

STATE OF WEST VIRGINIA
DEPARTMENT OF DEPARTMENT OF ENVIRONMENTAL PROTECTION
HUMAN HEALTH CRITERIA WORKSHOP

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BEFORE: LAURA COOPER, Chair
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 AUTUMN CROWE, Member
 KATHY EMERY, Member
 CHARLES "LARRY" HARRIS, Member
 JENNIE HENTHORN, Member
 SCOTT MANDIROLA, Member
 ANGIE ROSSER, Member
 CHRIS SMITH, Member
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 JASON WANDLING, Member
 DAVID YAUSSY, Member
 KERRY BIRD, Member

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P R O C E E D I N G S

CHAIR: Okay.

So welcome to the Human Health Criteria Workgroup. And today, our workgroup is really going to earn its name. Because this is a real --- this is a real working session. I've been kind of worried getting prepared for this one, because I don't have it all planned out. Like in the past, I would be like well, I know everything we're going to talk about. Here's every slide that we're going to go over today and, you know, it will all --- it will all work out to --- here he is. There's Larry. He's joining now.

But today we're going to be doing some real work through these flowcharts that have been developed by various members. And I'm really appreciative of that work. Thank you for everything you've put into it. In the meantime, as far as making that flowchart, communicating with us about it, and us having discussions in the meantime before these meetings. Because we only have two hours to these meetings, so it's nice to be able to do some discussions on the side between. And I think we'll need to do that again before next meeting.

1 But first, I wanted to do a quick recap of
2 the last meeting. We had --- the first thing we did is
3 we finalized our goals. And I can bring those up and
4 show them if anybody wants to kind of look at them
5 quickly before we get started. And unless anybody speaks
6 up, I'm going to just read what our goals are.

7 Our goals are to learn about water quality
8 standards, how science is used to determine these
9 standards, and about recent changes made by the EPA, to
10 reach consensus on science-based standards that protect
11 West Virginia citizens against water pollution, and to
12 recommend to the Secretary the above standards for
13 approval by the EPA and legislature. So we did that last
14 time.

15 And then we moved into discussing the 25
16 15 updates and how we can get through these remaining 36
17 criteria. We looked at them by groupings. Chris showed
18 us this spreadsheet where he had grouped them and how ---
19 what EPA had updated in 2015, whether they had updated
20 the bioaccumulation factor, cancer slope factor, or RFD
21 or both of those. And we kind of looked at them that way
22 in those groupings.

23 We talked then about whether we can adjust
24 the BAF when CompTox has a very different BAF. And that

1 was something that we just kind of talked about and will
2 talk about again in the future when we work on another
3 flowchart for BAF I think. That will be probably
4 something we do maybe next meeting and between now and
5 next meeting. But I'm getting way ahead of myself.

6 Okay.

7 So also at the January meeting, I said
8 that I would also ask EPA about the use of CompTox BAFs.
9 We did ask EPA about that and also about the use of tier
10 2 and tier 3 cancer slope factors in RFDs. And we didn't
11 get like a really solid response. Just basically that we
12 would need to consult with them on each of those, because
13 that's --- that would be sort of on a case-by-case basis.

14 So that's going to be --- I mean, that's
15 going to be a sticking point probably, because we can't
16 just --- in order for them to approve criteria that we
17 recommend, that we make revisions to, we're going to need
18 to have some conversations with them whenever we decide
19 to do that kind of thing.

20 So after that, in last month's meeting, we
21 moved onto Jennie's spreadsheet, which she had put
22 together. She had listed the remaining criteria and came
23 up with 18 that might have been --- that might be
24 something that we could agree upon. And while that might

1 be 18 that we could agree upon, we kind of got into this
2 --- well, we kind of made a flowchart, a decision-making
3 tree to decide, you know, for each one. And so that's
4 how we got to where --- where we are today in having
5 these flowcharts.

6 And during Jennie's presentation, we
7 talked a bit about gamma-BHC among those 18, because
8 CalEPA had a study that was more recent. And we also
9 talked a bit about ethylbenzene, which was another
10 concern, because EPA uses the RFD, which is the
11 non-cancer --- non-cancer way of calculating the
12 criteria. But CalEPA has a cancer slope factor, so we
13 weren't sure about that one either.

14 And again, I said I would talk to EPA
15 about using its tier II and tier III, and they told us
16 that we'd need to really discuss that further.

17 So do we have any --- thanks for hoping in
18 here, Larry. We were basically just going over a review
19 of last month's meeting. So after that review, does
20 anyone have any comments on any of that from last month?

21 All right. I don't see anybody unmuting.

22 So we can move on to talking about the
23 flowcharts that have been produced this past month. I
24 wanted to start with looking at West Virginia River

1 Coalition's flowchart. It was updated again just
2 yesterday. And I don't know that --- I don't think
3 everybody has seen it yet. I don't think I sent it out
4 yesterday afternoon, but we can start with looking at
5 that one.

6 So basically Jennie produced a flowchart.
7 And Autumn produced a flowchart. We have comments from
8 either groups on those. And I just wanted to look at
9 those to start out today.

10 So if --- Autumn, would you like to share
11 your screen and go through your flowchart, or do you want
12 me to do that?

13 MS. CROWE: Either way, I don't think I
14 have the capabilities to share. So you either have
15 to ---.

16 CHAIR: Okay.

17 I can share my screen and you can kind of
18 walk us through it and we can talk about it.

19 MS. CROWE: Okay.

20 CHAIR: All right. So everyone has seen a
21 version of this flowchart, but not the revised version
22 from yesterday. So if you want to --- connect my people
23 that are here. Everybody gets small when I share my
24 screen. Yeah, if you want to walk us through this, that

1 would be great.

2 MS. CROWE: Sure. So basically we start
3 out --- we kind of took what Jennie had done and modified
4 it a little bit, where we saw, you know, a need for
5 additional information. And then from --- so from the
6 previous version, we also discussed with DEP, and Ross
7 had some suggestions for how to modify it further to get
8 some of the questions that were lingering around using
9 the five-year age of data as a qualifier. And so
10 basically you have the parameter of concern and you
11 identified the toxicity value that was used in the
12 calculation.

13 And then you go through the process of
14 tier I. And we actually split out tier II and tier III,
15 because we felt like, you know, while you can look at
16 them concurrently, there was a preference for tier II
17 over tier III. So we felt like that should be spelled
18 out in the decision flowchart. So there's a lot of --- a
19 lot of decisions and a lot of arrows pointing you back to
20 different directions that basically you go through and
21 look at IRIS tier I. And if that IRIS value is more
22 recent than the calculation from 2015, then you would
23 accept IRIS. If it's not, then you would go into the
24 tier II databases.

1 And in tier II, they haven't been
2 thoroughly as vetted as within IRIS, so you would also
3 have some additional criteria, whether the value in the
4 tier II databases follows the current toxicology
5 methodologies and whether it has a higher confidence than
6 the value used in 2015.

7 I'm not as familiar with the toxicology
8 methodologies and the --- Ross is saying that the
9 confidence has a ranking, like high, medium, or low. So
10 we might need to discuss that further, like what is, you
11 know, the accepted methodologies. But we could put that
12 in like a --- an addendum or something to kind of explain
13 what exactly we're looking at when we're looking at those
14 different methodologies.

15 So then if it meets them --- all of those
16 criteria, then you would accept tier II. If it doesn't,
17 then you would go into tier III. And then tier III, you
18 go through the same steps, is there a value that is more
19 recent than the 2015 value, does it follow the current
20 methodologies and is there a high confidence in that
21 value? And then you would accept tier III.

22 If there's nothing in tier II or tier III,
23 then you would go back to IRIS and see if there's, you
24 know, something in IRIS that might not be as recent, but

1 has the methodologies and the confidence that you need.
2 And then if you can't get anything out of IRIS tier II or
3 tier III, then you would go back to the criteria that was
4 used in the 2015 calculation.

5 CHAIR: All right. Thank you for going
6 through that. There are a couple of things that we ---
7 we've put together a flowchart that looks a lot like
8 this. But we were thinking that --- to base it directly
9 on 2015 is a little limiting, because we want this to be
10 able to work for any criteria. It might be a criteria
11 that doesn't have a recommended criteria yet, or you
12 know, if EPA in their infinite wisdom ever decides to
13 update the criteria again, then it would, you know, 2015,
14 having it in here would be --- it would be out of date at
15 that point. So we did want to maybe make it so that it
16 didn't refer directly to 2015 or the 2015 updates.

17 But I do --- I do think it's important
18 that we separate tier II and tier III because it does
19 seem to be a hierarchy there between those, despite even
20 just the name. But I think that just even beyond the
21 main tier II and tier III, there is a hierarchy there
22 based on that.

23 Whereas the tier II is the --- is EPA's
24 provisional peer review toxicity values, and then tier

1 III includes, you know, other agencies that have put
2 things together --- put these values in.

3 So do we want to also look at --- Jennie,
4 would you like to go through your --- the flowchart that
5 you prepared as well, or should we move on to a flowchart
6 that Ross has put together for us that kind of, I think,
7 addresses all of our concerns? I think we might be able
8 to ---?

9 ~~MS. Henthorn~~: Let's just move on.

10 ~~CHAIR~~: Okay.

11 So I want to show you this other one.
12 Wait. I'm not showing the whole screen, so it will be
13 right here. No. Sorry. Here we go.

14 Okay.

15 So Ross was very kind to put this together
16 just last night. And on --- last night, I guess, on
17 paper. And then put it into word this morning. So I
18 really appreciate that effort.

19 And this --- if you want to go through
20 this, Ross, for us, and then we'll talk about the things
21 that I mentioned. And also, Autumn, we totally
22 understand your thoughts about the methodology and the
23 confidence value and we'll talk about that in more --- in
24 a bit. But we wanted to get --- get --- look at this

1 first. And then we'll decide about --- then we'll talk
2 about how we can decide on methodology and confidence.

3 MR. BRITTAIN: Sure thing. Thanks, Laura.
4 So, you know, we talked with Jennifer yesterday and,
5 of course, we had conversations with Autumn as well. So
6 I was trying to accommodate, as much as possible, the
7 concerns that every --- each group had about the decision
8 process for picking out the different toxicity values.
9 So rather than --- rather than --- and I know that, you
10 know, the manufacturer's association had a particular
11 concern about referring back to the 2015 guides, like
12 default saying that those are the way to go. And we kind
13 of agreed that, you know, under certain circumstances,
14 you might not want to go that way, because there may not
15 be values there especially.

16 So rather than going with that assumption,
17 I just started off by saying let's look at IRIS. IRIS is
18 the gold standard. And is there a toxicity value in
19 IRIS? If there is, then you ask the question of is there
20 something that a more recent toxicity value has been
21 developed either under tier II or tier III and --- or is
22 the IRIS value more recent than any tier III or tier II.
23 And if so, then use the IRIS value. But if there's some
24 more recent information that has come out, then you can

1 go back down to double check. First, tier II, because
2 that's the preferred --- that would be preferred over any
3 tier III as well. And remember that the tier II is ---
4 it's actually reviewed by the same people that do the
5 IRIS. The only difference is that they did not reach a
6 full consensus to get it listed in IRIS. They came up
7 with a provisional level. That's what the P in the PPRTV
8 stands for. It's provisional, saying they don't --- they
9 don't have full contingency on it yet, but it's undergone
10 the same kind of thorough review that any IRIS value
11 would have. So that's why it's tier II.

12 So tier II, go through the similar
13 question we asked before about, you know, did they use
14 the most updated toxicology methods in that tier II
15 value. If yes, then you move onto the next question. If
16 no, then you should check it out to tier III values next.
17 But if it was a yes to the updated toxicology
18 methodology, then you look at does it have a higher
19 confidence rating, the low, medium, high type of rating
20 then what was used in the IRIS. And if it used more
21 modern --- more updated methodologies, and has a higher
22 confidence rating, it should definitely be used over the
23 old IRIS value.

24 If, however, it didn't have the higher

1 confidence, meaning even the older IRIS value is ---
2 still has a higher confidence, then we should still keep
3 the older IRIS value. So that would take you down to
4 looking at tier III and see --- and do the same sort of
5 processes of --- for any tier III value, CalEPA, Office
6 of Pesticide Program, that's what we --- ATSDR, New
7 Jersey DEP has a few values as well, and of course,
8 there's Health Canada. There can be other sources as
9 well, but those are the big ones.

10 And then you ask the same set of
11 questions. Is there something there that in tier III, is
12 it --- does it follow more up to dated toxicology method
13 than IRIS? And did it --- and then if so, then did it
14 --- does it have a higher overall confidence rating.
15 Then if so, then you should use the tier III value.
16 Otherwise, you should default back to the IRIS value if
17 there is one. And obviously if --- this is something
18 that we haven't put in here, but if there are no options
19 in any of this, then just --- there's no --- no value to
20 chose from. If there's nothing in IRIS tier II or tier
21 III, obviously there's no value to chose from. Just
22 assume that there is some sort of a value out there.
23 That's something I --- you know, as I was thinking about
24 it, because like I said, it puts it together pretty

1 quick.

2 As I was thinking about it here, going
3 through it, there could be another off ramp for if
4 there's no value whatsoever.

5 And then I guess one other question I have
6 for you, Jennie, is on the --- from the manufacturer's
7 side of things, you know, when I go down to tier III,
8 because you had also had expressed concerns about tier II
9 and tier III, looking at them both simultaneously. And
10 they are really different. But in that bottom row, where
11 we're looking at tier III, it's like we can also compare
12 to tier II as well, not just tier --- not just IRIS, but
13 compare to tier II. So I wanted to get your thoughts on
14 that.

15 MS. HENTHORN: Honestly Ross, that was the
16 only comment I had is that we're only comparing it to
17 IRIS. There may be some merit to comparing it to tier
18 II. But when I was thinking through it, if you're
19 comfortable with the tier II is not acceptable for the
20 purpose, then it should work. It may be --- it would be
21 good to work through one of the ones where they accepted
22 a tier III, just to make sure we don't see an issue with
23 it, but I think logically it makes sense.

24 MR. BRITTAIN: Uh-huh (yes). Thanks,

1 yeah. And that was --- that was an area, I was wondering
2 if you would --- if you would have any issues or any
3 questions there.

4 MS. HENTHORN: I think I'm okay with it.

5 MR. BRITTAIN: Good. I'm glad to hear
6 that. Maybe building an off-ramp for when there's no ---
7 no values in any of those categories.

8 MS. HENTHORN: Yeah, I was wondering about
9 that actually. I mean, what do you do if there's
10 nothing? Just don't do --- stop.

11 MR. BRITTAIN: Uh-huh (yes). Yeah. Yeah.
12 I want to think that ---.

13 CHAIR: Is that kind of where we are with
14 the PFAS chemicals. for example. right now? Like are
15 there any tier II or tier III values?

16 MR. BRITTAIN: Yes and no. This is ---
17 you would do this for your CFS value. And then you would
18 do it again for your RFD value. So you have many
19 chemicals that have either CSF or an RFD, but don't have
20 both. So you can easily come up with --- come across a
21 dead end where there's nothing there. So that's where I
22 think that I do --- we do need to add something on that
23 --- something on that. So you may come up to --- against
24 that dead end for a CSF value, but you've got it for your

1 RFD. And the RFD, if you chose --- and, of course, if
2 you have both an CSF and RFD, you should chose both. Run
3 the numbers and find out which one is more conservative.
4 But that's another routine, another flowchart.

5 CHAIR: So a question for Autumn, and of
6 course, you can comment on anything else, too. But how
7 do you feel about starting off with is there a toxicity
8 value in IRIS rather than referring specifically to 2015?

9 MS. CROWE: I mean, I think it makes sense
10 if this is going to be used, you know, separately from
11 the criteria that's --- that was developed in 2015. If
12 this is going to be used for other criteria. And then
13 also, you know, if this is going to be used going
14 forward, then it doesn't necessarily make sense to
15 connect it with the 2015 values.

16 MR. BRITTAIN: Yeah.

17 MS. CROWE: But one of the questions I had
18 when developing the --- going through flowcharts is, you
19 know, was the 2015 --- were they using the IRIS database
20 mostly?

21 CHAIR: And that's a great question.
22 We're going to go onto that pretty soon, where Chris has
23 put together some information that shows exactly what EPA
24 did use. And then if you ran that through this kind of

1 flowchart, would we have come to the same decision?

2 And then we've had some noted where we
3 have questions --- further questions and some where we
4 don't have further questions, because we would have come
5 to the same decision with this flowchart.

6 MS. CROWE: Another question I have is,
7 you know, in the tier III data, there's so many options,
8 like how do you chose between those options if everything
9 else is equal in the other criteria? Like they use the
10 same methods and they have the same confidence, but they
11 came up with different values. So that's something we
12 might --- I don't know if we'll run into that or not.
13 But something ---.

14 MR. BRITTAIN: Yeah. Theoretically it's
15 possible. Just knowing the tox data that's out there,
16 though, it's going to be --- the probability of it
17 happening is extremely low. You know, they'll be ---
18 they'll come up with different values because they used
19 different methods.

20 CHAIR: So the other thing is --- I don't
21 know if you guys can see my cursor, and I can't figure
22 out a way to make it bright. But the middle of the
23 chart, where we talk about does the tier II value or does
24 the tier III value follow updated toxicology methods?

1 And does it have a higher confidence rating? These are
2 really big questions. These aren't questions that we can
3 just answer by quickly checking the database.

4 This would have to be looking into the
5 actual methodology of the study that produced the tier II
6 or tier III value. And it would look into --- and I
7 don't know that these databases actually determine a
8 confidence rating like they do in the IRIS database,
9 where they rate it as high, medium, or low confidence.
10 But in these tier II and tier III sources, I don't know
11 that they do that. And that's --- that's kind of why
12 they are tier II and tier III sources, I would imagine.

13 To make it to the IRIS database, it has to
14 be fully vetted by EPA and not only the EPA provisional
15 --- you know, in the provisional group, but actually to
16 get it from that provisional group to the tier I IRIS
17 database, it's strongly vetted. And that's kind of the
18 vetting that we would be doing in the middle of this
19 flowchart, to make those decisions to use the tier II or
20 tier III value. And that's going to be a challenge for
21 us in the Water Quality Standards Group, me and Chris,
22 and it might be a challenge actually defending that to
23 EPA, saying we did this. We determined that the
24 methodology is good. We determined that the confidence

1 interval is adequate. And we would like to go with the
2 tier II value or whatever.

3 So there's a lot of questions there. But
4 I think it is interesting that when you use this
5 methodology, we will --- we will find that for the
6 decisions that EPA made in their 2015 update, there are
7 many criteria for which we would have come to this --- we
8 might have come to the same decision.

9 MR. BRITTAIN: I can say to you,
10 Laura, ---.

11 CHAIR: Further --- go ahead.

12 MR. BRITTAIN: I can tell you that under
13 tier II, they also rank it with the confidence rating as
14 well. Those two have a confidence rating. Under the
15 tier III ATSDR will give you a confidence rating.
16 CalEPA, New Jersey, and OPP, it's hit and miss. So
17 usually they do. They're supposed to. But they don't
18 always. I've seen circumstances where it's not there.

19 CHAIR: And do they use the same criteria
20 for that confidence rating that anyone else would?

21 MR. BRITTAIN: Yeah. It's somewhat
22 subjective just from chemical to chemical. But
23 generally, yeah, it is the same criteria. They're trying
24 to standardize that as much as possible.

1 CHAIR: Well, that's good to know. But
2 again, when we go to EPA with revised criteria, we're
3 going to have to --- I mean our defense of that criteria,
4 when we propose it to them, would include whatever we did
5 to come to that conclusion. But we would want to talk to
6 them in advance also to make sure that it's --- that it's
7 going to be all good whenever it finally gets to them.

8 So when we talk about updated toxicology
9 methods, is that something that is standard, that updated
10 methods are better than older methods?

11 MR. BRITTAIN: Like using updated methods,
12 we're talking about sample size, whether or not --- how
13 long of a study is it? Is it one generation? Is it
14 multi-generations? Are you looking at both sexes, male
15 and female, across multiple generations? You know, the
16 type --- are you using a roots root extrapolation,
17 meaning, you know, maybe somebody --- you're using ---
18 you dosed your rats or mice with the inhalation and
19 you're extrapolating to what would be the thermal contact
20 or ingestion, something like that. So those are the
21 types of factors that we're looking at and determining
22 whether or not you're following appropriate methods. You
23 want the dose to be the --- related to the actual
24 response, meaning --- in this particular case, we're

1 talking about injection. So you want the dose to be via
2 ingestion, not thermal contact or inhalation. Anything
3 that --- those are the kind of factors that we're looking
4 at to determine whether or not it's the most applicable.

5 And unfortunately, like I said, you said
6 --- as I mentioned to you yesterday, Laura, I think that
7 right now, I'm probably the only person on this group
8 that has the expertise to be able to do that kind of
9 analysis. And I don't want to put all the eggs into one
10 basket. I'd like to have some --- at least be multiple
11 eyes looking at that. So that would be the one thing
12 that I have to be concerned about doing that kind of
13 analysis.

14 Now, when it comes to looking at the
15 overall confidence rating, that's going to be the
16 confidence rating from the --- the group that actually
17 came up with the number itself, how confident they were.
18 They should be fairly straight forward if you look at
19 that and tell what had happened like that. But
20 determining whether or not they actually used an
21 appropriate methodology is going to take a toxicologist
22 to do that.

23 CHAIR: And a review of the actual study
24 or studies that were used to put it --- which we kind of

1 talked about in some detail when we were talking about
2 benzo(a)pyrene, because we needed to look at what
3 actually happens in the research that changed that number
4 recently. And let's --- I mean, real quickly, if we were
5 looking at this flow chart and we were running
6 benzo(a)pyrene through it, we would say okay, is there a
7 toxicity value in IRIS? Yes. Is the IRIS value more
8 recent than any tier II or tier III value? Yes. And
9 then we would just go straight to use the IRIS value.
10 And we know that that IRIS value --- that current IRIS
11 value does not match what EPA used in 2015, because it's
12 the only --- it's the only one that's been updated since
13 2015. So that would be an easy one that goes right
14 across the top of the chart.

15 And by the way, I think we've probably
16 mentioned this in the last meeting, but I did talk with
17 EPA about the use of the new IRIS value for
18 benzo(a)pyrene and its related PAH's. And they said that
19 as far as that one goes, because it's in the IRIS
20 database, it's updated since 2015, that they are --- they
21 would be fine with that --- that revision, that change.
22 That one they --- we don't have to --- we don't have to
23 consult with them anymore on that because that's an IRIS
24 value. And I would think that in the future, if that

1 happened again with any chemicals, that would be the same
2 decision on their part. As long as it's in IRIS, they're
3 completely cool with it.

4 And, of course, in their 2015 update,
5 there are many cases where they used the tier II and/or
6 tier III value in their decision making. So they ---
7 they do use them. But the question is us deciding to use
8 them would be --- we would need to consult some more with
9 them and do the kind of investigation that Ross is
10 talking about, about the methodology, exactly what
11 happened in those studies.

12 MR. BRITTAIN: Although I'd be willing to
13 bet if you --- if our process came up with the same tier
14 II or tier III value that they used in the 2015 update,
15 they would be fine with it. I don't think there would be
16 any question.

17 CHAIR: Right. So fundamentally, when we
18 look at this flowchart, do we have any show stopping
19 problems? I know you want to see how things run through
20 the flowchart and compare that to EPA's 2015 update. But
21 when you look at this flowchart, we've had a chance to
22 look at it for maybe 10 minutes now. Do you have
23 anything that stands out at you that you can just --- you
24 couldn't live with, including any spelling errors, since

1 we just made it today?

2 MR. YAUSSEY: It's not a problem at all.

3 But I just want to make sure I understand. On the
4 bottom, there's a reference to IRISI. Is that a typo?

5 MR. BRITTAIN: Typo.

6 MR. YAUSSEY: Oh, okay.

7 CHAIR: There you go. That's the kind of
8 input we need for sure.

9 MR. BRITTAIN: Nice catch.

10 MR. YAUSSEY: I'm a newbie, so I wanted to
11 make sure that it is understood. Thanks.

12 CHAIR: Good to show you're keeping up,
13 Dave.

14 Okay. So that change is saved. Okay.
15 So if we want to do --- wait. Was there any other
16 comment on this flowchart before we look at something
17 else, on the flowchart itself? I like your t-shirt
18 today, Larry. Is that some kind of deer?

19 MR. HARRIS: It's a guerro negro t-shirt
20 from last --- late February where we floated with the
21 whales off the baja.

22 CHAIR: That's awesome.

23 MR. HARRIS: Yeah. So this is a lagoon
24 where the whales come to have their babies and mate

1 sometimes.

2 CHAIR: That's beautiful.

3 MR. HARRIS: You can actually touch them.
4 And that's the t-shirt. So I went and I got the t-shirt.

5 CHAIR: And memories from last February
6 are so precious, aren't they? Like when you see them pop
7 up, it's just almost overwhelming what we --- how
8 different life was just one year ago. So I'm glad you
9 got the t-shirt.

10 MR. HARRIS: Yeah. And didn't get sick.

11 MR. MANDIROLA: Laura?

12 CHAIR: Yes, Scott.

13 MR. MANDIROLA: This is Scott. I
14 apologize. I've been on the phone with the legislature
15 for the last 15 minutes. You're moving on from the
16 chart. Can I ask without having --- forcing everybody to
17 listen again, what's the upshot of moving on from the
18 table? Have we come to some agreement on the approach
19 with the table?

20 CHAIR: The table, as in the spreadsheet?

21 MR. MANDIROLA: The flowchart. I
22 apologize.

23 CHAIR: So you missed some of our
24 conversations. So ---.

1 MR. MANDIROLA: That's what I'm saying. I
2 apologize. I don't want to rehash everything ---.

3 CHAIR: I know you know --- I know you got
4 all the e-mails, so you know that Jennie finished the
5 flow chart several weeks ago. And Autumn sent us a flow
6 chart also. And we had some revisions made. Autumn made
7 some revisions yesterday to their flow chart. And Ross
8 and I were talking yesterday. And Ross put together this
9 version of a flowchart which we feels combines a lot of
10 the concerns of everyone. And we were hoping this is a
11 flowchart that we could agree on.

12 One of the main differences is it starts
13 out asking is there a tox value in IRIS, rather than
14 referring specifically to 2015 or specifically the 2015
15 updates. So the thing ---.

16 MR. MANDIROLA: So let me cut to the
17 chase. So are we going to --- are people generally ---
18 believe they're in agreement, they're going to take time
19 to look at it and then get back to everybody or where are
20 we at?

21 CHAIR: That's --- I was just asking if
22 everyone has any fundamental problems with the flowchart.
23 And we've kind of discussed --- I think Jennie said she's
24 okay with the tier II and tier III being separated. And

1 I believe Autumn that said that they're okay with
2 referring specifically to a tox value in IRIS rather than
3 a specific date, because this flowchart allows for future
4 criteria to be run through it, criteria, you know,
5 anything to be run through this, whether there are
6 changes made in the future or not.

7 So I think that we might be close to
8 having an agreement on the use of this flowchart. But I
9 think everybody wants to see how the criteria play out
10 with it.

11 MS. ROSSER: We're going to run some
12 numbers and do some side by side, I think.

13 MR. MANDIROLA: Okay.

14 MS. ROSSER: The only --- you know, the
15 only general question I have is I want to be sure like
16 that we need to handle this assessment. I guess --- you
17 know, Ross --- Ross is not going to be around forever. I
18 hope he gets to retire someday.

19 CHAIR: Okay.

20 Ross isn't going to be around forever and
21 Ross doesn't work for us. He does work at DEP, but he
22 has a whole other job to do. That's why he was sketching
23 this out on his couch last night.

24 MS. ROSSER: He identified --- if I

1 understood you right, Ross, he's really the only one in
2 the agency who can do that kind of assessment that we're
3 putting in this.

4 MR. MANDIROLA: Right. I mean, I will say
5 before Ross came on board, we had a --- there was a
6 previous toxicologist. He unfortunately passed away.
7 And in the interim, we did have some toxicology work
8 done. We contracted out some toxicology work to a
9 toxicologist. So although we may not have one on staff,
10 we to some degree have the ability to contract some of
11 that work out of DEP. But that's not ideal. I mean,
12 ideal would be having Ross on staff and helping us with
13 this is ideal.

14 MR. BRITTAIN: Yeah. And I would add to
15 that, I would suggest you either contract it out or have
16 myself do it. And I can work it into my schedule, I'm
17 pretty sure. But then you have --- if I do it, you have
18 --- you contract it out for a review. Or if you have it
19 contracted out for them to do it, then you give it to me
20 to review, one or the other. You need a second set of
21 eyes on it.

22 MR. MANDIROLA: And I know Ross' boss, so
23 I'll have a conversation with him and see if I can borrow
24 him for occasionally. I'm sorry to rehash that. I

1 just ---.

2 CHAIR: No, I think it's really
3 helpful ---.

4 MR. MANDIROLA: We'll bring it up over at
5 the capitol apparently. So there's a lot of inquiries
6 happening this morning.

7 CHAIR: Don't worry about us. We're good.
8 Go ahead, Jennie.

9 MS. HENTHORN: I was just going to say
10 that I hadn't spent much time with CompTox before Ross
11 sent --- sent us the link. And I was surprised at how
12 user friendly it is. I mean, it's like here's your tier
13 II values. This is the rating on those. Here's your
14 confidence rating. Here are your tier III values.
15 Here's the confidence rating. I mean, it's --- it's
16 really an informative tool. And you can see the tier III
17 values against each other. And I was surprised, I
18 actually picked the chemical and went through that
19 process. And I was surprised at how informative it was.

20 And I was also surprised for the
21 particular chemical I picked, how close those tier III
22 values were. It was probably just a coincidence that
23 they were all --- it was all the same order of magnitude,
24 the numbers were just slightly different. So, you know,

1 it may be one of those things that --- for some of it, if
2 there was a tier II value that is perfectly clear and ---
3 one of the --- the only thing I was thinking about as we
4 were looking at this, is does the tier II value have a
5 higher confidence rating than the IRIS value? What if
6 it's equal? If it's equal --- if it's newer, it still
7 maybe you would want to use the tier II. So that was the
8 only other question. I didn't like that there wasn't an
9 out there. That it had an equal confidence rating, it
10 may be that you would still want to use the tier II
11 value.

12 MR. BRITTAIN: That's where the ---
13 looking into the details of the methodology is going to
14 determine what --- which one is really better than the
15 other.

16 MS. HENTHORN: Yeah. Right now, the way
17 the flowchart reads is it has to be higher to use it. So
18 if it's equal, you know, then we may want to try to come
19 up with something to evaluate there.

20 MR. BRITTAIN: Sure. Good. Fair point on
21 that, Jennie. And we can --- we can tweak that a little
22 bit. You know, and you ---.

23 CHAIR: And that's a good point.

24 MR. BRITTAIN: I'm glad you got into

1 CompTox and took a look at that and saw that. I mean,
2 you can tell by looking at that, from our standpoint,
3 with EPA and everybody, this is not our first rodeo in
4 dealing with this exact question that we're dealing with
5 on human health criteria. That's a great resource for
6 that kind of information.

7 CHAIR: Right. And that's good to know
8 because we're --- I think our next --- after we move ---
9 after we agree on this and finish looking through how
10 this flowchart will work, we're going to want to move on
11 to a similar flowchart --- flowchart for bioaccumulation
12 factor, which will involve ComTox. Again, it's going to
13 lead to that same issue that EPA is going to have with
14 well, you know, how much do we trust the states to make
15 this decision on their own between these values. But if
16 --- Angie, was there something? I felt like you might
17 have popped in and wanted to say something.

18 MS. ROSSER: I said it.

19 CHAIR: Okay.

20 MS. ROSSER: Make sure DEP would have the
21 capacity to be able to use --- again, you know, my general
22 concern is just doing EPA's job and then hearing, you
23 know ---.

24 CHAIR: Right. Well, we can always --- I

1 mean, we can always --- if we aren't able to do it, you know,
2 say, well, we can't update it right now then. You know, we
3 can't --- we can't make a change right now if we lead to an
4 area that we aren't able to do. But I think like Scott said,
5 we can figure out a way to ---.

6 MS. ROSSER: I'm not --- I don't know if this
7 is what you're saying, but I think I --- back to my concern
8 of the past meetings, we can't do nothing for 30 years
9 either.

10 CHAIR: Right. Well, then in part, doing
11 EPA's job as --- as you stated it, in part, doing that is
12 what we're trying to do. We --- we have --- you know, we did
13 have a discussion with them and they talked about how
14 difficult it was for them to make additional revisions, and
15 how they don't have any, you know, major plans to look at
16 these again, because they just did it, even though things
17 change --- so the states can either accept what EPA put out,
18 which some states do, or they can refuse to make any changes,
19 which some states do, or they can kind of do what we're doing
20 here and what --- I know Delaware to some extent is doing
21 with their bioaccumulation factors at least, and trying to do
22 some of that work on our own.

23 And I think that that effort would go a long
24 way with them, too. They understand that we're trying to do,

1 you know, the most scientific work we can do to find the best
2 values. And we wouldn't use decisions willy nilly. We would
3 --- we would employ Ross and the second opinion or some other
4 toxicologist if he's not available.

5 MR. HARRIS: I have a question. You talked
6 about another flowchart you're going to do on
7 bioaccumulation. But this one here, I mean, isn't the whole
8 purpose of doing these flowcharts to see what the outcome is,
9 if you're --- take your compound through this or five
10 compounds through this flowchart, and see how does it change
11 the standard that we currently have compared to what this
12 shows you?

13 CHAIR: Yes.

14 MR. HARRIS: I think that's what Angie was
15 talking about.

16 CHAIR: Yeah. And we're going to do that
17 next. We have a --- we have a spreadsheet that will show how
18 these move through the flowchart. And also relative to what
19 EPA used in 2015. So if we feel like generally we're good
20 with this flowchart for now --- and I added on that little
21 --- that question that Jennie mentioned there, which seems
22 like we might need a connection there, we can move on to
23 looking at that, if you guys are ready.

24 Okay.

1 I'm going to stop my screen share. I need to
2 open this. Chris, do you have that spreadsheet open?

3 MR. SMITH: Yes, I do.

4 CHAIR: Okay.

5 Do you want to share it and we can go through
6 it? I need to --- there. You should be able to do it now.

7 MR. SMITH: Okay. All right. Let's see.

8 It's this one. Okay.

9 Can you see it there?

10 CHAIR: Yes.

11 MR. SMITH: Okay.

12 I have been working on multiple spreadsheets.
13 And I tried to make this as unconfusing as possible. So I
14 tried to condense it down as much as I could.

15 We can just kind of run through this. You'll
16 see I still have this part in here about less than five years
17 old IRIS values which it sounds like we've kind of changed
18 that to just more recent. So you can ignore that at this
19 point.

20 Okay.

21 So just going through each one of these one
22 by one, 12.4 of benzene, yes, there is an IRIS value, but
23 there is a more recent AS --- ATSDR value that EPA actually
24 used in their 2015 calculation. So you'll notice that some

1 of these things are highlighted in yellow over here. And
2 that's where the EPA 2015 decision provisions match our
3 flowchart decision. So in this particular case, there was a
4 tier III source that was more recent than the IRIS value.
5 And EPA chose to accept that in their calculation for that
6 standard. So does this ---?

7 CHAIR: So basically --- yeah, so basically
8 what this --- what this means is that EPA --- EPA's decision
9 is in column D, the one that's grayed out or grayed. So
10 that's what they actually used. And then our decision is
11 here at the end, in columns H and I. And wherever we said
12 yes, and it also matched what EPA did, we've marked that in
13 yellow. So you can see which ones play out there that, for
14 sure --- it's as if EPA had our flowchart and they ran it
15 through. And in many cases, came to the same conclusion that
16 we would have if we were to use that flowchart.

17 MR. SMITH: In this case, I could not
18 identify any other tier II or tier III toxicity value
19 sources. You'll see --- as we go down this chart, you'll see
20 that there are some where there are other potential sources
21 that could --- that could maybe be used.

22 CHAIR: And can we look at the bottom of
23 this, Chris, where we have the benzo(a)pyrenes?

24 Okay.

1 So these are the ones that we're pretty
2 familiar with because we've had a whole --- a whole
3 lesson on them. But the benzo(a)pyrenes are the one for
4 which there is an updated IRIS value.

5 So in the gray box, you can see that EPA
6 did not use the most current IRIS value because they
7 didn't have it at that time, but we had it now. So our
8 decision would be at the end. And what is --- column I
9 is use the IRIS value. So we would use that, which would
10 be different than what EPA did. But it's an updated
11 value. So does that make sense to everyone, too?

12 Chris, could you lock that top --- or freeze
13 that top row so that we can see that as we scroll down?

14 MR. SMITH: I forget how to do that. I've
15 frozen the first column here, but how do you do both at the
16 same time?

17 CHAIR: Oh, to do both at the same time, you
18 would click in cell 3 --- or B3, where it says yes there.
19 And you'd freeze it from there. And then it freezes the row
20 and the column.

21 MR. SMITH: How do you do that?

22 CHAIR: Go up to freeze panes and unfreeze
23 and then freeze again. That should work.

24 MR. SMITH: I was actually trying to do that

1 earlier and I forgot how to do that.

2 CHAIR: So when we look at these, the good
3 news is they're a bunch of yellow boxes. The other news is
4 there are a bunch of questions. So you'll see in column G we
5 have questions. And then in the notes column, Chris has
6 identified what those questions really are.

7 Like let's look ethylbenzene, because that's
8 one that we talked about last meeting. And we still have
9 that same question.

10 So for ethylbenzene, you can see in column D
11 that EPA used Health Canada 2015, which is an RFD, which
12 means they consider it as a non-carcinogen for their --- for
13 their decision-making purposes. Yet you'll see that there is
14 a tier III tox value from CalEPA 2011 that gives us a cancer
15 slope factor.

16 So we talked --- we spent some time last
17 month talking about ethylbenzene and whether it's a
18 carcinogen or not. It is apparently a proven carcinogen for
19 animals, but that hasn't been correlated to humans for some
20 reason, because that's pretty much how they correlate cancer
21 to humans, I believe. But it hasn't been specified that for
22 specifically ethylbenzene, it's specifically a human
23 carcinogen. Except for CalEPA does have a cancer sloping
24 factor that they developed for it.

1 So in cases like this, we would be left with
2 this question. This is where we would have to delve and do
3 more work. Do you want to speak to that, Ross, or anyone,
4 about what that means?

5 MR. BRITTAIN: Yeah. I just --- we went over
6 last time, you know, the reasons why ethylbenzene hasn't been
7 designated by the EPA as a human carcinogen in that they
8 can't tease it out from the other petroleum known carcinogens
9 like benzene and toluene and xylene that --- that it's always
10 associated with. And in order to do that would take a lot
11 more money, EPA at this point has just chosen that it's a
12 lower priority for them to do that further assessment of ---
13 specifically for ethylbenzene.

14 So what I would suggest at this point is a
15 deep dive on the --- the development of the cancer slope
16 factor from CalEPA. And as long as they were following sound
17 toxicological methodologies, that it should be accepted. And
18 I know that, for example, on the remediation superfund side
19 of things, everybody in the EPA and all the other states, we
20 already --- we all accept that CalEPA cancer slope factor.

21 And I found that interesting that the water
22 folks, the water side of EPA chose not to use it, but the
23 superfund and brownfield side of EPA chose to. So if there's
24 a discrepancy within EPA, it's --- and that's just going to

1 be --- that's one that I would suggest a deeper review of.

2 CHAIR: And it would be a good question for
3 EPA, too, like --- because this is information they had when
4 they were making the decisions in 2015.

5 MR. BRITTAIN: Exactly.

6 CHAIR: Unlike benzo(a)pyrene, they didn't
7 really have that information. They had this and they
8 decided to use Health Canada 2015. So if we could talk
9 to the right person there --- which we had the right
10 person back in October, but we didn't have this question
11 then, that would be the kind of --- a good question.

12 So we have similar questions that are a
13 little probably less formed than the one for
14 ethylbenzene, but we have these questions noted in this
15 notes column. And it's basically each time that there
16 might be --- there is something more recent --- let's
17 look at the 2 4 6-trichlorophenol, that's the first
18 question row. EPA used this 2007 --- that's a tier II
19 determination, but it looks like there is a more recent
20 --- well, there's a more recent tier III tox value.

21 MR. BRITTAIN: Yeah. This is another case
22 where EPA used the non-cancer calculation using the RFD,
23 but California EPA has established a cancer slope factor
24 for it. So this is a --- this is similar to

1 ethylbenzene. So we would have to determine are we going
2 to go with what EPA did or are we going to pursue the use
3 of the cancer slope factor like California EPA?

4 CHAIR: Correct.

5 But how about all of these yellow yesses?
6 That's pretty cool, right? I don't know if they add up to
7 18, like Jennie, I think we had 18 before.

8 MR. BRITTAIN: They do. I checked.

9 CHAIR: Okay. Okay.

10 So this is the same thing that Jennie did
11 for us a month ago really, before we had a flowchart.
12 But we weren't --- now we're able to more visualize how
13 it --- how it works.

14 MR. SMITH: Right. Like for the next
15 three here, 2 4 9-chlorophenol, chloromethane,
16 azomethine, I was not able to find any tier II or tier
17 III toxicity values. And so the EPA apparently could not
18 either, because they used the IRIS values that were
19 available at the time. And then we get down to --- I'm
20 sorry --- I'm sorry, Aldrin here, we did find an RFD and
21 a tier III with ATSDR. However, that compound is
22 considered a carcinogen. And so at this point I would
23 assume that we would stick with the IRIS value and the
24 IRIS CSM value, continue to use that. Then we get

1 down ---.

2 MR. BRITTAIN: Hold on there for a second,
3 Chris. What you should be doing is choosing your best
4 cancer slope factor, your best RFD, and comparing the
5 two, you know, calculating what --- how they would impact
6 the human health criteria, and then comparing the two in
7 the lowest --- whichever one is lowest is the one that
8 should be chosen, because it's the most protective.

9 So that should be --- I don't want to just
10 dismiss those RFDs when you have both the cancer slope
11 factor and an RFD. You should be choosing the best one
12 from each type. And then developing from there.

13 MR. SMITH: Okay.

14 MR. BRITTAIN: Sorry about that.

15 MR. SMITH: No, no, no.

16 MS. CROWE: Let's modify the flowchart to
17 make that clear, because I don't know that that is clear
18 in the flowchart. We just talk about, you know, cancer
19 slope factor or a referenced dose. But I think it's
20 somewhere in the chart, it should be made clear that if
21 there's both, then we run it through the calculation and
22 pick the one that's most conservative.

23 CHAIR: Right. I think Ross notes at the
24 top of the chart that we would run this chart for cancer

1 slope factor, we would run it for what we have for RFD,
2 and then I think then what --- we would need the notation
3 that would say then we compare those two.

4 MR. BRITTAIN: Yeah. That could be like
5 an appendix at the bottom as far as I'm concerned. Make
6 note as to what you do with it once you pick these
7 values.

8 MS. HENTHORN: So I went back to the
9 calculation spreadsheet. And EPA on Aldrin did actually
10 include the reference dose of .000 --- however many
11 zeroes and three. And it was just that the cancer slope
12 factor yielded a more conservative result. So they did,
13 in their table, include that reference dose.

14 MR. BRITTAIN: Yeah. That's the ---.

15 MS. HENTHORN: Yeah. So in --- you know,
16 the calculation spreadsheet that I have up and running
17 has both verses in there. And it selects the most
18 sensitive.

19 CHAIR: Right. And because that's
20 standard procedure for EPA, too, they would go through
21 and --- I mean, it's basically like if you look at it and
22 realistically there's a --- there might be a study where,
23 you know, they have to --- they have rats that, you know,
24 when they get exposed to high doses to this chemical,

1 they may have kidney failure, which is not the same thing
2 as cancer, but it's --- but the dose for that kidney
3 failure is more --- is lower than what it would have
4 caused --- what would have caused cancer. So it's not
5 saying it's not a carcinogen, but it is a carcinogen.
6 But the --- the response from the --- from the rat was
7 more --- more the --- the cancer response is worse.

8 MS. HENTHORN: Yes.

9 MR. SMITH: That may have been why I
10 actually had that checked, because I did look through
11 each one of these documents for each of these compounds.
12 And when there is an RFD and a CSF available, EPA
13 calculated both. And obviously went with the more
14 stringent of the two.

15 So we looked at Alpha-BHC, we see that
16 California EPA has a cancer slope factor established for
17 this one. So we need to determine there, is that more
18 appropriate than the IRIS value, that EPA used the IRIS
19 value in calculation.

20 Now, for anthracene, I was not able to
21 find any additional tier II or tier III toxicity values.
22 The EPA used the IRIS value. And then we get down to
23 beta-BHC, same situation. California EPA has a cancer
24 slope factor established. We need to figure out is that

1 more appropriate than the IRIS cancer slope factor that
2 the EPA used in the calculation.

3 And the same with
4 bis(2-ethylhexyl)phthalate, it's the same situation.

5 And then for butyl benzo phthalate (sic),
6 EPA used a tier II source for their calculation. And
7 apparently there's this Health Canada tier III source
8 that's available, too, so we need to look at that and see
9 which is most appropriate and compare those two.

10 And let's see, for chlordane ---.

11 CHAIR: Now, would we compare those two or
12 is that comparing a tier II to a tier III?

13 MR. SMITH: Yeah, it ---.

14 CHAIR: I feel like in our flowchart, if
15 there was a tier II, that looks like a tier II is more
16 recent than the Health Canada 2000, wouldn't we go with
17 the tier II in that case? According to our flowchart,
18 no. And Chris was putting this together throughout the
19 week and the flowchart was changing like every hour or
20 so.

21 MR. BRITTAIN: Yeah. That is more like
22 --- if you have a more recent tier II, it should be
23 chosen. It's going to go under more stringent review.

24 CHAIR: Does that make sense to everybody,

1 when we're looking at this, that we might not have a
2 question there, because when we look --- when we put this
3 through our current version of the flowchart, we would go
4 with the tier II in that case, which turns out that's
5 also what EPA did?

6 MS. HENTHORN: That makes sense to me.

7 MR. SMITH: Okay.

8 For chlordane, CalEPA has a different
9 cancer slope factor than IRIS, but there's also this
10 ATSDR reference dose, so once again we need to figure out
11 which is the most appropriate there.

12 For the next 2-chlorobenzene cyanide,
13 there was no additional tier II or tier III toxicity
14 information that we could find. So IRIS --- or EPA went
15 with IRIS. And we would follow the same path there.

16 For DDT and Dieldrin, both of these are
17 carcinogens, but there are RFDs in ATSDR, so like Ross
18 was discussing earlier, we would need to make the
19 comparison there and see which is more stringent. And I
20 believe on both of these, that the cancer slope factor
21 should be. So at that point, we would continue to go
22 with the IRIS cancer slope factor.

23 For diethyl phthalate, I didn't find any
24 tier II or tier III sources, so we would go with IRIS on

1 that. The same thing with dimethyl phthalate. I wasn't
2 able to find any tier II or tier III sources. EPA used
3 this 1980 assessment for their calculation. So, you
4 know, not finding any additional information, I would
5 assume it would go to that as well.

6 Dibutyl phthalate, the EPA used IRIS. I
7 wasn't able to find any tier II or tier III values, so we
8 would go with IRIS with that one as well.

9 CHAIR: Hey, Chris, for the remainder of
10 these, let's skip over the ones that we don't have a tier
11 II or tier III for. Those are all the same. But thank
12 you.

13 So then we talked about ethylbenzene.

14 MR. SMITH: Yes.

15 CHAIR: We definitely have a question
16 there.

17 MR. SMITH: And then for gamma-BHC, that
18 would be kind of the same question as ethylbenzene, I
19 assume, because IRIS has an RFD value which EPA used
20 --- actually, EPA used this OPP RED 2002 for calculation.
21 But California EPA also has a cancer slope factor for
22 this one. And then there's this other source here as
23 well. So once again, we need to determine which is most
24 appropriate for that one.

1 MR. BRITTAIN: Yeah. And in that
2 particular case, IRIS doesn't have a cancer slope factor
3 for it because if IRIS --- at the time that IRIS reviewed
4 this particular compound, it was not sure if it was
5 cancer causing carcinogenic. But since IRIS was
6 developed, ICEA has established that it is. It's related
7 to a cause of non-Hodgkin's lymphoma in humans. And IRIS
8 just hasn't updated that particular review yet. But
9 CalEPA took that information and said well, we'll go
10 ahead and establish a cancer flow factor for it now that
11 ICEA has --- has determined it is a human carcinogen. So
12 that's the difference. That's just --- and IRIS probably
13 is not even going to review this because that chemical
14 has been banned for its primary use in agriculture. It's
15 only used in --- for pharmaceuticals now and only limited
16 amounts in that particular case.

17 So that's the reason why I would suggest,
18 in this particular case, the cancer slope factor should
19 be used. But we, of course, can have a secondary opinion
20 on that as well.

21 MR. SMITH: Thank you. And then for
22 heptachlor, there is an IRIS value, but EPA chose to use
23 the CalEPA 1999 cancer slope factor, which I wasn't able
24 to find to find any additional --- any additional tier II

1 or tier III sources for that. So at this point, I would
2 assume we would also use the approach that EPA did, using
3 the CalEPA cancer slope factor.

4 For hexachlorobenzene, EPA used the OPP
5 2008 value. There is --- I did find a CalEPA 2009 value.
6 So I think this is one we'll have to determine which is
7 most appropriate for.

8 For methoxychlor, there is an IRIS value
9 that EPA chose the CalEPA 2010 value. And not finding
10 any additional tier II or tier III information, I would
11 presume that we're going to use that value as well, the
12 CalEPA 2010.

13 And then for methyl bromide, EPA used this
14 OPP 2006 value. I wasn't able to find any additional
15 tier II or tier III information there. So that would
16 follow to use that value as well for our calculation.

17 And then pentachlorophenol, EPA used the
18 IRIS value for that, but there is a CalEPA cancer slope
19 factor and an ATSDR reference dose. So once again, we
20 need to figure out which one is the most appropriate
21 there.

22 And then we've already --- well, pyrene, I
23 wasn't able to find any additional information there.
24 And then we've already discussed these PAH's that have

1 the new IRIS value that was not available when EPA did
2 the 2015 calculations.

3 So ---

4 MR. BRITTAIN: Hey, Chris.

5 MR. SMITH: Yes.

6 MR. BRITTAIN: On methyl bromide, I was
7 able to find an IRIS RFD value on methyl bromide, a value
8 of .0014. So we'll have to check that out, too.

9 MR. SMITH: Actually, yeah, I think I had
10 that one of my other spreadsheets.

11 MR. BRITTAIN: Yeah.

12 MR. SMITH: Like I said, I had multiple.
13 And there were some that I was working on that just were
14 getting way too confusing. I was trying to condense this
15 down as much as possible to where it would make sense,
16 but I do remember --- I do remember you saying that. And
17 one of the comments that you made on one of my
18 spreadsheets, I definitely remember seeing that. So
19 thank you for reminding me of that, that I didn't include
20 that here.

21 MR. BRITTAIN: Yeah. Welcome to my world.

22 MR. SMITH: I also have another version of
23 this spreadsheet that shows the years that the IRIS
24 values were updated. But I don't --- we probably don't

1 need to look at that at this point because all of these
2 --- all of these sources that EPA used in their 2015
3 criteria are more recent than those IRIS values anyway.
4 So I don't --- we probably don't need to see the actual
5 years of the IRIS updates at this point. But I do have
6 that information if you need to see it.

7 MR. BRITTAIN: You know, based on this, I
8 would propose those things you got highlighted in yellow,
9 that those are things that I think we could reach
10 consensus on right now. And then the things with a
11 question mark are the things that we'll have to look into
12 in more detail and circle back with the group later.

13 MR. SMITH: Should I go ahead and put
14 Aldrin back in as a yes since EPA did calculate all ---
15 well, I'm not sure it's referenced, those they used in
16 their calculation. Jennie, you said you have a
17 spreadsheet that runs this calculation. Do you know if
18 this is the reference dose that is used in that
19 calculation?

20 MR. BRITTAIN: It should be. There's only
21 two reference doses. One from IRIS and one from ATSDR.
22 They both are the same value.

23 MR. SMITH: Okay.

24 MS. HENTHORN: Yes. Yeah. Okay.

1 MR. SMITH: So actually ---.

2 MS. HENTHORN: Yeah, I've got it up right
3 now.

4 MR. SMITH: Okay.

5 I'm going to go ahead and put this one
6 back in as yes, to go ahead and use the IRIS value, since
7 that's the more conservative of the cancer value versus
8 the non-cancer value.

9 MS. HENTHORN: But I think in a way, they
10 did use both. So they just then selected the more
11 restrictive criteria. So it's truly a yes, they used
12 that ATSDR value also.

13 MR. SMITH: So on the remainder of these
14 that I have a question mark on, Ross, do you agree that
15 these are the ones that we need to look into more or are
16 there any of these that you think that we could go ahead
17 and go with now or do you think about all these we'll
18 need a little more research?

19 MR. BRITTAIN: I think that they need a
20 little more research. As we went through them, I didn't
21 --- I didn't see any that really stood out as --- that
22 were good to go. I think it will be good to take a look
23 at each of them. But the others I think that the tox
24 values are good to go, the ones that are in yellow.

1 MR. SMITH: Would we like to discuss those
2 any further, the ones highlighted in yellow, or is this
3 something that we can potentially get consensus on now or
4 do we need more time to review these?

5 MS. CROWE: I know I was looking at DDT,
6 because I was surprised that that one was weakened
7 considering that it's, you know, one of the dirty dozen
8 and banned. And when I looked at it, I --- where was
9 that one? Yeah. I saw that the ATSDR had a newer
10 reference dose. But I think that one, the flip factor
11 was more of the determining criteria that changed the
12 calculation.

13 And I couldn't find a more recent cancer
14 slope factor.

15 MR. BRITTAIN: Yeah, the cancer slope
16 factor for that one is CalEPA. And again, it's --- since
17 it's been banned, IRIS isn't going to look at the cancer
18 slope factor. It's very similar to what is going on with
19 the gamma BHC. They're not going to go back and review
20 it. They have too many other things to deal with, higher
21 priority, that they're not going to get back to that. So
22 I would agree that the cancer slope factor from CalEPA
23 would be the one use from the cancer side of things.

24 CHAIR: Can you guys hear me?

1 MR. SMITH: Yes.

2 CHAIR: Awesome. I don't know why, but my
3 headphones just stopped working and nobody could hear me
4 and I couldn't hear anything. So I think now might be a
5 good time for us to sort of talk about our feelings as
6 far as this goes. Are we good with --- do we feel like
7 that this spreadsheet adequately uses our flowchart? Do
8 we feel like the flowchart is right? And as far as
9 making decisions on toxicity, do we feel like these that
10 are highlighted in yellow would be ones we could move
11 forward with?

12 MS. CROWE: Well, I just expressed
13 concerns about the DDT. And Ross, you were saying that
14 there was a newer cancer slope factor with CalEPA?

15 MR. BRITTAIN: Well, I don't know if it's
16 newer off the top of my head. But it's actually the same
17 as IRIS actually.

18 MS. CROWE: Oh. Is it the same?

19 MR. SMITH: Yeah. There are --- I'm glad
20 you mentioned that, because there are some cases with a
21 peer --- these compounds where California EPA's cancer
22 slope factor is identical to the one in IRIS. And I just
23 --- I left that off, because I didn't see any --- any
24 need to repeat that since they're exactly the same.

1 CHAIR: So what about the --- what about
2 coming to an agreement then on all of those yellow ones
3 except for DDT because we have further questions there?

4 MR. BRITTAIN: Well, DDT, they actually
5 used a cancer slope factor from IRIS and CalEPA to
6 develop criterias. That was just an additional RFD that
7 Chris had mentioned in there. But there is a cancer
8 slope factor from CalEPA. That would be all in the
9 notes. That would be all contained in the --- otherwise
10 it shouldn't be, yes.

11 CHAIR: Does that make sense, Autumn?

12 MS. CROWE: Yeah. Maybe that's why I
13 couldn't find it. I still don't understand why if they
14 would chose to weaken it if it's so toxic.

15 CHAIR: Well, they're trying to protect
16 --- I mean, for all of these, they're trying to design
17 criteria that are protective. And protective given the
18 one in a million expectation of a possible negative
19 outcome. So using the data they have to get to that ---
20 that number.

21 So we're all good then? We can just move
22 forward without the yellow yesses?

23 MR. BRITTAIN: Or do people want time to,
24 you know, think about it for a day or two? Sleep on it,

1 so to speak?

2 CHAIR: Thanks, Ross.

3 MS. CROWE: Are these all of the --- are
4 these the same 18 that we talked about last time?

5 MR. SMITH: Yes. As far as I know.
6 Because these are --- everything --- let me see here.

7 CHAIR: Chris, if you sorted these by
8 column G, that would put all of the question marks at the
9 top. Don't select it like that, because that will just
10 --- just select somewhere in the spreadsheet and then go
11 to sort data at the top --- or yeah, there, sort to A to
12 Z. We got that --- never mind. But just eyeballing
13 them, do the 18, does it --- do we have the same 18 that
14 Jennie had before?

15 MR. SMITH: I believe so. All of these
16 are ---.

17 CHAIR: Although I think gamma-BHC was one
18 of --- I have gamma-BHC marked as yes.

19 MR. SMITH: No.

20 CHAIR: I think that gamma-BHC was one of
21 the 18 that Jennie had before. Oh, Angie lost Internet
22 connection. I need to let her in.

23 MR. SMITH: So that would be if we
24 continued to calculate gamma-BHC as a non-carcinogen.

1 But if we changed it to a carcinogen, then it wouldn't be
2 included in the yes at this point.

3 But all of the --- all of the highlighted
4 --- all the ones marked yes match EPA's 2015 recommended
5 criteria, except for --- except for these PAH's that have
6 the new IRIS value that EPA did not use in their 2015
7 calculation.

8 MR. BRITTAIN: Yeah. And that's a
9 critical distinction we need to make sure everybody is
10 aware of in terms of the yellows, in terms of what number
11 we agree with and things that are in yellow and yes,
12 that's just for the toxicity value, not for the human
13 health criteria, which do we accept the toxicity value
14 that was used? Then, of course, we can get into the BAS,
15 the other stuff from there.

16 MR. SMITH: Good point. Yeah, that's a
17 good point, to bring that up. So this is just for the
18 RFDs and CSFs.

19 CHAIR: All right.

20 So maybe we can move on from here and
21 ruminate on these for a few days and try to maybe
22 communicate in the meantime.

23 MR. BRITTAIN: E-mail.

24 MS. CROWE: Can we get a copy of the

1 spreadsheet?

2 MR. SMITH: Absolutely. I can send that
3 to you.

4 CHAIR: All right.

5 So do we have any more discussion based on
6 this flowchart or the spreadsheet we were just looking at
7 before we move on to talk about next meeting and next
8 meetings and after our meetings?

9 MR. HARRIS: I'm wondering, how are we
10 going to deal with deciding those non-yellow on toxicity
11 factors? How do we do that?

12 CHAIR: Right. So that's the part of our
13 decision tree that's more complicated. And we'll have to
14 look into the methodology of those studies to decide
15 whether --- whether we feel like they're better than the
16 tox numbers that EPA used. So they kind of appear in
17 that middle section of our flowchart where --- I'll share
18 that again.

19 MS. CROWE: Are there any toxicologists at
20 some of our universities that we could maybe reach out to
21 and see if they have grad students or something that
22 could help with that research, so that's not all on Ross?

23 CHAIR: Yeah. And even also we need ---
24 we would need a second opinion, yeah.

1 MR. BRITTAIN: Yeah. Yeah. So there's
2 either --- you know, the universities do have
3 toxicologists that we can refer to if we're looking at
4 that. We can also --- so WVU I know has some
5 toxicologists. You can also --- and again, the question
6 is whether or not they'd be willing to do it pro bono.
7 That could be an advantage. Or we can contact ---
8 there's lots of consulting companies out there who have
9 toxicologists on staff. Like --- so like, you know, the
10 last --- the latest update to the de minimus table,
11 whenever we do a de minimus table update. You know, I'll
12 be working on it and I send it to off to a contractor who
13 --- who risks toxicologists and have them review it to
14 make sure I did it appropriately.

15 So it's a pretty common standard practice.
16 But that is contract, so it costs money to need to be
17 able to do that.

18 MS. ROSSER: How much money? How much
19 money, Ross? This is Angie on the phone now. Do you
20 have a sense of that?

21 MR. BRITTAIN: I wasn't in charge of that
22 --- that particular budget. So I can't say off the top
23 of my head or exactly. But off the top of my head, it
24 would be somewhere probably in the \$20,000 to \$30,000

1 range for --- well, that's for the de minimus table.
2 That's a much bigger review. For this kind of review, I
3 would think something in for --- you should be able to do
4 it for around \$10,000 for, you know, the ten chemicals or
5 so that we would need to ---.

6 MS. ROSSER: Yeah. I guess I'm just ---
7 yeah. I'm still thinking long term. I mean, this --- I
8 guess the two general concerns I have just starting to
9 digest the --- what we looked at today is --- back to
10 like EPA --- so it's not doing EPA's job for them, that
11 the taxpayers already paid them to do. And here's more
12 money that we'll have to spend and stake to do what
13 we --- I mean, where does that money come from? And
14 maybe not a lot in the big scope of things, but is it
15 Clean Water Act money?

16 You know, I'm just kind of thinking
17 through the --- that piece and what Laura related at the
18 top of the call, that, you know, EPA didn't sound like
19 they were that committal in terms of --- if they're
20 receptive to what we're doing here. And I --- Chris, did
21 your --- did your work go as far to look at values? Like
22 I'm curious, if we --- if you went as far as to look at
23 where our decision tree would result in a value that is
24 pretty far off the mark of the 2015 EPA recommended

1 criteria.

2 Did you take it that far?

3 MR. SMITH: No, I didn't.

4 MR. BRITTAIN: That's because it was
5 changing every hour.

6 Right, Chris?

7 MR. SMITH: That's because what?

8 MR. BRITTAIN: Because it was changing
9 every hour.

10 MR. SMITH: Oh, yeah. I mean, I certainly
11 could, but I have not yet at this point.

12 MS. ROSSER: Yeah. Yeah. I am just, you
13 know, thinking ahead to --- if we're way off the mark, I
14 mean certainly if they become more stringent, there
15 usually isn't a problem there. But if they become
16 significantly less stringent than EPA's current
17 recommended criteria, that might get, you know, their
18 attention. So I don't know. You all have been dealing
19 with this ---.

20 CHAIR: Our goal here, though, is to
21 develop science-based standards that are protective. And
22 when we talk about stringency and whether it gets more or
23 less stringent, that's more of a policy concern where
24 we're really trying to get it to get it to numbers here

1 that are science based and protective. So --- and that's
2 why it's not in these spreadsheets specifically.

3 MS. ROSSER: Yeah. I just --- I don't
4 know if these are these right --- yeah, I hear you,
5 Laura, but --- I hear you.

6 MR. BRITAIN: I think that we'll just
7 have to make --- if we --- it's kind of one of those
8 things where it would be a case-by-case basis in terms
9 of, you know, cross that bridge when you get to it type
10 of thing. If we come up with a number that we think is
11 better, more sound, and it's different than what EPA has
12 recommended or chosen, then we're just going to have to
13 make the case to EPA and see how it goes from there. And
14 then adjust from whatever --- however EPA responds.

15 CHAIR: I'm confident that we can make
16 that case to them and have that discussion with them. I
17 think they just want to make sure that we're not just
18 going willy nilly ---

19 MR. BRITAIN: Yeah.

20 CHAIR: --- just because, you know, they
21 had a favorable result or whatever. I think that's
22 getting above a basis of our process and what we're going
23 through to get --- to get to an end result. It would be
24 --- it would be defensible to them, which we would defend

1 when we pass the criterion and then submit it to them
2 with our whole analysis of what we did. I didn't want to
3 talk about it up front.

4 MS. ROSSER: Yeah. Yes. That can be done
5 more on the up front before, you know, the DEP is losing
6 \$10,000 or \$20,000 more to this project. That would be a
7 good idea.

8 CHAIR: Right. And a lot of our --- as
9 far as budgetary concerns, a lot of our funding comes
10 directly from EPA to do, you know, water quality
11 standards work. So if it's --- in many ways, it is ---
12 it's federal money that is funneled through states to
13 ensure that they do these --- you know, that they keep
14 their water quality standards up to date. So it's not
15 just state general revenue that we're talking about.

16 MR. BRITTAIN: And really I think that
17 right now, as I look through it, there's only one or two
18 chemicals that I think that may have an issue,
19 ethylbenzene being one of them. We're using a different
20 value than what EPA has and may have some questions
21 about, you know. That would be the only one that I
22 really look at. Maybe the gamma-BHC as well. But that's
23 it. The others, I think they're going to go through with
24 this. We'll end up agreeing with what EPA did.

1 CHAIR: Okay.

2 I'm going to take the flowchart down
3 because it's kind of taking over the whole screen. So we
4 have a half hour left. And I wanted to talk about what
5 we're going to do between now and the March meeting, what
6 we're going to talk about in the March meeting. Briefly
7 talk about the remaining two meetings after that.

8 So it seems like if in the near term, we
9 can --- we can agree that this flowchart works for us,
10 and that the question marks we have work for us and,
11 therefore, that the boxes that we marked in yellow after
12 we all have a chance to ruminate over that spreadsheet
13 work, then we might have some agreement on many --- many
14 chemicals that we can move forward with as far as their
15 tox value.

16 But the other thing that we need to
17 consider is their bioaccumulation factor values. And I
18 know this is something that Jenny had a lot of concerns
19 about from, you know, from even a couple of years ago,
20 had started doing some research into how those were ---
21 how those were used and how old that data may be and that
22 there's new data. She's done some work in the near term,
23 working --- looking at the ComTox database. And it's
24 things --- I feel like we need a flowchart similar to the

1 one that we just developed for bioaccumulation factor.
2 And I'm hoping that when we get to the March meeting, we
3 can start it off a lot like we started this one, where we
4 have a flowchart or a few flowcharts to look at that
5 we've talked about in the meantime, that have been
6 developed in the meantime, and that we can come to a
7 consensus on. And it might be that it's more complex
8 than this, hopefully not, but we'll see --- we'll see
9 what we come up with. Does that seem to make sense to
10 everyone as far as the next step?

11 MR. YAUSSY: It does. Laura, I apologize.
12 I have to drop off. But I'm going to say I thought that
13 was a great --- the nature of today's meeting was to have
14 something to be working from as we get --- I hope we can
15 do that again in future meetings.

16 CHAIR: Yeah. Right. Thank you.
17 So does that make sense to everyone else
18 that we would work from a flowchart that's been developed
19 in the next few weeks at our next meeting?

20 MS. CROWE: Who is developing the
21 flowchart?

22 MR. BRITTAIN: My next question.

23 CHAIR: I would say that we could start
24 kind of like we did and have --- if it's okay with

1 Jennie, to have her start with one, since she's the ---
2 run the most down this tunnel so far. And then we can
3 see what we --- what we can come up with from there.

4 MS. HENTHORN: I can do that. It's going
5 to be a lot tougher. We hit the low-hanging fruit with
6 this one, guys. When you start looking at ComTox, a lot
7 of the stuff in there is model data, it's not actually
8 calculated by accumulation factors. It's modelled. So
9 we can't just go to a data source like that. And it's
10 going to be more labor intensive. So we'll --- I'll do
11 what I can with it. But it's not going to be --- it's
12 not going to be as easy.

13 MR. BRITTAIN: yeah. That was more on my
14 first comments with BAF right from our first meeting.
15 They're all modeled. We don't have data to BAF
16 specifically. We have data on BCF for most of these
17 compounds, but not BAF. So that's ---.

18 MS. HENTHORN: There's actually been a
19 good number of studies that have been published on BAF.
20 It's just that they haven't been incorporated by anybody
21 into anything. You know, there's a Canadian guy who does
22 a database, but he hasn't updated it since 2013. So even
23 when he did that, he wasn't --- he wasn't looking for
24 most of the modern BAF work. It's a problem. You know,

1 some of that work is really great. We just have to
2 figure out what to do with it.

3 MR. BRITTAIN: Yeah. That's one of my
4 concerns was when they decided to shift over to using BAF
5 for human health criteria, I think they were kind of
6 putting the cart before the horse a little bit. It's
7 like they needed more solid data off BAF to do that. I
8 agree with the concept, BAF are much better than BCS, but
9 we just don't have good data on it yet. So I agree with
10 you, Jennie, it's going to be --- it's going to be a
11 tough one here in terms of getting good BAF values that
12 we can rely on. Normally, under circumstances like this,
13 for a risk assessment, I would say well, let's look at it
14 from a sensitivity analysis, you know, do --- do a range
15 of values. But we can't do that for human health
16 criteria. We have to come up with one number. So how do
17 we come up with that one number?

18 CHAIR: So given that this topic is going
19 to be more complex, it might not be that it lends itself
20 to do a flowchart that's going to be manageable. Well,
21 you'll notice what we did, last month we had a
22 spreadsheet that almost came to the same conclusions of
23 what we came to now, now that we have a flowchart and we
24 have an additional spreadsheet.

1 So is it possible that instead of trying
2 to develop a flowchart, which is pretty complicated --- I
3 know all of you guys have been working on it, and Ross
4 did a great job of boiling this one down and making it
5 pretty simple at the end, but if that's not possible with
6 a BAF, because it's a more complex issue, we might be
7 better off to get a spreadsheet that we can all
8 understand, rather than trying to go through a flowchart.

9 MS. HENTHORN: Part of it we can do on a
10 flowchart, because there is some --- some of the part
11 that is in EPA's process that I think is mandatory to us.
12 So there is that hierarchy. Maybe there's a BAF. Use
13 the BAF. If not, use the BCF. If not, then you use
14 this. I think that part of that we can set up in a
15 flowchart so that we have that in the back of our minds.

16 But answering that first question, is
17 there a BAF? I think that's --- that's the part where
18 it's trickier. How do you answer that question?

19 MR. BRITTAIN: It speaks to the quality.
20 Yeah. You can have a BAF, but is it a good BAF? That's
21 --- that's the question. I agree with you, Jennie.

22 CHAIR: Okay.

23 So we can endeavor to come --- to come to
24 --- to put together this flowchart and accompanying

1 spreadsheet as soon --- as soon as we can and then start
2 chatting about it and figuring out what we're going to
3 land it on. And then by the March meeting, we'll be able
4 to really get into it. Go ahead, Jennie.

5 MS. HENTHORN: I was just going to say,
6 number one, I'm going to have to go let my springer
7 outside. She's --- she's standing beside me, I'm petting
8 her, and she's really wanting to go.

9 But number two, I might send you the
10 spread --- the flowchart in chunks. So that --- so that
11 we can --- we can see part of it. And then I'll just say
12 I'm still working on this, if that helps everything at
13 the end.

14 CHAIR: As we said, this is a workgroup.
15 So we'll be prepared when we come to the meeting four
16 weeks from now to work for our two hours.

17 MS. HENTHORN: Yes.

18 CHAIR: Okay.

19 So we'll do that next time. And hopefully
20 we'll have time to really get through that and kind of
21 have a good discussion about bioaccumulation factors. I
22 hope it's not going to be so complex that we're going to
23 kind of get marred into its detail, because then we have
24 two meetings left after that. And the final meeting will

1 be in May. Let me just share this --- I want to share
2 this. I think that's this one. I was going to say
3 screen --- I'm sorry. So our May meeting will be a
4 little --- it will be a little quick coming, too, because
5 we need to have it in early May. So I wanted to talk a
6 little bit about timeline.

7 This is the document that I shared with
8 you all early --- early after the last meeting, where it
9 was kind of playing out how we're going to plan our
10 meetings going forward.

11 So by May, we're going to need to finalize
12 our final consensus on these science-based standards to
13 be able to submit them to the Secretary for
14 consideration. So the rest of May, as I have shown here,
15 Harold will have to consider these recommendations that
16 we've made. And my big question mark here and this is
17 mostly for Ed --- if you're listening there, Ed, normally
18 the EPAC meeting happens in late June. But if --- for
19 our timeline to work, we're going to propose criteria.
20 And if we're going to get them to the EPAC to be able to
21 look at them as a body, and also have time for everything
22 else, it would need to be sooner in June, like much
23 sooner in June.

24 Because if you look at this timeline here,

1 we have to have agency approved rules to the Secretary of
2 State's Office by July 30th of this year. So if you back
3 up from there and give us one week to respond to public
4 comments, which is not really enough time, but I'm hoping
5 that considering we've done all of this work, it might be
6 a little bit easier than most years.

7 But that will give Chris and I one week to
8 respond to public comments after our 45 days of public
9 notice. And that's only if the public notice starts on
10 June 7th.

11 So if the EPAC wants to be able to look at
12 the rules like they do every June, and have --- have some
13 say or review of our rule before it goes to public
14 notice, it would need to be that very first week of June.
15 So I'm just saying, you know, either that will be --- or
16 the EPAC will be looking at our rule during the comment
17 period.

18 MR. MAGUIRE: It's not cast --- it's not
19 cast in concrete. We can schedule whatever it is that
20 needs to be accommodated. Let me coordinate and make
21 sure coordinate with Jason on it.

22 CHAIR: Okay.

23 MR. MAGUIRE: The earlier will be just
24 fine, I'm sure.

1 CHAIR: That would be excellent. And this
2 has been an issue in the past, too, where we need a 45-
3 day public comment period. We have in the past had to
4 put our rule out to public notice before the EPAC had a
5 chance to look at it, which was always --- I didn't like
6 that so much. They should be able to look at it and make
7 comment, ask questions. And if anything needs to be
8 revised, we should be able to do that before it would go
9 out to public notice. That's how the other rules all
10 pretty much go.

11 So that would be great if that could be
12 --- that could be rescheduled.

13 MR. MAGUIRE: I'll coordinate with you and
14 we'll make an announcement. Our next meeting, I think,
15 is Thursday a week after next. And we'll just get it out
16 there. I'm sure it won't be a problem.

17 CHAIR: All right.

18 So what else would we like to discuss? If
19 we wanted to go backwards a little bit, because we have
20 20 minutes left now. And I wanted to --- I mean, that's
21 kind of the end of what I needed to get across for now.
22 So if we wanted to back up and talk about the
23 bioaccumulation factors again for a few minutes or maybe
24 future meetings.

1 Does anybody have any thoughts?

2 MS. CROWE: If we can come to a consensus
3 on the toxicity values and the bioaccumulation factors,
4 I'm wondering if we can use those decision trees that we
5 developed to run the remainder of the 94 through, to be
6 able to propose those to the Secretary in May as well.

7 CHAIR: Well, let's determine if we have a
8 consensus on that flowchart first. And we already went
9 through --- bring it back up there. As far as this
10 flowchart goes, the one thing we need to add to it is
11 that at the end, we can compare CSF and RFD and pick the
12 more stringent of the two, because that's what EPA does
13 and we would run this --- run these things through this
14 chart and come to a conclusion there.

15 So we would come to a conclusion for
16 cancer slope factor. We would come to it for reference
17 dose. And then we would compare those two factors to
18 decide which one is the one we would go with, which we've
19 kind of done --- I mean, EPA has done in many cases
20 already. But we would need to note that on our
21 flowchart.

22 And then Jennie had this additional
23 question about if the tier II was equal in confidence
24 rating to IRIS --- and that was a good question, because

1 confidence rating isn't --- it's not like a number --- a
2 number or something that changes, you know, it's not easy
3 --- there's either high, medium, or low. So it's very
4 likely that they would be equal in confidence rating
5 because there's only three ratings. I think there are
6 only three.

7 So we need to work that in there. But if
8 we work those two things in, and we come to an agreement
9 on this flowchart, and also the accompanying spreadsheet,
10 that shows several criteria that we can --- that we would
11 be okay with EPA's determination of toxicity.

12 Do we feel like we're at that place or we
13 need more time on those?

14 MS. CROWE: I would want to do a side by
15 side, just making sure that they come up with the same
16 values. What would be really helpful is if we could
17 incorporate the links to the databases into a document
18 somewhere, because I had a lot of trouble just finding
19 the databases. And I wasted a lot of time on just
20 locating them. So if I had the links to all of the
21 databases, and we could do --- like I could do a
22 side-by-side comparison, just to make sure that they
23 match, then I mean we would be ---.

24 CHAIR: We can add that into the flowchart

1 for sure. That would be easy to do. And once the
2 flowchart is saved as a PDF, then those links would be
3 there forever.

4 And then we also need to add this --- like
5 a footnote somewhere that would say that we compared ---
6 okay. So there's those ---. But once we have an
7 agreement on the flowchart, there is no reason we
8 couldn't run everything through it. But for ---.

9 MR. BRITTAIN: And I think that was the
10 goal, was to have a flowchart that no matter what, for
11 future rounds, future iterations of changes coming from
12 EPA, you know, proposed human health criteria, et cetera,
13 this could be --- we could get consensus on this. You
14 can always use that flowchart no matter what. That was
15 the goal, at least it seemed like that was what --- in
16 talking with everybody, that's what we were trying to do
17 with it.

18 In terms of the --- what if tier II has
19 equal confidence rating to IRIS, then you know, any time
20 you have equal confidence --- confidence rating, in my
21 opinion, it should be use whichever one has the most up
22 to date toxicity methodology.

23 Right?

24 If one has --- and if they're equal, then

1 you would go with --- I mean, like they're using the same
2 methodology, that kind of thing, then you would go with
3 the higher tier. All things being equal, you chose the
4 value from the higher tier. That would be my thought
5 process on that.

6 MS. HENTHORN: So what is newer, Ross? So
7 tier II follows the same method as IRIS. And you have a
8 newer tier II that the IRIS value is high confidence, the
9 tier II value is high confidence. And they were both
10 done with the same methodology, it's just the tier II
11 method hasn't become an IRIS value, would you use the
12 IRIS value or the tier II?

13 MR. BRITTAIN: Well, as long as they were
14 using the same data as well. If there was new data
15 included in the methodology, it would be a new study.
16 Right. A new study came out and said that, you know, we
17 had this new information on the toxicity. So whichever
18 one was using that newer data would be used, if that was
19 a difference. But yeah, if all things equal, they're
20 using the same data and everything else, you go with the
21 higher tier. You would use IRIS in that case. Because
22 it's --- because of the more stringent review and the
23 consensus that you get with IRIS.

24 Now, PPRTV, of course, is the same type of

1 review. But they just didn't reach a consensus for some
2 reason. But anything that they reached consensus on in
3 IRIS, that's the value that should be used as long as
4 it's of the same --- same ages, used the same data, same
5 methodology, and the same in confidence.

6 MS. HENTHORN: Okay.

7 So again, if the IRIS value is older than
8 a tier II value with high confidence, would you use the
9 tier II value with the higher confidence because it's in
10 your data set?

11 MR. BRITTAIN: Yes.

12 MS. HENTHORN: So we would just need a way
13 to work that into the chart?

14 MR. BRITTAIN: Yes.

15 CHAIR: So we'll work those things into
16 the chart and send that to you. And we'll also send the
17 prism spreadsheet to everyone so we can ruminate on those
18 things and discuss them. In the meantime, please feel
19 free to give us a call or give us an e-mail. We can set
20 up a call with anyone who wants to discuss any of those
21 things as we move forward.

22 And then Jennie --- thank you, Jennie, for
23 being able to pop in and work on this BAF situation, the
24 flowchart, and also the spreadsheet to go with it.

1 You'll get that to us whenever you can. And we'll start
2 talking about that, too.

3 So we have a little bit of work to do
4 between now and the March meeting, so that when we get
5 there, we'll be ready to really talk about those.

6 Was there anything else that we want to
7 --- that we feel like we haven't addressed as far as
8 making decisions on these criteria, other than toxicity
9 and bioaccumulation factor? I think we agreed in the
10 past that we're good with the other parameters that are
11 in the equation, the way that they were developed and
12 decided upon by EPA. These are the two main things that
13 we needed to look at in more detail.

14 Is that right?

15 Okay.

16 MS. HENTHORN: Are we on agreement on fish
17 consumption?

18 CHAIR: I think that for things like fish
19 consumption --- for fish consumption, I feel like we are
20 in agreement that we can work with that, with the
21 national number. The one that's in the equation now,
22 that's not the regional number. I know that the rivers
23 had mentioned they wanted to --- they would rather use
24 the regional number at some point in the past, but ---.

1 MS. CROWE: I think the regional number
2 and the national number are pretty close. What we
3 wouldn't want to do is use the 2008 fish consumption
4 study.

5 MS. HENTHORN: I think that that was still
6 a point of contention for the manufacturers. I'll need
7 to go back and talk to them.

8 CHAIR: Yeah. And that --- that may be,
9 but we've had quite a bit of feedback from EPA. And they
10 would have --- they would have some issues with that
11 study, too.

12 MS. HENTHORN: I just can't make a
13 commitment today.

14 CHAIR: Okay. All right. Okay.

15 So I think that that --- that covers what
16 I wanted to cover in the meeting today. And we have
17 quite a bit of homework to look at. Maybe some of us
18 more than others, but we'll all have some chance to look
19 at some new information or some --- you know, like the
20 updated version of this --- this flowchart and whatnot in
21 the meantime.

22 So was there anything else we wanted to
23 talk about today?

24 All right.

1 Well, I really appreciate everyone's time
2 and ---.

3 MS. CROWE: When is our March meeting?

4 CHAIR: When is it? It's March 24th. So
5 it's four Wednesdays from today.

6 MS. CROWE: Same time?

7 CHAIR: Yes. I'll send that out. So you
8 can have it on your calendars exact.

9 All right.

10 Any other questions? I really appreciate
11 everybody coming with an open mind and working through
12 this together. I know we've all had different ideas and
13 thoughts. And I feel like we've arrived at something
14 that can --- we can move forward with. Hopefully the BAF
15 was just as easy. Everybody keep their fingers crossed.

16 All right.

17 Thank you all so much and have a great
18 rest of your day.

19 * * * * *

20 MEETING CONCLUDED AT 11:51 P.M.

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1 CERTIFICATE

2
3 I hereby certify, as the stenographic reporter,
4 that the foregoing proceedings were taken stenographically
5 by me, and thereafter reduced to typewriting by me or
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