U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL
NATIONAL INSTITUTE FOR OCCUPATIONAL
SAFETY AND HEALTH

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ADVISORY BOARD ON RADIATION AND
WORKER HEALTH

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URANIUM REFINING ATOMIC WEAPONS EMPLOYERS
(AWEs) WORK GROUP

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FRIDAY
JANUARY 13, 2017

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The Work Group convened via teleconference at 10:00 a.m. Eastern Time, Henry A. Anderson, Chair, presiding.

PRESENT:

HENRY A. ANDERSON, Chair
DAVID KOTELCHUCK, Member

ALSO PRESENT:

TED KATZ, Designated Federal Official
NANCY ADAMS, NIOSH Contractor
DAVE ALLEN, DCAS
JENNY LIN, HHS
JOHN MAURO, SC&A
JIM NETON, DCAS
JOHN STIVER, SC&A
BILL THURBER, SC&A

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(10:01 a.m.)

Welcome and Roll Call

MR. KATZ: Welcome to everybody on the line. It's the Uranium Refining AWE Work Group. And we have a brief agenda today, to deal with maybe wrapping up the Board's review of Hooker Site Profile.

And the agenda for today, and the materials related to that agenda, should be posted on the NIOSH website under the Board section, Scheduled Meetings, Today's Date.

And you can go there and follow along with the documents that we're talking about, and you're welcome to do that. So, roll call on Board Members who do not have conflicts with the site.

Actually, we have three Board Members that are a part of this Work Group. One Board Member's going to be absent, that's Dr. Field. Dr. Anderson chairs it, and Dr. Kotelchuck's one of the Members.

And so, we're fine going forward with

the two. So, let's do roll call.

(Roll call.)

MR. KATZ: It's your agenda, Dr. Anderson.

SC&A Review of NIOSH Technical Basis Document for Hooker Electorchemical (Rev #3) and NIOSH Response

CHAIR ANDERSON: Yes, thanks. On this review of the only open part of the review to discuss is number four, which had to do with the residual period and estimating doses from the surface contamination.

There were some issues initially raised by SC&A. I don't know if one of you want to review this technical issue here.

DR. MAURO: This is John Mauro. I would suggest Bill Thurber. Bill, you're on the line.

MR. THURBER: I am.

DR. MAURO: We both worked on it. I did read it over again yesterday, and I'm familiar with it. But I think you're closer to it than I

am.

If you want to go ahead and take a run at it, and I'll help out where I can?

MR. THURBER: As you said, the only open issue was our finding number four. And our concern there was -- at a couple of prior meetings of the Work Group, we had a considerable discussion about the applicability of TIB-009 to the residual period.

And there was concern expressed on all sides that that was -- whether or not that was an appropriate approach was open for discussion. Some of us, myself included, went away from those discussions with an opinion --

With the impression, rather, that TIB-009 should not be used. And in our review in November, we pointed out some of the language from the transcript that we felt supported our understanding.

But NIOSH responded and said, no, SC&A, you didn't really understand exactly what we were saying. And we think that it is appropriate under certain circumstances to use TIB-009.

And we took that position under advisement. We looked at NIOSH's arguments on which that position was based. And the gist of the argument was that, if you used TIB-009 during the residual period, you should not consider resuspension.

And so what NIOSH proposed was, you take the airborne concentration at the end of operations and you extend that through the residual period.

Now, obviously, that's very conservative because the concentrations are going to decay. Certainly, and NIOSH said this categorically, that the airborne concentrations will decay very rapidly.

And, therefore, the real concern during the residual period is surface contamination, which can then be via some hand-to-mouth transfer mechanism result in ingestion.

And so, as I said, this is clearly a very bounding approach, very conservative. And the one -- a couple of comments that we made about the approach was that the TIB model, as you may or may not recall, consists really of two parts.

There was one part involved, basically hand-to-mouth transfer. And the second part involved deposition -- airborne deposition. Deposition into a cup of coffee.

And, obviously, if you take the position that the airborne contamination will die off very quickly during the residual period, then that mechanism really goes away.

So, the bounding approach taken by NIOSH is even more so, because only half the contribution that you calculate using the TIB procedures is going to be present during the residual period.

Having said all of that, we are okay with using this as a bounding mechanism. And the only caveat that we included in our short write-up, from the end of last year, was that this approach is fine, except when it creates a situation where compensation would be considered.

And it's just way too conservative to be used in compensation rewards. So, that kind of summarizes our position on this.

CHAIR ANDERSON: Just let me -- I'm

trying to sort through all of my documents here. And one of you may know this, since I haven't been able to quickly find it, there was no cleanup after they ceased operations?

I mean, because the issue here was re-entrainment as well. So, if you have surface contamination, and hand them out from that surface contamination, you can get re-entrainment, which would then fall into the coffee cup.

Obviously, it wouldn't be as high a concentration as if you'd had operations going on and there's kind of a new source being added to the air on a continuing basis.

So, your issue here of air will quickly drop down if there's re-entrainment. It obviously won't get to the 50 percent, I wouldn't think. But does that play into this at all? Or was there cleanup to the extent that it wouldn't be particulate readily re-entrained?

MR. THURBER: This is Bill Thurber again. No, there was no cleanup involved. Certainly, there could be some residual resuspension, and some of that resuspended

airborne material could deposit in the hypothetical coffee cup.

But that contribution would be much smaller than what you calculate using the airborne concentration at the end of operations, which is what NIOSH has proposed.

CHAIR ANDERSON: Right. Okay, that's what I recall.

MEMBER KOTELCHUCK: This is Dave. Let me ask, I follow you up to the point that you said, well okay TIB-009 is okay. And what it leaks out is minimal in this case.

But then you said, but you can't use it for compensation purposes. And that I did not understand.

MR. THURBER: Well, the reason I said that is that this model is extremely conservative because it assumes that the concentration you calculate from TIB continues in perpetuity, if you will.

There is no decay in the airborne concentration during the residual period, which is -- so it's unrealistic and it's conservative from

that point. And it's additionally conservative from the point that one of the two mechanisms obviously is significantly diminished by the physical situation.

MEMBER KOTELCHUCK: Right. So, what you're saying is that --

CHAIR ANDERSON: It's an overestimate.

MEMBER KOTELCHUCK: Right, right. It's an overestimate. On the other hand -- right. So, it's an overestimate.

MR. THURBER: Yes.

DR. MAURO: This is John. I can help a little bit here.

MEMBER KOTELCHUCK: Sure.

DR. MAURO: Normally, what we expected to see is, when you get into the residual period and you're concerned with the inhalation or ingestion pathway -- I think this goes toward ingestion -- what you would do -- and this is OTIB-009. This is classic OTIB-009. You assume that there is -- you're assuming that you're continuously generating an aerosol during operation.

And that's settling out and creating a film on the surface. And, normally, what we expect to see in a calculation like this is, okay, that would be the activity that's on the surface. There's no longer any new airborne activity being produced and ascended.

MEMBER KOTELCHUCK: Right.

DR. MAURO: But now you do have this surface contamination. And the way in which NIOSH typically addressed this, under OTIB-070 -- this is what we were expecting to see -- is that, okay, you start with that activity on the surface.

But it's going to be declining at a rate of .00067 per day, based on empirical data. So, that activity on the surface is actually going to decline.

And then, from there, you could model the hand-to-mouth behavior for ingestion. And this is all laid out in guidance, it's actually in reg 5512. NIOSH has adopted this basic strategy. We have deliberated on that, and everything's fine. So, we were expecting to see that, okay? We've got your beginning activity, and then it's going to

decline.

MEMBER KOTELCHUCK: Right.

DR. MAURO: What NIOSH actually did is say, listen, there's an ingestion activity going on during operations that is high. The way in which they do it, they key it back to the airborne activity.

And there was a lot of discussion on that. So, you have a relatively high intake, of course, of inhalation, because you're operating in these aerosols.

And you also have smaller but also an ingestion going on continuously. But, as soon as operation ends, all you really have left is this residual activity.

And then it becomes just this hand-to-mouth activity, which will be declining in time because of the natural attenuation that occurs once you stop producing it.

Now, what NIOSH did was they said, well we're going to simplify it. It was surely an efficiency, as I understand it. This is our takeaway.

Really, an efficiency method. Whatever the ingestion rate was during operation, we're going to assume it basically continues right into --

MEMBER KOTELCHUCK: Right.

DR. MAURO: Which is conservative. It's actually going to decline.

MEMBER KOTELCHUCK: Right, which is conservative, meaning claimant-friendly.

DR. MAURO: Claimant-friendly. You can overestimate.

MEMBER KOTELCHUCK: Yes.

DR. MAURO: So, we understand that now. There was another -- in fact, we talked about it. there was another approach that could have been used, that would have been used, if they actually cleaned up.

MEMBER KOTELCHUCK: Right, right.

DR. MAURO: It's a completely different approach that's been adopted.

MEMBER KOTELCHUCK: With the DuPont.

DR. MAURO: With DuPont, exactly. DuPont Deepwater.

MEMBER KOTELCHUCK: Yes.

DR. MAURO: Which was using DuPont Deepwater. They used it for --

MEMBER KOTELCHUCK: Right.

DR. MAURO: I forget the exact units, but it's all there now.

MEMBER KOTELCHUCK: Yes.

DR. MAURO: And that approach is a good approach, when the cleanup is done right when you terminate operations. But there's still some residue.

And so, they could use that ten-to-the-minus-four approach. So, really what we have is -- and that was one of our questions for you. Why didn't we use the DuPont Deepwater approach?

And the answer was, well there wasn't -- in DuPont Deepwater, there was cleanup. But, at the Hooker, there wasn't, right? So, what we're going to simply do is, whatever the ingestion rate was during operations, we're going to assume the ingestion rate just continues, which is an overestimate.

And that's fine, because it's always fine to use efficiency methods to simplify the calculation. But our only concern is that, well, you cannot really compensate a person using what would be considered to be an overestimate.

MEMBER KOTELCHUCK: Yes. Right, right, right.

DR. MAURO: So, it wouldn't be fair to, you know, to do that. So, our only real endpoint on all of this was that this is fine, as long as the person isn't being compensated.

And so, that's how we sort of end there.

MEMBER KOTELCHUCK: Oh, okay, that's clear. Thank you.

CHAIR ANDERSON: By and large, these estimated doses are going to be pretty low?

MEMBER KOTELCHUCK: Yes.

DR. MAURO: No matter which way you do it, by the way, the contribution from the residual period from ingestion is always very low. Although, I think in this case, that was the only pathway.

I think this person's exposure was only

during -- am I right, Bill? Or did I miss that one? In other words, he had no exposure from the --

MR. THURBER: No, there is other exposure.

DR. MAURO: There was? Okay.

MR. THURBER: The issue came about because, in the original Site Profile, the ingestion pathway during the residual period had not been considered.

DR. MAURO: Oh, it wasn't even considered at all?

MR. THURBER: No, it wasn't. So, this was additive. And it's certainly true that these contributions are very small. Our only concern is that we're not setting precedence that are misunderstood, and so forth.

MEMBER KOTELCHUCK: Right, right. That, to me, clears it up. And, Henry, my feeling is that, with the two parties agreeing, it seems to me the issue is resolved.

CHAIR ANDERSON: Yes, I would agree.

MEMBER KOTELCHUCK: Yes.

CHAIR ANDERSON: I think the caveat --

I mean, it's unlikely but potentially there would be somebody that had significant prior exposure that got up very, very close to the hot point.

And this little bit could put him over, and then you'd want to --

MEMBER KOTELCHUCK: Yes.

DR. MAURO: Exactly right.

MEMBER KOTELCHUCK: Exactly, I see that. Right, right. So, do we want to -- I mean, do we want to put --

MR. ALLEN: This is Dave Allen.

MEMBER KOTELCHUCK: Yes?

MR. ALLEN: Can I say one thing first?

MEMBER KOTELCHUCK: Sure.

MR. ALLEN: About that caveat part. The whole history on this one is -- just so you know the history here -- originally, when we were writing -- I mean, not originally, but at one point, we were writing or revising -- I don't recall which -- this TBD -- it was at the time that the depletion factor that John and Bill have been talking about, on the rate of decline of the contamination.

That rate was very much in debate. And this particular site, that ingestion rate was very small -- it's pretty trivial -- so, we ended up writing a TBD where it just didn't decline.

And, since that time, this went through a review board with the Secretary's Office. And the Secretary's letter disagreed with us and the Board, and said that it should be an SEC.

But they also, in that letter, stated that we should do residual, in accordance with that version of the TBD. So, at that point, it kind of felt like my hands were tied and I'm stuck doing whatever we were doing in that version, whether it pays or not pays.

And, as you mentioned here, it's pretty trivial. So, even if that's enough to push somebody over, it's -- they were close enough. You know?

CHAIR ANDERSON: Yes, I was going to say, it's well within a rounding error.

MR. ALLEN: So, I mean, I just want to make sure we don't get a caveat in there saying you can't pay anybody by this. I don't think it will

ever happen, frankly.

But I really don't want that kind of caveat in there when we get this right -- thing from the review panel that basically said, that's how we should do it. And the Secretary agreed with it.

MEMBER KOTELCHUCK: Very good. And, by this discussion, we're putting it on the record.

MR. ALLEN: Yes.

MEMBER KOTELCHUCK: Are we not?

MR. ALLEN: Yes, I guess we are.

MEMBER KOTELCHUCK: Yes, good.

DR. MAURO: I'm sorry to interrupt. This is John. You just threw me a little bit of a curveball, and I want to make sure that I understand.

The method that you're using when you're saying that the ingestion rates just continues without, you know -- that would be a bounding approach.

Are you saying that that can be used in a case that's compensated? I think one of the philosophies has always been -- I understand that we're talking about a trivial change.

But let's say this case was being done today. And the outcome of it was that the person was compensated. Would you feel that it was okay to leave it on the record, in this current form, using the current method that you have adopted for adjusting?

MR. ALLEN: I think there are a number of cases out there with TBDs that are, especially prescriptive ones, where we have been conservative in lieu of research -- especially on something that is trivial.

DR. MAURO: Yes.

MR. ALLEN: Yes, in those situations, we would pay somebody. We could use prescriptive, and we would do -- it comes out however it comes out.

In this particular case, we got the research done and we could decline this, and normally would. But, I think my hands are tied as a result of the review panel.

DR. MAURO: I'm sorry, let me see if I understand this. So, if you were doing it today, though, would you still do it the same way regarding

the residual period?

MR. ALLEN: Yes, we would do it by the TBD, which is a constant throughout the residual period.

DR. MAURO: And you would feel that there would not be any -- and I'm not disputing at all, I just want to make sure I understand. The fact that you would not be using the more realistic method, where the activity declines, that would not represent any type of contradiction to not using bounding approaches for cases that are being compensated?

Even though this particular bounding approach only applies to the residual period, and it really wouldn't change anything. But you'd still -- and, because of that, you would have no problem still doing it this way if you were to do that today?

MR. ALLEN: Well, we would follow the TBD.

DR. MAURO: You would follow the TBD.

MR. ALLEN: Right.

DR. MAURO: Which has -- and the TBD

currently has this same treatment. So, in this regard -- so, if I understand it correctly -- I didn't check the TBD. The TBD has this same approach where you just continue the ingestion rate going constant? Is that how this particular TBD is written?

MR. ALLEN: Yes, it is.

DR. MAURO: Okay. And you would not change it. And I would agree that this does not represent a circumstance where you'd ever find yourself at that fractional percentage, close to the compensation.

The fact that you're being conservative on this aspect, would end up with a compensation that otherwise would not be compensated, if you're following me? Do you understand my question?

MR. KATZ: John, so, what Dave has said is that it's theoretically possible that you could have a case where the vast majority of the doses from other experiences --

DR. MAURO: Yes.

MR. KATZ: And this little bit could put them over.

DR. MAURO: Yes.

MR. KATZ: And he's saying, in that case, that will be fine, we will still compensate that person. We are beholden to use this method because the Secretary's put the stake in the ground in terms of applying this method.

DR. MAURO: Even though it's not the way you would do it at other sites?

MR. KATZ: Right.

MR. THURBER: That's my question. For clarification, this is only for Hooker?

CHAIR ANDERSON: It's been mandated for this site.

MR. KATZ: Yes, this is only for Hooker. It's only for this very unusual situation, where there was an SEC Class which, upon appeal, was granted by the Secretary. And the Secretary's determination, in effect, was that she put a stake in the ground about applying this method for the residual period.

So, we're complying with the Secretary's position, since the Secretary has the ultimate policy measure -- that we'll use this

method.

DR. MAURO: I gotcha, I understand now. I just needed a little help with that. Thank you.

MR. KATZ: Yes, sure.

MEMBER KOTELCHUCK: So, Henry, would it now be appropriate to say that our Working Group accepts that this is resolved? Or, that the Working Group considers this issue resolved?

CHAIR ANDERSON: Yes, I would say so.

MEMBER KOTELCHUCK: Okay, I so make that motion.

CHAIR ANDERSON: I think that is a motion.

MEMBER KOTELCHUCK: That is a motion.

CHAIR ANDERSON: I'll second it.

MR. KATZ: Now you need to discuss it.

CHAIR ANDERSON: Right.

MEMBER KOTELCHUCK: Well, it seems to me -- I mean, in this case, this is a mandated -- this is a mandated resolution. Even, it seems to me -- even if SC&A continued to disagree, which they do not -- they agree now. But if they did, we would still be mandated to do it, because the Secretary

has so defined it. And, for this case, there is no question that this method shall be used. And we're using it.

MR. THURBER: This is Bill Thurber. I would suggest that that specific -- that there be a specific reference to this decision included in the minutes, so that when someone's, in the future, trying to track this down, they can pinpoint the source.

MEMBER KOTELCHUCK: Well, by our speaking about it -- and this is being recorded, right? This is on the record now. I don't believe we need to add it to our resolution, that the Working Group considers this point resolved.

And we've agreed -- both parties agree -- technical parties agree that this is the way that we're going to do it. And so we've certainly mentioned that's the Secretary's mandate here.

CHAIR ANDERSON: I mean, we're making a statement that's -- it is a true statement that it is a conservative approach, a systematically applied conservative approach.

MEMBER KOTELCHUCK: Yes.

CHAIR ANDERSON: And there might be other approaches that would be less conservative that would also be acceptable. But, in this instance, we're comfortable using it because it's also mandated.

MEMBER KOTELCHUCK: Right.

CHAIR ANDERSON: So, is that okay, folks?

DR. MAURO: This is John. It's fine.

MR. THURBER: Yes.

CHAIR ANDERSON: And I don't think we -- the impact of it is relatively unlikely to occur going forward. But I think it's important to have it in the books.

MEMBER KOTELCHUCK: Agreed.

CHAIR ANDERSON: So, all in favor?

(Chorus of ayes.)

CHAIR ANDERSON: I don't know, do you want to -- I suspect Bill will feel the same way. Do we need to run it by him as well?

MEMBER KOTELCHUCK: No.

MR. KATZ: No, you don't.

MEMBER KOTELCHUCK: No, because we

have a quorum.

CHAIR ANDERSON: Okay, we're good to go then.

MEMBER KOTELCHUCK: Okay, very good.

MR. KATZ: Right. And, Andy, you already gave most of the Hooker review at the last Board meeting. So, do you need any support? Or, are you fine with reporting out on this?

CHAIR ANDERSON: Yes, I don't think we're going to have a PowerPoint or anything. Yes.

MR. KATZ: Yes.

CHAIR ANDERSON: I'm just going to say, we talked about it. And I can also mention the issue with the Secretary.

MR. KATZ: Sure.

CHAIR ANDERSON: But we discussed and resolved it and it's appropriate to use it -- that it is a conservative approach. Although we could have considered other approaches, because of the Secretary's indication that we are to use this approach in this instance, we're comfortable with that.

MR. KATZ: Okay, that sounds good.

MEMBER KOTELCHUCK: All right.

CHAIR ANDERSON: Anything else, for the good of the order?

MR. KATZ: No, I think that's all good.

CHAIR ANDERSON: Okay. All right, thanks a lot.

Adjourn

(Whereupon, the above-entitled matter went off the record at 10:32 a.m.)