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

+ + + + +

ADVISORY BOARD ON RADIATION AND
WORKER HEALTH

+ + + + +

SUBCOMMITTEE ON DOSE RECONSTRUCTION REVIEWS

+ + + + +

TUESDAY
JUNE 27, 2017

+ + + + +

The Subcommittee convened via teleconference at 10:30 a.m. Eastern Time, David Kotelchuck, Chairperson, presiding.

PRESENT:

DAVID KOTELCHUCK, Chairperson
JOSIE BEACH, Member
BRADLEY P. CLAWSON, Member
WANDA I. MUNN, Member
DAVID B. RICHARDSON, Member

ALSO PRESENT:

TED KATZ, Designated Federal Official
NANCY ADAMS, NIOSH Contractor
DAVE ALLEN, DCAS
BOB BARTON, SC&A
HANS BEHLING, SC&A
KATHY BEHLING, SC&A
GRADY CALHOUN, DCAS
DOUG FARVER, SC&A
ROSE GOGLIOTTI, SC&A
JOHN MAURO, SC&A
KEITH MCCARTNEY, ORAU Team
JIM NETON, DCAS
MICHAEL RAFKY, HHS
BETH ROLFES, DCAS
MUTTY SHARFI, ORAU Team
SCOTT SIEBERT, ORAU Team
MATT SMITH, ORAU Team
JOHN STIVER, SC&A

Contents

P-R-O-C-E-E-D-I-N-G-S

10:32 a.m.

Welcome and Roll Call

MR. KATZ: Let's go with roll call.

(Roll call.)

MR. KATZ: Okay, that takes care of it. I think I would note for everyone the agenda is on the Board website under schedule of meetings, today's date, and you can follow along with that. I don't think there are materials posted on the website, just that.

And that's it. And Dr. Kotelchuck, it's your meeting.

CHAIR KOTELCHUCK: Okay, very good. Welcome, all. So we have the agenda for today.

(Simultaneous speaking.)

MR. KATZ: I'd remind everyone please mute your phone except when you're talking.

CHAIR KOTELCHUCK: Okay. Well, Rose sent the transcript to us. The transcript is out for the 4/13 meeting.

And by the way, Ted, as we saw it,

it was very helpful receiving the transcript for review a couple of weeks before this meeting so that I have had a chance to review it and post it before we received the materials from Rose.

By the way, I'm having trouble getting onto the -- onto Skype, but I'm perfectly fine here with the BRS, as you are, Josie.

And also a note to folks: In rereading the reviewed transcript I did find a couple of minor errors. And I'll contact you, Hans and Rose, just to double-check what had happened. They're small, and I know it's posted, but I trust we can make one or two -- a few small changes now.

Well, our agenda, as we have it [is to] review outstanding cases from Sets 14-18. We have a more limited number of issues there.

Review of outstanding cases from Sets 14-18

CHAIR KOTELCHUCK: I don't know how

folks would like to go over the order, but my own feeling was, I'm on the BRS, was to perhaps do the expanded responses first, three out of the four which are 14-18.

So, if that sounds okay, and then we'll go on and finish up the other 14-18 [cases]. Does that sound okay to folks?

MEMBER MUNN: Sure.

CHAIR KOTELCHUCK: Okay.

MS. GOGLIOTTI: Is Hans still on the line?

CHAIR KOTELCHUCK: Pardon?

MS. GOGLIOTTI: He is. Okay, great.

CHAIR KOTELCHUCK: So let's start out with Tab 409. We'll just do it in the order that we have it, that Rose sent to us.

MS. GOGLIOTTI: Actually, this one we previously discussed. I think this -- did John Mauro sign off? I had told him we would discuss this --

DR. MAURO: Hi Rose, this is John. Maybe I'll join in when you start just to see

where I might fit in on the agenda. So I'll just listen in and you let me know when you need me. But I'll be listening in, you know, just to get some guidance from you.

MR. KATZ: And Rose, can you speak into the mic[rophone] a little closer, because it's tough to hear you.

MS. GOGLIOTTI: I apologize. I'm holding the mic but I'll try and speak up a little bit.

MR. KATZ: Okay, thanks.

CHAIR KOTELCHUCK: Alright. I understand that there are times you have to call other people to be with you. And so if that represents a problem --

MS. GOGLIOTTI: We can certainly do --

(Simultaneous speaking.)

CHAIR KOTELCHUCK: It just seems to me that was the order that you sent us and that was the order, certainly, I reviewed them. So I just thought -- and also we discussed them

before, so they're a little fresher in our minds. So --

MS. GOGLIOTTI: Well, the history of Tab 409 was initially -- this is a Bethlehem Steel case. NIOSH said to summarize: We spent extensive time historically working on Bethlehem Steel. And they kind of wanted these off the table.

After some additional dialogue we decided that most of them would be on the table. And that's when we put out the memo, which I did send to you. We did discuss this at the last meeting and it was your preference that we would wait and discuss it additionally at this meeting.

And NIOSH responded to it at that time. So let me just pull it up here in the BRS.

CHAIR KOTELCHUCK: So you're pulling it up on the issues resolution in the BRS. Okay?

MS. GOGLIOTTI: Correct.

CHAIR KOTELCHUCK: And which one of those? Since I'm not on the Skype, which file is that?

MS. GOGLIOTTI: Oh, I apologize.

CHAIR KOTELCHUCK: No, that's okay.

MS. GOGLIOTTI: It's 14-18 Set, the AWE matrix.

CHAIR KOTELCHUCK: Okay, excellent. Alright, yes. Good.

MS. GOGLIOTTI: And the first one that's open is 409, Observation 2. Again, this is a Bethlehem Steel case.

CHAIR KOTELCHUCK: Yes.

MS. GOGLIOTTI: And here, this is just directly out of our expanded response. We did enter the expanded response in here to track things more closely.

And the observation essentially said that transparency of the Site Profile would be enhanced if the results of the air sampling were included in the appendix.

And essentially this is just a

factual observation. We don't think it warrants an additional response. So if the TBD were to be revised we would suggest that it would benefit from including that information.

CHAIR KOTELCHUCK: Right, right. And since there are a number of items here, do we want to, just the Subcommittee, I assume that we will close this, that there is no issue that we have to consider.

MEMBER MUNN: Agreed.

MEMBER BEACH: Agreed.

CHAIR KOTELCHUCK: Okay. Alright. Let's go on.

MS. GOGLIOTTI: Okay, the next one is 409.1, and the finding states that the photon dose rate at the skin at one-foot from the source is understated by a factor of about 1.9 if a claimant-favorable large source is used as a reference.

CHAIR KOTELCHUCK: Right.

MS. GOGLIOTTI: John, are you on the line?

DR. MAURO: Yes, I'm here.

MS. GOGLIOTTI: Did you want to talk about 409.1?

DR. MAURO: Yes, this looks like the item that deals with -- at the time that this issue was raised, I believe this has to do with when doses are reconstructed a full distribution is assumed for -- I believe this is the one dealing with -- working with the geometric mean and the geometric standard deviation as input for -- and this is all the Site Profile now.

Keep in mind that everything we'll be talking about on Bethlehem Steel really pertains to the application of the Site Profile to a particular case. The cases, the individuals themselves, don't have any dosimetry data. So this is all really interpreting the Site Profile and how it applies to a particular case.

It also has to do with the fact that the Site Profile has undergone some revisions

that were not reviewed by SC&A since we initially reviewed the SEC activities which go way back. You might want to keep that in mind in context.

So, when we review a case, at the time they reviewed the case, one of the concerns we had is that we were expecting to see assigning an upper end, maybe a fixed upper end value at the 95th percentile for this particular exposure at the time we made that comment.

Subsequent to that, this issue on when to use a full distribution, when you might use a fixed upper 95th percentile or upper end value for your exposure, was engaged in other venues.

And Jim Neton put out some nice material, not related to Bethlehem Steel, but pointing out that when you put in the geometric mean and the distribution, the full distribution, and then you run it through an IREP you pick off the upper end Probability of

Causation.

And the end result is you really don't get that much of a difference in what your PoC [Probability of Causation] would be if you use the full distribution and then you run IREP where samples from these distributions pick off the upper end, the upper 95th percentile value.

You end up with a PoC that's really more or less identical to as if you were to put in a fixed value at the 95th percentile value. And that was something that came up and was demonstrated very nicely in the past.

So, bottom line is we're okay. I mean, I would recommend that this item could be closed because the approach that NIOSH used convinced us that, yes, using the full distribution does in fact result in a claimant-favorable outcome, and it is not necessary to always apply the upper 95th percentile value.

CHAIR KOTELCHUCK: Right. So in the BRS you say this finding should be changed to

an observation. Right? Because nothing was done that was wrong. It was not wrong. It was appropriate.

DR. MAURO: Yeah, at the time we made the comment we were in the mode of thinking in terms of, well, when do you assign an upper end value, when do you assign the full distribution?

But then, after that dialogue and exchanging information with Jim, you know, this may be useful as an observation to point that out, the point I just made, or just withdraw it or close it. Either way. As far as I'm concerned it's been resolved.

CHAIR KOTELCHUCK: Right, right. It certainly sounds like an observation. Certainly it's not a finding. And therefore, folks from the Subcommittee, do you want to say should this remain an observation? Should we delete it entirely?

MEMBER MUNN: I don't believe we should delete it, because if the topic arises

again it's always useful to have a record of what we've discussed and what we've deliberated on. Changing it to an observation appears to be the appropriate move from my perspective.

MEMBER CLAWSON: I agree with Wanda.

CHAIR KOTELCHUCK: I do, too. So, we'll change it to an observation, folks.

409.2. Good.

MR. BARTON: Could I ask a clarifying question on that? Because that was an interesting discussion.

It sounds like, you know, if you use the 95th percentile as a fixed value versus a distribution -- I mean, typically we came up with the whole concept of using the 95th percentile to handle [the exposure for] workers that had a higher exposure potential versus maybe more intermittently exposed workers.

But the fact of the matter is using the 95th percentile as a fixed value is going to end up in the same place PoC-wise. I'm kind of wondering why we even have the option.

CHAIR KOTELCHUCK: Someone want to respond?

DR. MAURO: This is John. I'm holding back waiting for Jim, because the demonstration that was made, at least as it applies to this class of problem, seemed to work. That is, using the full distribution did not give results that were substantively different than the upper 95th percentile for the values that we were working with.

Now, that may not always be the case. I guess all I can say is that it may not always be the case that you'll come up with comparable PoCs. And there may be times when the upper 95th percentile makes more sense. I'm not quite sure.

Jim, can you help me out here?

DR. NETON: I certainly wasn't anticipating this question today so I really can't comment. I don't think it's always the case. I mean, we've demonstrated that it's close, if not perfect.

Unless Dave Allen's got some other insight here I really can't address that question off the top of my head, to be honest with you.

MR. ALLEN: Well, this is Dave. And I'm not positive on it. I wasn't ready for that question either. But I think, if I'm not mistaken, this has to do with how large the uncertainty is.

DR. MAURO: Yes.

MR. ALLEN: So, in some distributions it certainly is large enough to where the uncertainty of the risk models is irrelevant and you end up with the same PoC, whereas other ones it might not be so large and it can make a difference.

So I don't think we can make a wholesale program-wide declaration that we can always do one or the other. It works for Bethlehem Steel because the GSDs are high.

MR. BARTON: Okay. So this is kind of a site-specific characterization and not

necessarily a program[matic] one.

MR. ALLEN: That's my belief. I couldn't swear to that, but I'm pretty sure that's the way it would come out if we analyzed that.

DR. MAURO: This is John. I'd like to make a suggestion. I think the issue itself is important. That is, there are times when the full distribution works well as opposed to -- and there are conditions when it makes more sense to use the full distribution because of the nature of the job the person has.

But I think it is important to sort of zero in on, well, when is it that you really should be using the 95th percentile? For two reasons:

One, the persons themselves are likely to have had a job which puts them at the upper end. And that the nature of the upper end for that particular, let's say, facility and job is such that a full distribution may not do the job justice.

So what I'm hearing is that there are places where we do need to go with the 95th percentile and not just rely on the full distribution. In this case, the full distribution served us well, but there may be other cases where they don't.

A little bit of guidance regarding that would be helpful. I think we're okay here, but I agree, Dr. Kotelchuck, that it would probably be a good idea to know a little bit more about the conditions where you're really better off going with the 95th percentile.

CHAIR KOTELCHUCK: Do we want to refer this to the Procedures Subcommittee? We can act on it as an observation, because it's clearly the resolution in this case, and then send a note to the Procedures Subcommittee.

MR. KATZ: I was going to suggest just that, Dave.

CHAIR KOTELCHUCK: Okay. Ted, would you do that?

MR. KATZ: Yeah.

CHAIR KOTELCHUCK: Okay.

MR. BARTON: This is Bob. If I might offer, there is sort of a general guidance contained in the Coworker Implementation Guide that talks about when it's appropriate for the 95th percentile.

It talks about, well, it's your higher exposure employees, whereas those workers who were intermittently exposed, you know, not all the time, not in the highest places, that's when you look more towards the full distribution. So there is that.

That's the paper that you wrote, Jim. And so there is some language in there about when you should be applying the 95th percentile.

I'm not entirely familiar with the Bethlehem Steel case. It sounds like the original question was whether that worker sort of fit the mold of a higher exposed individual, or a more intermittently exposed individual for

selecting whether you're going to apply the 95th percentile versus the full distribution.

DR. NETON: Yeah, in the case of Bethlehem Steel it's one-size-fits-all and all workers were considered to be heavily exposed, the way the model is written. There's no differentiation between any of the worker classes in this case.

CHAIR KOTELCHUCK: Well, I mean, if we send a note to Procedures and then change this to an observation I think that takes care of it for us.

And given my desire as Chairperson to move on, I wouldn't mind going on to 409.3.

DR. NETON: This is Jim. I have a procedural question. Are we going to leave this observation open or do we close it? What does this do for us? We don't close observations by definition.

CHAIR KOTELCHUCK: That's correct, we don't.

MS. GOGLIOTTI: It's a finding.

CHAIR KOTELCHUCK: No.

MR. KATZ: It was withdrawn or changed to an observation so it's no longer a finding.

CHAIR KOTELCHUCK: It is now an observation, 409.2 is changed to an observation.

MS. GOGLIOTTI: No, 409.1.

MR. KATZ: No, this was all 409.1, Dave.

CHAIR KOTELCHUCK: Right. That was changed.

MR. KATZ: So we haven't gone to 409.2 yet, right?

MS. GOGLIOTTI: Correct.

MR. KATZ: Right.

CHAIR KOTELCHUCK: Okay, I was getting ahead of myself. Okay. Well, let's go on to 409.2.

MEMBER BEACH: Just for clarification, Dave, so this will be changed to an observation, and will it say that it was

recommended to transferred over -- not transferred, but the Procedures Work Group would look at that portion of it?

CHAIR KOTELCHUCK: Right. A note will be sent to the Procedures Work Group.

MEMBER BEACH: Okay. And will it be noted also in the BRS under this observation?

CHAIR KOTELCHUCK: It should be.

MS. GOGLIOTTI: Yes.

CHAIR KOTELCHUCK: It's an action by the Subcommittee.

MEMBER BEACH: Okay, thank you.

MS. GOGLIOTTI: And we are officially closing this as an observation, correct?

CHAIR KOTELCHUCK: Right.

MEMBER MUNN: Observations don't need to be closed.

MS. GOGLIOTTI: We do close them internally, though.

MEMBER MUNN: They are observations.

MR. KATZ: We've been closing them

all along even though --

CHAIR KOTELCHUCK: Yeah, in a sense closing is really accepting.

MR. KATZ: We're done with it.

CHAIR KOTELCHUCK: We've reviewed it. Okay.

MEMBER MUNN: I have only one question, and that is I'm not sure what additional deliberations Procedures can bring to this that hasn't already occurred.

You're more than welcome to do that. Of course, it's your prerogative and we'll certainly look at it. But I'm unclear as to what anyone anticipates that we might be able to do other than essentially reach the same conclusion we just reached, that it's primarily an issue of the size of population you're dealing with. But we'll be glad to look at it.

CHAIR KOTELCHUCK: Okay.

MEMBER MUNN: If anyone has any ideas about how to approach that in a new way please do let me know.

CHAIR KOTELCHUCK: Okay. But I think we as a Subcommittee can't go further with this beyond changing it to an observation. If there's a change, or if there's a way to resolve this, it's outside the purview of the Committee.

Okay, let's go on.

MS. GOGLIOTTI: Okay. The next one is 409.2. The finding states that photon dose was underestimated or understated by about 15 percent in the year 1952.

And here NIOSH agreed with us there was an error. They say this appeared to be a copy of the 1951 values, so it's suspected that a copy and paste error may have occurred.

The increase in dose is trivial and doesn't affect the compensation decision. And they will correct the error in the next TBD revision.

So, with that, I think we can recommend closure.

CHAIR KOTELCHUCK: Okay. Folks

agree?

MEMBER BEACH: Agreed.

MEMBER CLAWSON: Agreed.

CHAIR KOTELCHUCK: Alright, so, closed.

MEMBER MUNN: So are we closing it or do we go to abeyance? It wasn't clear to me when I was looking at the material that we had this time that we were still -- and the question arose in the material itself: are we still following that protocol or no?

MR. KATZ: No, not for the Dose Reconstruction Subcommittee.

(Simultaneous speaking.)

MEMBER MUNN: -- a final action on it would be to include it in any new revision that comes along. We're no longer holding that in abeyance?

MR. KATZ: That's fine for the Procedures Subcommittee. We don't need to do that for Dose Reconstruction. I think we just close it and NIOSH will just update the --

MEMBER MUNN: That's what I was asking, Ted.

MR. KATZ: Yeah.

CHAIR KOTELCHUCK: Okay. Go on, shall we?

MS. GOGLIOTTI: Okay, the next one is 409.3. NIOSH should verify that U.S. Army 1989, which is a reference, is the correct source of the dose of 90 millirad per hour and provide a reference for the cited electron dose.

CHAIR KOTELCHUCK: Okay. The question, in my mind, is there's a question of verifying the U.S. Army data. And I'm not sure that's --

MS. GOGLIOTTI: We're not verifying the data. We're verifying the reference is correct.

CHAIR KOTELCHUCK: Right. If we're verifying that the reference is correct is that not an observation?

MS. GOGLIOTTI: Not in this context.

And actually --

DR. MAURO: Do you have the attachment? There was a nice write-up that Bob Anigstein put together on this issue where he ran down the reference, I believe, in the materials to try to -- this also came up in another venue.

CHAIR KOTELCHUCK: Yes, yes, I see. And I can't open it from BRS.

MS. GOGLIOTTI: You should be able to open it from the BRS. Are you working off the printout?

CHAIR KOTELCHUCK: Yeah.

MS. GOGLIOTTI: Or the actual BRS? You're in the printout. Okay.

CHAIR KOTELCHUCK: Yes. I see. Okay. But if I went to the BRS itself, directly.

MS. GOGLIOTTI: Yes.

CHAIR KOTELCHUCK: Okay. I will do that in the future. I did not here.

MS. GOGLIOTTI: Okay, John, I have

that pulled up for you here.

DR. MAURO: I guess the only thing I can point out is that there was -- in referencing the U.S. Army document, one of the things we did was, well, let's go take a look at it and see what it says.

And it didn't really have the information. But we ran it to ground and prepared this attachment, which I think helps show where this information came from. I guess it came from different locations and wasn't originally cited.

And so the attachment provides that documentation to say, okay, here's where it came from.

CHAIR KOTELCHUCK: Okay. Alright. So, Subcommittee, we can approve this, close it?

MS. GOGLIOTTI: John, what is your recommendation?

DR. MAURO: From our perspective, this issue has been resolved. That is, we

understand where those numbers, the 90 mR per hour, et cetera, we know where they came from now. So, from our perspective, we understand it and it's a valid source.

The only matter here, I guess, goes back to the Site Profile deal whereby it makes reference to some material that isn't exactly correct.

And now we do have information that -- not the DR now but the Site Profile itself, when and if it's amended, just like we had this earlier comment, the Site Profile itself, at an appropriate time, when amended, just like we recommended adding in the table of airborne concentrations. Here's a place where the Site Profile would benefit by putting in the correct citations related to those exposure rates. And they're all here laid out in the appendix.

MR. KATZ: This is Ted. I'm not understanding why this is not an observation, because the dose reconstruction is not incorrect, it's just an incorrect reference in

the Site Profile.

MEMBER BEACH: But there's also skin calculations that you have recommended NIOSH adopt. Can you talk about that, John?

DR. MAURO: I don't know if it's in this one.

MS. GOGLIOTTI: It is.

MEMBER BEACH: It's in the last sentence.

DR. MAURO: Okay, so it is? Okay. My apologies. I thought that would just confirm that, yes, we found the source, but it goes further.

DR. NETON: This is Jim. I might be able to comment on that.

CHAIR KOTELCHUCK: Surely.

DR. NETON: The skin dose in the last sentence actually refers to modifying the skin dose for the so-called Putzier effect by a factor of 15.

But the fact is that the uranium that was -- the billets that were provided to

Bethlehem Steel were actually, had already been pre-rolled. And in fact, in your original review audit, there is a footnote to a table that essentially says that and states consequently the assumption the billets were not freshly cast appears reasonable.

So, I'm not sure why we would modify that at this point. This is different from what the original audit finding stated.

DR. MAURO: You're right, Jim. I agree. That last sentence in this write-up where we talk about the Putzier effect, I believe that has been put to bed for Bethlehem Steel and doesn't have play here.

MEMBER BEACH: Well, the last sentence in the last paragraph discusses that Putzier effect. So it was a little confusing to me.

DR. MAURO: And rightly so. I think we're in error here as it applies to Bethlehem Steel. Certainly there are other facilities where you have this double refinement process

where the Putzier effect has play. But now that Jim reminded me, I don't think that it had play here at Bethlehem Steel. Is that correct, Jim?

DR. NETON: That's correct.

CHAIR KOTELCHUCK: Which would move this to what category?

MR. KATZ: Well, this is Ted. I mean, you have bundled an observation and a finding. But you could close them both.

I mean, they're bundled as one, but the first part, the wrong reference, would be an observation. This last bit about needing to account for Putzier effect, that would be a finding. I think you can close them both.

CHAIR KOTELCHUCK: Right. So let's just close it as a finding, since that's what it's listed as initially. Shall we go on to four?

MS. GOGLIOTTI: Yes. Okay, [409].4 states NIOSH should explain [that] the source term for electron exposure is not based on

consistent assumptions.

And here this actually appeared in our review that we discussed at the last meeting. However, we didn't formally close it.

So it states that notwithstanding our concerns regarding consistency, the use of TBD methodology is clearly more claimant-favorable than the TBD-6000 methodology and is reasonably similar to SC&A's Monte Carlo and particle calculations for a large slab. As such, we suggest that this be changed to an observation. End quote.

CHAIR KOTELCHUCK: Right. That seems to me to make good sense.

MEMBER BEACH: I agree with that.

CHAIR KOTELCHUCK: Yeah. Okay. An observation it becomes. And we can go on.

MS. GOGLIOTTI: {Point] Five. And it states that we were unable to determine how a surface concentration of 1.25E to the 7 dpm per meter squared was calculated.

And, going on, we also discussed

this at the last meeting, but we did not formally close it. Our response states that a review of Revision 2 of the Simonds Saw & Steel Site Profile, which was only seven months after the dose reconstruction audit appeared, revealed that the revised surface concentration of 67,000 disintegrations per minute per 100 cubic centimeters squared would corresponds to 6.7E to the 6 dpm per meter squared. Therefore we accept the surrogate value and agree the finding should be closed.

CHAIR KOTELCHUCK: Okay. Good.

MEMBER BEACH: Agreed.

CHAIR KOTELCHUCK: Okay, closed. And now .6. By the way, .6 was left out in the letter that you wrote, that SC&A wrote. It went through all nine initial things that you considered findings, but you didn't list anything in six.

MS. GOGLIOTTI: Number 6 was the only one that NIOSH did not respond with their standard response that they responded to all

the other ones with. So that one was accurately captured in the BRS.

CHAIR KOTELCHUCK: I see. Okay. Can we talk about it now?

MS. GOGLIOTTI: Yes. Here it says the DR report should explain why no doses are assigned to the post-1962 residual period.

And NIOSH responded saying that there is no residual contamination associated with Simonds Steel and there's no need in the TBD for the DR to explain why there's no radiation dose or residual contamination outside the dates specified on the DOE website or the residual contamination study that was written by NIOSH.

And if that's the case, that's fine. However, we do believe that the TBD should clearly state that there's no residual contamination associated with Bethlehem Steel, because that is different from Simonds.

DR. MAURO: Rose, this is John. We took a quick look at the TBD just to see what

it had to say about the residual period for Bethlehem Steel. And I believe it's silent.

MS. GOGLIOTTI: It is silent on that matter.

DR. MAURO: Yeah, and I think that could be problematic.

(Simultaneous speaking.)

MS. GOGLIOTTI: You have to go into the DOE website and dig around quite considerably. I was able to verify that that is correct. However, I had to spend a considerable amount of effort to find that and it should be stated clearly in the TBD.

DR. MAURO: And the reason there was no residual -- I have to say, I'm surprised, because I know that Bethlehem Steel continued to do its work, steel.

CHAIR KOTELCHUCK: That is, rolling.

DR. MAURO: Steel rolling operations after it finished its AWE obligations.

And the only thing I can imagine why you could neglect a residual exposure at the

end of the AWE period is one of two reasons.

One, there was some kind of clean-up. Or two, and this is kind of obscure, but any uranium that may have been deposited would have been rapidly covered up by the steel cuttings or steel-making operations and sort of buried.

And I'm not quite sure which of those two reasons is the reason why the residual period becomes null and void, so to speak, for Bethlehem Steel.

I remember when we looked at that it was the kind of operation where there was a lot of debris associated with the rolling operations, whether you were rolling uranium or rolling steel. And you could quickly cover up anything that was from the previous day, and perhaps clean-up. I'm not sure.

MR. KATZ: John. Jim can address this, because this is not a new subject.

MR. CALHOUN: I can, even. This is Grady.

First of all, you've got to remember that the Bethlehem Steel uranium rollings were very, very limited. This was not a big operation. It was done on the weekends, and it was [not] only done, we know exactly how many rollings were done.

And secondly, we have documentation that discusses cleanup and recovery of any residue.

And thirdly, although limited, we have surveys of the actual rollers that show that they're below the free release criteria that currently exists. So that's what that was based on.

This specific topic has been beaten to death over and over and over, and that's what we based everything on.

DR. MAURO: Is that in the Site Profile?

MEMBER MUNN: Yes. Some of it is. Most of it is.

DR. NETON: I'm not sure it needs to

be in the Site Profile, John.

MR. CALHOUN: It doesn't need to be. Just because there's --

(Simultaneous speaking.)

DR. NETON: We've done 1,200 dose reconstructions at Bethlehem Steel and I challenge anyone to find out where we inappropriately reconstructed dose during the residual contamination period. That's not an issue.

CHAIR KOTELCHUCK: Well, then that really suggests that this should not be either a finding or an observation. That it's an erroneous position by SC&A. Is that correct?

MR. KATZ: That's absolutely correct.

MS. GOGLIOTTI: I don't think it's erroneous that we would recommend the inclusion that there was no residual contamination.

CHAIR KOTELCHUCK: Whether you would call it erroneous or not, there is no such problem, and it need not have been raised.

My feeling is, in terms of what we do, this is not an observation; it's not a finding. And therefore, it seems to me we should just remove it.

I appreciate -- look, when in doubt say something, right? “See something, say something”, as the saying goes.

And you were concerned about something, and I'm glad you raised it. But it doesn't make it an observation or a finding in this case because there was no residual contamination.

MEMBER MUNN: In other cases, other places that might have been a reasonable query. In this particular case, it is well covered by previous activities and our discussions. We know what happened there. There was no residual --

MS. GOGLIOTTI: I don't think that we're arguing that there should be residual contamination applied. I think we're just saying that the TBD is silent on that matter,

and it wouldn't hurt it, and it would actually benefit the TBD if it just said there is no residual contamination.

MR. KATZ: As was just said, I mean, we have TBDs -- I mean, we have the TBDs for many, many AWEs, and not all AWEs have residual periods. And when they do have a residual period it is stated and covered.

I'm not sure that there is a policy stating for all the AWEs that don't have residual periods that they don't have it. We do -- NIOSH does a report on residual contamination to Congress and that's a factor in how that gets --

CHAIR KOTELCHUCK: I would say this. Given the discussion last time about how long ago this was done and how many years ago, I mean how much the Board said, okay, this is it, and we're re-looking at it now, I would just say, I would like to suggest that we withdraw. And I'm going to move that, that we withdraw this. What do other Subcommittee Members

think?

MEMBER MUNN: I agree.

MEMBER CLAWSON: I don't. I think it would still do us good. I think it's just an observation. If at any time people come back, we have looked at this. There is no residual.

But is it part of the problem? You guys want to throw this out. Then all of a sudden we're back again going over this stuff again.

So just mark it as an observation or whatever you want to call it and go on from there. But it still should be documented that we've discussed it.

MEMBER BEACH: I agree with that also.

CHAIR KOTELCHUCK: You make a good point. The point that we made earlier as well, that it'll be on the record.

(Simultaneous speaking.)

CHAIR KOTELCHUCK: I would be open

to withdrawing it, but I think an observation is probably the better choice. And I'll accede to that and join in and say that it's an observation.

MEMBER BEACH: I agree with that also.

CHAIR KOTELCHUCK: Dave or Wanda?

MEMBER MUNN: I'll be circumspect and be silent on this one.

CHAIR KOTELCHUCK: Okay. And David?

MEMBER RICHARDSON: I agree with that.

CHAIR KOTELCHUCK: Okay. It's an observation and we will accept that as an observation. {Point] Seven.

MS. GOGLIOTTI: Okay, the finding states that airborne dust loadings of uranium between rollings are underestimated.

And here David Allen responded saying that all airborne activity during operations at Bethlehem Steel was caused by resuspending contamination as well as directly

from sources.

Resuspension would normally have the smaller effect during operations but the only cause after operations.

Because of this, estimation of resuspended contamination from operational air samples is believed to be bounding and does not need to include uncertainty.

And here, John, you responded saying that during the time period between AWE activities, the airborne dust loadings of uranium were assumed to remain the same during AWE operations pursuant to claimant-favorable assumptions. And as long as the case was denied, this represents appropriate claimant-favorable assumptions in accordance with the efficiency guidance.

Therefore, we recommend closure.

CHAIR KOTELCHUCK: Okay. Do we close this as a finding or an observation?

MEMBER BEACH: Agreed.

CHAIR KOTELCHUCK: Pardon?

MEMBER BEACH: I said agreed as a finding. I believe that's what it is, yes.

CHAIR KOTELCHUCK: Okay. Others?

MEMBER CLAWSON: Finding.

CHAIR KOTELCHUCK: Okay. We close it as a finding.

MR. CALHOUN: Wait a second, did we do anything to fix that, if it was a finding? Didn't we just state what the explanation was?

I mean, if we're not changing anything to fix what the thing is, it's not a finding; it's an observation.

MEMBER MUNN: Not necessarily. Just because it's classified as a finding doesn't mean that there is a change that has to occur as a result of deliberating it.

MR. CALHOUN: Well, it means that it's kind of a departure from a written document or something that's wrong. And if we're not going to fix it, then it's an observation in my opinion.

Because we get graded on how many

findings we have, and if this is something that we're not going to change, and we still find it satisfactory to do dose reconstructions this way, it's just an observation.

DR. MAURO: This is John. I'd be glad to jump in a little bit, too. I'm tending to agree with NIOSH in that, see, when we looked at this, and we saw that this was a special case. We had these in-between periods where there was no rolling operations.

And the fact that they continued to use the same dust loading shows that, oh, well, that's a very conservative assumption.

In retrospect if I were doing it today, I would say just wait, and I wouldn't make this a finding. In fact, I probably would just make it a point that we're fine with using this approach, as long as --

And here's the only important thing, as long as it's denied: Because it is an unrealistic upper bound. And as long as you're denying, it becomes an efficiency issue. That

would be the only thing that I think is important to know here.

But I sort of feel the same way NIOSH does in that the approach they use is perfectly consistent with the way in which they do these dose reconstructions for efficiency purposes.

MEMBER CLAWSON: Well, then close it as an observation, then, and I understand NIOSH is sensing some findings. I have no problem with that.

CHAIR KOTELCHUCK: I'll go along with that as an observation.

MEMBER BEACH: Dave, I agree with that also.

CHAIR KOTELCHUCK: Okay. Then let's accept that as an observation and go on.

MS. GOGLIOTTI: Okay. [409].8 states that some of the average surface concentrations reported in Table 3 of the TBD appear to be inconsistent with the surface concentration measurements reported in Table 2

of that document.

MR. KATZ: You're getting harder and harder to hear.

MS. GOGLIOTTI: I'm sorry, I'll try and speak up.

MR. KATZ: Thanks.

MS. GOGLIOTTI: And then NIOSH responded saying that the values in Table 3 are actually correct. However, an error exists in Table 2. Table 2 indicates that the contamination values are in units of dpm per 100 centimeters squared. However, the values are actually taken directly from the surveys that were direct measurements.

The instrument used 75 centimeter squared active surface area where the value was dpm per 75 centimeters squared. The measurements were normalized in Table 3 since Table 3 was used for the intake rate calculation, but the error did not impact the calculated intake rate.

And here, NIOSH did agree that there

was an error in Table 2. And presumably, they'll correct it whenever the next revision of the Site Profile is issued. We recommend closing the finding.

CHAIR KOTELCHUCK: So let me understand. Is this a problem in the reporting?

MS. GOGLIOTTI: This is a problem in the TBD where there's an error in Table 2, which did not affect this case. However, we initially thought it did because the error in Table 2 makes Table 3 look incorrect, but the error actually was in Table 2.

CHAIR KOTELCHUCK: Okay. I see what you're saying. So, we should -- sounds like we should close it as a finding.

MEMBER BEACH: Agreed.

CHAIR KOTELCHUCK: Okay. Number nine.

MS. GOGLIOTTI: Number nine says there appears to be an error in ingestion rate for non-rolling days in Table 5 of the TBD.

And NIOSH did come back, but John, you responded saying that this is a Site Profile issue concerned with the way ingestion doses are derived during residual period.

NIOSH acknowledges that the TBD needs to be revisited with respect to this matter. And it doesn't have a substantive effect on this particular dose reconstruction.

(Simultaneous speaking.)

DR. MAURO: This created -- in light of the previous discussion, and I could use a little help here again, it almost -- my understanding here is that this issue arose because there was an ingestion pathway and that the ingestion pathway concern that we raised here had to do with a residual period.

As we know, the way in which ingestion doses are derived is different for operations versus post-operations. And we went through that in other venues.

And in this matter, the point that was being made for better or worse was that it

looks like that this wasn't done. That is, the current method for doing ingestion doses during residual periods was not followed.

There's this OTIB-9 approach, and then there's what I would call the Charley Yu approach that Jim and I [used] on previous occasions.

Now, my dilemma is that the implications of this is that there wasn't a residual period. Unless I'm confused. So that sort of contradicts our previous discussion.

I could use a little help here myself. I thought we had -- we were ready to say that, well, the ingestion doses were minimal, first of all. But you really didn't follow the protocol that was agreed upon in the interim at other venues on how to do it for the residual period.

But now, the problem I'm having is, wait a minute, I thought there was no residual period. So could we clear this up a little bit?

CHAIR KOTELCHUCK: Good point.

MR. ALLEN: Hey John, this is Dave Allen. I actually bumped my receiver and lost my connection about halfway through what you were saying. But I think I followed, and I'll try to answer.

As far as the conversations we've had in other Work Groups as far as residual versus operational, the same still somewhat applies, or the concept applies here, because we had operational day followed by essentially a month of non-uranium work.

Bethlehem Steel is unique in that situation, and because of that, this was discussed quite a bit in detail when we looked at the TBD.

And it was actually SC&A that developed a technique that they wanted to use for essentially, if you remember, the dilution factor.

DR. MAURO: Yes, yes, it's coming back. Yes.

MR. ALLEN: Right. And it was a separate dilution factor for airborne versus ingestion. The one for ingestion was 0.147. It comes from SC&A's supplemental review from September 2005. And that's what was used in the TBD.

DR. MAURO: I remember that, this dilution effect. So what we're really talking about here is this is a very special case of not residual period issue, but actually the window between rollings and the fact that during that window what happens is you might have had some fresh uranium deposit. The AWE went on hiatus for a week or whatever, or a month.

And then uranium operations continue. That uranium residue accumulates, commingles with any uranium that might have been deposited previously. Yes, it's all coming back.

I think Bob Anigstein came up with an approach to try to deal with this. Which of

course is unique to Bethlehem Steel. It really has no analogy that I can even recall.

So this does not deal with what we'd call the classic residual period. This really deals with that in-between period where there were no uranium rollings going on, but it was still during the AWE period, if you see what I'm saying.

And I think that solves everything. I mean what I'm getting at. I have to apologize. This goes back many years, and now that you refreshed my memory about this issue, this is not -- you're saying, no, this is not a residual period issue; this is just during the hiatus between AWE rollings. And there was this unique approach taken to deal with the inadvertent ingestion during that period.

Thank you for reminding me. I understand it, and I agree with it.

CHAIR KOTELCHUCK: Thanks for the clarification.

Then I think, to me, that satisfies

me, and I think we should move to close.

MEMBER BEACH: Agreed.

MR. KATZ: It's not a finding, right? Like the other issue. There's no error in the dose reconstruction.

MEMBER MUNN: No, there was no error.

CHAIR KOTELCHUCK: That's right.

MEMBER CLAWSON: That's correct. I don't see it as a finding. This is Brad.

CHAIR KOTELCHUCK: Okay. Observation it is. So .9 becomes now an observation. Okay. We have resolved Bethlehem Steel and all the points on it. Good. I'm glad. So that memo that you folks sent out, SC&A sent out, and our discussion has resolved lots of these, all of the issues remaining for Bethlehem Steel. Good.

Now we go on to --

MS. GOGLIOTTI: If I may, can I suggest while we have John Mauro on the line

that we do 360.3, and that way he

doesn't need to be on the call for one more finding for the rest of the day.

CHAIR KOTELCHUCK: Right, 360.3. Okay. Ah yes, the BONUS Reactor. Okay.

MR. SIEBERT: This is Scott. Just for clarification this is in the same set, correct?

MS. GOGLIOTTI: Yes, the same set.

CHAIR KOTELCHUCK: Right, 14 through 18 AWE.

MR. SIEBERT: Just verifying, thank you.

CHAIR KOTELCHUCK: Yes. Good. Okay.

MS. GOGLIOTTI: And this finding stated that there was insufficient evidence presented for the assigned internal dose.

DR. MAURO: There's a story here. Perhaps I can help out a little bit.

NIOSH is in the difficult position of trying to assign internal doses to workers at the BONUS Reactor. This is one of the

reactors, the research reactors I believe, in Puerto Rico.

And the question was: Okay, we want to try to assign some internal dose, if we can, to the workers.

But there really wasn't sufficient data in order to do that. So a surrogate approach was taken. And certainly anyone, if I'm not communicating this accurately please help me out, but I believe that the decision that was made by NIOSH was well, let's take advantage of the data, the environmental data at INL for locations that I believe had reactors that were not completely dissimilar from the BONUS Reactor.

And my position was: You can't do that. The whole [set of] circumstances surrounding INL and its environmental levels, if you were to say, okay, I was going to put this to the test on the surrogate data test, it would fail.

So I would say you really can't do

that.

But at the same time, I understood that there probably wasn't -- I believe the record showed that there really wasn't very much fuel failure or reason to believe that there was internal exposures that could have occurred at the BONUS Reactor.

And I agree with that, too. So you find yourself in the position of: Well, listen, we're trying to assign some internal dose, but how are we going to do that?

And my takeaway, and this was in my write-up, is that well, when you're in this circumstance one of the strategies that NIOSH has used in the past was, I believe it's OTIB-033, whereby you say, okay, here we've got a reactor. We know it's under radiological controls. We've got a good health physics program going. And what you do then is say, well, if we want to put a plausible upper bound on what internal exposures might have occurred if you don't have air sampling measurements or

bioassay data to draw upon for a given worker or for the workers in general, you go to some fraction of an MPC or a DAC as being, well, we could say with a degree of confidence that because of the HP programs, it would be 10 percent or some fraction of derived air concentration or an MPC if that's the time period.

That seems to be a strategy to come at this problem that is more defensible than using INL environmental airborne concentrations as a surrogate.

At the same time, I'll also admit that even that approach, this fraction of a DAC OTIB-033 approach may be overly conservative, even here given that I believe there's some evidence that there was very little fuel failure or concern about internal exposure.

But of all the different strategies that might be available to NIOSH to try to assign something, it seems to me that was the closest that I could think of.

MS. GOGLIOTTI: John?

DR. MAURO: Yes.

MS. GOGLIOTTI: Since your response, Beth did come back and respond again.

DR. MAURO: Oh, okay.

MS. GOGLIOTTI: And let me just read her response.

To explore any impact of this finding, the case was reevaluated using the complex-wide overestimate from OTIB-18, as suggested by SC&A.

The probability of causation increased less than 4 percent, remaining below 40 percent.

Also, all claims from the BONUS Reactor, as well as the Puerto Rico Nuclear Center, were reviewed and each of the other claims is for a job title more in line with environmental intakes than operational intakes.

Therefore this finding does not appear to have an impact on the claims revised to date.

And just to clarify, job title more in line with environmental intakes, you mean like an administrative position?

MR. ALLEN: This is Dave. I'll answer that. I don't know how much detail I can say in a meeting like this, but one was an accountant/secretary type of thing.

MS. GOGLIOTTI: Okay.

DR. MAURO: And does that follow this fraction of a DAC approach? I remember 18 and 33 sort of relate.

MR. ALLEN: Right, 18 basically, as I recall, gives a complex-wide overestimating approach. And 33 allows you to take a fraction of that.

DR. MAURO: Yes.

MR. ALLEN: This was actually just applying 18 without taking a fraction.

DR. MAURO: Oh, so it's even more conservative.

MR. ALLEN: Yes. I mean, basically, you probably have a point: That the sum of the

environmental is probably not the right way to go.

All I'm pointing out with this comment response is that, if we put an overestimating approach in there, it still doesn't affect this claim.

DR. MAURO: I agree. The way I look at it is -- I remember the OTIB-18 was supplemented with 33 so that you can get even more realistic if you need to.

And so basically, the strategy you're adopting is to go with the site-wide generic approach of 18/33, and I'm fine. That was basically what I was trying to recommend.

MEMBER MUNN: OTIB-18 has been worked over pretty well.

DR. MAURO: Yes. That's all been reviewed and approved.

MEMBER MUNN: Yes, long since.

MS. GOGLIOTTI: So based on that, I think we can recommend closure.

DR. MAURO: I'd agree with that.

MEMBER BEACH: I agree.

MEMBER CLAWSON: Sounds good.

MEMBER MUNN: Yes.

MS. GOGLIOTTI: Okay. Closed. Now Dave, did you want to continue on with the expanded responses? Did we lose Dr. Kotelchuck?

CHAIR KOTELCHUCK: You did lose me. I was on mute and forgot that. I usually stay off of mute, but we had a lot of noise here in the background.

I did ask a question, and no wonder people didn't answer. I said that, for the particular case here, what we're saying -- do I understand that what we're saying is that the overestimation works perfectly -- works appropriately for this case.

But my question was, is there another case -- another case could occur which would not be resolved in this fashion if we had somebody who was involved with operations? We don't have to resolve that. All we can say is

we're resolving this case, and we're closing it. Is that correct?

MEMBER MUNN: Correct.

DR. MAURO: I'm sorry to interrupt, but I think that's a solution for the BONUS Reactor. Now we're talking the solution for internal exposure that is being proposed for this worker. I think it would be universal for anybody who worked at the BONUS Reactor because I think there's some evidence that there really wasn't any potential for internal exposure.

And this OTIB-18/33 approach is, in fact, a good way to place a plausible upper bound on internal exposures for any time that you would have a situation, another case.

Let's say we ran into another case at the BONUS Reactor where the person was working there, and there really is no reason to believe he had very much internal exposure at all for the same reasons we don't believe this person had it.

I would say that it would have broad

applicability and not necessarily only this case at the BONUS Reactor.

CHAIR KOTELCHUCK: With OTIB-33.

DR. MAURO: Yes. I agree with the OTIB-18/33 approach.

CHAIR KOTELCHUCK: Yes. Okay. Fine, good. So we close. We're closing, and I'm back online. Sorry.

So the question was, where do we go to next. And we were starting with the cases where we had the extended discussion. We started with Bethlehem Steel. And I would then go to, I guess -- I guess the next one was the Hanford, Lawrence Livermore National Lab.

DR. MAURO: Since that's closed now, I'm going to break from mute. It was nice speaking with everyone, so I'll bid my adieu.

CHAIR KOTELCHUCK: Thank you for your input.

DR. MAURO: Bye-bye.

CHAIR KOTELCHUCK: Okay. One of the cases was at Hanford 42. That's actually the

[Sets} 19 through 21, right?

MS. GOGLIOTTI: This one, yes, 42 and 19 through 21, correct.

CHAIR KOTELCHUCK: Okay. Then let's -- can we go ahead with that one?

MS. GOGLIOTTI: Yes. Bob, are you on the line still?

MR. BARTON: I'm right here, Rose. Alright.

So this one we've had some discussion on, especially at the last meeting. I'll just give a little bit of background here.

The original finding: We were looking at this case, and we noticed that for certain years, specifically '57 through '71, we were not seeing any missed shallow doses being applied for the claimant, although the years prior to that, to '56 and the years after that, '72, we were seeing missed dose applied.

And so what I had originally done is I went in and said: Why are we not seeing any missed dose applied for this period of time?

And I had found what I thought was an error in the coding of the Hanford tool. And it's these Excel workbooks that kind of automate the process for dose reconstructors.

And so I presented where I thought the error was occurring in the coding. And what happened was we got a response from NIOSH, and they said: Well, no, for this case what we're assuming is that shallow doses are not actually electrons.

What they are is they're going to be low energy photons. And for that period of time that was in question, the Hanford dosimeter actually had three elements. It was deep, shallow, and then an X-ray component, which was the third component.

And what NIOSH presented as the technical defense was that, well, if you don't see any sort of positive reading on that third component, the X-ray component, it's just not likely that you're exposed to a low energy photon source.

And so unless we see that positive value in the X-ray doses, then we're not going to assign any missed, or we really shouldn't be assigning any measure either shallow doses because the positive X-ray component essentially serves as the criterion for that period, for when you should be assigning these doses.

And so we brought in our own external dosimetry expert and we talked about this at the last meeting. We really don't have any comments on the technical nature of that.

One thing we'd say is that that information -- how you interpret the dosimeters at Hanford for that period -- we feel that's important information to be put into the TBD because it is a technical judgment, and while we agree it makes sense, obviously for the transparency of the program, it just makes sense for any sort of outside parties or later reviews to say, okay, they were assuming low energy photons, but they also had this criteria

that you needed an X-ray component before assigning it.

So we agreed with the technical aspect of it. But I still had some concerns on what I feel is a small coding error in the workbook for those years, in that even though it might have worked for this case, concerns remain that in other situations it might be returning an erroneous result when you're trying to count the number of missed doses for shallow.

And so we wrote up this memo. And at that meeting, I tried to explain what the error was I was seeing, and it was requested that we produce this memo so that we could show specifically where we think that the workbook might be going awry.

And so this is the memo that you see up here on the screen. And what I did was basically just went in and created a fake exposure scenario where -- to test this concept of having the X-ray doses be positive to be

able to get the shallow doses. But then also that raised questions about, well, if we're not assuming that they're low energy photons and thus don't need that positive X-ray, I think you're still seeing an error there.

Then we also came across, because of the function of the workbook, for some odd reason, if you put in a positive ring dosimeter result, it will tally up a missed shallow dose for no real rhyme or reason.

So that's what we kind of wrote up in our memo. I'm not sure if DCAS and ORAU have had enough time to really look into that. So I guess I'd turn it over to them briefly to see what their thoughts are on it.

MR. SIEBERT: This is Scott. Let me just let you know, yes, we looked at it for you, and we, as of yesterday, because you had just posted it not that long ago, we put a response up as well.

And I know you haven't had a chance to look at it because you probably didn't even

know it was there, but we do have Matt Smith, the external dosimetry expert on our side, on the line.

Would it be helpful to you if he just kind of walked through the general responses that we have on the issues, and then you can review the actual paper at your leisure?

MR. BARTON: That's fine. I'm not sure if the question that remains is really about the technical aspects of external dosimetry but rather about how the tool was developed.

MR. SIEBERT: It actually does have to do with both pieces because the tool is implementing some external dosimetry thought process that Matt can probably get into. Matt, does that sound right?

MR. SMITH: Sure. And we've got Keith McCartney on the line, too, who's our tool development manager.

With respect to the direct question

about low energy photon dose being applied if the X-ray value is zero but we have a positive ring dose, that was done basically to deal with a very rare instance.

And we use the presence of ring dosimetry I think for a particular claim, if Keith can refresh my mind on that, to apply the low energy photon dose. Again, using the ring dosimetry as a claimant-favorable assumption that they were maybe working at PFP.

It turns out -- Keith went and looked at a big retrospective of all the data that we have in the database and really only found two records, in other words two instances where we end up with zero X-ray dose and positive ring dose.

So it turns out to be a very rare condition.

In our response, Keith does outline how the tool goes through the logic process of doing that evaluation.

So the bottom line on that

particular issue, it's a very rare condition to have occur. And the reason for the tool assigning that low energy photon dose is again to make a claimant-favorable dose assignment.

With regards to the issue of the overall logic of this tool dealing with things properly if the Energy employees' exposures to electrons, our answer to that is yes.

And we give a data table that shows all the missed dose that is assigned given the different beta, gamma, and X-ray component settings or results if you will.

The bottom line on that front is if we have a skin claim, we're going to be using OTIB-17 logic. And because of that multi-element film dosimeter, the logic becomes quite complicated during that time period.

And so Keith and his team have actually developed a Visual Basic code to deal with that logic tree.

That's all broken out in our response to what we call issue number 3 from

the SC&A memo.

In most every case, missed dose is given as photons 30 to 250 keV, except for if we'd have a zero in the beta column and positive values in gamma and X-ray.

In that situation, we choose to assign the missed doses electrons or photons that are low energy depending on the facility.

So if it was PFP [Plutonioum Finishing Plant], we're going to go photons less than 30 keV. If it's elsewhere, say a reactor, we'll go electrons greater than 15 keV.

So, on the front of: Do we do things properly for electron dose assignment for skin, we feel the tool is handling that properly.

There was a footnote on page 9 of the SC&A memo that also identified a potential problem with what column the ring data was in.

Keith checked that out and did verify that that was an issue. In other words, a column where the ring dosimetry is placed,

that column shifts through the years.

And so he already has a tool fixed in place to address that issue.

MR. BARTON: Well, it sounds like there's a lot of kind of complex moving parts.

MR. SMITH: It is kind of complex, that is for sure.

MR. BARTON: I guess at the end of the day -- so it sounds like there was maybe a couple of fixes based on that column shift, which is really exactly what I had observed and thought was the original issue myself beyond this low energy photon problem.

And it sounds like there's also a Visual Basic script being developed to kind of handle all the different complexities. Okay.

MR. SMITH: As you go through our response, you'll see we kind of broke out the things from page 9 into four issue responses. And hopefully, we have addressed everything that was brought up in the memo.

MR. BARTON: Okay, well then I

certainly look forward to reading it, and I think -- I mean if those tweaks are being made to the workbook. I think we can probably easily close that out at the next meeting. I'd like to take a look at that.

CHAIR KOTELCHUCK: Right. I think this should just be in progress, and then hopefully we'll be able to resolve it very quickly next meeting. But you have to have a chance to look at it.

So can we just say that this is in progress, and we will come back to it at the next meeting. Okay. Is that okay, folks?

MR. KATZ: No one's answering, but that should be okay.

MEMBER BEACH: While realizing that some of us can't answer.

CHAIR KOTELCHUCK: Pardon? That's right. Yes, thank you for so noting. That's right. And I meant to ask that question when we started referring to this.

Alright. We will deal with this at

the next meeting. Are there anyone who can object who wishes to object? Hearing nothing, we'll --

MR. BARTON: Dr. Kotelchuck, if I could ask just one clarifying question?

CHAIR KOTELCHUCK: Yes.

MR. BARTON: Would the updates to the tool fall under the purview of this work? Or would ball then get kicked to the Hanford Work Group? I'm not sure.

CHAIR KOTELCHUCK: No, no, that is the question, whether it goes to Hanford or whether it goes to Procedures. But why don't we wait until you've had a chance to look it over, and also we'll look it over and be able to decide at that point.

MR. KATZ: It doesn't necessarily go anywhere beyond here.

CHAIR KOTELCHUCK: It doesn't have to. We may resolve it here. Right.

MS. GOGLIOTTI: Can I request that the updated tool be provided to us?

MR. SIEBERT: Well, we actually can't update the tool until we get resolution with the result that is correct, if everybody agrees that that's the way it should be corrected and resolved.

So yes, we'd be happy to do so, but only after we all resolve it, and then we can deliver it over.

CHAIR KOTELCHUCK: Right. So we should talk about this at the next meeting when folks have had a chance to read the response.

MR. SIEBERT: For the court reporter, that was Scott Siebert. Sorry.

CHAIR KOTELCHUCK: Okay. Alright. It is nearing noon here, which is to say 9:00 on the West Coast, 9:00 a.m. on the West Coast.

Do folks want to go on for a while? We can certainly do that -- let's see, I guess the Oak Ridge [case] would be the next. The Oak Ridge, I think, 458.1. Was that the next one on our list? That we might be able to resolve very quickly, at least according to my

reading.

Would folks like to break now, or would folks like to go on for one more?

MEMBER BEACH: I'm good for one more, Dave.

MEMBER CLAWSON: I'm good for one more.

MEMBER RICHARDSON: Me too.

MR. SIEBERT: Can I be clear? 458, which set is that in, please?

MS. GOGLIOTTI: That would be in the 19 through 21 set. This is the small intestine.

CHAIR KOTELCHUCK: Yes, that's right. 19 through 21.

MR. SIEBERT: Okay. Yes, that's fine. You're right, that one should go relatively quickly.

CHAIR KOTELCHUCK: I think it will. Okay, folks. Go ahead.

MS. GOGLIOTTI: Okay. So the history of this is that at the last meeting, we

discussed the initial finding [that] had to do with applying the appropriate gender for lung dose.

Then we got into talking about whether or not OTIB-6 could be interpreted to recommend that the small intestine be assigned to lung dose as a surrogate or to ovary dose as a surrogate.

And NIOSH's position was that the lung was being consistently selected. And as a result of that the Board should just verify what they were saying was correct, [and] tasked us with doing a small study of claims that we've previously evaluated.

And we did -- we have evaluated two claims that were small intestine claims, but I didn't think that was a great sample, so I did search NOCTS and just selected a random sample of 10 other cases that specifically referenced the small intestine as the organ of interest.

So I didn't look at any suborgans, so if the duodenum was mentioned, for the

duodenum I omitted those just so we would have consistency in what I was looking at.

And 458, of course, is the one, the case that we were talking about and 381 here, selected stomach.

And of my random sample, every single case selected the stomach.

And I was kind of surprised by that to be honest, because I couldn't find any reference that would suggest using the stomach would be appropriate for the medical surrogate organ.

And I did find OTIB-5, which references the ICD-9 code and what surrogate organs should be selected for internal and external dose. That does recommend using the stomach for small intestine. However, that reference specifically excludes use for X-ray doses. And I have that quote cited here.

And I did locate, at least one of my claims that I looked at, specifically referenced OTIB-5 as the reason that that

surrogate medical organ was selected, which of course is precluded by that OTIB.

So in conclusion, I did find that the stomach or the lung was being consistently used as a surrogate organ for the small intestine medical dose.

And OTIB-6 recommends use of the lung as a surrogate for organs of the upper abdominal cavity such as the stomach. So those organs are treated identically by OTIB-6.

They are being consistently applied. However, I do have lasting concerns that OTIB-5 is incorrectly being used to assign medical dose. And I would suggest a follow-up study concerning OTIB-5 results with OTIB-6 to make sure that was consistent.

CHAIR KOTELCHUCK: Okay.

MR. SIEBERT: And this is Scott. I can handle that. There's two pieces here. The number one is the technical issue, this specific case which I believe we all agree, this was done correctly.

MS. GOGLIOTTI: Yes. Or at least was claimant-favorable.

MR. SIEBERT: It's a lung dose, so it was done correctly. So, I think from a -- and this is obviously up to the Subcommittee -- but from a closure point of view, this can be closed.

In follow-up action, I can just state that it's going to be up to NIOSH to direct ORAU whether to move forward on anything of the sort.

However, we've already started walking down that road just in case. And we agree that probably the documentation for clarification, we could probably do some documentation clarification. And I'm sure we'll be talking to Grady about that.

So that's pretty much where we are, that the wording can probably be clarified. And whether it's another document or whether a clarification in OTIB-6, our medical X-ray dosimetrist is looking into that, and we'll be

talking to NIOSH about the direction to move forward or not.

CHAIR KOTELCHUCK: Okay. But it does appear to me that this is closable, and it's up to others to decide whether to assign new -- that it be checked further, the consistency be checked.

MEMBER MUNN: Doesn't that leave it in progress still?

MS. GOGLIOTTI: In this particular case, I think we've resolved the issue.

MEMBER MUNN: For this case.

CHAIR KOTELCHUCK: Yes.

MS. GOGLIOTTI: The last meeting, we did discuss closing this finding, but we decided to leave it open until the study was complete.

CHAIR KOTELCHUCK: Right. And it's completed.

MEMBER BEACH: Well, it sounds like NIOSH is going to take the appropriate steps and moving forward already, so I agree with

closure on this.

CHAIR KOTELCHUCK: I'm certainly open.

MR. KATZ: I'm confused as to whether this is a finding or not.

CHAIR KOTELCHUCK: That's a good question.

MS. GOGLIOTTI: I would suggest, since that action was taken on the part of NIOSH, and they do feel that it warrants additional investigation or at least the recommendation -- I think it is a real finding.

MR. SIEBERT: And this is Scott. I would have a tendency to say, if something would be background documentation, so making an observation would be appropriate. But obviously it's up to you guys to decide.

MR. KATZ: So the organ selection was correct.

MR. SIEBERT: Yes.

MR. CALHOUN: At this point, we certainly believe that.

MEMBER MUNN: For this claim.

CHAIR KOTELCHUCK: Right, for this claim. For this claim. I mean, the study, a lot of work has gone on following last meeting.

But in the end, that was -- the stomach lung was consistently used as a surrogate organ, which is what the question was.

So in a sense, I do think it's probably an observation.

MEMBER MUNN: It was correctly done.

CHAIR KOTELCHUCK: Do others want to?

MEMBER BEACH: I can agree with that, Dave.

CHAIR KOTELCHUCK: Okay. Alright. So we'll move this to an observation and accept it. Good.

And now it is noon, and it seems to me this is a good time for a lunch/breakfast break, depending on one's geographical position.

So shall we get together at 1:00?

MR. KATZ: Sounds good.

CHAIR KOTELCHUCK: Okay, 1:00 Eastern Daylight Time. Speak to you in an hour. Bye bye.

(Whereupon, the above-entitled matter went off the record at 12:02 p.m. and resumed at 1:02 p.m.)

MR. KATZ: Okay, Dave, it's all yours.

CHAIR KOTELCHUCK: Okay. We're going to finish up on the Westinghouse Nuclear Fuel Division 434. We had a lot of discussion about this last time. Hans and some of the NIOSH people had strong disagreements and asked Hans to write a memo, which he did.

And who would like to start for SC&A, Rose, Hans, whomever?

MS. GOGLIOTTI: Hans is going to start this off.

CHAIR KOTELCHUCK: Okay.

DR. H. BEHLING: Okay, I guess I'm

going to be asking you for some guidance as to how much detail needs to be put into this. Because this is not a simple issue to discuss over the phone.

And I'm prepared to sort of give you pretty much a summary of what was contained in the White Paper that has been issued, and I'm hopefully aware of the fact that most of the people have read it. So I'm not sure how much detail you need to get at this point or simply maybe await NIOSH's response.

I really don't know what's the most appropriate approach here.

CHAIR KOTELCHUCK: Well, certainly we have read your letter. My own sense is that many of the issues raised here will have to be referred to the Procedures Subcommittee. I mean, there are a number of issues that certainly I as one Board Member do not feel competent to decide.

But I think what we should do is, if you would discuss in brief your letter, and

you're correct to say we've all read it, and then get a response.

And then see where we should go.

MR. SIEBERT: This is Scott, and I'd just let you know, we have read it, and we're working on the written responses.

We're pretty much in the same position SC&A was at the last meeting. We're almost there, but it's not in writing yet.

So I can give verbal information as to where we are on all of them and what direction it's going, but the written will be coming relatively soon.

CHAIR KOTELCHUCK: I think given this is a complex issue and a number of different facets are complex, it seems to me to make more sense for us to wait until you have a written response and then we can read that in the context of Hans's report, and then talk about it next time.

I don't see a lot of point in discussing it here. Or put it this way, I

don't think we can resolve things today.

What do other Subcommittee Members think?

MEMBER BEACH: Dave, this is Josie. There may be some clarifying questions that NIOSH has, and we could discuss those.

CHAIR KOTELCHUCK: That's certainly true.

MEMBER BEACH: And if there's not, then I agree with you.

MR. SIEBERT: This is Scott. I don't believe there's any actual questions we're going to have to get resolved. I think we can pretty much do the responses in the written response.

So from our point of view, I agree, it probably makes sense to go ahead and get those written responses in and have SC&A review them and get to the next meeting then.

CHAIR KOTELCHUCK: Right. Maybe a brief discussion, with the understanding that we're going to probably not resolve it until

the next meeting.

But what Josie said certainly makes sense to me, that there may be things that we discuss that will clarify things for us on the Subcommittee and clarify things for the different points of view.

So why don't we go ahead and talk about it briefly.

DR. H. BEHLING: Okay. I'm going to at least hope that if there's one thing I can hope to achieve in this presentation, it's that, if there are any outstanding questions that some of the people may have, that I'm in a position to answer them as we go along here.

And hopefully as a result of maybe us receiving NIOSH's response, we can also therefore anticipate what we may have to say in the next meeting.

But let me at least take the time to at least provide you with a simple understanding of what the issues were that I identified in the White Paper and if anyone has

questions, please do interrupt right away, and I can perhaps clarify the issue for not only the Working Group but anybody else, inclusive of NIOSH, as to what I intended to achieve here.

CHAIR KOTELCHUCK: Good.

DR. H. BEHLING: Okay. Just briefly again, the finding really pertains to an Energy employee who was at the Westinghouse Nuclear facilities during the time that includes the time period after the operational period, and there was obviously residual exposure.

And NIOSH has stated that -- or at least in my finding, I say that NIOSH has included unsupported methods for the determination of external doses during residual period, and more specifically, this finding cited the absence of information needed for SC&A to duplicate doses that were derived by NIOSH.

And for the reconstruction of dose, NIOSH employed information guidance that was

contained in the templates -- and again this is somewhat different from the conventional findings that involve, obviously, more documented information than had previously been assessed by NIOSH. In the case of templates, we have not seen this before.

And because of this, the Westinghouse facility template, which has not been previously validated, was incorporated as part of the review of the ED dose reconstruction.

And so, let me briefly turn over and review some of the items identified in section 3 of the SC&A's White Paper pertaining to this particular finding.

And if I can, Rose, ask you to put up slide number 1.

MS. GOGLIOTTI: That is on the screen already.

DR. H. BEHLING: Okay, okay. I'll have to actually look at Kathy's screen here to see.

This is the slide that in summary provides the basic background information regarding what was the central issue here in this particular dose reconstruction that involved external doses during the residual period.

And I quoted in here the exact wording and the particular table that's the central part of this issue here.

And if you read the italics here, in this particular slide here, you will notice a couple of things.

Among the other things that I want to bring attention to is that this particular time period was part of a continuum that involved continuing operations that are not covered under EEOICPA.

And I point this out because later on we're going to talk about the issue that involves the absence of the cleanup and the use of a resuspension factor that I had considered inappropriate.

Again, I'll quote the residual exposure, so calculated based on contamination levels calculated below, and applying the dose conversion factors from Federal Guidance Report 12 for contaminated surface and submersion.

So what this really means is that we have information that was provided in this table here below, which for 1973, identifies a yearly photon dose of 32 millirem for the photon component or whole body component and a dose of 171 millirem for the skin dose from electrons.

So let me just summarize. In summary, in behalf of these two numbers, that is the 32 millirem external whole body dose from photons and the electron dose of 171 millirem per year cited in the table, NIOSH's explanation for these numbers is limited to the fact that we have an unspecified contamination level as we'll see and the application of EPA's dose conversion factors (DCFs) for contaminated surfaces and contaminated air submersion doses

that are cited in Federal Guidance Report 12.

So that on the basis of that limited data, SC&A's previous inability to reproduce and validate the aforementioned photon-electron dose that prompted this particular finding must be viewed in context with the limited information that is provided in the template.

In other words, on the basis of that limited data, I was not able to duplicate these doses, and part of our charter in doing a review of a dose reconstruction that involved a template that had not previously been reviewed by SC&A, I was really not in a position to do so. So that is really the basis of our finding.

Let me quickly go on to slide 2 here. This is data that was presented to us only on March 31 of this past year in terms of trying to clarify how these two numbers, that is the 32 millirem external photon and 171 millirem per year for skin dose were derived.

And this particular slide 2 -- Rose

-- this is figure 1. Figure 1 is slide 2. Okay.

And what I want to talk about [this] here. I clarified this is the actual spreadsheet, one of two spreadsheets that I received, and it contains the various columns.

On the top, I identified columns by 1 through 10 on the upper right-hand side -- if Rose, you can point to those columns there, 1, 2, 3, 4, 5 across the top.

And just briefly, and I will identify those columns that are important.

In column 1, NIOSH identified four different potential assertions that could possibly result in the external exposure. In natural thorium, however, it resulted in the highest deep dose and shallow dose among the four potential [assertions], and it's highlighted in yellow here.

Column 2 identifies the assigned surface contamination, and I'm going to make reference to this number repeatedly throughout

the statements that follow here.

Assigned surface contamination level is 2.83 times 10 to the 6 dpm per square meter for the year, the starting year 1973. It's a number I will refer to again and again.

In column 3, an important criterion that I want to bring attention to is the assigned resuspension value of 1 [times] E to the minus 6 per meter was selected to derive the air contamination level that appears in column number 4.

And by means of that particular resuspension factor, the air contamination concentration was derived by means of that number in column 5, which obviously then defines -- actually, let's see here. Oh yes, okay, I forgot the same sentence here.

In column 4 the resuspension value that was previously found in column 3, 1 times 10 to the minus 6 per meter times the 2.83 times 10 to the 6 dpm per meter squared yields an air concentration of 2.83 dpm per cubic

meter. And that is for the calculation of an air submersion dose.

And so on. The other ones are not that important. You can look at it. Column 5 corresponds to effective DCF for the three isotopes that represent the natural thorium, as will be seen in the next figure for surface contamination. And column 6 corresponds to the combined effective DCF for the three isotopes representing natural thorium in figure 2 from Federal Guidance Number 12 for the submersion exposure.

So you have two types of doses, surface contamination external and of course the air submersion dose.

Column 7 represents the effective external dose that results from the contaminated surface. For example, the derived effective contaminant dose rate of 1.62 E to the minus 5 rem per hour is a product of columns 2 and 5. And so you end up with a value of 1.62 E to the minus 05 rem per hour.

And column 8 represents effective external dose that results from immersion dose in contaminant air. Column 9, the work-hours per year with external exposure, is assumed to be 2,000. And column 10 is the final effective annual dose of 0.032 rem per year from the combined effective external dose from the surface contamination and the submersion dose.

So what I end up doing is demonstrating that, based on the information that was provided, I was able to reproduce the 32 millirem per year from external photon dose and the 171 millirem shallow dose per year you see.

Also, shown below in the next row of data that is below the one that you see on top in figure 1, is a derivation of the shallow dose. As I said, that is 171 millirem per year or 0.17 rem per year, the value you see on the right-hand corner.

And it pretty much follows the same protocol. It uses guidance reported under 12

and corresponds to the skin as a target tissue for the shallow dose.

In figure 2, and I will go to figure 2 now. Figure 2 segregates the numbers that I showed you in figure 1 into the three isotopic components. In other words, natural thorium is thought to represent thorium-232, thorium-228, and radium-228 and provides a contribution of both the effective contamination dose as well as the effective submersion dose for each of the radionuclides.

And when you tally them up, they all combine, in the end yielding 32 millirem per year for external whole body and 171 millirem for the skin dose.

What you will see, however, is the assigned isotopic activity that is represented by the three radionuclides, thorium-232, thorium-228, and radium-228 in the upper right-hand corner is that these are thought to contribute the natural thorium based on isotopic fractions that represent 8.4 percent for

thorium-228, 1.45 percent for thorium-232 and 90.15 percent for the radium-222.

And this, however, is not -- these are not fractions that you would consider to represent natural thorium, but actually are more likely to thorium represent tailings.

For unprocessed natural thorium or for unprocessed, meaning natural thorium you would expect three radionuclides, thorium-232, thorium-228, and radium-222 to reasonably be in secular equilibrium.

And therefore, the numbers that you see here, that you see in terms of thorium-228 that's 8.4 percent and 1.45 for thorium-232 and 90.1 for radium-228 really should have, in essence, been represented by values of 0.333 each if one were to assume secular equilibrium. So that is one of the things I wanted to point out which will come into play later on again.

Let me go and then quickly talk about -- based on the data that I received in behalf of these two spreadsheets, I identified a number

of things that are concerns and uncertainties.

And in section 4.0 in my White Paper, I stated the following: While the data contain figures 1 and 2 allowed SC&A to duplicate NIOSH's derived external deep dose of 32 millirem per year and shallow dose of 171 millirem per year for the residual period, it does not imply a validation.

Embedded in the derivation of external dose, however, are three unexplained undocumented assumptions and two inconsistencies that require further clarification.

And let me cite them briefly what they are. The first is the undocumented surface activity. As I mentioned in figure 1, the starting point for the assessment of the actual dose was the assumed value of 2.83 times 10 to the 6 dpm per square meter.

This is a value that I don't know where it came from, but I will assume that it came from actual empirical data involving the 15 SRDBs that were cited in the template.

However, we don't know how these numbers really represent each or all of these, or some of those SRDBs that are cited.

So the first finding or issue that I wanted some clarification on is the undocumented surface activity, which is the basis for those two calculated values of 32 and 171 millirem each.

The second one is the inappropriate value for a resuspension factor. As I pointed out previously for the derivation of the external submersion dose, NIOSH assigned a resuspension factor of 1 E to the minus 6 per meter.

And NIOSH's assigned resuspension value of 1.0 E to the minus 6 per meter is not appropriate, according to what I believe it should be.

It is also incompatible with the air assumptions that are assumed by NIOSH for the derivation of the inhalation internal dose that I'll discuss briefly here.

Under the heading of residual external dose of the template, NIOSH states the following:

Though a monitoring program existed at the Westinghouse Nuclear Fuel Division during the residual period, continuing operations that are not covered under the EEOICPA also occurred.

This statement, to me, implies that there was no decontamination at the end of that operational period and continued work without any attempt to clean up any residual activity that would potentially affect people who would be exposed during the residual period.

So the use of the resuspension factor that is as low as 1 E to the minus 6 per meter is generally used only to validate a thorough and documented decontamination effort when a facility has been decommissioned and complies with the standards specified under AEC's Regulatory Guide 1.86, which has the following standards, limits for residual contamination in order for unrestricted use.

And at this point, I would ask Rose to put up slide 4. Okay, you already have it up there.

What you see there in the left-hand column is -- in the radionuclides, you'll see natural thorium.

And what you see there are three values for average, maximum, and removal of contamination limits identified in terms of dpm per 100 square centimeters.

And when you look at that value, and I'll point to the average value, if you take 100 dpm for 100 centimeters squared, and you standardize it to per meter squared, you end up with 100,000 dpm per meter squared.

Now, that is what the average value should be, and I assume that the value of 2.83 times 10 to the 6 dpm per meter square that were cited in figure 1, if you compare those two values, you realize there is a twenty-fold difference.

And it's really a standard practice

for the use of 1 E to the minus 6 as a resuspension value, and I think it was cited also in the document that NIOSH offered in OTIB-70 as a value that applies to that particular set.

You realize you can't use it if you consider that the average value should be instead of 2.83 times 10 to the 6, it is now reduced according to Reg Guide 1.86 to 100,000 dpm or 28-fold lower.

And that's the reason I identified the 1 E to the minus 6 that were used for the resuspension value for the contamination and the submersion dose is to be perhaps an inappropriate value.

The next point that I wanted to talk about is the inconsistent resuspension-factor-derived air concentration has been not consistent with what follows on the issue of the air contamination as it applies to the inhalation dose that was also derived in the template.

When you look at the air concentration that NIOSH used for the calculation of external immersion dose to contaminated air, as I pointed out in figure 1, that turned out to be -- that value is 2.83 dpm per cubic meter of air that defines the submersion dose.

But when you go to the actual template that talks about the issue of inhalation exposure, NIOSH derived a value of 100 dpm per cubic meter for inhalation.

So now you have obviously two air concentrations involving an individual who was simultaneously exposed to external air contamination in the submersion dose and also concurrently breathing in air that contained 28 times higher dose of air contamination than assumed for inhalation as opposed to submersion.

And that's an inconsistency. You cannot have two separate air concentrations, one for immersion dose and one for inhalation dose that vary by more than a factor of 28.

And that value of 100 dpm per cubic meter was derived from a table that exists in the template where they talk about the inhalation of 9.65 dpm per day.

And of course when you standardize this to reduce it to what is in the air by accepting the fact that NIOSH assumed that 1.2 cubic meter of air per hour times 8 hours, so 9.6 divided by -- or take the 965 dpm per day inhalation and divide that by 9.6, which is the product of 1.2 cubic meters for air an hour times 8 hours, you end up with 100 dpm.

So again, we have an inconsistency here in terms of an air concentration that doesn't match when you talk about or compare the inhalation dose concentration to the immersion dose.

And lastly, I do want to talk about how this question of what this number represents. When NIOSH has identified 965 dpm per day as an inhalation, I assume this was again based on empirical data that comes from

the 15 SRDBs that are cited on page 4 of the template.

And there is, however, no information available that would allow us to -- or me to assess whether or not this number is one that has a scientific merit or technical basis, and therefore, it needs clarification.

CHAIR KOTELCHUCK: Okay.

DR. H. BEHLING: And the last thing, I made some recommendations how we can resolve this, but I think we'll let that one go until we hear from NIOSH to see how each of those five issues are addressed in their response to SC&A.

CHAIR KOTELCHUCK: Yes. Thank you.

MR. SIEBERT: This is Scott. Actually, it's the recommendations that we address. So we'll hit those quickly and say what we're doing.

DR. H. BEHLING: Well, okay, then let me just quickly go through the recommendations.

CHAIR KOTELCHUCK: But we have them all.

DR. H. BEHLING: Oh, okay.

CHAIR KOTELCHUCK: We have them in front of us.

DR. H. BEHLING: Okay.

MR. SIEBERT: I can state them briefly when I hit each one.

CHAIR KOTELCHUCK: Good.

MR. SIEBERT: Okay. Well, the first recommendation was providing information and data that validates the surface contamination level we used.

And this is the fact that when -- this finding was initially an external finding. So when we gave the template and the backup documentation, it was all the external information because that's what the finding was on.

In hindsight, I guess it would have been better if I had given you all the internal information, too, because you were looking into that as well.

So what we're going to do is, we have

all that information. We will post that with the next response.

You are correct. It comes right out of those SRDB documents, and we show how we calculated the 95th percentile and what that information is based on. So you'll see that in the response.

The second one is for the derivation of the external doses revised [by] the activity fractions for natural thorium.

And we did note this issue after the first version of methodology, and we had already changed it in 2014 to reflect natural thorium in that revision. So we'll be giving you the next version of it that demonstrates that we changed to natural thorium as well. So that one, we agree that that makes more sense, but we already made the change. So that's two.

Number three is the resuspension question. And in that update in 2014, we also updated the resuspension factor. I'm not prepared to go into specifics, but you'll see

that information in the response as to what we used and where that came from.

And the final one is number four, the information data for the air concentration of 100 dpm, which kicks over to the inhalation of just over 900 dpm per day.

It's the same thing. It's in the internal information which we'll post, and I probably should have posted the last time. So you'll see that as well, and you can go through those numbers. So that's what you're going to see.

CHAIR KOTELCHUCK: Very good.

DR. H. BEHLING: Okay, as I said, I did not really identify any of these issues as real findings other than the collective issues upfront that says we need clarification based on the limited data. And even after the two data sets were presented to us in the form of a spreadsheet, I was again -- I want to be clear, I was able to duplicate your numbers down to the last digit.

And on the other hand there were still obviously some residual concerns because I didn't know where the original 2.83 X 10 to the 6 dpm per square meter came from, nor did I have a full understanding of how the 965 dpm per day inhalation was derived.

But I suspected that they were based on empirical data which I didn't have.

CHAIR KOTELCHUCK: Okay. In a way, now, we're at the point that if there are questions from anyone, whether Subcommittee Members or staff folks on the phone, would people want to ask any questions or ask for clarification before we conclude and await the ORAU results?

MEMBER MUNN: No, what I think I heard is most of the clarifications are going to be in the documents that we'll see coming from NIOSH.

CHAIR KOTELCHUCK: That's right.

MEMBER MUNN: I don't, except that visual is better than oral.

CHAIR KOTELCHUCK: Agreed. Other folks want to input a question or comment?

MEMBER BEACH: None here, Dave.

CHAIR KOTELCHUCK: Okay.

MEMBER CLAWSON: None from me.

CHAIR KOTELCHUCK: Okay. Well, that's good. So we've summarized the issue. We've gone over it again, the issues. We await the response. And we will take this up at our next meeting.

DR. H. BEHLING: As far as I'm concerned, just about everything is likely to be resolved. And the only thing that I guess I wasn't sure what the numbers will be with the resuspension, but obviously there was at least a reference to a revised resuspension factor other than the 1 X E minus.6 that was used in the original document.

CHAIR KOTELCHUCK: Yes. So, I think with that we have covered as best we can the results in the expanded responses.

And I think we're ready to go on to

the PRS.

MS. GOGLIOTTI: If I can suggest while we still have Hans on the line, if we finish off --

CHAIR KOTELCHUCK: Pardon me?

MS. GOGLIOTTI: If I can suggest while we still have Hans on the line, he has one more response for this Westinghouse case that might be appropriate to address now.

CHAIR KOTELCHUCK: Oh, yes. That sounds good. Thank you. Okay.

Is this other than 434?

MS. GOGLIOTTI: No, this is the same case.

CHAIR KOTELCHUCK: Okay.

DR. H. BEHLING: Yes, it's the same case. And this one should be very quick to resolve one way or the other.

When I reviewed that particular case I looked at the, obviously, all of the assignments of internal and external exposure.

And I came up with the notion that

after we gave the CATI report that there was something of an inconsistency, and I think we can discuss it a little bit longer here after I make my comments here.

I realized that for external exposure, he was assigned an ambient dose. And yet when I read the CATI report, it was clear to me that in the CATI report, he clearly stated that he was exposed to external exposure and was monitored for external exposure because -- based on his particular job, which I won't discuss here.

But in his CATI report, he clearly recalls multiple things.

One, he wore his badge. Two, coworkers that he worked with also wore badges, and the frequency of badges worn he says [was] “always” and also remembers that the chest location was the choice of location that he wore his badge.

So it seems to me based on the CATI report that he had a firm understanding that he

was once -- during this time period monitored.

Not so when he was asked whether or not he was monitored for internal exposure in the CATI report: Did you participate in the biological radiation monitoring program such as urine, fecal, breath, or in vivo whole body count? His answer was, I don't remember. I don't know.

So, when I looked at it, and I realized that for external exposure, where the CATI report suggests that the individual, the EE firmly remembers that he was monitored and yet there was no record of his exposure, of external exposure, and therefore NIOSH compelled to assign him an ambient dose as opposed to a surrogate dose or coworker dose.

At the same time, the EE clearly remembers or at least doesn't remember ever being monitored. And that's something that you would expect someone to remember if he has to submit a 24-hour urine sample, he was whole body counted, or he was assessed fecally. That's

something we don't forget about, and yet he says he doesn't remember.

And yet under that circumstance, NIOSH assigned him a coworker dose, and that was probably a substantial dose as opposed to what he might have received under coworker external dose.

And I just cited it because, as part of our charter, when we do evaluate a dose reconstruction we always look for the CATI report to support everything that NIOSH does.

And yes, there are times when there are inconsistencies where someone doesn't remember, but perhaps out of reasons that involve being in a situation where you were willing to assess him even under questionable circumstances, somebody will assign a dose to that person even though there's no imperative reason to do so.

But in this case, I find it inconsistent where, in the form of external exposure situation where the EE identifies that

there was no attempt to give him a coworker dose, and yet for the internal, the EE was given a coworker dose.

And I just mention this as an inconsistency. As I said, I don't disagree with NIOSH's attempt to identify any records that he might have had.

But the fact is, this is an inconsistency where in one case you've given the dose, and in the other one, you don't.

There's also still a remote possibility that, maybe -- I mean, after all, the operational time period was a very brief time, and maybe he wasn't exposed, and maybe he wasn't even monitored, but the records are simply not there.

Anyway, it was just an observation or a finding that identified in terms of the inconsistency.

And I can't tell you that there is a firm need for me to prevail on this issue. It's just an inconsistency I see, and NIOSH can

respond however it deems.

CHAIR KOTELCHUCK: Well, what you're talking about is 434.2, which is on Other DCAS Sites on page -- just for the folks who are on the line, page 78.

And NIOSH responded to your concern that you indicated and looked for data quite extensively and didn't find any.

And there is a contradiction there. The question is, do we feel -- do folks on the Subcommittee, do we want to try to look into this? It is a different question than the ones we've been talking about.

Or should we leave it until we come back to the Westinghouse 434 case next time? I don't know how folks wish to proceed.

MR. SIEBERT: This is Scott. I can clarify a little bit if that would be helpful.

CHAIR KOTELCHUCK: Okay.

MR. SIEBERT: It's really two questions. Number one is the individual says they had external monitoring, and we did not

find it.

As we said in our response back in April, we agree that the individual may have had external dosimetry. However, there is no record of any during the operational time frame.

One thing to really remember, we have the records from '71 and '72. That's the only operational time frame there is because that's the only time frame where they got fuel from the AEC.

So we specifically were looking for data when we did our data request of the site and all that information for the operational period. That's what we focused on.

So, the individual, I looked back, and the individual's employment was 32 years, from '59 to '91.

How do I say this? I wouldn't be surprised if this individual did wear badging sometime during that 30 years because [in the] nuclear fuel division, clearly they worked with fuels during that time frame.

However, we have good records of all the badges during '71 and '72, and there is no indication this individual had a badge during that time frame.

DR. H. BEHLING: Okay, just and again, I'm not trying to disagree with you other than to tell you that I'm looking at the CATI report, and it talks about this time period.

He was employed there from 1963 through 1990. And at the same time also when he talked about the frequency of badge worn, the answer was always.

And so that gave me the impression that he would have likely been monitored not only outside the operational time frame but also for the year of '71 and '72 that he might have also been thinking about having had a badge on.

That was the only justification for bringing this up. If there was no data, maybe he's mistaken. There's no way we can be sure which is the correct answer here.

MR. SIEBERT: And probably we could

have explained this in the dose reconstruction report a little clearer so everybody understood that. So we can accept that.

The other thing is what's being stated as an inconsistency between external and internal. And really it's not because we did not assign coworker because there is no coworker during this residual period in an AWE.

But actually it's Westinghouse Nuclear Fuel. It is based on the information that we have from the site at the end of the operational period.

So what we assigned, both on the external and the internal side, and Mutty, feel free to correct me if I'm wrong here.

But what we assigned on both sides of the equation are the information we have for an unmonitored individual that we assume may have been in the area. So they would have gotten some external dose based on what was in the area at the end of the operational period and some internal based on resuspension of what was in

the area at the end of the operational period.

So it actually is consistent. The reason it could seem inconsistent is the fact that if he had actual monitoring, we would have used that monitoring instead of the default monitoring that's based on the end of the operational period. That's the only difference.

MR. SHARFI: We only would have used the dosimetry during the operational period.

MR. SIEBERT: Correct.

MR. SHARFI: During the residual. Because there's continuing operation, residual external exposure would be --

CHAIR KOTELCHUCK: Because the work, the covered work, the work that was covered under our responsibilities went on only for a limited amount of time, is it possible that the Westinghouse Nuclear Fuel Division, which I assume still exists, or there's some -- certainly, there's a Westinghouse company, can they -- let me ask it this way -- do we know that the person had a badge that was badged

before and after this '71-'72 period?

We've been looking at '71-'72. Fine. And there's nothing there that we can find. Do we know, or is it possible to find out?

I assume he was badged. We all assume he was badged before and after, but is there -- do we know if he was badged before and after? Is that something we can reasonably seek out from Westinghouse?

MR. SHARFI: We have all the Eberline and Landauer reports for '70 and '71. We did not try to capture all these reports for all the years that were not applicable to the exposed --

CHAIR KOTELCHUCK: And I understand. That's reasonable. But in this case, we're a little bit -- I'm a little unsure, as we all are, about whether the lack of records for '71-'72 was just something missing in that person's, or whether that person was not badged before and after.

MR. SIEBERT: Dr. Kotelchuck, let me point out, this is not a site where we can

request data from the site.

This is a site where we had to go out and go through records and pull the applicable records on a data search.

So we can't just do a phone call and say, for this individual, can you tell us if they ever had a badge. We don't have a mechanism for pulling that type of response.

CHAIR KOTELCHUCK: Okay. Alright. Thank you. I was just thinking that if they had badging before and after that we might -- it might infer something about whether the badging which was just missing for that one year or -- whether the badging was missing or whether the person was not badged over a long period of time.

DR. H. BEHLING: In part also, I'm going back to the CATI report. I'm looking here, and the question that he answered affirmatively, he goes, did you conduct your work under special work permit, SWP, or radiation work permit, RWP? And he says, yes,

under special work permit.

And I assume special work permit does require a radiation monitoring device.

CHAIR KOTELCHUCK: Oh, yes. I mean, there's no question there should have been monitoring. Was there?

But the answer is, we cannot find that out. That's not something we can just call Westinghouse.

DR. H. BEHLING: The only thing else, he does identify a coworker by the name of -- I won't name him.

CHAIR KOTELCHUCK: No names.

DR. H. BEHLING: No, I'm not going to name the name. But he includes a coworker by name and a telephone number, who as stated here, might be a witness of his, you know, in a radiation safety specialty, who can confirm and expand on the information he provided us.

I don't know who the person is, but he at least had the foresight of saying, you can call and talk to this person and confirm my

statements as contained in the CATI report.

CHAIR KOTELCHUCK: Well, I don't know.

DR. H. BEHLING: Like I said, it may not be a major significant issue, and all I was concerned with, as part of our review, we always do look at the CATI report, and we do it very seriously to say, is the data contained in the dose reconstruction consistent with the information? And here was an obvious inconsistency where he was not -- was just a person who had dosimetry records on file and therefore that was a --

CHAIR KOTELCHUCK: Subcommittee Members, what do you suggest we do?

MEMBER MUNN: Well, a couple of comments. As to what we do, it's up to all of us I suppose.

But the fact that he may have had any number of TLDs or other types of radiation monitoring does not necessarily mean that this limited time period, in 1971 and '72 wasn't it,

were those periods during which that was occurring.

The other thing I personally encountered is individuals who are not clear on the distinction between dosimeter badging and identification badging.

There's, in companies like Westinghouse, all of the employees who worked in those facilities were badged. They were not necessarily radiation monitor badges. And that is an easy error, I think, that -- as I said, I've encountered that on a couple of occasions where people believed they were being monitored when in fact they were being identified.

MEMBER BEACH: The only difference -- sorry to interrupt.

CHAIR KOTELCHUCK: Go ahead. Please.

MEMBER BEACH: The only difference is that he seemed quite clear, and clear enough to identify someone to contact to vouch for and have another reference. So that leads me to believe he knew what he was talking about,

potentially, in this instance.

So we're in a quandary here.

CHAIR KOTELCHUCK: We are.

MEMBER MUNN: But it's the timing area that is questionable. And as was pointed out, if you've had a whole body count, you would know the number always comes out to be one. For me, I never had more than one body counted at a time.

But it's a memorable experience. And I don't know anyone who's gone into that counting chamber and laid down and watched the cover above you that doesn't remember that.

CHAIR KOTELCHUCK: Can I ask someone, do we know that the person who the employee referenced was called? Or if not, should that person be called.

MR. CALHOUN: Dave, this is Grady. Generally, well, the standard question on the CATI we ask everybody if they can list coworkers. So it's not like he just listed this guy just out of the blue. So we ask that

question of everybody. It's a standard question.

CHAIR KOTELCHUCK: Okay.

MR. CALHOUN: In all the time I've done this I think that we've only made that call -- I've only made that call once, and I bet it's been done less than a dozen times in the 15 years of this program.

I think we have to look at everything in total before we make that call. And I'm not sure that would make a great deal of difference.

I don't know, at this point I think I would recommend more of just waiting for a response, a written response back from Scott and then you can do some other detailed look at things.

MR. SIEBERT: Grady, just to let you know. This is Scott. This already has a written response from the last one, and our response is no different. This is point 2.

MR. CALHOUN: That's right.

CHAIR KOTELCHUCK: I'll tell you

what, then without a clear -- it's a tough one. It's hard to call.

We are clearly coming back to this case, and I -- if I may say, we're not getting anywhere quickly on this.

Why don't we, we're coming back to the case 434 next time, and let's include this. This may give us a chance, all of us, to think a little bit more about the issue for this, and also read more carefully and think about the response that we have in the RS at 434.2.

So let's go on and move ahead. Is that okay, folks, Subcommittee folks?

MEMBER BEACH: Is there any other work that can be done in these recommendations from SC&A on that?

DR. H. BEHLING: Well, as I said, I wouldn't necessarily be even concerned about it, but the PoC on this individual is relatively high without naming it. But it wouldn't take much to bring him up to the point where compensation would have to be considered, unless

of course the assigned internal exposure would also be withdrawn as part of a more definitive dose assessment. I don't know.

CHAIR KOTELCHUCK: Well, I suggest let's hold this until the next time. Both of these.

MR. BARTON: This is Bob Barton. Could I ask a quick clarifying question? Is this a site where we don't have external dosimetry for anyone?

MR. SIEBERT: That's correct. We do have -- we have the Landauer and the Eberline reports since they were their vendors. We have all the reports during the time frame. So we have lots of external dosimetry from people who were actually monitored.

MR. BARTON: I mean, was an external coworker model looked at. This might be an application where that makes sense for a worker who maybe should have been monitored or maybe wasn't monitored or maybe was monitored and we don't have those records.

I mean, if we do have data on other records, would that be something that either has been explored, or would it be worth exploring?

MR. CALHOUN: This is Grady again. One of the things that that shows is that if we do have like the records from everybody there, the likelihood that he was monitored is remote.

So now we're trying to -- are we trying to make an evaluation of, well, he was monitored, but somehow Landauer lost the records?

Or are now we trying to say he should have been monitored, and we need to do a coworker? Those are two different approaches I believe in my mind.

And if we believe we have relatively thorough records from other people who worked during that time and we don't have his, it's more of an indication that he wasn't monitored during that period than it was he was monitored and we don't have the records.

(Simultaneous speaking.)

DR. H. BEHLING: Yes. Let me just make another comment. I wasn't complete in my comments regarding his coworkers he listed.

In addition to the one coworker for whom he listed a telephone number for contact, there were two other people -- actually no, yes, two other people here that he cites as people that you can contact for confirmation.

And it would be interesting just to run those three different names and see if there are any radiation exposure records on their behalf, whether they're claimants or not, doesn't matter.

But it would support the notion that he was in their company, and maybe they can shed a light on whether or not he is basically a person who was truly not monitored during the operational period, or maybe he was not.

But like I said everything here seems to suggest that there's an outside possibility that maybe he was monitored and the records are simply not there.

CHAIR KOTELCHUCK: Well, that's something doable. Is that a major task, Grady?

MR. CALHOUN: I'm not going to commit to call him.

CHAIR KOTELCHUCK: No, no, not to call. To check the records.

MR. CALHOUN: I'll go back and look what we've got, but I'm not going to commit to calling any --

CHAIR KOTELCHUCK: Oh no, and I'm not asking you to commit that either to be clear. I just want to check the record. If you could check the records when we come back to it next time, that may be helpful.

MR. SIEBERT: This is Scott. I have a question then. What will that actually tell us? Because if his coworkers have data, that doesn't necessarily mean they were coworkers during the '71-'72 time frame.

And the flip side is, if they don't have data during that time frame, that doesn't -- I don't know what it really tells us.

We can pull the information. I'm just not sure what it really actually indicates to us.

CHAIR KOTELCHUCK: Yes. I have to think about that. It certainly doesn't say -- we're looking for inference as to what might have happened. We can speculate that he just didn't do -- not speculate, the absence of records suggests that he didn't do work in that period. But he reports it, and that's the dilemma.

But folks, I propose we go on. This is one of many cases that we have to go over. So I propose that we come back to this next time and that we end this discussion now.

And just go back and finish up sets 14 through 18 as best we can in the time period we have left. We've covered good ground today, but let's go back to the BRS reports.

It happens that we are in -- if we're looking at 434.2 or 434, we're in the Other DCAS Sites. And according to my records, there are

two other cases in that file, and both of them are in progress, 436.2 and 369.3.

MS. GOGLIOTTI: There's also 435.

CHAIR KOTELCHUCK: Okay. I missed that, 435. Is that in progress?

MS. GOGLIOTTI: Yes, it's an observation.

CHAIR KOTELCHUCK: Okay. Well, can we -- I mean --

MS. GOGLIOTTI: Would you like to go through this matrix?

CHAIR KOTELCHUCK: Yes, exactly. It's just a few more things left. Two of them that we have are in progress, so I'm not sure unless there's a report now. Or we could look at 435. Well, let's go through the matrix.

MS. GOGLIOTTI: We can start with this one, and we'll just go down my list here.

CHAIR KOTELCHUCK: Okay.

MS. GOGLIOTTI: We have the W.R. Grace case, 369.3. And the finding states that NIOSH did not consider Pu intakes for 1969

through '70.

And we last left it that NIOSH was considering exploring Pu coworker dose during the operational period. Has any progress been made on that?

CHAIR KOTELCHUCK: Okay, I found it. I'm sorry. I was looking. Have other people -- I don't have the screen that other people have, so 369.3.

MR. SIEBERT: This is Scott. We're in the midst of working through a coworker study during that time frame, so this is something that is going to be ongoing for quite a while.

CHAIR KOTELCHUCK: Okay. So that is in progress, and that's where we appropriately will leave it. Okay, good.

MS. GOGLIOTTI: Okay. There's also another one on the Westinghouse case that we pretty much have resolved.

CHAIR KOTELCHUCK: Okay.

MS. GOGLIOTTI: 434.4. The finding states that activity ratios used for Pu were ---

(Simultaneous speaking.)

CHAIR KOTELCHUCK: Oh, yes.

MS. GOGLIOTTI: And we did come to a resolution. However, Brad had a remaining concern --

CHAIR KOTELCHUCK: Correct.

MS. GOGLIOTTI: -- that was not addressed at the last meeting.

CHAIR KOTELCHUCK: Correct. And do we have a response from Brad on that?

MS. GOGLIOTTI: There is no response here.

It looks like he was concerned with whether or not the practice was a standard practice or if this was an isolated instance.

CHAIR KOTELCHUCK: Right.

MR. SIEBERT: I apologize. I always look at the most recent response, and the most recent response was talking about closure. So let me look for a second here.

CHAIR KOTELCHUCK: Okay. Sure, go ahead.

MS. GOGLIOTTI: Do you just want to move on and we can come back to it?

CHAIR KOTELCHUCK: Alright. Sure. Go ahead Grady.

MR. CALHOUN: What?

MR. SIEBERT: This is Scott.

CHAIR KOTELCHUCK: Oh, I'm sorry Scott. Excuse me.

MR. SIEBERT: What practice is standard? What's being asked here?

MS. GOGLIOTTI: You'd have to go back to the matrix at this point. Depending on which version of the matrix you're looking at, it's either on page 42 or 45.

MR. SIEBERT: Because what the discussion is is plutonium-241 being listed as alpha when it's really a beta. Is that the issue itself?

MS. GOGLIOTTI: I think it was beyond that. This is the discussion we had back in, looks like January or November.

CHAIR KOTELCHUCK: 9/11/2015. I have

it in the BRS.

MEMBER BEACH: You might have to go back to the transcript and read it.

CHAIR KOTELCHUCK: Yes. Okay, we could do that.

MR. BARTON: If I might, I was just looking through my notes from January, and it looked like the isolated incident was whether you use ambient intakes as opposed to coworker intakes. That's what I have written down as the concern about whether this was an isolated incident or something pretty common. For this particular site, that is.

CHAIR KOTELCHUCK: Yes. Thanks, Bob.

MR. SIEBERT: If that's the question then that is easily answered actually. We've already discussed it.

There is no such thing as coworker or ambient during residual time frame. There is -- as we discussed in the previous response, there is only if the person was monitored during the operational period, which this individual was

not, or we can assign the residual external and internal components, which are based on the end of the operational period and settling and resuspension and so on and so forth both from an internal and external point of view.

So that is how we deal with it at this site. There's no inconsistency there.

Brad, does that help you after what we talked about a little earlier?

MEMBER CLAWSON: To tell you the truth, I'd have to go back and read what the discussion was. But we'll take a look at it. I don't think it's a showstopper in any way. I was just trying to figure out if this was a normal practice that we did with this.

I think I'm okay with it myself.

MR. SIEBERT: I can just tell you that what we did is what we normally do. So the answer is yes.

CHAIR KOTELCHUCK: And that was recommended for closure once a response was gotten, which we now have.

MEMBER CLAWSON: We have it, and I don't have a problem with it.

CHAIR KOTELCHUCK: Okay. So let's close on 434.4.

MEMBER BEACH: Agreed.

CHAIR KOTELCHUCK: Okay, good.

MS. GOGLIOTTI: The next one we have here is a Brookhaven National Lab case. And that is tab 435. Are you there?

CHAIR KOTELCHUCK: Yes.

MR. KATZ: Just before, going back, since it's been so long and I couldn't read what was above about closure. So are we closing a finding where SC&A had a finding and we agreed that it's correct or not? I don't know what the actual outcome is there.

CHAIR KOTELCHUCK: Let me go back.

MR. KATZ: Rose can tell us. What did we close on?

MS. GOGLIOTTI: Hans had some remaining concerns about one of the tables I believe. And once we have NIOSH's additional

information, that can provide --

CHAIR KOTELCHUCK: Well, I'm looking at BRS. NIOSH has since corrected the 239/240 issue as discussed on page 45 of our January transcript. SC&A recommends closure once B. Clawson's concern is addressed. And it is.

MEMBER CLAWSON: And it's been addressed.

MR. KATZ: I understand that. But the actual finding, not Brad's observation or concern, but the actual finding was there was some error in the table, and those have been corrected.

CHAIR KOTELCHUCK: Right.

MR. KATZ: This is the same case that was corrected earlier, that came up in our discussion.

CHAIR KOTELCHUCK: We discussed in a different context. And actually, this is really an observation. Delete the word alpha in row 4 of Table 4, acknowledge the activity ratio.

These recommendations are for the

report. So this 434.4 is, I believe, an observation.

MR. KATZ: Okay.

MR. BARTON: And I can again say from January, what I have here is that it was a discussion about plutonium.

A response from Scott was, we've updated the template since that time frame and we've actually added the Pu-238/240 to respond to this portion of the finding. So that's what I have for 434.4.

CHAIR KOTELCHUCK: Yes. That sounds like an observation to me. So, can we call this an observation and close it? Or accept it?

MEMBER MUNN: Yes.

CHAIR KOTELCHUCK: Okay. Good. Do we have any more on this file, Other DCAS Sites?

MS. GOGLIOTTI: Yes. There is 435, observation 1.

CHAIR KOTELCHUCK: Okay.

MS. GOGLIOTTI: And this one we've been carrying for some time. We were unable to

replicate the results from their tech-99m results because they used a different version of IMBA than we have. And they were looking into it at the last meeting.

CHAIR KOTELCHUCK: Okay.

MS. GOGLIOTTI: Into getting us the most current version of the IMBA software so we're properly able to evaluate their results.

MR. CALHOUN: I'll go get an update on that again, but I think that we've had a real hard difficulty ourselves with that one.

CHAIR KOTELCHUCK: 434.

MEMBER MUNN: I thought we finally resolved that issue of different copies of IMBA. No, we didn't?

MS. GOGLIOTTI: No, we've been working on it for at least a year I believe.

MEMBER MUNN: Longer than that.

MS. GOGLIOTTI: It might be two years now. I don't know.

MEMBER MUNN: It seems like forever. It keeps coming up so many places.

CHAIR KOTELCHUCK: Yes. I'm having trouble finding it in the file. Someone who is on the BRS file, what page is it?

MR. BARTON: That's 435, observation 1.

CHAIR KOTELCHUCK: I've got it. Okay, thank you. I had the wrong number. Well, NIOSH will investigate status. And that status has not been investigated. That is to say -- or the conclusions, there's not a conclusion on that, right?

MS. GOGLIOTTI: Correct. It still has not been resolved.

CHAIR KOTELCHUCK: Well, then we'll have to keep it in progress. It is in progress. Somebody has to try to resolve that.

MS. GOGLIOTTI: And then there's one more left in the matrix.

CHAIR KOTELCHUCK: 436.2, perhaps?

MS. GOGLIOTTI: Correct.

CHAIR KOTELCHUCK: Good.

MR. BARTON: Rose, I think this is

one of mine, right?

MS. GOGLIOTTI: I believe so.

MR. BARTON: 436, let's see what we have here. Okay, yes, this was one of mine.

Alright, so essentially what happened with this case is you had a health physics worker, I don't want to get into it too much, but they were working in a place where shallow doses through beta radiation was possible.

And so when we were doing the review, we noticed that the application of missed shallow doses was applied for one half of one badging period. So essentially, usually when you apply a missed dose, it's one half of the limit of detection. You apply that. In this case it was essentially one quarter of the limit of detection. And then no more missed dose was applied for this individual worker, which certainly got us scratching our heads.

I don't think we talked about this at the last meeting. I think it was probably the meeting before that, and we got the verbal

explanation, and that admittedly made my head spin.

So what happened at that meeting is I requested that NIOSH put that in writing, so they're hopefully going to look at that and sort of get where that's going. Because obviously, it's kind of a strange thing to think about, that you could be applying a missed dose to only one half of one badging period, which in this case is a month.

So we got that written response, and we looked it over. I feel a little bit better about it but not much. I'm still rather confused about it.

And I think the problem is -- I think I understand the spirit of what the procedure is for figuring out these missed badging cycles and how it's possible that you could get one half of a badging cycle applied.

But I guess for my own -- I certainly would feel better about it if the response sort of kind of went into the actual case and put

numbers.

As in, we're looking at this quarter. This is the total reported dose. This is how we parse it out to the different assumed badging periods.

You have to remember in this case and for this particular site, the workers were on a monthly schedule, exchange schedule, but the records we have only report the totals on a quarterly basis.

So you kind of have to take those measured results and assume they were in certain months during that quarter for the purposes of calculating what the missed dose is going to be. In this case, it's a best estimate missed dose.

And one of the references NIOSH provided which was helpful was PROC 6, which the very last page of that has an example of how you do it for deep doses. But then there's this added wrinkle. We're talking about shallow doses here.

So I guess at this point I would

recommend either one of two courses of action. Either we could certainly turn it over to NIOSH, and they can kind of explain how this process works. Again, I found it still a little bit confusing. What I would prefer is if NIOSH is amenable, they could go in and say listen, we're going to show you the hand calculations. Here's the actual number from the dosimetry file. This is how we parse it out. This is how we assume which doses, which missed doses are for deep, and this is why the resulting is left for shallow.

And I'll give you just one example of why I'm a little bit confused. The badging cycle that was on a quarter rather where the one half of one missed dose was applied, all we know really is that the total deep dose was 1.05 rem.

And then I looked in the following year, and there's another quarter of a deep dose is 1 rem. So essentially a difference of 50 millirem.

And I just couldn't quite resolve

that in my mind why that badging period was different. And so again, this would sort of be like a back of the envelope type calculation. You know, like one of those Part II health physics questions where you kind of state your assumptions and it's a little bit like a storyline, just so we can kind of get from point A, which is sort of the guidance on how you're supposed to be calculating these things, and then point B, to actually see how you get from that guidance, using the actual numbers for this case to kind of resolve it.

At least that would certainly put my mind at rest. And again, I don't think it would take a great deal of effort. And it might also help out Members of the Subcommittee to see that in sort of a step by step process.

Because again, it's a bizarre thing to think about that you could be applying one half of a missed dose, not one half of the limit of detection but one half of a badging cycle missed dose, so essentially one quarter of a

limit of detection.

MR. SIEBERT: This is Scott. Yes, I agree. It's always struck me as a little odd, too, but when it's a best estimate, it kind of makes sense.

Yes, the expanded responses that we gave in March, actually there's two different documents. There's one that discusses the steps involved, the document, the Word document, and gives the specifics for the claim in question, discussing fourth quarter of '68.

And then there's an Excel spreadsheet that shows the columns and how the pieces all fit together.

I'm not sure how much more specific we can get.

MR. BARTON: I guess what I had envisioned is literally a written piece of paper. Look, here's what exactly we're seeing in the file, for example, dose totals for this quarter and dose totals for this quarter.

And here is how we're going to break

this up. This is how we're going to break up the deep dose.

And actually, I do have a question.

MR. SIEBERT: That's what's in the document we gave though. I mean, I'm reading it. It says 1968, there are two positive deep dose dosimeters based on dose limits and only one positive for shallow dose, which means there's one zero dosimeter reading for deep dose since there are three dosimeters within the quarter, and give example 3 minus 2 equals 1 and two for shallow.

I mean, we did the step by step in this document. This is what I'm saying. I'm not sure how much more specific we can get.

MR. BARTON: I see the step by step. It doesn't actually refer directly to the reported doses. And I gave that one example where the quarter that we're talking about, the total dose is 1.05 rem, and that's when we assign that missed shallow dose.

And then in the very next year,

there's another quarter that has 1 rem, so essentially 50 millirem less. And then there's no shallow dose assigned.

And so I guess the devil is kind of in the details, and it's that somehow that extra 50 millirem --

MR. SIEBERT: You're talking about the difference between '68 and '69, right?

MR. BARTON: Yes.

MR. SIEBERT: Okay. And we actually discussed that. We went through the steps for '68, and then for '69, it says note that for '69 and '70, the number of positive dosimeters based on the LODM dose limits are equal for deep and shallow dose.

As specified earlier we can only assign shallow dose when the number of zero shallow dosimeter readings exceeds the number of zero deep dosimeter readings. Since they're equal, it doesn't exceed it.

Like I said, I'm not sure how much more specific we can be here. I don't know how

to write it up much more clearly.

MR. BARTON: Well, I guess perhaps then maybe I need to take a closer look at that and maybe get some other SC&A folks who -- again, I just, looking at it and trying to parse it out, I wasn't entirely comfortable that I understood enough to sign off on it in this context.

But while we're talking about this issue one of the earlier responses, in fact I think it was the first response, it states that for this site, the shallow dose was only reported if it was greater than the deep dose. Is that correct?

MR. SIEBERT: I believe that is correct. I'd have to look at it.

CHAIR KOTELCHUCK: I believe so.

MR. SIEBERT: That is correct.

MR. BARTON: So we can assume that a shallow dose equal to the reported deep dose was applied to all skin cancers? Because a shallow dose is only reported if it's actually greater

than the deep dose. That kind of infers that the shallow dose is either somewhere between zero and whatever was reported for the deep dose.

MR. SIEBERT: Okay, I think what we're going to need here to get this moving forward is, Bob, if you could write up your very specific questions so that we can then address them piece by piece so we can walk through it. That may save us some time here and hopefully we can describe it to your satisfaction, answering specific questions.

Would that be workable?

MR. BARTON: Yes, I'd be happy to do that. Again, I just wasn't quite comfortable enough, in seeing the response and looking at the actual dose values, to be able to sign off on it from what I've heard without reading up on it.

CHAIR KOTELCHUCK: That sounds like a reasonable resolution. It is in progress now, so it will remain so until next time, and

hopefully folks will find it to resolve and make a recommendation to the Subcommittee.

Alright. That as I see finishes all the items on the file, Other DCAS Sites, correct?

MS. GOGLIOTTI: Correct.

CHAIR KOTELCHUCK: I see in the other files, the SRS and Hanford have only two outstanding issues.

MS. GOGLIOTTI: Yes.

CHAIR KOTELCHUCK: Both of them are awaiting Working Group actions from SRS.

MS. GOGLIOTTI: Correct.

CHAIR KOTELCHUCK: Therefore there's nothing to pursue in that file for us to finish Sets 14 through 18. INL and NPS also, 383.8, in progress, awaits report from INL Working Group.

So we have the remaining ones on the AWE file, in addition -- beyond Bethlehem Steel and BONUS. We have four or five. Right? Shall we start on that, then?

MS. GOGLIOTTI: Let me get that

pulled up.

CHAIR KOTELCHUCK: Okay. The first one I noted in the BRS was 430.2, Electro Metal.

MS. GOGLIOTTI: Yes.

CHAIR KOTELCHUCK: Okay. And then we'll go on for a little while now and then we'll take a short comfort break. But we can go on.

MR. SIEBERT: I apologize. This is Scott. Which set are we in now?

CHAIR KOTELCHUCK: We're going back to AWE and Sets 14-18.

MR. SIEBERT: Gotcha, thank you.

MS. GOGLIOTTI: Okay, this is finding 430.2 and it's an Electro Metal case. The finding states that there was a failure to acknowledge the recollection by one of the claimants of a specific type of cancer that was reported in the CATI report. And that's on the screen, but I don't want to give away too much PI information.

The claim was done with a different

trunk cancer and this particular claimant had a better recollection, or thought that they had a better recollection, of more information about the cancer.

At the time that we did the dose reconstruction this was a flag for us. And so when we were doing our one-on-ones the Board Members felt it was important to bring it to the attention of DOL. So we did send to DOL an email regarding this case.

And DOL did respond. We notified them in November of 2013 and they got back to us on November 25th of 2013. And the medical officer determined that there was no specific location noted in the autopsy report and there was no biopsy or pathology report associated with this particular cancer. And the physician that attended this case has since deceased. So they couldn't make a more positive identification than the cancer that was used.

This case was since reworked under PER-68 and did result in compensation. And so

with that we would recommend closure.

CHAIR KOTELCHUCK: Yes. Recommendation of closure.

MEMBER MUNN: Yes.

CHAIR KOTELCHUCK: Any concerns, Subcommittee?

MEMBER MUNN: Not here.

CHAIR KOTELCHUCK: Okay. Then we can close that.

MS. GOGLIOTTI: Okay. The next one is 432.1 and that's a uranium mill in Monticello case.

Okay, this one, the finding essentially had to do with NIOSH followed their procedure, and we do not disagree with that. However, the approach that was used seemed to be more or less overestimating for the brain. And our reviewer thought that that was inappropriate based on a compensated case.

We talked about this extensively before and John was asked to write up a response, which he did. And I can read that

here for you.

"The basis for this finding is the possibility that a surrogate ICD-9 organs listed in OTIB-005 and the associated dose conversion factors for the external exposure to residual organs as provided in Appendix A of IG-001, which includes the brain, raises a concern about the approach that might overestimate dose to the brain which is shielded by the skull. Such an approach could be considered reasonable but is likely an overestimate to the dose to the brain due to the shielding provided by the skull.

"SC&A does not question that NIOSH followed their procedures, but in this instance the claimant-favorability of the assumptions leads to an overestimate in an uncompensated case.

"However, since this case was compensated, a more realistic estimate that includes the derivation of the dose specifically to the brain might be a subject that the Work Group might like to explore."

CHAIR KOTELCHUCK: This was an overestimate.

MS. GOGLIOTTI: In this particular instance, John felt this was an overestimate to the brain. And the case was compensated. And as you're aware, technically you're not supposed to use overestimating assumptions in compensation --

CHAIR KOTELCHUCK: That's correct. The uranium mill, this was not an SEC, was it? No.

MS. GOGLIOTTI: I do not believe there's an SEC associated with this site. Someone can correct me if I'm wrong.

CHAIR KOTELCHUCK: So it was an overestimate that led to a compensation in a non-SEC case?

MR. KATZ: It doesn't really matter whether it was SEC or not.

CHAIR KOTELCHUCK: Yeah. I mean, it was compensated, so that's resolved. The question is, was that proper procedure?

MS. GOGLIOTTI: NIOSH followed their procedures.

MEMBER MUNN: It's proper procedure. The question is whether or not we wanted to consider the fact that a procedure results in a potential overestimate for exposure to the brain. I'm not at all sure that we're qualified to undertake that kind of consideration.

MS. GOGLIOTTI: I would say certainly it's more detailed than the Dose Reconstruction Subcommittee usually would pick up. However, whether or not we wanted to refer that to the Procedures Subcommittee I think would be the overall question.

CHAIR KOTELCHUCK: Right.

MR. KATZ: Does NIOSH have a response to this as to whether this whole issue of overestimate?

MS. GOGLIOTTI: They did not respond in the BRS.

MR. KATZ: I know, but do they have a response now?

MR. CALHOUN: This is Grady. You know, I'm looking through this DR here, and we don't have a specific dose model, at least at the time then. I don't think we do. You have to calculate the dose directly to the brain. So we've got to use something else that's close to that organ.

MS. GOGLIOTTI: Yes, and --

MR. CALHOUN: So unless we -- and now, with the new ICRP 116, I don't know if there's a model for the brain in that or not. But that's something that we're working through, because a lot of the DCFs have changed for many, many organs.

But there's not one that exists. So I don't know what the question is. Is the question that we need to make one that doesn't exist, or to make up a new one and not use one that does exist that we think is reasonable? I don't know what the question here is.

MR. KATZ: So, Grady, this is -- I mean, in our regs, this is not a problem. We do

not have any prohibition against overestimating when -- using an overestimate when it's the best estimate that's available --

MR. CALHOUN: Well, here's the deal --

(Simultaneous speaking.)

MR. KATZ: -- not like a sufficiency case.

MR. CALHOUN: No, it's not. No.

MR. KATZ: So, this is fine.

MR. CALHOUN: Let me tell you, I'm going to read from -- I can read from the DR here, and it doesn't have anything specific.

It says because there's no specific external model, dose model, that calculates the dose directly to the brain either the thyroid or remainder organs can be used. The thyroid is used when a maximizing estimate of dose is performed. But this time the remainder organs were used.

So there was a choice to pick for a best estimate and we used the remainder. So it

says that in here, unless this is a different version than you guys reviewed.

MS. GOGLIOTTI: I think the question was not whether or not you followed your procedures. We completely agree with that.

MR. CALHOUN: But see the procedure tells us we can pick between A or B. And we chose the right one. Now you're asking us, I believe, to come up with C, and that doesn't exist.

MEMBER BEACH: I think they left that open for the Work Group to decide if it was worthy of a discussion point. And I think it's fine. I mean, I think we can close this.

MEMBER RICHARDSON: I agree.

CHAIR KOTELCHUCK: Should there be a note to the Procedures Subcommittee?

MR. CALHOUN: Here's what's going to happen, Dave, and it might take a while. And I can't tell you that brain is specifically listed in the new ICRP that we're evaluating.

But we're going through this, and you

know how we do PERS. PERS are, you know, we go back and look at everything. The DCFs, those are the dose conversion factors, those are going to change for a significant number of organs. And there may very well be some that are added for organs that previously did not have one.

So if a new DCF is derived for the brain in the process of this, every case that's non-comped that's a brain cancer will have an evaluation performed to make sure that the appropriate DCF was used if in fact that DCF would result in a higher dose than the surrogate organs or other things that we're currently using.

CHAIR KOTELCHUCK: Okay. So it may be resolved in the ordinary course of events. It will be a while.

MR. CALHOUN: Yes. And the key that we need to leave here with is we don't necessarily believe anything needs to be resolved. It's just a question of maybe something isn't as good as it could be.

CHAIR KOTELCHUCK: Right. And the case has been compensated so there's nothing in terms of compensation -- well, what we decide, if we close it, it has no impact and there's a good chance that something better will come that is in fact being worked on right now. Right?

MR. CALHOUN: Yes.

MEMBER MUNN: To further that point, I see no reason for us to attempt to do something with this. To what end? It's unclear to me. I'm not sure what our purpose would be in undertaking this discussion.

CHAIR KOTELCHUCK: You mean in terms of asking -- sending it to the Procedures Subcommittee?

MEMBER MUNN: No, I mean in terms of what we're doing right here. I don't know what any of us can -- how we can further this. For what purpose and to what end? It doesn't follow that we can come up with anything other than the information that we have, that I can see.

CHAIR KOTELCHUCK: The question is,

do we close it or not?

MEMBER MUNN: Yes.

CHAIR KOTELCHUCK: And I think the answer is yes, we have to.

MEMBER MUNN: Yes.

CHAIR KOTELCHUCK: And my suggestion is sending it to the Procedures Subcommittee is not useful because it's likely to be resolved in other ways. So let's just close it.

MR. KATZ: Yeah, I mean, Dave, it's not that it's so broad a thing. With new information, you know, with progress in science the methods may be updated with a new DCF.

But given the science that was available at the time, this was the best method. This was the best information available for doing this for the brain.

There's nothing wrong with this case, and you can close it. And down the road, if new information on DCF allows for an update, it will be updated. But there's nothing wrong with this case.

CHAIR KOTELCHUCK: Right, which also says that it's an observation that we're closing. Okay. Let's go on.

MS. GOGLIOTTI: Okay, the next one is in the same case, it is Finding No. 3. And the finding says the comparison of the earlier version of the CADW tool and the current resulted in a different internal dose.

NIOSH had suggested that the reason we were unable to match these was we were using old and new files simultaneously, since the CADW has since been updated.

CHAIR KOTELCHUCK: A little louder, please.

MS. GOGLIOTTI: NIOSH has suggested that the problem that we were having was we were trying to use old CADW files on the new version of the CADW, which was resulting in some differences that we were seeing in dose.

And when Ron went back and did this he was able to verify that that was the cause. We were mixing old and new files and we were

getting compatibility issues with the software. And based on that, we recommend closure.

CHAIR KOTELCHUCK: Yes. It makes sense. Close, folks?

MEMBER MUNN: Yes.

MEMBER BEACH: Yes.

CHAIR KOTELCHUCK: Good.

MR. KATZ: Okay, so is that a finding? Or was that was an administrative matter?

MS. GOGLIOTTI: It's more an administrative matter.

MR. KATZ: Yeah, okay. Again, it's observational. It's not a finding.

MS. GOGLIOTTI: Okay, the next one is the same case, Finding No. 4. We were unable to match NIOSH's dose correction values for the exposure to radon.

And NIOSH was going to update TIB-11. And to my knowledge that hasn't been done yet.

CHAIR KOTELCHUCK: Response?

MR. CALHOUN: I can't tell you if

TIB-11 has been revised yet or not. I doubt it.

MEMBER BEACH: Can you tell us if it's on the list to be revised?

MR. CALHOUN: Give me a second.

MS. GOGLIOTTI: This is TIB-11 not OTIB-11.

MR. KATZ: Can I ask, while they're looking for that, as to whether it's revised or not, but is this a finding where NIOSH agreed with the finding and updating the TIB? Is that what we're talking about here?

MR. CALHOUN: This is Grady. I just got back from walking down the hall and we certainly have that on our list. I'm not going to say that it's imminent. But like anything else, when that gets revised, anything that's affected by it will be reviewed and revised as necessary.

MR. KATZ: Grady, I was just asking while you were walking down the hall, was there an error that you're revising in the TIB that was this finding?

MS. GOGLIOTTI: No, this --

MR. CALHOUN: I don't think so.

MS. GOGLIOTTI: NIOSH's response here, it says that they didn't feel a lengthy technical revision was appropriate for the dose reconstruction but they would include that in the next revision of the TIB. And SC&A was tasked to review that whenever that happens for --

MR. KATZ: A police car just went by -- I think I understood what you were saying. I'm just unclear as to whether this -- is this a finding? Is this an observation? I don't know what this is.

MEMBER MUNN: I don't either, but it looks like what we're asking for is a clarification of the derivation of the DCF. Right?

MS. GOGLIOTTI: Yes. We're looking for the derivation of the dose conversion factor.

MR. KATZ: Okay, but that sounds like

an observation.

MR. CALHOUN: Yeah, it sounds like there's nothing wrong, it's just they need a better explanation.

CHAIR KOTELCHUCK: Yes, sounds like it to me, too.

MS. GOGLIOTTI: I think it's hard to know if there's something wrong without the information.

MR. KATZ: Right, without seeing the derivation.

CHAIR KOTELCHUCK: Okay. So it will remain in progress and likely will be -- when we resolve it, it's likely to be an observation.

MR. KATZ: Okay, so it's in progress.

CHAIR KOTELCHUCK: Absolutely. Okay.

MEMBER MUNN: There is a response to the last question, whether the TIB's been crafted or issued. The answer is no, but it is on the list. It's on the list for revision.

MS. GOGLIOTTI: Yes. And in NIOSH's responses they did say that it would be revised.

CHAIR KOTELCHUCK: Okay, good. We have only remaining the 33.2 and .3. And that will finish this file, as best we can at this time.

MS. GOGLIOTTI: This is a Ventron Corporation case. And the finding states that SC&A questions whether NIOSH used the appropriate procedures/methods for reconstructing internal dose on behalf of this case.

And we have not had a more recent response here, but NIOSH essentially said they're using TBD-6000 to assign dose to the residual period. And we had some remaining concerns about whether the approach they were using was compliant with the Board's surrogate data criteria.

Actually, I think this ties in with the next one, NIOSH's response to the next. So let me just pull that up, 433.3.

MEMBER MUNN: As to whether it's compliant, I think.

MS. GOGLIOTTI: Yes. And this just was posted yesterday so we haven't had a chance to look at it. But I did see that it was posted this morning.

The residual period value described in TBD-6000 is not a measurement taken from this facility, rather a model. Measurements at several facilities were reviewed as part of creating the model, but they were not used directly as the value.

Therefore it would be difficult to evaluate against the Board's surrogate data criteria. Also, residual contamination at uranium metal facilities does not normally involve metal, but rather metal oxides.

As such, [during] the residual period, there is little distinction between uranium metal and refining facilities. In fact, TBD-6001 for uranium-refining facilities contains the same model for the residual contamination.

MEMBER BEACH: So is this something

where SC&A would need to review that model?

MS. GOGLIOTTI: I don't think that we need to re-review it, but I would like to have John Mauro look at this, if that's alright, and we can carry this till next time.

MEMBER MUNN: It's well-established that both SC&A and NIOSH have used it frequently.

MEMBER BEACH: It doesn't hurt to have them look at it, though.

MEMBER MUNN: True.

MS. GOGLIOTTI: I just would like him to see this response in correlation with this case.

MR. KATZ: So will both of these, then, be in progress, 33.2 and .3?

CHAIR KOTELCHUCK: Yeah, they're both in progress. Okay. That appropriately sets 14 through 18, the files, the four files for 14 through 18. So it sounds like a good time to take a break. It's 2:47 so let's gather at 3:05. Fifteen minutes.

MEMBER BEACH: Sounds good.

CHAIR KOTELCHUCK: Okay? See you at 3:05, folks.

(Whereupon, the above-entitled matter went off the record at 2:47 p.m. and resumed at 3:08 p.m.)

Continuing review of backlog of Category 1 and 2 cases from Sets 19-21

CHAIR KOTELCHUCK: Okay, then, we we're talking about doing SRS and Hanford for 19 through 21. And Rose said there are maybe eight cases to do. So let's get started.

MS. GOGLIOTTI: Okay. And we did already go over this matrix once, so they're no longer broken down into Type 1 and Type 2. These are just the remaining issues that we were not able to resolve the first go-around.

CHAIR KOTELCHUCK: Okay.

MS. GOGLIOTTI: And the first one is a Hanford, 479.1.

CHAIR KOTELCHUCK: Good.

MS. GOGLIOTTI: And the finding had to do with the correct dates for calculating PUREX doses. And we did have one remaining question at the end of the last meeting, which was, was there a potential for Pu exposure at the PUREX facility after 1992 or was it all removed at the end of '92? This particular case, the EE was in a job title referred to being employed in the PUREX process beyond 1992.

And here NIOSH responded, saying that although the PUREX operations ceased at the end of '92, deactivation of PUREX occurred between 1992 and 1996 and included Pu removal and decontamination activities of N Cells and Q Cells. So potential Pu and U exposure to a small group of workers under the tightly controlled access existed.

A data search was requested for the site, was developed and sent to identify this group of workers and potentially associated bioassays.

Since the EE states that he managed

PUREX through '99, this information has been requested for the site and the dose reconstruction will be revised if the resulting response indicates that this is warranted.

CHAIR KOTELCHUCK: Right. And presumably we do not have that response. Or do we have that response?

MS. GOGLIOTTI: That was NIOSH's response.

MR. SIEBERT: As far as I know we have not yet received a response from the site on that information.

CHAIR KOTELCHUCK: Okay. That sounds fine. Okay, so we'll keep that in progress.

MS. GOGLIOTTI: Actually, 479.3 is basically an identical finding but has to do with uranium dose instead of Pu dose. And so, based on that response, I would recommend leaving that one open as well.

CHAIR KOTELCHUCK: Okay.

MS. GOGLIOTTI: And then the only remaining one on this case is .2, also a Hanford

case, that positive whole body count was not included in the assessment.

And going through here, NIOSH had excluded that result because they felt that it was a termination result. But they did go back and assign fitted rather than missed cesium and OTIB-54. And that increases the intake rate for the employment period and also slightly increases the missed intake rate for the subsequent employment period.

It increases the assigned OTIB-54 dose by 26 millirem to skin and 20 millirem to the other organs, and does not impact the claim. So based on that we would recommend closure.

CHAIR KOTELCHUCK: Right. Okay. That seems reasonable. Any comments from the Subcommittee Members? Any objections? Okay, then we can close it.

MS. GOGLIOTTI: Okay, the next one is 482, Observation 1. And this is a Hanford and Lawrence Livermore.

CHAIR KOTELCHUCK: Wait a minute,

didn't we go over that before?

MS. GOGLIOTTI: We have gone over 482, but this is an observation rather than a finding.

CHAIR KOTELCHUCK: Oh, okay.

MS. GOGLIOTTI: And with this one there was a glove box adjustment factor that was used when the ratio of shallow to deep doses was 2.19. We were concerned about where that number came from. NIOSH pointed to a spot in the DR template where that came from.

However, we're still not sure what the meaning of the 2.19 is relative to how it was used. So we're provided with where it came from in the references but not any justification about what that 2.19 represents.

CHAIR KOTELCHUCK: Okay.

MR. SMITH: This is Matthew Smith with ORAU Team. And, Scott, I think you and I maybe have exchanged emails on this. I'm not sure if it's into the BRS.

The origin of that factor of 2 traces

back to a very early TIB, which is, at the time, called OCAS-TIB-7. And although the title of it is assignment of neutron dose for Savannah River, embedded in that document of guidance to help the dose reconstructor figure out if an Energy Employee was working in the H and F Canyons. In other words, in a glove box situation.

And among the guidance given in that section is a guidance to take a look at the shallow dose to deep dose ratio. And in there it's stated if it's greater than 2 then you've got pretty good evidence, along with plutonium bioassay monitoring, that that person was probably working on the F or H lines.

So with that as a very early set of guidance on the project, that factor of 2 ended up being used as a way to kind of judge whether or not somebody [was] doing glove box work. I think in this case somebody had probably in the CATI had checked "sometimes" with respect to glove box work.

So that shallow to deep ratio factor has its lineage back to OCAS or DCAS TIB No. 7. And the specific page is page 4 of 6 in that document.

The 2.19 is actually the geometric mean value of what we do call the glove box factor, which is out of DCAS-TIB-10.

My guess is that it was put in a template because somebody was thinking about glove box work, considering that factor of 2 as something that we've used as a guidance number.

MS. GOGLIOTTI: Is it possible for you to write up specifically in the BRS that comment?

MR. SMITH: Certainly. I'll work with Scott to get that done.

CHAIR KOTELCHUCK: Okay. So, sounds like we could accept that observation at this point, yes?

MS. GOGLIOTTI: Well, I would like to actually investigate further.

CHAIR KOTELCHUCK: You'd like to

await the write-up. Okay. So we'll leave it in progress until next time. That's okay. Alright.

MS. GOGLIOTTI: The next one is Observation 4 from the same case.

CHAIR KOTELCHUCK: Which observation?

MS. GOGLIOTTI: 482, Observation 4.

CHAIR KOTELCHUCK: Oh, yes. Sure. Okay.

MEMBER CLAWSON: Rose, what was the number again on that? 482?

MS. GOGLIOTTI: 482, Observation 4. Again, this is a Hanford and Lawrence Livermore case.

And where we left it last, having discussed it I believe in January, was that we had a question on how the dose was being assigned.

And NIOSH came back and said that there was a miscommunication in the updated missed dose in the previous response. The extension to the exposure timeframe resulted in

an increase in dose to both organs impacted.

The new value is .307 rem to one organ and .334 to the other. And that is an increase of what was done previously. But it did not impact outcome of the claim.

And so, based on NIOSH's response, it appears that the end date of Pu exposure should have been extended through '66 to the end of June --

CHAIR KOTELCHUCK: I am having trouble locating -- 480?

MS. GOGLIOTTI: 482, Observation 4.

CHAIR KOTELCHUCK: Okay, I don't know why I'm not finding it. 482, Observation 4. Please go on while I search.

MS. GOGLIOTTI: It should be approximately page 27, if I had to guess.

CHAIR KOTELCHUCK: Thank you. That will help. Go ahead, please.

(Simultaneous speaking.)

MS. GOGLIOTTI: -- increase in dose, but since it doesn't affect compensation we

recommend closing this issue.

CHAIR KOTELCHUCK: Okay.

MS. GOGLIOTTI: And because it did increase dose we do also recommend that this be elevated to a finding rather than an observation.

CHAIR KOTELCHUCK: Comments, folks? I'm still searching around.

MR. BARTON: I can add a little bit to this, Rose. This is Bob Barton.

In the original case, and I'm kind of working a little bit from memory here, the case had assumed that plutonium exposures stopped in June of 1966.

And we made an observation because we didn't really see why that was the end date chosen. And in fact there was at least some indication that June 1967 was actually the date that plutonium exposure should have been extended to based on a document that definitely indicated at that time that the worker had terminated work with plutonium.

Based on the response, it did not impact the case, but probably in the original go-around it should have been June 1967 and not June 1966 that plutonium exposures were evaluated to.

Again, at the time of the review we didn't really understand and so didn't want to call it a finding, but based on the response it appears that extra year should have been added in the original dose reconstruction.

So our last comment here is the Subcommittee may want to consider -- so, in our case, we're actually elevating an observation to a finding because it appears that it was not done quite correctly the first time around.

CHAIR KOTELCHUCK: Okay, good, good. Alright, that seems reasonable. So we should close this as a finding. Good. Excellent. Let's go ahead.

MS. GOGLIOTTI: Okay, and since we did already discuss 42.1 the next one would be 451.1.

CHAIR KOTELCHUCK: Okay.

MS. GOGLIOTTI: And the finding said that the procedure for the assignment of Pu dose from chest count was not clear.

MR. KATZ: Wait, which site is this?

MS. GOGLIOTTI: This is a Hanford and an RFP.

MR. KATZ: Okay, thanks.

MEMBER CLAWSON: Rose, this is 451, observation what?

MR. KATZ: 451.1.

MEMBER CLAWSON: Okay.

MS. GOGLIOTTI: And for this one we ended up doing some more research and we found that the survey calibration factor for cpm to nanocuries of americium-241 came from the surrogate case's DOE response files rather than the case's DR files.

And although that's somewhat abnormal, the NIOSH method does seem reasonable to us in this case where our RFP reported cpm instead of dpm for this particular individual.

They used cpm to nanocurie calibration factors based on other workers' files with similar chest indexes and time period and used similar detectors. So based on that, we do recommend closure.

CHAIR KOTELCHUCK: Okay.

MS. GOGLIOTTI: I believe NIOSH committed to incorporating that into at least the guidance document, if I remember correctly.

MR. KATZ: So is that still a finding? Sounds like it's not.

CHAIR KOTELCHUCK: Pardon?

(Simultaneous speaking.)

MS. GOGLIOTTI: -- just the way the results were reported by the site.

MR. KATZ: Right. That's an observation.

CHAIR KOTELCHUCK: Yes.

MS. GOGLIOTTI: Okay.

CHAIR KOTELCHUCK: Okay.

MS. GOGLIOTTI: And then there's one last one in this matrix and that's 465.1. And

this is a Savannah River case. And here the finding says missed photon dose was assigned instead of coworker dose.

And we discussed this at length at the last meeting and the Subcommittee wanted additional time to review this particular finding.

We, Scott and I, seemed to come to the conclusion that this was a professional judgment --

CHAIR KOTELCHUCK: A little louder, please.

MS. GOGLIOTTI: Scott and I, at least at the end of last meeting, came to the conclusion that this was a professional judgment issue.

However, this is the Savannah River [facility] and it does have to do with the coworker modeling that's still being discussed by the SRS Work Group.

CHAIR KOTELCHUCK: Right. So that would remain in progress. Correct?

MS. GOGLIOTTI: You're welcome to keep it in progress.

CHAIR KOTELCHUCK: Your feeling, though, is that it's resolved.

MS. GOGLIOTTI: It's a professional judgment issue whether or not you should be assigning missed dose versus coworker dose.

I believe this EE had monitoring after a certain period but not before and so coworker dose was assigned -- or missed dose was assigned and we believe that it would be more appropriate to assign coworker dose.

MEMBER CLAWSON: This is our standing on our coworker model, correct?

MS. GOGLIOTTI: The SRS Work Group is currently discussing this.

(Simultaneous speaking.)

MR. KATZ: But the Work Group's not going to discuss this kind of matter, which is a judgment about whether this case should be treated as coworker based on the records of this individual. This is not going to get resolved

there.

MS. GOGLIOTTI: Well, I think the issue was, for certain years, SRS left results blank. And that indicated either that there was no monitoring or there was a zero result. And how you interpret that impacts how dose is assigned.

MR. SIEBERT: This is Scott. And I can probably give a little bit more detail as to the thought process that went a little further into this.

CHAIR KOTELCHUCK: That would be appreciated.

MR. SIEBERT: Sure. When it comes down to it --

MS. GOGLIOTTI: Whoever has the siren in the background, can you mute your phone?

MR. KATZ: It's probably Dave.

MR. SIEBERT: The monthly monitoring was assumed based on the CATI. The EE did say they routinely wore a dosimetry badge, and they also did indicate that they always wore the

badge.

This is kind of different than the previous one we were talking about with the difference in the CATI in the fact that we know Savannah River's records here are not necessarily clear to understand, but they're still there.

The HPAREH does include the years for '84 and '85 with no results. So they're blank; they're not necessarily missing.

There wasn't any reason to believe the person wasn't being monitored in '84 and '85, which you would see a blank, [whereas] if they were being monitored, they were all zeroes. So there really wasn't a thought process of including coworker at that point.

Let's see here. And those are the basic thought processes that go into the years where it was assumed to be missed dose based on the way they did their records versus coworker assuming the person wasn't really monitored.

MS. GOGLIOTTI: I do believe, also,

during those early years there was bioassay data.

MR. SIEBERT: Yes, the individuals did frequently have bioassay as well.

MR. KATZ: So, again, in my view, that's not going to get -- it's particular to this case. It's not going to get resolved by the Savannah River Site Work Group, what they're addressing. So it's up to the Subcommittee to decide what they feel is reasonable here.

MEMBER MUNN: Well, we've made a number of decisions about this kind of thing in the past with which, as most of you know, I didn't agree at the time and still don't.

I don't agree with the assertion that zero reported dose means that something was missed. I've known too many people, and myself being one of them, who had no exposure at all despite the fact that I was working in a radiation zone.

And, to me, that's what we have the monitoring program for. But that's not the

issue here. The issue here is whether or not one should use a coworker, if I interpret what I'm reading correctly.

And I thought that one of our first rules of addressing any site, and any set of data, involves the assertion that available data was going to be used whenever it was available.

The fact that you get information that says it's zeroes leading to the assertion that you might consider therefore using a coworker model is contradictory to what we have seemed to accept as a fairly prime rule in addressing how we do these things.

Unless I'm misinterpreting what I think I'm reading here. From my perspective, you have records. They were zero.

MS. GOGLIOTTI: They're blank.

MEMBER MUNN: Yes.

MEMBER CLAWSON: Well, that's also based on how good your information is. And if you see you're asked to close in all the systems, especially this site, you would start

bringing into question those blanks. That's kind of where I'm sitting at on it.

MEMBER MUNN: Gee, Brad, I think you and I have had this conversation before. This sounds familiar to me.

MEMBER CLAWSON: It really does. It's like deja vu isn't it.

MEMBER MUNN: Yeah, all over again.

MEMBER CLAWSON: Well, and I know what -- I don't know what to -- part of my thing is I know we're still trying to even work out a coworker model and that's into question right now too. That's why I was wondering what -- you know, granted if we can't come up with a coworker model or a -- that would change this, wouldn't it?

MR. KATZ: No, it wouldn't, Brad, because the question here, Brad, is simply whether this is appropriately interpreted as this person wasn't monitored for that period, or that the person was monitored and has zero doses.

That's the only question at hand. It doesn't really matter whether or not this coworker model.

MR. SIEBERT: And like I said, this is Scott. All those pieces of information went into our decision as well as looking at the other years. And there were other years where they -- the rest of their years were relatively low dose years.

We really didn't have a -- there's no indication they changed jobs after -- during that time frame when they started being monitored -- or started seeing values in the HPAREH result.

And as Kathy mentioned -- I appreciate you reminding me of this, Kathy -- there was bioassay data present in '84 which would be an indicator they were being monitored. And generally speaking, you're not going to internally monitor without the external.

I mean, it can happen, but at Savannah River generally that didn't happen.

And we do know, their records, that blank could mean they were unmonitored or they were monitored with all zeroes.

And in our thought process the weight of the evidence seemed to indicate this is -- there was no reason to believe he was not monitored -- or she; I don't know which -- the individual was not monitored during that timeframe, whereas there are great indications to say they likely were being monitored.

So it's a weight of the evidence thought process from our point of view.

MS. GOGLIOTTI: That was actually me, that was Rose, I apologize.

MR. SIEBERT: Oh, I'm sorry, Rose.

MS. GOGLIOTTI: For the transcript. So what it boils down to is it's a professional judgment issue, is how I see it.

MEMBER BEACH: Right, that's what I see, too.

MEMBER MUNN: To me it's a weight of the evidence issue. That's what professional

judgment is for, actually, is to --

MR. KATZ: Well, in the past, in other forums, we've had SC&A argue that since there's internal monitoring for someone they probably were monitored externally and something has gone wrong with those records. We've had that argument in other forums.

MEMBER MUNN: Yes. None of this is new. I find no fault with the rationale myself.

MEMBER CLAWSON: When I personally sit there and look at it, they're making an awful lot of assumptions. Be it, they're professional, but also too is the background of this site, too.

MEMBER BEACH: You could easily have gone the other way and the most claimant-favorable way: give them dose for that timeframe.

MS. GOGLIOTTI: I can say unequivocally that the PoC in this particular case was low enough where a couple of years of coworker dose is not going to do anything.

MEMBER BEACH: Right, but it may on some others.

MEMBER MUNN: Does anyone have a large axe for the Gordian knot?

(Pause.)

MEMBER BEACH: Guess not. Did we lose Dave?

MEMBER CLAWSON: Maybe he got arrested.

(Laughter.)

MR. KATZ: Dave went on mute because of the sirens, I think.

MEMBER BEACH: Right.

MEMBER MUNN: I think the fire department was doing their usual good deeds. Can you hear us, Dave?

MR. KATZ: Dave, are you trying to speak? You're on mute.

CHAIR KOTELCHUCK: My goodness. I'm so sorry. I was on mute. That last fire engine that went by, I muted and then didn't unmute.

So, thank you, because I've been

talking to myself for a few moments. And as I said, I would lean toward the coworker dose simply to give the benefit of the doubt and being as worker-friendly as I could in good conscience be, let's just say that.

So I would kind of lean to the coworker, but I could have been -- I was playing around in my own mind as we were talking about, maybe I'll just abstain on this one because I really don't -- I can't make up my mind.

But I think, on balance, I guess I would vote that we should do the coworker dose on the claimant-friendly argument. It could go either way and I would not criticize either way.

MEMBER BEACH: I'll jump on that, Dave, and say I agree.

MEMBER CLAWSON: What I want to make clear is I'm not looking at -- yes, we're looking at this case, but I'm looking at, you know, for this one it may not be compensated, but I'm looking at the other ones that possibly are. Because this is just a snapshot of small

pieces that we're even monitoring or checking.

MR. CALHOUN: This is Grady. This is one of those cases where we may have to agree to disagree. I don't think that we're going to go change it just because a couple of people think that we should.

Like you said, this is a professional opinion. I mean, we can take another look at it and see if there's something else that drives us the other way, but at this point I'm inclined to probably let it be as it is.

MEMBER CLAWSON: So here's what I would suggest. Why don't we just kind of hold off on this until after our meeting in Santa Fe? And we'll reevaluate this one after that.

MR. KATZ: Well, Brad, again, it doesn't make a difference whether you have a coworker model or not for this question.

MEMBER CLAWSON: I'm not talking about the coworker model, I'm talking about the information from this site. And that'll be coming out in a report here shortly.

I think, after that report comes out, I think we could reevaluate this one, especially with this time period right here. And I bet you we can probably change a little bit.

CHAIR KOTELCHUCK: Okay.

MEMBER CLAWSON: We'll wait until that report comes out and also too just set this aside and we'll agree to disagree right now and reevaluate it.

CHAIR KOTELCHUCK: I look forward to the report. The report certainly will give me better context in which to try to make the best decision I can.

MR. SIEBERT: This is Scott. Let me also clarify. I just looked at the coworker values versus the missed dose values that we've assigned. And they're basically the same. Coworker is right around 100 millirem for shallow and 120 were assigned for those specific years.

CHAIR KOTELCHUCK: But I'm already -- certainly, as one person, I'm already convinced

it's not going to make much difference in this case. But it's the implication for other cases that makes me want to try to make the best decision I can here.

MR. SIEBERT: Sure. I'm just pointing out those other cases would be the same way because it's the same missed dose and it's the same coworker values that would be used.

I'm just pointing it out for everybody. I'm okay with the decision. I'm just pointing that out, too.

CHAIR KOTELCHUCK: Okay. Good. But I think we'll wait. I would like to wait for the report. Unless there's objection from other Subcommittee people, let's hold this off until the meeting after that report is released and we have a chance to read it.

MR. BARTON: Scott, this is Bob. Can I ask a quick question? Did you just say that the coworker doses are lower than the missed doses?

CHAIR KOTELCHUCK: No.

MR. SIEBERT: They're in about the same range, 100 to 120.

MR. BARTON: And 120 is the coworker dose?

MR. SIEBERT: One hundred and twenty is what was assigned, and a little over 100 is what the coworker dose would be.

MR. BARTON: Okay. And what was assigned was not just completely missed dose. It had some positive values in there?

MR. SIEBERT: No, it's entirely missed dose.

MR. BARTON: Oh, okay.

CHAIR KOTELCHUCK: Alright. Folks, that finishes -- for 19 to 21, that finishes the SRS Hanford file, if I'm not mistaken. Is that correct, Rose?

MS. GOGLIOTTI: Yes, you're correct.

CHAIR KOTELCHUCK: So, we have basically the remaining DOE sites, which are almost all open, and then the Oak Ridge and GDP site file, which has a number that we have

discussed and a number remaining open.

MS. GOGLIOTTI: The Oak Ridge sites, we've only discussed one and we went out of order on that particular case.

CHAIR KOTELCHUCK: Oh, okay. Really? Okay. So, what is your pleasure, Rose, on this file, to go to next?

MS. GOGLIOTTI: My preference would be that we work through the Type 1 findings on the Oak Ridge site and the GDP cases.

CHAIR KOTELCHUCK: Okay. How does that sound, folks?

MEMBER MUNN: Sure.

CHAIR KOTELCHUCK: Alright. Good. It's always nice to come to Type [Category] 1. Okay.

MEMBER CLAWSON: Let the good times roll.

MS. GOGLIOTTI: Actually, almost all of the cases remaining are Type 1, so it should be easy.

CHAIR KOTELCHUCK: Okay.

MR. KATZ: Rose, you're faint to hear again.

MS. GOGLIOTTI: Can you hear me now?

MR. KATZ: Yeah, that's better. Thanks.

CHAIR KOTELCHUCK: Good. Now, is this your Excel file?

MS. GOGLIOTTI: Yes. We use an Excel file for the Type 1 findings and then we switch to the BRS for the Type 2 findings, in general.

CHAIR KOTELCHUCK: Got it. Okay, good, good. Alright.

MS. GOGLIOTTI: Give me one second. Okay, can you see my screen?

MEMBER MUNN: Yes.

MS. GOGLIOTTI: Okay. We'll start with 457.1, and that's Oak Ridge, all three facilities.

CHAIR KOTELCHUCK: I can't hear.

MS. GOGLIOTTI: 457.1. It's an Oak Ridge case. All three of the Oak Ridge facilities.

And the finding states that NIOSH's assignment of ambient external dose is not consistent with other unmonitored dose in the case. And the resolution was NIOSH admits that the assignment of internal coworker dose was inconsistent with the assigned missed ambient external.

However, it was assigned as an overestimate and that method of overestimation is not the current DR practice. So this was kind of a historical thing that they're no longer doing. The overestimate doesn't impact compensation, so based on that we recommend closure.

MEMBER MUNN: Agreed.

CHAIR KOTELCHUCK: I'm in the Excel file which you sent us.

MS. GOGLIOTTI: If you open the Excel file, and if you go into the "all findings" Tab, which is the second tab. And then in Column D, if you sort for the matrix, it should be Oak Ridge GDP.

CHAIR KOTELCHUCK: 458?

MS. GOGLIOTTI: 457.1. And then you need to also sort row K for TIB-1 findings.

CHAIR KOTELCHUCK: Right. But I don't see 457.1. This is what you sent us. Oh, all findings. No, my apologies, but I'm looking at that file. I just don't see 457.1.

MS. GOGLIOTTI: That would be listed in Column E.

CHAIR KOTELCHUCK: Column K we discussed.

MS. GOGLIOTTI: K, yes. K should be sorted to Type 1 findings.

CHAIR KOTELCHUCK: Okay, let's see. Only one.

MS. GOGLIOTTI: And then you should be in the Oak Ridge and GDP matrix for Sets 19 through 21.

MEMBER CLAWSON: What is the number on that again, Rose?

MS. GOGLIOTTI: 457.1. And I do have mine up on your screen.

CHAIR KOTELCHUCK: Okay, I'm working off of what you sent me. I haven't been able to get on the screen all day. I tried a few times.

Well, that being the case, let's continue on and I will simply follow on audio. I don't quite understand why. Maybe I'll pick things up later.

But would somebody, again, if I may ask the senior person, Wanda, would you be willing to chair for this section of the discussion? And I'll follow as best I can.

MEMBER MUNN: Sure. For what it's worth, I'll be glad to listen to what our fearless leader there is telling us. As long as you have it on the screen, I've got it, Rose.

CHAIR KOTELCHUCK: Okay, great.

MR. SIEBERT: This is Scott. Before we move off of 457.1, since we agree nothing was wrong, it was an overestimate and determined to be an overestimate on purpose, could that --

MS. GOGLIOTTI: You admitted that it was inconsistent with your other assumptions.

MR. SIEBERT: Well, it can be inconsistent and yet that doesn't mean it's wrong if it's used as an overestimate. I could use something as a best estimate and an overestimate and those will be consistent.

We're not saying that inconsistent is wrong. In a non-compensable case we can overestimate any specific portion of the case.

MS. GOGLIOTTI: I do agree, but since then you have actually dropped that process.

MR. SIEBERT: Yeah, but it has nothing to do with the fact that we did it at the time and it was an entirely acceptable way of doing claims.

MEMBER MUNN: Yes, it was, as a matter of fact, a preferred one in order to move to the activities.

CHAIR KOTELCHUCK: Yes, I agree.

MEMBER MUNN: So this brings us to the question of, is this then, by our current standards, a finding? And I guess I'd have to say I think probably it was because of the

timing. But it's all timing. And it depends on how you want to parse it.

I would just simply recommend that I would accept closure and just close it, but if there's other feelings with that regard then now is the time.

MR. KATZ: Well, so the only question is -- I think we're agreed on closing it. I think the question is do we close it as a finding or an observation? I'm arguing that it's an observation.

CHAIR KOTELCHUCK: And I think it's an observation in that it was proper to do what was done at that time. It was an overestimate.

MEMBER MUNN: Okay.

CHAIR KOTELCHUCK: A lot of different ways you can overestimate.

MEMBER MUNN: Any contrary opinion? If not, then the ayes have it and it's changed to an observation and closed.

CHAIR KOTELCHUCK: Okay.

MEMBER MUNN: Go ahead, Rose. 457.2.

MS. GOGLIOTTI: The next one, same case, Oak Ridge cases again. NIOSH assigned 1989 dose using the 1990 value. And that does agree with us. They assigned the 1999 dose using the 1990 value. It was a transcription error while comparing the three sites.

When they corrected it, the PoC went from 36.88 to 36.7. So it actually did go down. It doesn't impact compensation, though, so we would recommend closure.

MEMBER MUNN: Any comments?

MEMBER CLAWSON: No.

MEMBER BEACH: None here.

MR. KATZ: So that's a QA problem.

MEMBER MUNN: It is. Yes. Put it in the QA column and close it.

CHAIR KOTELCHUCK: Good. A little louder, please.

MS. GOGLIOTTI: Sorry, my computer is --

(Simultaneous speaking.)

MR. KATZ: Absolutely.

MEMBER CLAWSON: Especially when it's talking to my computer.

MS. GOGLIOTTI: Okay, it looks like the next one here is the Oak Ridge Gaseous Diffusion Plant and Y-12.

The finding number is 455.1. And the finding states that NIOSH used the incorrect number of missed doses for skin cancers.

NIOSH did agree that the assignment of additional shallow missed dose was inappropriate but it does not impact the compensation decision. So based on that, we recommend closure.

MEMBER MUNN: Sounds like another QA to me. And closure. Any questions?

CHAIR KOTELCHUCK: Yes. Sounds good. That was what number? What case?

MS. GOGLIOTTI: 455.1.

CHAIR KOTELCHUCK: Okay, thank you.

MS. GOGLIOTTI: Okay, the next one is 490.1. And this is a K-25 and X-10 case.

And the finding states that there was

an excess in omission in assigned medical X-ray doses. And NIOSH did agree that X-rays were not correctly assigned for the years '73, '80, '83, and '85. The IREP runs were updated making this change. The PoC did go up but very modestly. Based on that we recommend closure.

MEMBER MUNN: Same response as 455.1, I believe. It appears to be another QA correctly addressed now. Closure is recommended. Any objections?

MEMBER BEACH: No.

MEMBER CLAWSON: No.

MEMBER MUNN: Okay.

MS. GOGLIOTTI: The next one from the same case, 490.2. It says that NIOSH did not assign Pu prostate dose for 2009.

And NIOSH did agree the OTIB-49 dose of Pu in 2009 was inadvertently left out of IREP when copying and pasting. The inclusion did not impact the overall dose -- or the overall compensation decision, sorry.

MEMBER MUNN: Same response unless

someone objects.

MR. SIEBERT: This is Scott. I don't object. I just want to let you know that now our process is we insert these into the tool and it would automatically do the pasting into IREP for us. So these kind of cut and paste issues are a thing of the past, from this point of view.

MEMBER MUNN: Which we appreciate greatly, believe me.

MEMBER BEACH: Good to know.

MEMBER MUNN: I suspect that the reconstructors appreciate it greatly, too.

MR. SIEBERT: Very much so.

MEMBER MUNN: Next we are 494.2.

MS. GOGLIOTTI: Well, we just did 494, so the next one is Tab 500, Observation 2. And this is a Y-12 and K-25 case. Let's see, PROC-60 recommends the environmental geometric mean dose of 13 microrem per hour obtained from Table B-7. The DR correctly used this value in this case. However, in Table B-7 only the total dose of 21 microrem per hour is listed. And

this difference in the TBD could result in inconsistencies in future cases.

And so we just recommend NIOSH modify this to prevent future inconsistencies.

MEMBER MUNN: Well, am I correct in stating that the current version is always the one used, and therefore this would resolve itself, is that correct?

MS. GOGLIOTTI: Well, there's PROC-60 and then there's the TBD.

MEMBER MUNN: Okay, same table, yeah. Would we not always use the new TBD? And does the new table correspond with PROC-60?

MR. CALHOUN: Yes, we always use the most current TBD.

MEMBER MUNN: And does it currently --

MS. GOGLIOTTI: Would you use that instead of more recent procedures?

MR. CALHOUN: I'm not sure I understand that question.

MR. SIEBERT: Let me be clear here.

The TBD is not incorrect, it's just not specific as to what to do with the value that it lists. And Procedure-60 does give us specific information as to how to apply it. So, the documentation, whereas perhaps it could be clearer, is not inaccurate.

MS. GOGLIOTTI: Yes, and it could just lead to inconsistencies in the future, which is why we pointed it out and it is an observation.

MEMBER MUNN: So we're talking about a difference in 13 microrem and 21 microrem, right?

MS. GOGLIOTTI: Correct.

MEMBER MUNN: Okay. But the process -- the protocol is clear in the minds of the dose reconstructors now? PROC-60 tells them how to apply the information that exists in both the TBD and in the procedure itself, right?

MR. SIEBERT: Yeah, the dose reconstructors know what to do as well as the correct dose is in the tool. So as long as they

pick the right years for ambient it's going to be correct.

MEMBER MUNN: Okay. So the tool itself is what we rely on. I see that as acceptable and closed. Is that amenable with all? The presence of the tool makes a big difference, is what I'm hearing.

CHAIR KOTELCHUCK: Okay.

MEMBER MUNN: The presence of the tool assures us that this will not recur.

CHAIR KOTELCHUCK: Yeah.

MEMBER BEACH: I agree.

MEMBER MUNN: Alright. Close it.

MS. GOGLIOTTI: Okay. The next one is from the same case, Tab 500, Finding 1. And the finding states that NIOSH applied the incorrect X-ray dose uncertainty factor for the year 1961.

NIOSH agrees. This is a copy and paste error and it's correct in the calculation workbook. So based on that, we would recommend closure. It's just another QA issue.

MEMBER MUNN: Yes.

MEMBER BEACH: Agreed.

CHAIR KOTELCHUCK: Okay.

MEMBER MUNN: Isn't it nice to be able to do that at the time?

MS. GOGLIOTTI: Yes.

MEMBER MUNN: Very nice.

MS. GOGLIOTTI: Well, I still go back and update everything in the BRS, but this helps me quite a bit.

MEMBER MUNN: Yes, really nice to just be able to do that.

MS. GOGLIOTTI: Okay, the next one is 459, Observation 1. And this is a Paducah case.

For this particular case, we thought it was a little bit difficult to determine what should have been done for occupational medical dose, whether it should be assigned or not.

In this particular case, the TBD says that everyone received X-rays. However, in the CATI report the worker reports not having examinations. So no examinations were assigned.

But had the worker not said anything this dose would have been assigned. So it was just an interesting thought problem for us that we thought was important to point out.

MEMBER MUNN: Yeah, it is. That's something you don't run across very often. I can see no reason why we shouldn't accept that closure suggestion for this observation. Anyone else?

CHAIR KOTELCHUCK: That's fine.

MEMBER BEACH: I agree.

MEMBER CLAWSON: Agree.

MS. GOGLIOTTI: Okay. Also another Paducah case, Tab 460, Observation 1. We've seen this one dozens of times and we're going to see it until we finish out the 21st set.

NIOSH used a Weibull distribution. We had not previously discussed it so we were asked to make it an observation until we had discussed it. We have since discussed it at length and we are okay with using it. So we recommend closure.

MEMBER CLAWSON: Sounds good.

MEMBER BEACH: Agreed.

CHAIR KOTELCHUCK: Yes, absolutely. By the way, I finally got onto -- I got into the Excel.

MEMBER MUNN: Here's where we are.

CHAIR KOTELCHUCK: I see where we are.

MEMBER MUNN: Do you want to take it over?

CHAIR KOTELCHUCK: Well, okay. I'd be delighted if you wanted to continue. But, sure, I'll take over.

MEMBER MUNN: Welcome back.

CHAIR KOTELCHUCK: And thank you very much. What happened was I basically went onto my CDC computer and got it to come up. But I couldn't get it to come up on my own personal computer.

So we just finished 460.

(Simultaneous speaking.)

CHAIR KOTELCHUCK: Okay, so 460 we

just accepted as an observation.

MEMBER MUNN: Yes.

CHAIR KOTELCHUCK: And we're going to 494?

MS. GOGLIOTTI: Correct. Observation 1.

CHAIR KOTELCHUCK: Okay.

MS. GOGLIOTTI: And this is a Paducah and an Allied Chemical case.

And here the DR report said that a value of 1.91 was used when in fact they actually used a value of 2.

NIOSH agrees that the report should have stated 2 rather than 1.91. They believe that the dose reconstructor likely copied the text from a previous report. Since this was in fact a reworked case it doesn't impact anything in the text in the DR --

CHAIR KOTELCHUCK: Absolutely. Right. So this certainly is an observation.

MS. GOGLIOTTI: Yes, and that's how we have it listed.

CHAIR KOTELCHUCK: Yes. Okay, accepted.

MEMBER CLAWSON: Yes.

CHAIR KOTELCHUCK: Good. Moving right along. It makes you feel like you're really getting a lot of work done when you go to Category 1, doesn't it?

MEMBER MUNN: Oh yes, it's great. Rose has already put it up for us.

CHAIR KOTELCHUCK: Right. Yes. Okay, 463.

MS. GOGLIOTTI: Okay, the next one here is Observation 1. It's a Portsmouth case. And we thought the recommendations from the TBD were unclear. And NIOSH responded that this issue had previously been discussed and is thoroughly recorded in the April 2004 meeting transcript, which was subsequent to our review of this case, in order to be fair. And based on that discussion we would recommend closure.

CHAIR KOTELCHUCK: Alright.

MEMBER BEACH: Agreed.

MEMBER CLAWSON: Agreed.

MEMBER MUNN: Yes.

MS. GOGLIOTTI: Okay. Same case, Portsmouth 463.1. We felt that NIOSH assigned excessive missed dose for the years 1981 through '85.

And NIOSH did provide us with some additional guidance in the form of the DR guidance document and template. Keep in mind SC&A doesn't have access to the non-published DR guidance documents. And those documents did recommend what was done. And, of course, we recommend that guidance should be incorporated into the published TBD. But we do recommend closure.

CHAIR KOTELCHUCK: Closure. Is it not an observation?

MR. KATZ: Yeah.

CHAIR KOTELCHUCK: I believe it is. So we should close it, but I think it's an observation.

MR. KATZ: Right.

(Simultaneous speaking.)

MS. GOGLIOTTI: They did it correctly. However, we just don't have access --

(Simultaneous speaking.)

CHAIR KOTELCHUCK: Of course, of course. No fault of yours at all, but I think it's an observation.

MEMBER MUNN: Yes.

CHAIR KOTELCHUCK: Okay.

MS. GOGLIOTTI: And we'll go down to the next one, same case, Finding 2. NIOSH omitted doses for 19 X-ray exams listed in the DOE files. And NIOSH came back and said at the time that the dose reconstruction was completed. Omitting those exams was consistent with OTIB-79. But since then the TBD has been revised and those exams would now be included. And all cases affected by that are covered under PER-71.

CHAIR KOTELCHUCK: Right.

MS. GOGLIOTTI: And so based on that we recommend closure.

CHAIR KOTELCHUCK: Right. And again closure as an observation.

MR. KATZ: No, Dave. That's actually a finding. I mean, they've updated and improved their methods, but what they used at the time they corrected. So that is a finding. It's wrong with that case.

CHAIR KOTELCHUCK: Omitted -- listed at the time of these exams was consistent with ---

MR. KATZ: Yes, but it doesn't matter if it's consistent with their procedures at the time if the procedures at the time were wrong. And they updated them to improve them and now they include these. So you can surmise from that that the procedure was wrong and it should be a finding.

MEMBER MUNN: Essentially, this is one of those things that called attention to the fact that there was a flaw in the original document. And that really is a finding.

CHAIR KOTELCHUCK: I see, okay, thank

you. Thank you for that clarification. Good, good. Okay, so, closed as a finding.

MS. GOGLIOTTI: The next one here is Tab 495, Observation 1. This is also a Portsmouth case. And it's an observation. While it was not cited in the DR report, we assume that the missed dose for '81 and '82 has a limit of detection consistent with the parameters for 1983 dosimeters and applied a quarterly missed dose for each year.

NIOSH agreed the current Portsmouth DR guidance document states to apply the '83 LOD for '81 and '82. This practice is written into their current DR report template and DR guidance documents, but of course that wasn't available to us.

CHAIR KOTELCHUCK: Okay. Alright. Good. Accept.

MS. GOGLIOTTI: The next one, same case, Observation 2. This is a professional judgment issue. NIOSH, I believe, assigned a 50th percentile coworker, but we don't believe

that was justified. We believe 95 percent might have been more appropriate, but it is of course a professional judgment call and wouldn't impact compensation either way. And this is an observation.

CHAIR KOTELCHUCK: Okay. Accept.

MS. GOGLIOTTI: Okay. Same case, Observation 3. Similar. We felt that the EE, they had the same job, in the same department from '70 to '74 and also from '75 to '78 and potentially beyond that. And the EE was monitored for internal exposure during several of those years where we thought that the application of a different coworker dose criteria for the two periods wasn't justified.

But again it's a professional judgment call and wouldn't impact compensation. And it is an observation.

CHAIR KOTELCHUCK: Okay. Anybody, Subcommittee Members, any concern?

MEMBER MUNN: No, that's right. That's a call.

CHAIR KOTELCHUCK: Okay.

MS. GOGLIOTTI: Okay, same case, Observation 4. Says that the penetrating dose portion was not subtracted from the non-penetrating dose portion based on OTIB-17 methodology for evaluating monitored -- or measured non-penetrating doses. The DR report appears to significantly overestimate the measured shallow dose.

And NIOSH does agree with that. The dose reconstructor selected the wrong thing in the workbook which resulted in shielded dose not being subtracted out from the open window dose.

Correcting for that does decrease the PoC but it's still above the compensation threshold. But we do recommend that that would be elevated to a finding also.

CHAIR KOTELCHUCK: Yes. Right, good. Sounds good. Okay. Closed.

MEMBER MUNN: That's all in the QA category?

MR. KATZ: Yes.

CHAIR KOTELCHUCK: Alright.

MS. GOGLIOTTI: Okay, same case, Finding No. 1. The finding states that not all unmonitored photon dose was included for the year 1954. And after the review of documents that NIOSH cited in their response, we do concur with the start of operations.

However, these references aren't cited in the DR report and we couldn't locate evidence in the TBD for the start date of September of that year. And we just recommend that that information should be included in the approved documentation for the site and also be reflected in OTIB-40.

CHAIR KOTELCHUCK: Right. Would that not be an observation?

MR. KATZ: Yes.

MS. GOGLIOTTI: Okay. The next one is an X-10 case. It's 456, Observation 1. And this is a repeat of the Weibull distribution again, and so we do recommend closure.

MEMBER BEACH: Agreed.

MS. GOGLIOTTI: Okay, the next case, Finding No. 1. And here the finding states that NIOSH may not have included the IREP for the ICRP-60 factor distribution. And this case was evaluated in early 2014 using the OTIB-12 dose correction factor, because this is before we started investigating Report-4.

Subsequent to this SC&A has developed a different procedure for reviewing CLL claims which were previously not included. Therefore, this case, we did not use the same tools as NIOSH did at the time, and by today's standards this should have been an observation.

CHAIR KOTELCHUCK: Yes. Right. So, this is an observation.

MEMBER MUNN: Observation closed.

CHAIR KOTELCHUCK: And closed. Good.

MS. GOGLIOTTI: Okay. Same case, Finding No. 2. And it's basically the same as the last one. It had to do with the CLL and us not being able to reproduce it.

CHAIR KOTELCHUCK: Right.

MS. GOGLIOTTI: So, also reducing this to an observation.

CHAIR KOTELCHUCK: Yes. Observation accepted. 491.

MS. GOGLIOTTI: Okay, 491, Observation 1. This is an X-10 and K-25 case. There was a lack of consistency, or we felt that there might have been a lack of consistency, in X-10 X-ray machine filtration values.

NIOSH did provide us with additional information and we do understand what they've done and they are consistent. And based on that information we'd recommend closure.

CHAIR KOTELCHUCK: Good. Okay.

MS. GOGLIOTTI: The next one, same case, 491, Observation 2. And I think we've had this one before. PROC-61 and OTIB-6 do not agree on how gender should be treated with regard to the lung, I believe.

NIOSH agrees and PROC-61 is in the process of being revised and this will be corrected in the next revision.

CHAIR KOTELCHUCK: Yes. Right. Observation because it was the correct thing at the time, which will be changed.

MS. GOGLIOTTI: They did it correctly and they applied the correct interpretation.

CHAIR KOTELCHUCK: At the time.

MS. GOGLIOTTI: However, the documents were inconsistent and if you used one or another you could get an incorrect value. But it was done correctly in this case.

CHAIR KOTELCHUCK: Yeah, okay.

MS. GOGLIOTTI: Okay, Finding No. 1, same case. NIOSH used an incorrect X-ray modifier for this particular area.

And NIOSH does agree that the 10 percent dose should have been applied for 2006 for this particular location. There was a copy and paste error in the worksheet. It doesn't impact compensation so we recommend closure.

CHAIR KOTELCHUCK: Yeah, okay.

MS. GOGLIOTTI: The next one here is the same case, Finding No. 2. NIOSH used an

inappropriate X-ray lung dose. Here NIOSH used the male lung dose instead of the female lung dose for each of the cancers. It resulted in a (inaudible due to sirens) of the cancer sites with a smaller impact on the overall case and no impact on the compensation.

MR. KATZ: Dave had to mute.

CHAIR KOTELCHUCK: Yeah, I just had a fire engine go by. It just went off. But this is closed, is it not? Is it accepted, folks, that we close this?

MEMBER CLAWSON: Yes.

MEMBER BEACH: Yes.

CHAIR KOTELCHUCK: Okay.

MR. KATZ: I didn't catch the tail end of it. Is this a QA? What is this?

MS. GOGLIOTTI: This is a workbook error that's since been corrected, so I guess you could call it a QA error.

CHAIR KOTELCHUCK: Okay.

MS. GOGLIOTTI: Okay, we closed that one. We can go on here to the next one.

CHAIR KOTELCHUCK: I think we may want to be closing in a little while and we need to have a little time to talk about our next meeting. So let's go on. Would people be open, let's go on for another 10 minutes until 4:30?

MEMBER MUNN: Yes.

CHAIR KOTELCHUCK: And then plan for our next meeting and then finish for the day.

MEMBER BEACH: Sounds good.

CHAIR KOTELCHUCK: Okay. Go ahead.

MS. GOGLIOTTI: Okay, Tab 457, Observation 1. It's an X-10, Y-12, and K-25 case. It's an observation. The first paragraph in the DR report we felt was erroneous. It said, how we interpreted it to be, that onsite ambient dose was not assessed when it was in fact assessed, and we felt that that was perhaps a carryover from a previous dose reconstruction.

And NIOSH did clarify that that the sentence construction of the way it was written in the report could have been read that it was or was not done. With their clarification, we

do recommend closure.

CHAIR KOTELCHUCK: Okay. I think that's clear-cut. Thank you. Next.

MS. GOGLIOTTI: Okay. Same case, Observation 2. The TBD contains conflicting column headings, multiple columns say --

(Simultaneous speaking.)

CHAIR KOTELCHUCK: Okay.

MS. GOGLIOTTI: NIOSH agrees. I believe that's already been corrected.

CHAIR KOTELCHUCK: Correct. And it's an observation and will be closed. Good.

MS. GOGLIOTTI: Okay, same case, Observation 3. Here, it's a little detailed, but for Pu at K-25 and Y-12 the recycled uranium was used. Therefore, according to OTIB-49, an adjustment factor for Type SS plutonium are not applicable.

However, they could be applicable for X-10. When we reviewed NIOSH's CADW intake values for Pu-239 Type S we found the DR used the X-10 value instead of the correct value for

the years 1967 through '77.

Using the correct intake would increase the Type S Pu-239 dose. NIOSH agrees. The correct Pu-239 Type S intake values were assigned. And that the X-10 corrected values are still less than the dose that was used.

So we do recommend closure but also elevating this to a finding.

CHAIR KOTELCHUCK: Pardon? You do close what?

MS. GOGLIOTTI: We recommend elevating it to a finding.

MEMBER MUNN: It sounds reasonable given the degree of error.

CHAIR KOTELCHUCK: Yeah.

MEMBER BEACH: I agree.

CHAIR KOTELCHUCK: Okay.

MS. GOGLIOTTI: The next one, same case, Finding 3. NIOSH assigned one value instead of another value, without giving away PI information, for X-ray dose. You can see it on my screen. NIOSH agrees they should have used -

-

CHAIR KOTELCHUCK: Good, good. And nice handling of that. Thank you. No, those are the kinds of things, it's very good people were aware of this. Anyhow, this is accepted. Right, folks? It is a finding.

MEMBER BEACH: Yes.

CHAIR KOTELCHUCK: Good. Alright, great. Next one.

MS. GOGLIOTTI: Okay. This is Tab 458, Observation 1. It's an X-10, Y-12, K-25 case. And it's a Weibull distribution again so we recommend closure.

CHAIR KOTELCHUCK: Okay.

MEMBER MUNN: Agreed.

CHAIR KOTELCHUCK: Okay. Yes, my vote, sure.

MS. GOGLIOTTI: Okay. The next one is Finding No. 2 from the same case. And this was kind of an unusual -- there were two different files in the EE's DOE files. One was the result as 2.44 nanocuries and the other

listed the results as 244 nanocuries. So the difference of a decimal place.

Despite it being a big factor it doesn't really impact the dose that much. NIOSH used the lesser. We think it might have been more claimant-favorable to use the greater value when there was some uncertainty associated with the value.

But this is a historical dose reconstruction and we have no way of knowing the correct dose reconstruction value. It doesn't impact compensation so we do recommend closure.

CHAIR KOTELCHUCK: Why could we not verify what was the proper number where the decimal point should have been? We couldn't tell from the data that was given us. This was a measurement, is that it?

MS. GOGLIOTTI: Yes, it was a historical result, though.

CHAIR KOTELCHUCK: Okay.

MS. GOGLIOTTI: I would have to look into the year, but one was a handwritten value

and one was a computer generated value. It was tough to know which one predated the other.

CHAIR KOTELCHUCK: Sure.

MS. GOGLIOTTI: And which was the correct.

MR. SIEBERT: This is Scott. Actually, I think it's relatively straightforward because the error in both of them were identical. The decimal point was not missing in the errors.

And when you look at the value in the errors it's 44 plus or minus .81, [which] makes a lot more sense and it's a type-written value where we can see the decimal. And the handwritten which, would be 244 plus or minus .81.

So I don't really think this was a determination of professional judgment. This was a determination as to which one seemed to be the logical answer. And we wouldn't make a claimant-favorable decision on that. We would pick the right number, which was pretty clear

from the data.

CHAIR KOTELCHUCK: So the right number was used, which would mean that this would be an observation.

MEMBER MUNN: Sounds like it.

CHAIR KOTELCHUCK: Pardon?

MEMBER MUNN: Sounds like it to me.

CHAIR KOTELCHUCK: Yes. Good. I'm pleased that we could tell the difference between 2.44 and 244.

MEMBER MUNN: As their statement says, when in doubt you go one direction, but what we heard was there wasn't really any doubt if you looked at the reasonableness of the data you had.

CHAIR KOTELCHUCK: Good, good. Alright. Then No. 3.

MS. GOGLIOTTI: Okay, No. 3. NIOSH used the intake period of '93 through '99 instead of '93 to 2000. NIOSH agrees the intake should have been assigned later through the date of the last whole body count. It does not

impact compensation so we recommend closure.

CHAIR KOTELCHUCK: Okay. Yes. Okay, closed. And what would the next one be? We're kind of nearing the end.

MS. GOGLIOTTI: Yes.

CHAIR KOTELCHUCK: Here we go, 458.4.

MS. GOGLIOTTI: And the X-10, Y-12, and K-25 case. And the finding states that NIOSH did not analyze the results of lung count.

NIOSH came back and said that the whole body counts were evaluated but the lung counts were not considered to be routine monitoring in the DR's judgment. But further review was warranted. The ORAU team requested additional [data] for this timeframe from the site to determine exposure potential to Pu.

The data requested yielded the results of a urine sample in '96 based on an incident. This new information confirmed that dose reconstruction should have considered and assigned the Pu during that time frame.

The claim was reworked under the CAD

system to consider this new information. And the final decision was on the same side of 50 percent so it had no impact on compensation.

CHAIR KOTELCHUCK: Good, good. That was certainly a finding and we should close it.

Okay. Well, with this last burst of energy we threw a lot of -- as we said earlier, it always makes you feel good to be able to make judgments on a lot of cases. Proper judgments, appropriately considered and not rushed. Good.

Ted, when should we be thinking about our next meeting?

MR. KATZ: I'm just pulling up my calendar.

CHAIR KOTELCHUCK: Same.

MEMBER BEACH: Don't we still have a couple of more to go through or are we done?

(Simultaneous speaking.)

MEMBER BEACH: It looks like there are just three more.

CHAIR KOTELCHUCK: Really, there are only three more?

MS. GOGLIOTTI: In this Type 1 matrix.

CHAIR KOTELCHUCK: Oh, by all means, surely, surely. If there are only three, I'm open. Are other folks open?

MEMBER MUNN: Let's do it.

CHAIR KOTELCHUCK: Alright, yes. Good. So we will go back on the record to finish up. Go right ahead.

MS. GOGLIOTTI: 499, Observation 1, which is a Y-12 and K-25 case.

CHAIR KOTELCHUCK: Which one is that? 499. Yes. Good. Thank you for pointing that out.

MS. GOGLIOTTI: And for this observation we found that the K-25 calculation workbook under the input tab lists a lapse for the year 1970 and this is incorrect according to the TBD.

NIOSH has agreed. The workbook has since been corrected and now shows the lapse began in 1971, which is consistent with the TBD.

So based on that we recommend closure.

CHAIR KOTELCHUCK: Okay.

MR. KATZ: I missed something there. If there's an error in the workbook, why is that not a finding?

MS. GOGLIOTTI: I believe this should be a finding.

CHAIR KOTELCHUCK: Pardon?

MEMBER BEACH: Yeah, it's listed as an observation.

CHAIR KOTELCHUCK: This is a finding.

MR. KATZ: Okay, thanks.

CHAIR KOTELCHUCK: Okay.

MS. GOGLIOTTI: Okay, same case, Finding No. 1. NIOSH used the inappropriate surrogate organ for K-25 PFC and PA exams.

NIOSH said the dose reconstructor did not use the correct K-25 workbook to calculate occupational medical dose. They used an earlier version when they should have used a different version, the 2.03 rather than 2.0.

And they assigned dose to the

eye/brain instead of an entrance skin dose. Using the 10 percent entrance skin dose the PoC would have increased potentially about 7 percent. However, still not enough to flip the case. So we recommend closure.

CHAIR KOTELCHUCK: Okay. Good.

MS. GOGLIOTTI: Okay, and the final one is Tab 470, Finding No. 1. And this is a Y-12 and K-10 case.

And the finding states that NIOSH did not assign one organ Pu dose for the year 2000. NIOSH agrees the dose is not applied for the year 2000 for this particular organ. It doesn't impact the outcome of the claim and it appears to a cut-and-paste error or a QA error so we recommend closure.

MEMBER BEACH: Agreed.

CHAIR KOTELCHUCK: Okay.

MS. GOGLIOTTI: Okay, and that's all of them, for the Type 1's anyway.

CHAIR KOTELCHUCK: Very good. That's very good. Fine. Okay. So, let's look at our

calendars. And Ted, you'll please lead us off on this.

MR. KATZ: Yes. One second. Okay, where are we.

CHAIR KOTELCHUCK: We are meeting in late August ourselves, the Board.

MR. KATZ: That's the Board. Okay. So let me just go -- we're at June 27th. Okay. So the soonest we could meet would be the week of September 11.

CHAIR KOTELCHUCK: Pardon?

MR. KATZ: The week of September 11th is the soonest we could meet. We'll work from there forward in terms of your availability.

CHAIR KOTELCHUCK: Right. Now we're going to September. Some of us have Jewish holidays. I don't have them listed. Do you, Ted? Do you have them in your book?

MR. KATZ: Unfortunately they're not on my calendar here.

CHAIR KOTELCHUCK: I think there's some way they may be --

MR. KATZ: If someone has a Google calendar.

MEMBER BEACH: I have one on the 20th.

MR. KATZ: What's on the 20th?

MEMBER BEACH: Yeah, there's a --

CHAIR KOTELCHUCK: [identifying information redacted]

MEMBER BEACH: Yes.

CHAIR KOTELCHUCK: Good. If [identifying information redacted] is on the 20th then the [identifying information redacted] is the 28th.

MEMBER BEACH: Yom Kippur is on the 29th.

CHAIR KOTELCHUCK: Twenty-ninth, okay. So the week of the 11th is fine in terms of holidays. Let me see.

MR. KATZ: I need multiple options because I think we've lost David as well as we don't have John Poston.

MR. CALHOUN: This is Grady and we

tentatively have an outreach meeting planned for Jacksonville, September 12th and 13th.

CHAIR KOTELCHUCK: I'll tell you, the following week is much better for me.

MR. KATZ: The week of the 18th?

CHAIR KOTELCHUCK: The week of the 18th. The only problem would be that Wednesday for Rosh Hashanah.

MEMBER KATZ: Okay, how about the next week?

MEMBER BEACH: That's good.

CHAIR KOTELCHUCK: So I'm available the 18th, 19th, 20th before sundown and 22nd.

MR. KATZ: Okay, how's the 19th or the 20th?

MS. GOGLIOTTI: I am not available the 19th.

MR. KATZ: Okay, how about the 20th?

MEMBER BEACH: I'm good the 20th. How about the 18th?

MR. KATZ: Well, yeah, I try to avoid Mondays just because there tends to be other

stuff going on.

CHAIR KOTELCHUCK: How about the 22nd, a Friday?

MR. KATZ: We need multiple options anyway, so if you want to pick a couple of these days.

CHAIR KOTELCHUCK: Okay. Certainly 9/20 appears to be good for those here. The second one, if we want to we could look at the next week, if you don't want the 18th or the 22nd.

MR. KATZ: There's nothing wrong with the 22nd if that's okay with everyone else.

MEMBER MUNN: What was wrong with the 19th?

CHAIR KOTELCHUCK: Josie couldn't make it.

MEMBER BEACH: No, Rose.

MS. GOGLIOTTI: Rose, I'm not available.

MEMBER BEACH: Yes, and I prefer to not do Fridays if possible.

CHAIR KOTELCHUCK: Okay, let's go into the next week then. What about the 27th? The next Wednesday.

MR. KATZ: And when was the holiday that week?

CHAIR KOTELCHUCK: The holiday is on the 28th.

MEMBER BEACH: Twenty-ninth.

CHAIR KOTELCHUCK: The 29th, which means that we can meet on the 27th or 28th.

MEMBER BEACH: Or 26th.

CHAIR KOTELCHUCK: Right. Among the three days, 26, 27, 28, what are preferences? We could pick two.

MEMBER BEACH: Any of them are fine with me.

CHAIR KOTELCHUCK: Any of them are fine with me.

MR. KATZ: Okay, and Brad?

MEMBER CLAWSON: Yes, I'm just waiting for everybody to choose. I can work about anything in.

MR. KATZ: Why don't we say that then the 20th will be option one, and then 26th, 27th, 28th, will be options two, three, and four after I hear back from Dave and John.

CHAIR KOTELCHUCK: That sounds good.

(Simultaneous speaking.)

MR. KATZ: With the 20th being the preferred one.

CHAIR KOTELCHUCK: Yes.

MEMBER BEACH: Sounds great.

CHAIR KOTELCHUCK: Very good. Folks, thank you. Long day. We got a lot accomplished.

Adjourn

MR. KATZ: Thanks for all the good work.

CHAIR KOTELCHUCK: Thank you all.

MEMBER BEACH: Thanks.

CHAIR KOTELCHUCK: Okay, bye-bye.

(Whereupon, the above-entitled matter went off the record at 4:37 p.m.)

1

2

3