.

CHAIR: We also have the September ---

AUDIENCE MEMBER: Yes.

CHAIR: --- the September meeting.

Okay.

So let me get my screen shared. Just a second, sorry.

Okay.

So I think you guys see the beginning of my slide show now. And if I start from current slide, then you should see the presentation view.

Okay.

So again, welcome everybody. Thank you for making it today. And Kathy and Jason should be popping in pretty soon. So we'll see them pop in there, but ---. And I think Angie said she would have to leave at some point, but Autumn would continue to stay.

Oh, and Jennie is anybody --- is Rebecca coming today?

MS. HENTHORN: I think Rebecca is on.

MS. JOHNSON: Yeah, I'm on.

CHAIR: Oh, Rebecca's here?

Okay. Sorry. All right. Okay.

So you guys have probably --- probably seen the agenda. We sent --- sent out the slides

yesterday. So you will have seen this if you open that.

Again, I kind of already went over this. This is just basic review of the Workgroup like we usually do, Workgroup goals. And after that, I have five slides going over the discussion we had with EPA, just going over generally what our questions were and a really short version of what our answer was, so that we can bring that back up and talk about any of that if we have additional comments we want to bring up.

And then we'll talk some about priority pollutants. We'll talk about the IRIS database. And just a quick talk about what Benzo(a)pyrene is, and starting out what happened --- what --- what happened in IRIS database with that, but not really going into a lot of detail there. And then we'll just plan for our next meeting, which will be right before Christmas.

All right.

So these are our Workgroup goals. I've --- again, the --- the last three goals we kind of --- we haven't changed for some time. And we have --- we've had some discussion each time about the first one, the reasonable standards goal.

Last time Angie mentioned that she would prefer if it was --- if it was worded defensible to West

Virginia Legislature and EPA. So I have both of the words in there. And I've made them a different color so we can talk about that. And then as I put them both in there, I thought we could use both words and say they --- they need --- do need to be approvable, but also defensible.

And of course, when we submit our standards to EPA, we defend them in a --- a lengthy --- lengthy review of what we did, why we did it because they would --- they would want to know if we made any changes to something, why --- why we did it or how we did it.

What we've proposed for this year is EPA criteria --- EPAs own criteria, so that would be an easier --- an easier climb for if --- if the rule goes through as it is proposed this year.

But do we have some --- any additional discussion on --- on that and how we should --- we should word this --- this Workgroup goal?

MR. HARRIS: Yeah, this is Larry.

CHAIR: It's Larry?

MR. HARRIS: Can you hear me?

Okay. Good.

CHAIR: Yes.

MR. HARRIS: You know, I --- I hate to keep being a pain also about the first thing, but I kind of have always felt, since I've been on this Council since it started, that number one goal --- and I --- and I'm not saying this in any way negative to the --- the employees.

But the number one goal should be protecting West Virginians. So that should be ---.

CHAIR: Right.

MR. HARRIS: The second ---.

CHAIR: So you're saying we --- you --- we can reorder them by putting ---

MR. HARRIS: Yeah.

CHAIR: --- that first?

MR. HARRIS: And then --- and then reasonable standards would go with the --- with the last one really, I mean, to reach consensus with reasonable standards to present to the legislature and EPA. That would make more sense to me and follow more logical series of events.

CHAIR: Right.

MR. HARRIS: More than two sentences, sorry.

CHAIR: No, it's okay.

MR. HARRIS: Okay.

Three sentences.

CHAIR: Yeah.

I mean, I --- like I've said before, I think it's important that we go over these and we talk about them. I hadn't really thought about the order as being over-importance. But of course, the order that you put them, I'm --- you know, I'm fine with changing that around.

I don't necessarily want to combine things though, I think having these --- these four things are pretty --- are pretty distinct.

Reaching a consensus is --- is its own --- is its own goal --- is a goal in itself. And it's going to be, you know, not a --- not an easy one to achieve, we've got to, you know, come together to be able to propose something --- proposed revisions that we --- that we all agree on, so ---.

And also, the --- the fact that they're reasonable, and --- meaning that they could be --- that they --- they could be approved, go through the legislature, and be approved by EPA, and also defensible to the EPA and to the legislature, I think that is a good goal in of itself.

What else do we --- what else --- comments do we have on --- on that? Can we use both of the words?

Yeah, go ahead Ross.

MR. BRITTAIN: Yeah, this is Ross.

I --- I actually like --- personally, I think you said it best in terms of making --- keeping it approvable and defensible. I think you should change that word to an and ---

CHAIR: Okay.

MR. BRITTAIN: --- myself because, you know, they need --- they need to be approvable. They need to go through the political process --- being able to go through the political process. They also need to be scientifically defensible. That's one of the main things that I'm focused on in that regard, so I --- I think that should be an and.

CHAIR: Great. Okay.

MS. ROSSER: I don't think it can't be an and, just because those things don't always go hand in hand. We --- we can present something defensible that would not be approved, or innocent or ---.

MR. BRITTAIN: Yeah, but these --- these are goals that are ---.

MS. ROSSER: And I want to see approvable out. I think this --- this --- this is a --- a Workgroup that should be making a scientific analysis, assessments and recommendations independent of political influence.

CHAIR: But we aren't independent of political influence, we're all going to be over at the Legislature in a couple of months politically influencing and --- and dealing with --- with this.

So we --- we do proposed criteria based on the best science that we --- the best science, you know ---. And if we have better science, you know, we can use it. But ultimately, it has to go through that body.

MS. ROSSER: I understand that the answer ---

CHAIR: But that --- that was involved with ---.

MS. ROSSER: --- that --- that that is what harms the integrity of that agency, that you all get the reputation that you are politically influenced. And we're trying to put a Workgroup out there. And we're doing this independent analysis coming up with these recommendations.

And yes, I see what you're saying about, it's part of the process. But again, I think it should be independently ---

CHAIR: Right.

MS. ROSSER: --- considered.

CHAIR: But it is worth considering that the way that we got here was through --- going through legislative process, not having to --- not being able to come to a --- an agreement on what the standards ought to be and being put back through this --- this process.

And --- and really that's why we developed this Workgroup so that we can get together and really all be on the same page at the very least.

So I mean, I --- I that it's --- it would be remiss of us to not admit that the --- it is part of the process that they have to be approved by the Legislature.

MR. HARRIS: Then why not just say that? I mean, scientifically defensible standards to present to the WV legislature and EPA for approval, since they're the ones that are going to decide , not us. We're going to ---.

CHAIR: Right. Do we have any feedback --- Scott, do you have any thought on this or Kathy?

I think Kathy ---

MS. EMERY: What's the ---?

CHAIR: --- just joined us.

MS. EMERY: Yeah, I just popped in. So I'm not entirely certain what's on the discussion here.

CHAIR: It's the --- the discussion that we have each time about reasonable standards. We originally had --- well, we originally had the words happy medium in here, changed them to --- at one point, to approvable by West Virginia Legislature and EPA.

It was mentioned last time, that the word defensible might be better used here because it is --- because what we do is defend our criteria that we've recommended to Legislature and then we defend them to EPA.

So now we're talking about the use of these words and what that really means as far as this body, reviewing these standards all year. And parts of this --- this body, obviously going to Legislature to talk about what these criteria are and what they mean.

MS. EMERY: Well, the way I would put this entire Workgroup is, for us to take a few steps back, look at how these criteria were developed. Is it scientifically defensible, is there a foundation for the

recommendations? Do we agree with what EPA did in their process or is there more recent science available that we want to take a look at, that are out of the standards quality, or maybe the standards will be where they're at.

But the way I look at is, I don't want to be recommending anything to the legislature that we do not feel is scientifically defensible. After that, the Legislature is going to do what the Legislature is going to do.

CHAIR: Thank you. Thanks for that feedback. That's really helpful coming from you especially.

How about Scott and/or Jason, who are pretty well-versed in being over there defending and dealing with these?

ATTORNEY WANDLING: Well, I just popped in. But I mean --- so you're looking for something to fit in the orange category? What about scientifically sound?

CHAIR: I keep thinking, where am I going to write this down because everything is all up in --- in this slideshow, so ---.

Hold on a second.

MS. ROSSER: All right.

I'm just advocating for removing approvable, because we have no --- how can we be certain whether something is going to be approved by the Legislature or not? That --- that's --- that's not our job.

ATTORNEY WANDLING: And it's an unknowable job.

MS. ROSSER: Yeah. I guess that's my point. It's like, we can theorize, and make assumptions and make calculations on political calculations, but you know, things change in a hot minute.

CHAIR: Right. Okay.

So it sounds like we have some more --- more folks that are supportive of using defensible, or scientifically defensible or scientifically sound, as Jason suggested, so we can go with that if we don't have any objections to that --- to making that our goal. And we might finally have settled on it at that --- at that point.

And I don't --- I don't see any problem with reordering them either, Larry. Effective could very easily just be at the top, because that is the most important thing.

So if we wanted to talk about consensus for a moment, which is the bottom goal there. Not --- not the least important, but ---.

MR. MANDIROLA: Can you hear me, Laura?

CHAIR: Yes. Go ahead.

MR. MANDIROLA: It --- my only comment is, when we talk about approvable, we're not just talking about the Legislature, we're also talking about EPA. And we can put something that we think is defensible together all we want. But if we know it's not approvable, what's the point?

I mean, I --- I -think what we need to strive for is something that is both defensible and approvable. And again, it's not just the Legislature we're talking about, it's also EPA.

CHAIR: Right. I mean, we do have to go through some pretty major --- two major bodies in order to actually use criteria.

If one --- one of them loves it and EPA hates it, then it doesn't work --- if the other way around doesn't work so it never gets to EPA.

And --- and that's --- that's why I have kept that word in here to this point, because I wanted us to remain cognizant of that, because it is part of

the West Virginia process. It's not like that in every state. But it is like that in our state.

MR. MANDIROLA: There are approaches out there that we can scientifically defend, but that we know is not acceptable based on EPA protocols or whatever. So I would just --- I --- I struggle with taking out approvable. Because I know in the end, that's really what we're striving for.

And again, these are goals we know that we can strive for them. But we also have to be realistic enough to know that if --- if the end result of this process is we understand more and all the groups are at least on the same page, you know, I --- I think it's unrealistic to think that we're going to get to a point of complete consensus. But it's --- that's the goal.

CHAIR: Right. Yes. Yes, goals are what we strive for, not necessarily what we --- what we intend that we will absolutely achieve.

MS. ROSSER: And I would just say that --- I mean, there has to be room for disagreement with EPA. You know, even with EPA, there's a fundamental disagreement we have with EPA in some fashion.

But we --- it's like --- we should bring

that up. We shouldn't just concede.

CHAIR: All right.

MR. MANDIROLA: I agree --- I agree, that's part of the --- that's part of the working through towards a goal of approvable. I mean, that's --- that's my consensus.

MR. HARRIS: Hey, it's Larry again. Years ago I learned from Judge Constance what --- a pretty good meaning for consensus. And --- and that works.

You talk about all the issues and both sides of all --- of the --- whatever issue you're trying to decide. And you come up with something that everyone can live with. Not necessarily everyone totally agrees with, but that everyone can live with. And that seems to be a better --- that seems to be a definition I've seen work in the past.

CHAIR: Thank you, Larry.

Okay.

So can --- should we move on from here?

Okay.

So we're not going to go into a --- a review of our schedule with EPA from last month.

Can everybody hear me okay, I changed my

audio, so ---?

So my question --- my first question to EPA when we met with them in October was about use of the KOW for determining bioaccumulations for many of their criteria.

We pointed out that, you know, a majority of the criteria may end up having to use the KOW. And we wondered, what's your confidence in that? You know, does that --- is that --- is using the KOW as protective or --- or is it produced to protect the standard as it --- it --- you're able to use a different method?

And Colleen Flaherty answered that question. Also Jamie chimed in whenever --- when --- when they were answering that question. And she basically said that she talked about the Agency for Toxic Substances and Disease Registry. And they used that preferentially. And then they used the hazards. Essentially, the same thing. And if they had multiple KOWs they used to meet.

We also followed up talking about KOWs human health criteria updates. I think there was a follow-up question about that. And they talked about it being part of their action plan to looking at developing KOWs criteria.

So I --- I put a link on here to the two --- the two things that were mentioned by Colleen. So when you look at these slides again, you can check these out. That's the Toxic Substances and Disease Registry and then the Hazardous Substance Data Bank.

But basically they --- they felt confident that using the KOW when you have to when you don't have a BCF, using the KOW to estimate BAF was --- is acceptable, of course. Because that was part of their --- that's part of their --- their flowchart.

All right.

So then we moved on to talk about using data from some --- from studies for some chemicals in particular and not using the same study for other chemical that were --- that we had researched.

And particularly, we were talking about the Frie --- Frietag. And I --- I remember she said it a different way, but I don't recall how it was pronounced. But the 1985 Frietag and Oliver paper. That was just the main one that we were talking about there.

And actually, Colleen pointed out something that kind of --- that really, really answered a lot of questions for me, that they used --- that the

Frietag paper specifically --- they didn't use the data points from that paper, they actually ended up not using them because --- because they ended up being poor data points or they were unverified.

And that was marked in their spreadsheet, but we really didn't understand how they were marking the spreadsheet in that way.

So when --- when it appeared they were using --- that they were using Frietag et al., or like these chemicals and they didn't use them for others, they actually didn't use for any of them because the data points from that paper ended up not being verified.

And I put a --- a --- this isn't a link, but reference to that paper if you wanted to look it up. And also a reference to the Environment and Canada that they didn't use or forgetting --- forgetting all of these studies. You can check any of those out, too.

And if anybody wanted --- is this --- is this --- these --- and talking about this discussion that we had with them brings up memories or anything you want to, you know, talk about, we can go ahead and do that, too.

Okay.

So then we moved on to talk about what

--- what was EPAs plan to be calculated criteria, are they going to do this again soon?

With --- are they going to do this again with --- with more recent BAFs or BCF data that may be out there. And they're --- they're --- as we know, a little bit --- a lot of the data they used was from quite a long time ago, before even the year 2000.

So basically Colleen also answered this question, that it took --- took about 15 years for them to between when they had the methodology and when they developed these criteria.

And it's --- it's likely that next time, when they go to update the health criteria they'll focus on the --- the additional --- the ones that they didn't update in 2015.

And we knew it was a long process. And it was probably not likely that they would look at them again soon. But I hadn't thought of it that way, that actually they'd probably look at the criteria that they didn't update in 2015, before they would ever update those again.

And that's --- I mean, it's just a long arduous process for them. They have to go through a lot to revise those. And Colleen did go into that somewhat,

too.

And again, they used what was available at that time, the most recent version of the databases. Because for them, it's not really about, like, if a paper just came out last year, let's look at that paper, it's they look at the database.

If --- the database does all of that work, incorporating those papers into the database vetting them, making sure that the study was done in a way that confused poor criteria before it would ever be put into the database.

So EPA with their long arduous process does not also take that on, instead they just go to the database, look at the most recent version of it and that's the one --- that is what they use.

Okay.

So then we moved on with them to talk about the --- basically, the bottom level of their decision tree in the framework.

It was unclear to us how they moved through the decisions on that bottom level, we kind of followed it down and we looked at that decision --- I --- we looked at the decision tree in the HR meeting. We're already familiar with it.

But when we get down to the bottom level where they choose between procedure one, or two, or three or four, it wasn't completely clear when you're looking at their spreadsheet, how they made a decision to do this versus that.

And Colleen also answered that. She was --- she was very helpful that --- for that meeting, that basically that they --- if they --- if it tells them that they can use a KOW, then they have to use the KOW. They can't just decide to use a different procedure if that's what --- what it leads to or the decision tree.

Jennie also noted that it really isn't very clear on the spreadsheet. And it would be helpful if they could add a column that shows what procedure they actually used. Because you kind of have to figure that out based on the numbers that you see there in their decision. So she would --- she said she would look into whether that can be added to it.

So if --- if that would help a lot, it would make it clearer for everyone who was --- was looking for that information, for them to just say outright, we used procedure one. We're over it. You know, it would be --- it would be much simpler if --- if it was shown that way.

So then we got into additional questions with them, so I just really summarized this short --- quickly on --- I have a couple slides with them. We asked about, are there any other states like West Virginia or Delaware that are looking into more detail on the other criteria.

And they talked about how Florida had to adjust their bioaccumulation factors a few years ago. They were held up with litigation and they're not pursuing that anymore.

But as --- as far as Delaware goes, I'm still unsure whether they have been out to comment yet with their BAFs. And that's something that we can hopefully talk about soon once we --- once we get to see them.

And we also asked how does EPA account for accumulative impact of compounds. And that was something that Ross had brought up.

Generally --- and I think we kind of knew they used a hazard portion of one. Basically, meaning that they don't --- they don't do any additional --- they don't incorporate additional factors based on cumulative effects.

But for noncarcinogens source, they don't

--- they do use the relative source contribution, which takes the value and --- and ratchets it down based on where you would expect how --- how much exposure you would expect for --- from that chemical from water as opposed to other sources.

I think that would --- that was probably something they also put --- they also said they can answer better later on, if they had more time to look into it.

But I think what we have learned from their criteria documents, is that generally there is an additional factor for cumulative impacts, but there are several factors in there, like the relative resource contribution, and like the ten to minus six risk factor that really incorporate a lot of protectiveness into the criteria to try to --- to try to make up --- to try to account for that.

I was also asked if EPA recommends using ten to minus five or ten to minus six or some other risk factor level. And I think by this point, Colleen wasn't there are anymore and Erica was answering our questions. And EPA does use ten to minus six in their calculations.

But their guidance is clear, that states can use the risk factor that they choose. And in some

high --- populations that have a greater risk, like maybe they are subsistence fisherman or something. But they want to make sure that their risk is no greater than ten to minus four. But generally as we know, states in our vicinity either ten to minus six or ten to minus five, which makes the criteria an order of magnitude less stringent. And we use ten to minus six.

Okay.

So we also asked about bioaccumulation in human tissue in regards to body weight. And we know West Virginians generally have higher body weight than the average population of the country.

And I think John answered that one. And just in a general --- I mean, just to summarize, a larger body weight, if it would be --- were to be used, would result in less stringent criteria because it would be a --- it's --- the 80 kilograms is into the top of the --- the equation. So it --- if --- if you pick out here, it would make the criteria less stringent.

But that is not something that they take into --- into consideration. Because when we're talking about bioaccumulation in regards to criteria, they're usually talking about cumulating in whatever --- from fish to tripping level 1, to 2, to 3, to 4.

And again, we generally --- I mean, we quickly talked about, again, that we don't have any study that's specified to West Virginians that said --- that says what our average body weight is. We know we generally have obesity problem in general in the state, but we don't have data that says that --- that we specifically studied body weights of West Virginians.

Okay.

MR. HARRIS: Question here ---

CHAIR: Go ahead, Larry.

MR. HARRIS: --- this is Larry.

I'm --- I understand --- I mean, the way it sounds is that if we accept the fact that West Virginians have higher body weights, that we will then suggest less stringent criteria. I mean, that --- that to mean is slender shaming, that's not fat shaming.

CHAIR: Yeah, that would be good.

MR. HARRIS: I mean, I don't know how --- I don't know how to react to this kind of idea. But it seems silly, but ---.

CHAIR: Right.

MR. BRITTAIN: Larry, that's one --- I'm going to say, Larry, this --- that's one of the questions that I ---. The reason I asked the question

was --- about body cumulation, was specifically because what it doesn't account for is the --- is whether or not --- how lipophobic or lipophilic a chemical is.

MR. HARRIS: Right.

MR. BRITTAIN: If a chemical likes to --- if it's lipophilic and wants to attach to fats, the heavier body weight is actually going to make you more --- you --- you --- put you at a higher risk to where you should have more stringent ---

MR. HARRIS: Right.

MR. BRITTAIN: --- criteria.

Whereas if it's lipophobic, the --- the fat is actually going to help you keep it --- help keep it --- after the weight is distributed, so ---.

So that's one of the things, that as --- when EPA changed their body weight a few years ago, that's one of things that I was disappointed in, that they didn't account for, is like ---.

That they --- they change the body weight based on --- based on the fact that Americans in general were becoming heavier, fatter. But they didn't account for how lipophobic or lipophilic, account --- the compounds are. Something I would like to see change some day in the future, but that will be down the line.

CHAIR: Yeah, that would probably more than 15 years, since they don't have a methodology that accounts the fat.

They --- what they do is, go with their methodology. It doesn't have something in it that would account for whether a chemical accumulates in human tissue greater in some people than others. Instead, they only say this is the average body weight.

Like I said, it's on the top of the equation. So as it goes up, the equation --- the --- the result would go down. I mean, it wouldn't go up.

So again, ---.

MR. BRITTAIN: I should also mention --- I should ---

CHAIR: Go ahead.

MR. BRITTAIN: --- excuse me, Laura. Sorry.

I should also mention, that only accounts for ingestion.

Right?

That's your RFD or your CSF, your cancer slope factor. For inhalation, they don't account for that. It's not --- it's not on a --- on a per body weight mass --- basis.

So for inhalation exposures --- which of course this particular methodology doesn't account for inhalation. But for other aspects of risk in remediation --- in the remediation world, when we do account for inhalation, body weight is a matter that can ---.

CHAIR: Right.

MR. BRITTAIN: So that's one of the issues with not properly accounting for inhalation in the overall equation that could --- it could have an impact.

CHAIR: Right. Yes, inhalation is not something that's taken into consideration of water quality criteria.

I guess that --- again, the criteria are for consumption of fish, and consumption of fish and water together. Doesn't --- doesn't include any inhalation that might occur.

And relative source contribution for noncarcinogens --- noncarcinogens also takes that --- takes that into account, because they assume that you're going to be exposed to this chemical also from a --- from inhalation from other sources, sources not related to water. So that's the relative source contribution

factor in there.

MR. BRITTAIN: Yeah. And --- and when it comes to inhalation with water, the only things we have to worry about, inhalation with water and the volatiles is when you're showering.

So you will be exposed to inhalation from the surface water. Something to keep in mind. You will be exposed to inhalation. But only for the volatiles when you're showering, ---

CHAIR: Right.

MR. BRITTAIN: --- so ---.

CHAIR: And --- and when --- when we use a relative source contribution of .2, we're saying that 80 percent of your exposure to that chemical probably comes from other sources, including the shower.

Okay.

So moving onto the next slide.

MR. MANDIROLA: Real quick, Laura.

To make it clear, the body weight issue, we're using the national average.

Right?

We're not coming --- it was mentioned in the conversation I thought, that --- that we're accepting that West Virginians are heavier. But it's

not actually just West Virginians, it's --- it's the national average.

Correct?

CHAIR: Yes, we are --- we are using the national average of 80 kilograms. We don't have ---

MR. MANDIROLA: Okay.

CHAIR: --- any data that shows specifically that West Virginians have a specific average that's other than 80 kilograms. I don't know ---.

MR. MANDIROLA: Right. No, I understand that.

CHAIR: Okay.

MR. MANDIROLA: I just want to make it clear, that we're not --- we're not proposing to --- to use something different, we're --- we're proposing to use the national average.

CHAIR: Right. Thank you.

MR. MANDIROLA: Okay. Thanks.

CHAIR: Yeah. So we also asked about accounting --- do we account for children in exposure factors?

And John answered this as well. I can't remember John's last name right now, I didn't write it

down, on this slide. But he mentioned that there were other tables in the exposures factor --- Exposure Factors Handbook, which Ross showed us a few --- a few meetings ago.

We did talk in detail about the fact that EPA uses adults. You know, that's --- that's ---- that's just what the criteria are based upon.

So, you know, states could look at the other factors or tables in handbook, and decide whether to use those. But generally these criteria are calculated for adults.

And again, they're calculated to be protective over a seven-year life --- life span. So first, that --- I mean, children are --- they're just --- it's just not calculated that EPA meets the criteria. And we also asked about immunogenic compounds exposure factors.

Erica said she would need to ask Colleen about that. And we talked about --- we --- we looked --- when we looked into a specific criteria document, we --- we did find that some criteria documents, they mentioned that a --- a compound would be considered immunogen. What they've done is to take that into consideration.

But generally, it's not looked at the same way that it's looked at in in-house. They --- there isn't a special immunogenic exposure factor.

But again, there are many other protective measures that are put into our product criteria to try to account for things that aren't --- that aren't specifically addressed, like immunogens and combining different chemicals together.

Okay.

So the other thing is, how is EPA addressing recommended criteria that are above MCLs. That was a question that we had this summer in our comments.

That's my dog yawning over there.

It's --- we had a question come up this summer --- and we checked with EPA then, and their answer isn't any different than it was then, that basically EPA calculates their criteria regardless of what the MCLs are. And --- and a few of them did end up being less stringent than its --- than current MCLs.

Periodically, the Safety Drinking Water Act, EPA folks will review their MCLs. I believe they said they --- they may do it every five or even six years, it seems like. But they weren't sure when ---

when that was going to happen.

And when it does --- when they do review it, they aren't --- they aren't sure whether they --- the MCLs would change based on the water quality criteria changing.

But they do --- EPA does make it clear on their website. And I --- I think Erica stated this, that sometimes the criteria are going to be higher than MCLs. They need to linked to an MCL right there in there --- on their page so that you can check that.

But generally, these --- these criteria are calculated, as you guys know, based on the available science and based on the methodology. And if they end up being different than MCLs, that's --- that's just the --- the way that they are, because they're calculated, you know, given all the information that is taken into consideration.

So the MCLs may be changed to --- up to --- to match criteria, they may not. We don't really --- really know what --- what they're going to do.

MS. ROSSER: I have written down in my notes, too, that they would allow states to default to the MCL if that was safer criteria.

CHAIR: Right. I --- I --- yes, I think

Erica did say that, that if states wanted to use the MCL instead of --- instead of a less stringent criteria, that they would --- they would be okay with that.

So we also have ---.

MR. MANDIROLA: Also in some cases --- in some cases, states have changed their work only standard to the MCLs. And not always more stringent, sometimes it's less. We've got approval to do that on some of ours ---

CHAIR: Okay.

MR. MANDIROLA: --- if I'm not mistaken. The Benzene might be one of them, where the actual carcinogen water quality standards are lower than the MCL. We've got to water quality standard at the MCL, I believe.

CHAIR: Okay.

So let me do it both ways.

Okay.

So we also asked how many of those states rely solely on EPA's recommendations. You know, we know West Virginia is looking into these criteria. You know, that Delaware is looking to calculate bioaccumulation factors. And the question was just generally, do --- do other states do this there.

Their response is mostly, that most states do adopt the criteria as recommended. But some adjustments occur. And again, there are some states that have different populations, like indigenous populations that rely on fishing or some estimates.

There are lots of different factors in other states that when it happened, looked at criteria different or calculated it differently. But generally, they --- most states are adopting the criteria as recommended.

I think Chris has --- I know Chris has looked into each --- each state, and has a --- a list of all the states, and which ones have adopted criteria and which ones have used ten to minus five risk factor and --- and what --- what --- what else that they've dealt with --- 2015 criteria.

MR. BRITTAIN: Hey, Laura, ---

CHAIR: Yes.

MR. BRITTAIN: --- just --- sorry to go back just a little bit. There's one thing I want to let people know about when it comes to that immunogenic compounds and exposure factors.

I mean, anytime we were doing a review of a chemical, and it says it's mutagenic, the correction

for that, it's --- it's a simple factor. The correction for mutagenic mode of action for the carcinogenicity is simply divide the --- in this case, divide your standard, your criteria by 3.1. That's all that they had --- they needed to do to account for mutagenics.

That's what --- that's what I'm going to be looking for, is that they accounted for it that way. And --- and just want to let everybody else know that so they can be looking for it to.

CHAIR: Okay.

MR. MANDIROLA: What's the 3.1?

MR. BRITTAIN: It's because they adjust the age that ---. Because with --- with mutagenic --- or we're talking --- that is for younger kids, they have a higher rate of toxicity --- toxicity response --- dose response than do adults.

So for young kids, now ages zero to six, they get a factor of --- excuse me, zero to two, they get a factor of ten applied to it --- to that toxicity value, the same cancer slope that we --- that you have. You make it ten times more stringent. And then from 2 to age of 16, you get a --- a multiplier of three.

So you adjust the age for the adult --- an adult life expectancy of 70 years, and it ends up

being 3.1 over the --- over the life of the person, so ---.

MR. MANDIROLA: Sorry, I was asking --- okay. I --- I was worried, it had to do with thinking that some mutagenic compounds are not carcinogenic, but actually ---

MR. BRITTAIN: They are. Yeah, they're all ---

MR. MANDIROLA: Yeah.

MR. BRITTAIN: --- carcinogenic.

MR. MANDIROLA: Yeah. Okay. All right. Thank you.

MR. BRITTAIN: This is just the motive carcinogenicity, yes.

MR. MANDIROLA: Yeah, yeah, I got it. Thank you.

MR. BRITTAIN: Uh-huh (yes).

CHAIR: Okay. Thanks, Ross.

MR. BRITTAIN: Uh-huh (yes).

CHAIR: Okay.

So our final slide of our review of the discussion with EPA, there's a couple of questions on it. We talked about more stringent versus less stringent criteria, and EPAs view on whether that can be

a factor or should be a factor in adoption of criteria.

EPA followed --- EPA --- well, Erica answered this question, and said that they followed the signs analyzing criteria. And of course, the states can adopt criteria that are either --- either more or less stringent, as long as they're scientifically defensible, that --- you know, that's up to the states.

And this --- this was just brought up because it was --- it has been suggested that we can only adopt criteria that are more --- that are more stringent.

As far as --- Erica mentioned something about, they don't --- that ---. She --- she mentioned --- she mentioned backsliding. I'm wondering if that was a --- a --- a factor in any of this.

Generally, when EPA updates criteria, they're based on the --- the most recent science, and whether they become more or less stringent. It --- to them, it doesn't --- it --- it doesn't matter if it's their new criteria and it's based on what --- what we know about the --- about the compounds.

So we also talked about how EPAs responding to states who aren't adopting all of the 94 criteria or don't even --- or don't currently have all

94 criteria in their standards, like West Virginia.

They talked about --- Erica talked about priority pollutants, and she said that they may ask states why they do not adopt very many criteria. And that they have the authority to determine if a criteria is necessary for a state, they need to make sure that it's protecting --- the designated uses are protected.

So if there's some reason to believe that the designated uses are not being protected, that they can suggest that the state adopt a certain criteria.

And we're going to talk more about priority pollutants, because --- because that was brought up in that meeting, and --- and it was something at the end of our last meeting that Angie asked that we go into a little more. So that's what we're going to talk about next.

But I did want to mention, that in our revisions that we proposed this year, EPA did comment, of course, on our --- our proposed criteria, which we adopted --- I believe we adopted 24 --- or we're adopting --- proposing to adopt 24 water quality criteria that --- that the EPA recommend we join 15.

And they commented this summer on our proposal. And they didn't --- they didn't ask us to

adopt more than 24, we --- we have recommended they --- they don't --- they're --- they're not proposing that --- they did not specifically say West Virginia should adopt the rest of the criteria, so ---.

I thought that was important to note, that we did have that public comment process in the summer on those 24. EPA did not ask us to --- to adopt additional criteria.

MR. BRITTAIN: Did they give --- just out of curiosity, Laura, did they give a reason, just because it's a recognition that take --- took them 15 years to come up with that with --- with all of those criteria than just say buying us time to go through the others? Is that what they're ---?

CHAIR: No, they said --- they said West Virginia is proposing to adopt provisions of 24 water quality criteria for the protection of human health. The revisions are consistent with the Clean Water Act 304(a) recommending criteria. And we have no further comment.

I'm sorry, go ahead.

MS. ROSSER: They made --- they made the comment in the past. I think the last proposal they --- they did want to hear more explanation of why --- I

think when --- when DEP proposed in six, why the rest were not adopted.

But Laura, I have --- I have a question and then a comment. I have a question on EPA's mention of a region four state that did go with --- go the route that West Virginia recommended to just adopt updates that are more stringent.

Did it --- was anyone able to identify what state that was?

CHAIR: I do not know what state that was. I don't know which one it was.

MS. ROSSER: Okay.

MR. BRITTAIN: It could have been Florida with their BAF issue that's in litigation right now. That's --- that should be reinforced. But I don't know that for certain.

MR. MANDIROLA: Oregon also had fish consumption issues, they adopted higher fish consumption rates, which make for --- for more stringent standards.

CHAIR: All right.

And Washington as well. They have a very high fish consumption rate.

MR. MANDIROLA: That's correct.

CHAIR: But they did allow them to use a

relative source contribution for their noncarcinogens of one. So while they have a very high fish consumption rate, they aren't --- assuming their carcinogens, any of their --- any of their consumption comes from other sources.

Although, I don't --- I don't know which region or state that was, Angie.

MS. ROSSER: Yeah, yeah. So that might be a follow-up question we would have for them.

Have you thought through how you would like to channel any additional questions to them that come up?

CHAIR: I'd like to send them an e-mail of additional questions. But I don't believe that we really articulated those at this point. We had a few that were mentioned in passing like --- you know, you could ask that and we could get back to you. But I haven't made a list of those questions to send to them. But we can do that next.

MS. ROSSER: I have just a comment. I mean, from a --- a --- from a citizen who drinks the water, eats fish, I mean, it's pretty troubling to hear how slow EPA is moving on this, is how limited.

CHAIR: Okay.

MS. ROSSER: I mean, I just --- I take it as a resource allegation issue of why this is so slow. And some of the --- the ---. I mean, it was pretty disappointing just to hear, you know, how the --- the limitations of access to newer science they have, and said it might be another 15 years.

I mean --- so that's --- that's like another --- I mean, that's --- that's a reality. But it's a reality I hope --- I hope will change and that our group will probably advocate for in terms of sources at the federal level being deployed to this just because, you know, we don't have them at the state level.

I mean --- you know, the other side of this is just, you know, I --- from our perspective we can't support any further delays.

Okay?

And --- and we have to go forward with the best we have now. It's just unthinkable to --- to delay, to wait another 15 years and --- and to --- to kind of give that reality check that it could be years and years, I --- I --- who knows if --- if that database will update or, you know ---.

Anyway, I just wanted to put that out

there, that, you know, we remain committed to --- to pushing forward with updates now, and continuing to come back and visit these criteria as the newer data and science becomes available, but not just to do nothing in the meantime.

CHAIR: Okay.

MR. BRITTAIN: I totally agree with you on that, Angie.

CHAIR: Along those lines, Angie, based on the review that we've done to this point and looking into the science that's behind these, do you feel any closer to being able to support the revision of criteria that become less stringent along with the criteria to become more stringent since they all went through the same process?

MS. ROSSER: No, I --- you know, as I said before from the beginning of this, I mean, our members have --- we strongly --- their --- their desire from a policy standpoint, that we do not make any --- this criteria less stringent.

So I --- I understand there's a science question and then there's a policy question. And in terms of the policy question, I don't see our --- our position being --- changing from reporting only adoption

of this that --- that would be more protective and not going backwards, especially considering ---.

I mean, it's a hard people --- it's a hard argument to sell that we should be --- like if this --- it's industrial --- if --- if this charge is permitting --- are --- are complying with current standards, why would we relax them if they're able to do that now?

It just --- because the thought, you know, when --- when people start thinking about relaxing, or removing treatment systems, or board toxins and looking at what --- you know, having the third highest cancer death rate in the nation, why would we increase risk?

We can't --- that --- we're --- we --- we won't get any buy-in from that, from a policy decision standpoint from our members.

CHAIR: Scott, could you give us any feedback? I'm --- I'm not as familiar with permitting as you are.

But can you give us some idea of --- of what ---? Is there a possibility of that, when criteria changed, that even if a --- a permittee can meet criteria now --- can meet limits now, that their limits

would change?

MR. MANDIROLA: Can you hear me?

CHAIR: Yes.

MR. MANDIROLA: Okay.

In most cases where you're talking about a missing zone --- and most of these types of chemicals, you are talking about a mixing zone because you're talking about larger industries typically with taking out a bigger risk. So our policy has been ---. And --- and, you know, Kathy can probably answer this just as well. But our policy has been that you get the mixing that you're --- that you need.

Okay?

So if you got a limit you're already meeting with a mixing level that you've already got or mixing zone you've already got, it's unlikely you're going to get relaxation based on the fact that you're already meeting a limit. What would likely happen is, your mixing zone would be shrunk.

Okay?

Your limit would be higher, but not your actual discharge limit. Does that make sense?

The limit you would have in your permit would be --- would be higher, but the substance --- the

--- the dilution would change in your mixing zone. So what you would be allowed to discharge is --- would be basically the same.

Does that make sense?

CHAIR: Because --- because the mixing zone allows it to --- I think the --- the longer that it's going high --- so the mixing ---?

MR. MANDIROLA: Yeah. Say there's a hundred dilutions available --- say there's a hundred dilutions available, you only need ten.

Okay?

You get ten dilutions. So your end of pipe limit is what it is. But if that all changes, then likely what would happen is, you still --- your dilution may still be --- or the potential dilutions may still be a hundred, but you may not need ten anymore, you may only need two dilutions. So the --- what you actually allowed discharge out your pipe would be essentially the same.

Does that make sense?

CHAIR: Yeah. And I do ---.

MR. MANDIROLA: Okay.

Do you understand what I'm saying? Does that make --- Kathy, was that clear enough, do you

think?

CHAIR: All right.

I think you meant to get off mute.

MS. EMERY: Oh, I'm wondering if --- EPA is --- I heard you say no. Is it the understanding of the mixing zone process.

MS. ROSSER: Yes. I mean, I --- I think I heard what Scott is saying, is the mixing zone becomes smaller. And --- and why would that be? Why --- why ---?

And --- and it's really common --- I mean, we put mixing zones into the mix, the water quality standards, it --- it, like, makes my head want to explode. Because we're talking about not having water quality standards, because we have 16 ---.

CHAIR: Well, I don't want to go down that route at all with the ---.

MR. MANDIROLA: We're not talking --- right. We're not talking about water quality standards. She asked about permitting.

MS. ROSSER: Right.

What's the difference?

MR. MANDIROLA: The --- The water quality standard is what's used to developed your permit limit.

Mixing zones are part of that as well.

Okay?

So the water quality standard may --- may tighten or loosen. That may affect how we permit based on mixing zones. You may get more mixing or less mixing, depending on what you need.

Some states and the policy grant the maximum amount of mixing available to --- for discharging. Regardless of what their discharge --- what they're able to limit their outlet discharge to, we had not known that in the past. We do not give unlimited mixing of whatever is available. We give you enough dilution so that you can meet your discharge limit.

So if there's a hundred dilutions available but you only need ten, and your outlet in order to meet based on what you're currently discharging, that's what you get.

MS. ROSSER: Well, then why --- if it's --- then would that be the case, that --- lower stringent as well, it's not going to make a difference to permitting?

MR. MANDIROLA: Say that again, that wasn't --- I wasn't --- I didn't understand that.

MS. ROSSER: If --- if a --- if a human health criteria becomes more stringent and --- and the permit holder has a mixing zone, that's not --- you're going to say that's not going to make a difference here?

MR. MANDIROLA: No, it becomes more stringent. It depends how much --- how many dilutions are available. If they're already at the maximum amount of dilution and it becomes more stringent, then they're going to have to put controls in to reduce the amount.

If --- if there is additional dilutions available, then they may be able to get additional dilutions up to the amount --- the number of dilutions that are available based on the mixing zone regulations that are in the water quality standards. There are limits on how much dilution you can get. It's based on width, depth, type of discharge, whether it's bad discharge or --- or defuse.

MS. ROSSER: Yeah. Okay.

Well --- you know, I read --- I --- I brought this up in the past meeting. And I --- it sounds like it's going to be very individualized.

But it would be great to have specific information on what are we talking about, what is the --- the impact to two permits that are regulated to the

dates from a financial standpoint to understand that.

I think that goes for reasonable criteria that we're trying to find. And --- and I believe --- I don't know if it was --- we didn't explain to --- to the public, but --- but it's hard to explain. There are more toxins ---

MR. MANDIROLA: Well, you're correct.

MS. ROSSER: --- to outline.

MR. MANDIROLA: You're --- you're correct. You could ---

MS. ROSSER: It's ---.

MR. MANDIROLA: --- you could very --- it's --- it's going to be very individualized. There's not going to be a generic answer. Because every permit, particularly in larger rivers, every permit has different potential dilutions. It depends on the single capacity for the particular compound they're looking for in the river. And it also depends on what the amount is in the discharge.

So it --- it could be very, very individualized answers per discharge. There's --- there's --- there's not going to be one generic answer for everybody.

MS. ROSSER: And am I hearing the

contact, that you believe a hundred percent of --- of permits that have limits --- have human limits --- have human health criteria, would --- would also be --- would also have mixing zones? Are there --- would there be scenarios that we're not talking about a mixing zone?

MR. MANDIROLA: Yeah, it depends if they need it or not. I mean, they --- they typically have to ask for a mixing zone if they want one. And if ---

MS. EMERY: The point is ---.

MR. MANDIROLA: --- their discharge ---.

MS. EMERY: Our permitting staff, like I said, it's very individualized. They're going to go permit by permit. There's not one wholesale answer across the Board.

MS. ROSSER: Right. So they --- so it could be a scenario where they don't have a mixing zone now, but if a --- a criteria got more stringent, then they --- they might want to ---.

MR. MANDIROLA: That is --- that's correct. And they might have a --- you know, for the Ohio River, they may have a --- you know, basically the general mixing zone, which is, it's assuming that everybody can get a mixing zone of this and this. You know, I think it's ten and three.

But you can get much more if you want to get an individual mixing zone, but you have to do it at least a brief study to --- to show that you're meeting it. Some people do that, some people don't. If they don't meet it, then they can get the general mixing. But if they're having trouble meeting it, then they would go get and a more specific mixing zone. So there's all different variety of this. So it is going to be very specific to the discharge.

CHAIR: And each one of those individual permits goes through its own public comment process, separate from everything having ---

MR. MANDIROLA: That's correct.

CHAIR: --- its own water quality standards.

MS. ROSSER: Yes.

CHAIR: So everybody is talking about those as well, which is why I'm always trying to parse down and say, let's just --- I mean, when --- when we're talking about water quality standards, it's good to focus on what water quality standards are, what they do, what they don't do. And they don't categorically change every permit like immediately when they change. And that's why we're going in to talking about the science

that standards are based on.

I mean, even as far as MCL, sometimes standards can be higher than an MCL. And you know that seems silly at the outset. But you know, it's because of the way they're --- they're derived. We've gone into how they're derived. They don't always necessarily change a permit. And they definitely don't change a permit right away. And they definitely don't change a permit without going through an entire review process. Public comment tells us that.

So we're not going to solve the problem of --- of permitting for every --- every permittee in this forum, because we just can't do that.

MR. HARRIS: I hate to ask a stupid question, but we're --- we're in an era of high water from floods, and low water from droughts and ---.

Does the level of the rivers and the volume of the rivers enter into these permits so that a --- polluters can put more in a high water and less in a low water?

MR. MANDIROLA: Only if they have a site-specific --- you can get a permit that would do that.

Okay?

That's the exception, not the rule.

Okay?

Generally, for human health carcinogens 7210 is what's --- I'm sorry, line B, as they flow. For aquatic life criteria 7210 is used.

You can get realtime water quality limits. But in order to do that, you have to have very specific flow measurements of your discharge and then of the river levels. There are some that have those permits.

So above a certain water level, they --- and --- and below a certain discharge level, they have higher limits because there's more dilution. But they have to monitor that continuously in order to get that.

Generally, they don't do that so they have to be cautious for aquatic life on 7210. For carcinogens, it's based on the --- possibly because it's based on long-term averages.

MS. ROSSER: Yeah.

So harmonic mean is the average over all --- basically all of the time that we've been collecting data on it with water. And so it doesn't change quickly. We've got --- we might have a flood year or drought year, where the harmonic mean is --- is going to

stay the same the whole time because it's over a long period of history.

CHAIR: All right. Thank you so much Scott, and Angie, and Kathy and Larry for speaking up and having that conversation. Because I think that is really valuable to talk about what these criteria can and can't automatically do.

So we're going to move on to talk about priority pollutants. Again, Erica mentioned priority pollutants in answering a question at our meeting last month. So we're going to talk about what they are.

Basically, the priority pollutant list was developed after the toxic pollutant list. Toxic pollutant list came first. And then later, they added --- they used that list to come --- come up with the priority list.

And a list was intended to be used by EPA and states as a starting point to ensure that affluent guidelines, regulations --- affluent guidelines and regulations, water quality criteria and permit requirements address the problems of toxics in the waterway.

So it's the beginning --- the beginning list of how --- how we would regulate toxins in the

water back in the '70s.

They used --- back then when they made this list, they used the word criteria to select and prioritize these pollutants. And you can read those criteria there. That's --- that's just how they come up with the list. I put a link here to where this information came from the priority pollutants on the toxic and priority pollutants on the Clean Water Act page, EPA's website.

And when we were talking about EPA, Erica mentioned priority pollutants. And she said that states --- EPA can ask states for an explanation as to why they haven't adopted certain pollutants --- pollutants and standards. That's why we're talking about them today.

So it's important --- and also they note on --- EPA notes on their --- on this website, that part --- parts of the priority pollutant list are outdated. It contains pesticides that are no longer used in the U.S. And so it contains contaminants that are very unlikely to continue to be discharged in surface water, because they are illegal.

So there are several on there that are --- that are in that category. I'm not sure --- I --- I didn't go through the list to see which ones are --- are

in that category. But there are 126 chemicals on the priority pollutant list. West Virginia has a criteria 80 of these. And EPA has recommended criteria for a 121.

So it's --- EPA doesn't have something for ever single criteria that it gets, and the priority pollutants aren't chemicals that you would see in waters anymore. Or at least, it wouldn't --- you wouldn't see it in permits anymore. And we have criteria for 80 of these.

So --- so then it led me to look at what EPA's rules are on recommending the states to adopt a criteria. And when you look at the 304(a) criteria and a reference here to their Federal Rule --- Water Quality Standards Rule 131, states must adopt water quality criteria to protect their designated use. And we have to review water quality criteria to identify specific water bodies, which may be adversely affecting quality or obtaining the designated use.

So that's generally what they say --- what they tell states that they need to --- that they're responsible for, as far as including toxics in their criteria.

And what Erica said is, if it's a

priority pollutant, if EPA has 304(a) recommendations for that pollutants, if the pollutant is reasonably expected to interfere with uses in the state, the state must have an apparent criteria.

So that's --- that's where she --- where they were there coming from, that if --- if there's a reasonable expectation, that a pollutant would exist in West Virginia waterways or would affect designated uses, then you would need a criteria for it.

And of course, EPA can also ask states for an explanation as to why they haven't adopted certain pollutants and standards.

And ultimately, they can promulgate standards for states. But they would start by asking, you know, a state why --- why they don't have particular toxics in their criteria.

And that led me to reiterate about the comments they made to us this year, when we recommended these criteria. I recommended --- I talked about this before.

But this is the comment that EPA made to West Virginia this year, when we proposed these 24 revisions that are currently proposed for --- to the Legislature.

They said that our revisions are consistent with 304(a) recommended criteria. I mean, of course they are, because what we proposed were EPA criteria. The question here is, the one that we didn't propose, they haven't mentioned, haven't asked us to propose the rest of the criteria.

They made up --- like Angie mentioned before, I think that they did mention that on their comment to us previously when we proposed the 56 revisions. But they didn't reiterate that this year, they --- they have instead just said they have no further comment, you know, we're adopting 24 criteria that are consistent with their 304(a) criteria. So although they can ask states to adopt official criteria, in this case they haven't done so.

And that was basically to describe what priority pollutants are, in a general way how EPA recommends the states want to adopt.

And do we --- do we have any comments or questions about priority pollutants? I know this is kind of a rough overview.

MS. ROSSER: Thanks for the overview, Laura. Yeah, I --- I guess my question would be, has the EPA done an assessment of --- it sounds like there

was a two part test here.

Do they exist and is there potential for interfering with designated uses of --- I guess it was --- I'm thinking it might have 41 that we don't have where EPA has a recommendation.

CHAIR: Right.

I --- I --- I would need to look into that a little more to see what we have, as far as assessment. I know that we have --- we have certain known --- known issues like PCBs, and some records or dioxins, you know, in the Kanawha river.

We --- we know about those. And those we have recommended fish --- fish recommendations --- fishing recommendations based upon those. But beyond that, I'm not --- we need to look into them.

MS. ROSSER: Yeah. Because I have --- I mean, you would have to --- have to --- you have to sample for it.

Right?

CHAIR: Right.

MS. ROSSER: But onlooking, do you know how many are in use that are actively being discharged?

CHAIR: I --- I would have to check with --- with permitting on that, see what we have in --- in

--- in discharge.

And that --- I would think that most of the monitoring is done by permittees if they have certain criteria and things in their permits.

MR. MANDIROLA: Keep in mind, the NPDES process, every issuance, and initial issuance and reissuance, permittees for all major individual permits, which would be the industrials, have to do what's called --- I think it's a foresee list of compounds.

And then all of the priority pollutants and a number of other things that EPA identifies in the NPDES program to see if you have reached a potential for anything.

If --- if they show up in that analysis, in the reissuance, then the NPDES folks have to evaluate whether there's reasonable potential to exceed any standards.

So there is a reissuance of general evaluation based on EPA and NPDES lists. It doesn't --- it's not just dependent on the water quality standards. You're not just looking for what each state has for water quality standards, you're looking for --- to get the general list of parameters that EPA has identified in the NPDES program.

Does that make sense?

MS. ROSSER: And then when the --- when the --- your permits are looked at, are they just running it up against what they have existing energy marks.

MR. MANDIROLA: No, they're looking at the entire list of every --- of --- of what you're --- what you're analyzing for.

MS. ROSSER: How ---?

MR. MANDIROLA: If --- well, for instance, for chlorine, I believe it's one. We don't have a standard for it. But it's used in an explosive facility or something in the Eastern Panhandle. I think it's for chlorine. I --- I'd have to go back and double-check.

But we ended up putting a limit in for them, that they ---. This is number of years ago. They appealed it, but it ended up sticking. They accepted it. And it was based on the data that's out there and available. You know, that --- a lot of the data that --- that our folks --- you know, normal toxicity data that's out there, we would look at these again.

We did the same thing with P Box. We don't have a standard for P Box. But we do have a limit

maybe in the Chemours permit. And we based it on the available information that's out there. In this case, the EPA 70 number.

MS. ROSSER: And that did stick?

MR. MANDIROLA: That did stick.

MS. ROSSER: Did that stick with the form?

MR. MANDIROLA: Yes, yes. Yes, it did.

MS. ROSSER: On all feedback?

MR. MANDIROLA: It's CA --- C3 is what we put in there.

MS. ROSSER: I --- I --- okay.

I've been trying to follow the appeals on that, and --- and it --- and it --- another compound, and they --- they appealed. And that they are just monitoring all the events of this?

MR. MANDIROLA: That's correct. There's additional P Box compound and other than C-3 and C-8. Some of the history on that, that I recall, was we requested during the permitting process for them to identify any other derivatives of C-8 and C-3 that might be present.

They sent back to us and said there's nothing else present. So we put in their permit, you

can't discharge anything --- any other P Box compound except the C -- 8 and C-3.

And I believe they then appealed it, and said no, no, we actually like having derivatives in there. So we put monitoring in there for ---. And they now have to monitor to determine whether they have other P-Box compound in their discharge, on top of the C-8 and C-3 limits.

And I believe it's a --- a history --- something very similar to that, I believe.

Now, Jason may know more because he has been involved in that. But that was the last, that I recall ---

MS. ROSSER: Yeah.

MR. MANDIROLA: --- having been somewhat involved.

MS. ROSSER: May I --- I just --- I just wonder was there any enforceability of --- of setting limits out?

Anyway, Laura, this might be a wonderful ---.

MR. MANDIROLA: And the point I was trying to make was, it --- the issue is, they are analyzing a bigger list that just support a quality

standard.

So there is some data out there to determine whether folks have --- or when there's certain compounds that we may not have a water quality standard for are present to be discharged.

MS. ROSSER: Okay.

Well, that's --- that's somewhat reassuring to hear. I --- it just --- I still don't know why that would preclude us from developing water standards around these --- these 41.

CHAIR: It wouldn't preclude us from it, it's just it's Scott pointing out that there are several chemicals that are in --- that we don't have standards for, for various reasons.

And thank you again, Scott, for chiming in, that was super helpful.

Okay.

So if we're ready, and we want to talk about the other system a little bit before we finish up today.

MR. BRITTAIN: Laura, one comment I'd like to make before we move on there. Just, you know, we've also been talking about NPDES permits.

But you know the bigger issue for most

water qualities --- actually, not employed source stuff, you know ---.

I know for example, in our particular world, in remediation, we have discharges from contaminating groundwater coming into --- coming into surface water that we deal with on a regular basis.

And that's not regulated under an NPDES permit of any kind. So we're --- you know, we're obviously doing what we can to stop these discharges as quickly as possible. But they are --- they are expensive to stop and time consuming to stop, so ---. They're ongoing.

CHAIR: Right.

MR. BRITTAIN: Some of them are worse than others. And a lot --- and a lot of them end up on on the surface water.

CHAIR: All right.

And we would --- we would need to expand our Assessment Program to be able to test for --- for background, just in general not associated with permits.

MR. BRITTAIN: Yeah. From --- from my standpoint, when I look at those chemicals that are not on --- that we do not have water quality standards for, the one that standards out in my mind is NAFALE because

that is common contaminant in gasoline leaks from gas stations all across the state, so ---. And --- and it's --- and it's very toxic as well, so ---.

That would be the one that I would look at and say, it --- it --- I'm concerned about the fact that --- that it's not all there.

CHAIR: Okay. All right.

So let us move on and talk but IRIS System, Integrated Risk Information System. This the --- what --- what is used by EPA to identify characteristic health hazards of chemicals that are found in the environment. And again, I have a list --- a link down here to a website for this.

So our assessments provide several indicators that are used in various --- various areas in addition to water quality standards.

But for water quality standards, it's what we're --- what one would provide as a reference dose, which is an estimate of daily works --- or world --- world exposure to human --- human population that's likely to be without potential risk.

So it's --- a reference dose is the --- the dose that a --- a human cannot have a --- have a risk of a --- of an effect from.

And then it also provides cancer descriptors, which characterize the likelihood of the cancer being --- or the chemicals being carcinogenic.

And there are different descriptors that they use. They either know the cancer --- chemical is carcinogenic, or it's likely to be, or there is suggestive evidence of it being carcinogenic, or sometimes they have inadequate information or they can list it as not likely to be.

So there's a --- a wide range of --- of information known and unknown to determine whether a chemical is a cancer causing --- causing agent. And in many cases, they just aren't certain.

So to talk about what the IRIS --- the IRIS does as far as a risk assessment. So risk assessment is a four step process that's described by the NRC, which is the National Research Council. And it's --- risk characteristic --- characterization is the characterization of the potential adverse human effects of human exposures to environmental hazards.

So in this process, this flowchart here is from --- from a website that I referenced on a previous page. The IRIS System helps with the first two parts of this process, which are the ones that are

highlighted in green here. It does hazard identification and it also does dose response assessment.

Hazard identification identifies incredible health hazards associated with an exposure to a chemical. And a dose response assessment characterizes a quantitative relationship between the chemical exposure and the credible health hazard. And these relationships are to be used to --- to --- two different --- arrived toxicity findings.

The public forum ---

MR. BRITTAIN: You froze up on us, Laura.

CHAIR: --- of the dose response was the ---.

COURT REPORTER: I'm having trouble hearing you, Laura.

CHAIR: It was a reference --- reference dose that was known for these --- these chemicals.

COURT REPORTER: I'm having trouble hearing you, I'm sorry.

(WHEREUPON, AN OFF RECORD DISCUSSION WAS HELD.)

MR. HARRIS: And while we're waiting

again. I was just wondering here --- in my longest fishing in the state, and talking to various fisherman, many of our West Virginia stocking truck followers are poachers, and take a lot more fish than you think they do and put it in their freezer and eat it all year.

So the actual fish consummation, I think is much higher for West Virginians than what you think it might be, anyway. It's hard to put that in perspective, I realize, because it's not a scientifically objective grade.

MR. BRITTAIN: Well, let me --- Larry, we did a fish consumption survey not too long ago, and it came out at like 9.9.

We are not using that in the calculation of these criteria, we're actually accepting EPA's new revised fish consumption. Which Chris, if I'm not mistaken, it's not 17 anymore, right, it went up?

MR. SMITH: Twenty-two (22).

MR. BRITTAIN: Twenty-two (22).

Right?

MR. SMITH: Yes, it did. Yes.

MR. BRITTAIN: Okay. Yeah.

MR. SMITH: Right.

MR. BRITTAIN: So we're --- we're using

22, which actually based on the survey that we did is over twice what the consumption rate in West Virginia is.

So we should be in the --- in the area of protecting, based on that, I would assume, Larry.

Does that make sense?

MR. HARRIS: Yeah. Well, certainly, it does. I didn't know you were doing that.

MR. MANDIROLA: Yeah, we're ---

CHAIR: It's so good to hear ---.

MR. MANDIROLA: --- we're accepting EPA's. We didn't go by ours.

CHAIR: It's so good to hear that you guys used your time wisely when I got picked out of the meeting and tried to get back in. And I come back in here, and you're still talking about standards. Thank you.

Again, Scott, I can't thank you enough for how much help you've given today.

MR. MANDIROLA: I try.

CHAIR: Thank you so much. I was ---.

Is there anymore follow-up about that, Larry, about fish consumption rates?

MR. HARRIS: You're muted.

MR. MANDIROLA: Okay. I'm okay.

CHAIR: Awesome. All right.

Can you guys see my screen again?

All right.

So this was the last slide about the IRIS System. I was going to go all into Benzo(a)pyrene for this meeting, but it turned out that it was harder than I thought it was going to be, and I had less time than I anticipated I would have.

So I --- I'm asking Ross if he could help us out with the next meeting to talk more about Benzo(a)pyrene. So all I have for now is this little slide talking about general information about the chemical that's available on IRIS database.

And so in the executive summary which I sent out to you all right after the last meeting, you --- right now if you looked into it, you would see that they talk about the general properties of Benzo(a)pyrene and that it's neurodevelopmental effects are determined to be the most sensitive of the possible noncarcinogenic effects.

But Benzo(a)pyrene is considered a carcinogen, so it's calculated as such on EPA's criteria. And so --- and also the --- the revision to

the IRIS database changed the cancer slope factor of Benzo(a)pyrene from 7.3, which is what it used to be to 1. And that's what we would talk about --- what we can talk about in the next meeting what exactly --- what exactly informed that change.

And I do apologize that I don't have that for this meeting, but again I think we will have a much better discussion led by Ross on this topic next time.

So with that, go ahead. Somebody.

All right.

With that, if there's any additional discussion that we want to have before we talk about the next meeting, then we can go back and look at any of the slides that we went through or --- or I can get off of these slides all together if you want to just talk about anything else.

And I think we had some really useful discussions today that were --- that kind of went off in a very useful tangent from what we --- from the questions that we had talked with EPA about last month. So I'm really appreciative of everybody chiming in and having those discussions and ---. Yeah. And I think that's --- I think that was really helpful.

Let's --- let's talk about the December

meeting that's coming up. So like I said, I would like to talk more about Benzo(a)pyrene update, the cancer slope factor to that chemical in the IRIS database next month. If --- if there are any other suggestions or any other things that we want to talk about ---.

Let's see. I think there might have been something.

Angie had asked about the Region --- the Region 4 state that was looking to adopt less than 94 criteria. I can check with EPA about that. And we might be able to just get an answer to that pretty easily, not having to go into in the next meeting. I might be able to send you an e-mail about that.

MS. ROSSER: Right.

Is it possible that we can look at --- of those 41 priority pollutants, which ones are in use in West Virginia? Do we have enough time between now and December to get that information?

CHAIR: Yes, I think we should be able to do that.

So basically the --- which ---.

Go ahead.

Is that Scott?

MR. MANDIROLA: Yes.

Is Benzo(a)pyrene the only one that has changed significantly since they did the update in --- in that list?

CHAIR: IRIS does toxicity reviews --- toxicology reviews periodically. And that is the only one that has popped up to us, that they have done since the 2015 update.

MR. MANDIROLA: Okay.

Of the --- of the compounds we're looking at right now, the 24, that's the only one?

CHAIR: It's the kind of revision that --- I believe --- I believe so. I believe that is the only one ---

MR. MANDIROLA: Okay.

CHAIR: --- that had a new tox review in the IRIS database since --- since December 2015.

MR. MANDIROLA: But it's updated to a compound.

Is that right?

Because it's not just --- it's --- it's used for other ---

CHAIR: Yeah.

MR. MANDIROLA: --- EPA?

CHAIR: And that's ---.

Yeah. That's why --- that's why it's so important that we look at it, because it affects several other compounds as well. Because many of them --- I noticed --- those other compounds are based off of the info for Benzo(a)pyrene.

MR. MANDIROLA: Okay. Thanks.

CHAIR: Yes, we --- we will look into and report back about what --- what compounds are in permits in West Virginia that aren't in standards. We can do that.

Do we have any other suggestions for what we can talk about in December?

And since we've had this meeting earlier in the month, we'll also have a December meeting a little earlier in the month, so ---. But it will be four weeks from now. And I'm thinking December 17th, if that's ---.

MR. BRITTAIN: That's actually a Thursday, Laura.

CHAIR: Oh, yeah, I was thinking last minute --- I'm thinking Wednesday. And I was like, I'm pretty sure that's actually a Thursday, yes.

I'm trying to recall why I needed it to be Thursday. But I think there was a reason that

Wednesday wasn't going to work.

So would Thursday, December 17th work for everyone?

MR. HARRIS: Works for me.

MR. MANDIROLA: Works for me.

CHAIR: Hearing --- hearing no objections, we will go with that date and time. And I'll send it out to you next week, so marking it off the calendar.

And I think that's --- that's the last slide, of course.

So yeah. So next month we'll talk about Benzo(a)pyrene. Ross will help us with that. Talk about what happens by the cancer slope factor change, and why that's important and the other chemicals that it affects.

We'll also look into --- of the priority pollutants on that, West Virginia doesn't have criteria for, which one of those here that we --- that we use in West Virginia and any permits that we have.

MS. CROWE: It would be useful, too, if we could look at the permit limits and compare those with the criteria.

I don't know if that's possible for all

40 of them. But maybe just like a case study looking at one of them or a couple ---.

CHAIR: Yeah, we'll --- I'll see if --- I'll see if we can --- if we can arrange that.

MR. MANDIROLA: What do you mean by that, I'm --- I'm confused? The permit limits?

MS. CROWE: Just looking at comparing the permit limits to the discharge limits, if there are discharge limits, with the EPA recommended criteria.

MR. MANDIROLA: For the compounds we don't have standards for, is that what you're saying?

MS. CROWE: Right.

MR. MANDIROLA: Yeah, it's just likely only going to find --- the only ones that I'm aware of, that we have limits and permits that we don't have standards for are going to be Safety 3 and then that --- I think it's for chlorine. I don't think we have any others that have limits.

Is there ---?

MS. HENTHORN: I'm aware of others.

MR. MANDIROLA: Okay. Great.

That's everything I ---.

CHAIR: Okay. Yeah.

So we'll look into that. We'll have that

for next time.

And if --- if we don't have anymore discussions, I hope everybody has a lovely and safe Thanksgiving holiday.

MS. ROSSER: Thanks, Laura.

MR. BRITTAIN: Thank you, Laura.

MR. HARRIS: Thanks, Laura.

MR. MANDIROLS: Likewise, Happy Thanksgiving everyone.

* * * * * * * * *

VIDEOCONFERENCE MEETING CONCLUDED AT 11:39 A.M.

* * * * * * * * *

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.

I certify that the attached transcript meets the requirements set forth within article twenty-seven, chapter forty-seven of the West Virginia Code. This notarial act involved the use of communication technology.

Court Reporter
Danielle S. Ohm