Centers for Disease Control
National Institute for Occupational
Safety and Health
Subcommittee for Dose Reconstruction Reviews
Wednesday, November 4, 2020

The meeting convened at 10:30 a.m., Eastern Standard Time, via teleconference, David Kotelchuck, Chair, presiding

Members Present:

David Kotelchuck, Chairperson
Josie Beach, Member
James E. Lockey, Member
Loretta R. Valerio, Member

Also Present:

Rashaun Roberts, Designated Federal Official
Dave Allen, NIOSH ORAU
Kathy Behling, SC&A
Ron Buchanan, SC&A
Grady Calhoun, NIOSH ORAU
Duane Demore, SC&A
Rose Gogliotti, SC&A
Jenny Naylor, HHS
Katherine Owens, Member of the Public
Beth Rolfes, NIOSH ORAU
LaVon Rutherford, NIOSH ORAU
Scott Siebert, NIOSH ORAU
Matthew Smith, ORAU Team

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Proceedings

(10:31 a.m.)

Welcome/Call to Order

Dr. Roberts: So, good morning, everyone. I'm Rashaun Roberts. I'm the Designated Federal Official for the Advisory Board on Radiation and Worker Health. This, of course, is a meeting of the Board's Subcommittee on Dose Reconstruction Reviews.

We do have a full agenda for today. You can find it on the NIOSH website under scheduled meetings for today's date. I will tell you that to help maintain a quorum of subcommittee members today the meeting is divided into two sessions. The first will run from now until approximately 12:30 p.m., and the second part will run from 2:00 p.m. to approximately 4:30 p.m.

Since the agenda for today is pretty full, let's go ahead and move right into roll call. Since the Subcommittee will be discussing dose reconstruction cases pertaining to specific sites, members and others do need to acknowledge conflicts of interest and to recuse themselves from the discussion where their conflict of interest applies.

So, as we move through the roll call, please state where you have a conflict. So, let's go ahead and start with our Chair.

(Roll call.)

Dr. Roberts: Okay. Well, thank you so much for that and welcome to you all. Before we officially move into the meeting, I just want to cover a couple of brief items again.

In order to keep everything running smoothly and so that everybody speaking can be heard, I would ask that you all just make sure periodically that your telephone is on mute, of course, unless you're

speaking. If you don't have a mute button, you can typically mute by pressing *6. And if you need to come off mute, you just press *6 again.

So, as I mentioned earlier, the agenda for the meeting can be found on the NIOSH DCAS website. Access to other materials was provided to Board Members and to staff prior to the meeting.

So, with that, let's go ahead and get started and I'll turn the meeting over to our Chair of the Subcommittee, Dave Kotelchuck. Dave?

Review cases from Set 28: Three blinds cases

Chair Kotelchuck: Thank you. Thank you. Okay. Welcome, folks. We have a full agenda today and I want to give special thanks. We've had a little bit of issue about having a quorum today and I really appreciate the effort by Members of the Subcommittee to try to make themselves available so that we will maintain a quorum at all times and be able to do our work today.

So, let us start with the blind cases and why don't we just go in order.

Rose, if that is okay with you, start with B39, the Oak Ridge Gaseous Diffusion Plant. with K-25 and also Y-12.

B39 Oak Ridge Gaseous Diffusion Plant (K25) and Y-12 Plant

Ms. Gogliotti: Okay. Can everyone see my screen?

Dr. Roberts: Yes.

Ms. Gogliotti: Okay. Let me just get this case pulled up here.

Chair Kotelchuck: I don't need to see the screen, but I don't -- for the record, I don't see it. I have it on my CDC computer, however.

Ms. Gogliotti: Okay. But everyone else can see my screen?

Member Beach: This is Josie. I can see it.

Ms. Gogliotti: Okay. Thanks, Josie. Now, this is the first case of the 28th set. And the 28th set is a blind set and so there are six cases as part of this set. And just as a reminder, our blinds follow a little bit different procedure than our normal dose reconstructions.

For a blind case, SC&A is given a case file. So, the DOE and the DOL files for a case. We're not given anything that NIOSH uses. So, none of their workbooks. And we do our own independent dose reconstruction. Once we complete that dose reconstruction, we send out a memo that locks in both the doses and the PoCs that we assign in the case.

And then a second independent SC&A reviewer then takes on the case and does a comparison between the dose reconstruction that was completed by SC&A and the dose reconstruction that was completed by NIOSH. And that comparison is what we'll be discussing today.

This case set was assigned to us in December of 2019 and we completed our initial review of the blind in March of 2020. This particular case, the EE was employed at K-25 for under a decade, and then at Y-12 for over a decade beginning in the '80s.

I will be intentionally very vague when I discuss this case because the characteristics of this case could be very identifying. So I won't be mentioning the number of cancers. You can see they are listed here on Table 1. They are very similar and they were diagnosed between the '90s and the late 2000s -- or fairly recently.

As you'll see here, each cancer has a number. This is

not designed to have any sort of meaning other than it's the order of cancer diagnosis. There's no implied value associated with that. Because so many of these cancers are very similar and they have similar diagnosis dates, it really just helps make the case and report easier to read and adds more specificity to things.

So, as you can see in Table 1, all the cancers are listed here, as well as ICD-9 and ICD-10 codes. This case set is the first one that you're going to start seeing ICD-10 codes. You won't see it on every case, but you will see it on several. And that just has to do with when the initial case was reviewed or when the documentation was created surrounding the case.

Just as an overall, broad summary of the case before we really get into things: both SC&A and NIOSH did come up with a PoC [Probability of Causation] of greater than 50 percent, and so we believe this case was compensable.

You'll see here, in Table 1-2, our comparison of all the doses that were assigned in the case by both NIOSH and SC&A. The main takeaway here is that doses are very similar and PoCs are very similar. Our recorded dose and missed dose that was assigned by both SC&A and NIOSH are virtually identical. There are some small differences in the medical dose that was assigned, as well as some differences in internal dose that we'll discuss in more detail. But as I scroll through here you'll see the doses are all very similar and the PoCs are all very similar.

And, not surprising, because we have similar doses and similar PoCs for each individual cancer, NIOSH came up with the PoC of 50.34 percent and SC&A came up with a PoC of 50.45 percent. So they are very close.

I won't say them out-loud, but on the screen you can see the exact employment dates and professions of this particular claimant. Again, less than a decade at

K-25 and greater than a decade at Y-12.

While SC&A was doing this review, we did go through and review all of the TBD documents for K-25 and Y-12, as well as TIB-10, OTIB-17, PROC-60, and PROC-61.

On page 17 here you'll see our Table 2-1. Now, this is still a fairly new table. We added -- or we've modified this table significantly with the last blind set. You'll see in the middle column there is what NIOSH did for their dose reconstruction. And then the last column simply highlights the differences to what SC&A and NIOSH did.

As you might guess, because we have very similar assigned doses, there's not a lot of differences. SC&A does not use the workbooks that NIOSH produces, so that will be highlighted here. And then there are some other differences that we'll go through in more detail as we go through this.

I'm not going to spend a lot of time on recorded and missed dose because they were so similar, basically identical, but I will briefly discuss each here. Starting on page 20, our occupational external doses that were assigned. For K-25 recorded doses, both NIOSH and SC&A assumed 100 percent 30 to 250 keV photons and assigned a dose of 104 millirem. And those were both assigned as a constant distribution.

Similarly, at Y-12, both SC&A and NIOSH assumed 100 percent 30 to 250 keV photons again and assigned a dose of 4.216 rem to most of the cancers, with the exception of cancers that would be impacted by a glovebox, because this EE [employee] did work with a glovebox. And so cancers that would be impacted by that were multiplied by 2.19, which is the glovebox correction factor from TIB-10. And that increased the dose to those cancers to 9.233 rem. And that's a pretty big chunk of the dose that was assigned in this case.

For recorded shallow dose, both SC&A and NIOSH assumed greater than 15 keV electrons and followed the guidance in OTIB-17 to assign dose. Any cancers that were typically underneath clothing were adjusted by a factor of 0.855, which is the clothing correction factor recommended in OTIB-17. So, any cancer that was not covered by clothing had a dose of 0.721 rem. And the cancers that were covered by clothing consistently had a dose of 0.616.

SC&A and NIOSH also assigned recorded neutron dose based on the dosimetry records. There were some in the '90s that were identified using a correction factor of 1.91. SC&A assumed 100 percent 100 keV to 2 MeV neutrons, and that resulted in the neutron dose of 235 millirem. There also was a glovebox correction factor for the cancers that wouldn't be impacted by a glovebox. And so that multiplied the dose of those cancers by 2.19.

For missed photon dose, both SC&A and NIOSH at K-25 counted three zeroes in the EE's dosimetry record. And when we used LOD divided by 2, it resulted in a dose of 30 millirem. Any cancer that was impacted by the glovebox, again, got multiplied by 2.19, which did increase the dose to 66 millirem.

For Y-12 missed photon dose, again NIOSH and SC&A both counted three zeroes in the dosimetry record. Using the LOD divided by 2 it resulted in a dose of 30 millirem. And any cancer that was impacted by the glovebox, again, that got multiplied by 2.19.

There was a small difference here. NIOSH assigned missed photon dose to cancers impacted by a glovebox with a log-normal distribution with a GSD [geometric standard deviation] of 1.69. And SC&A assigned those same cancers a GSD of 1.34. So that doesn't impact the dose assigned, but it does have a slight impact on the PoC. And the remaining organs, both SC&A and NIOSH assigned a GSD of 1.52.

Both SC&A and NIOSH did not assign missed shallow

dose. And that's based solely on the dosimetry record. Similarly, we both did not assign ambient dose in this case. And that was because the EE was monitored for external exposures during the entirety of their employment.

Now, occupational medical dose is where we see our first difference. I would call it a minor difference, but we will point it out. Both SC&A and NIOSH assumed the EE received occupationally required medical X-rays, and they assumed an annual PA examination for each year at Y-12, plus a termination scan. And then used the K-25 TBD to assign the frequency for K-25.

I'm going to jump down because I think it's a little easier to understand. SC&A assumed 21 examinations, and that includes 10 recorded examinations. So, those are actual documented examinations in the files. And then we also assumed 11 additional scans, which includes annual examinations and termination scans. And that's based on the frequencies listed in the TBD.

And so, NIOSH assumed those same examinations occurred, but they also assumed an additional two scans, a PA and Lat scan, done at the initial year of employment. We assume this was likely intended to be a new-hire examination, and that does add a few millirem dose to some of the cancers and less than a millirem to others.

And then the second diagnosed cancer was also assigned an additional examination. So they had 24 examinations. And we believe that was likely a copy-and-paste error based on how the dose was assigned, but, again, it's a very small dose.

And then there was also a very small difference, less than a millirem, by NIOSH using their workbook. And we used the TBD and there was a small difference in the number of six-sigs that were provided.

So, that summarizes the external dose. Are there any questions before I move on?

Dr. Roberts: None here, Rose. Thanks.

Chair Kotelchuck: No questions.

Ms. Gogliotti: Thanks. Good to hear someone talking to make sure I didn't drop off and I'm just rambling. Okay.

And so, moving on to occupational internal doses, the EE was not monitored for internal dose while working at K-25, but they were monitored at Y-12.

So, at K-25, both SC&A and NIOSH assumed the EE received the 50th percentile coworker intakes. And we derived that using the CADW and modeled Type F and S uranium and settled that Type S was the most claimant-favorable. And we both used recycled uranium components, but we did have a very modest difference in how we treated technetium.

I'll start with SC&A again because I think it's a little easier to understand. SC&A used Table 5-1 from OTIB-35 to assign all of the dose, including technetium-99. And we assigned all of those doses with a log-normal distribution and the GSD of 3.5.

NIOSH did the same thing for all the other radionuclides except tech-99. Instead, NIOSH assumed that the EE was at a greater risk of technetium-99. And so, instead of using the values in Table 5-1, they used the values in Table 5-2 of the same document. And that increased the intake considerably of tech-99, but the dose from tech-99 was still a millirem. And SC&A from tech-99 was less than a millirem. So, a fairly small difference. And NIOSH assumed a GSD of 3 for that tech-99, but that's a very small dose, especially over a longer time period. So that did not impact the PoC at all, or in any meaningful way.

And then, moving on to Y-12, which is Section 4.2, both SC&A and NIOSH did acknowledge that the EE was monitored frequently for uranium via urinalysis, as well as lung counts. And many of the urine samples were greater than the detection limit.

And this is really the biggest difference of the case. NIOSH assumed two long chronic intake periods and three acute intake periods. SC&A instead modeled the doses at IMBA, and we assumed two shorter chronic intake periods and ten acute intakes. And I think it's easier to understand if I scroll down here to Figure 4-1 on page 26.

We did a comparison timeline of when the doses were assigned, because it gets a little confusing. You'll see on the top is NIOSH in red, and the bottom is SC&A in blue. You'll see those red boxes there indicate when the chronic intakes were assigned. And you'll see that NIOSH assumed the much longer chronic intake periods.

Notably, three of the acute intakes that NIOSH assumed, SC&A did assign the acute intake on the same day, but we just assigned several more acute intakes.

And you'll see a comparison here in Table 4-5 of the doses assigned by NIOSH and SC&A. And they're fairly close. Based on when the cancer was diagnosed, there was a difference between 73 and 5 millirem, which, considering the difference in modeling, is pretty good.

I will also point out that NIOSH ended up assuming a Type M uranium intake, while SC&A selected a Type S. NIOSH selected theirs according to the TBD -- or according to the Dose Reconstruction Report because they believed that Type S did not have a good fit to the data. So they only compared Type M and Type S intakes, and thus found that Type M was the most claimant-favorable. SC&A also modeled all three and we just assigned the most claimant-favorable. And

some of that has to do with having different modeling intake regimes.

Okay. Moving on to tech-99 intake, in NIOSH's report they did acknowledge a lung count that was done for the EE that was above the action limit for the EE's employment at Y-12. And they indicated that they believed it was caused by an elevated uranium air activity. And NIOSH modeled that intake and calculated a dose of less than a millirem.

Now, SC&A did not specifically call out this positive result, but we did have a statement in our report that indicated that further analysis of other radionuclides would not increase the PoC. And, as you know, after you hit the 50 percent threshold, you don't need to keep going. So, similarly, SC&A called out an actinium-228 lung count that was also done during employment.

And we modeled that dose and it resulted in a dose of less than a millirem, and we omitted it from the dose reconstruction. And NIOSH did not model this intake, but they also have a similar statement in their report saying that the PoC was above 50 percent and additional dose would not change the compensation decision. So, that summarizes the differences in this case. If you remember with the last set, we did add this additional Section 5, which is our discussion points -- or decision points that impacted the case. These are professional judgments that were made throughout the case that were noteworthy, or differences in professional judgment. Sometimes we'll call out when we both made the same decision, but here we felt that the only real difference in professional judgment was the modeling or uranium intakes.

As we discussed previously, NIOSH assumed the Type M with two longer chronic intakes and three acute intakes of uranium, whereas SC&A modeled a Type S exposure with two shorter chronic intake periods and ten acute intakes of uranium. And the

absolute value difference of the model doses ranged from 5 to 73 millirem, and that just depends on the year of cancer diagnosis.

So, here again you'll see a summary of the doses that were assigned in each case. I think the main takeaway here is the external doses are pretty spot on. I think the largest difference is 5 or 10 millirem.

And for internal dose, we're very similar again, but the main difference comes from the uranium modeling. And our PoCs are all very close, which led to a final PoC that was very close, 50.34 versus 50.45. And, again, the main differences in the case were the assignment of X-ray doses where NIOSH assumed an additional two to three scans and the uranium modeling.

Are there any questions?

Chair Kotelchuck: Any questions, folks?

Member Beach: So, Dave, this is Josie. As I read through all the reports -- and I appreciate the professional judgment section, because as I was taking notes, when I got to that section, I realized most of my questions had to do with that professional judgment period of time.

And I'm wondering, it's just a thought, that since we started tabulating in September of 2018 the professional judgment differences, is it possible to task SC&A with tracking the professional judgments that occur from report to report on kind of a spreadsheet so we can maybe see any similarities throughout the years in the reports?

And I know that's a Work Group discussion, so that's why I'm bringing it up.

Chair Kotelchuck: Yeah, I think that's a good idea. In fact, it may well be being done, right?

Ms. Gogliotti: We were tasked, actually, I believe at

the November/December timeframe meeting last year, with proposing something. And we did put out a proposal around that timeframe and then we have never discussed it.

Chair Kotelchuck: Okay.

(Simultaneous speaking.)

Member Beach: Rose, was it in the Methods meeting, the Work Group, or was it in this one?

Ms. Gogliotti: I believe it was in Dose Reconstruction, but I could be wrong.

Chair Kotelchuck: Yeah.

Member Beach: Could you re-send that out so we could maybe take that up if that's something that everybody is interested in?

Chair Kotelchuck: Yeah. I think that would be a good idea. I was wondering, when was that memo sent out?

Ms. Gogliotti: It's not a formal memo. It was just an Excel file that had the suggested --

Chair Kotelchuck: I wonder if we lost track of it, or if I lost track of it, in the course of our going into the whole period of the pandemic and, you know, changing to all meetings being online like this because -- but I think we should have discussed it. And if we haven't, I believe that, if you wouldn't mind sending it out again -- and I think, by all means, we should discuss it and put it on the agenda for our next meeting.

Member Beach: Dave, can I suggest that, not just a question, but maybe an actual memo from SC&A would be more appropriate? Is that something you can do, Rose?

Ms. Gogliotti: Yeah, I can certainly put it in a memo

format.

Member Beach: Expand it a bit, maybe?

Ms. Gogliotti: Yeah, absolutely. We're open to things that -- we threw out a strawman, at least, to see what the Board was interested in tracking. And if we want to change something, that's absolutely okay.

Chair Kotelchuck: Yes. And I think, for myself, I'm not sure if I remember precisely earlier discussions, but I think I wanted to wait until we had enough professional judgments to sort of see how they distribute it.

Member Beach: Yeah. That makes sense. Also, we have the paper from Mark from our Methods Work Group that lays out some of the professional judgment items, too, and we've never gone back and taken that up. So that might be something for that Work Group. I know you're chairing that as well, Dave.

Chair Kotelchuck: Yeah.

Member Beach: So, maybe we need to revisit that, as well, when you're thinking about this.

Chair Kotelchuck: Thinking about it, but the question is, the Methods group has not met for a long time, and it seems to me that this group, the Subcommittee, is sort of uniquely concerned about the professional judgment and putting it together. So I would wonder whether it wouldn't be better to have the discussion within this group.

Member Beach: Yeah. I guess that's why I'm bringing up his report, because it may coincide with this memo we're talking about, also.

Chair Kotelchuck: Right.

Member Beach: Just something to think about.

Chair Kotelchuck: Actually, you know, I'll take responsibility to make sure that, as Rose puts out a memo for us, that we make sure that we send out the relevant sections of the report that was made earlier. Okay?

Member Beach: That sounds good. Thank you, Dave.

Chair Kotelchuck: Okay. Thank you for raising this. I also wondered, Rose, as we went through this, you, at one point, said -- I'm trying to -- let me see if I can go back to the page here.

By the way, I have been on the screen that you are scrolling through throughout. I did get on it pretty quickly after we started. But I wanted to raise the question -- you said, well, it's over 50 percent and something was stopped, some part of the process. Maybe you can help me or others with --

Ms. Gogliotti: Oh, yes. So, the 50 percent is the threshold for compensation, as you know.

Chair Kotelchuck: Right. Oh, yeah.

Ms. Gogliotti: Once a DR hits that 50 percent threshold, no additional dose that is assigned is going to change the compensation decision.

Chair Kotelchuck: Right.

Ms. Gogliotti: And so, as an efficiency measure, generally --

Chair Kotelchuck: No, that's perfectly good when folks are doing the assessment. But for blinds, it seems to me for blinds, the task in blinds is not only to assess the Probability of Causation, but to see whether there is precision; that is, to whether the two groups get similar results.

And while the results are remarkably similar, and impressively so, it seems to me we do want to know if one is 51 percent and the other is 59 percent --

they are not, but let's just take that for example -- then we would say, well, there's quite a difference, and what's the problem?

So, in that sense, it seems to me blinds should never be cut off above 50 percent, because that's not what our goal is. Our goal is not to make a compensation decision, but to see if our PoCs are calculated similarly. And that would, of course, hold for both of those.

Ms. Gogliotti: But NIOSH completes their dose reconstruction as if they're -- well, they are completing a real dose reconstruction.

Chair Kotelchuck: That's true.

Ms. Gogliotti: And so that doesn't really impact them.

Chair Kotelchuck: You're right about that. They don't know that we're doing -- well, they know that there is a blind on this, do they not? Or don't they?

Ms. Gogliotti: NIOSH is aware of the blind, but when they did their dose reconstruction, they were not aware that it would be selected for us to review further.

Chair Kotelchuck: Yeah. Okay. Well, if they don't know, then they can't -- then what they were doing is absolutely the right procedure.

Ms. Gogliotti: And we attempt to follow their procedures as much as we can.

Chair Kotelchuck: Right. Right. But that --

Ms. Gogliotti: And this is somewhat of a professional judgment issue, though, because if the PoC was lower, say, below 45 percent, we could be applying overestimating assumptions.

Chair Kotelchuck: Yeah.

Ms. Gogliotti: And that would be completely within procedural guidelines.

Chair Kotelchuck: I'd like to think that over. You're absolutely right. NIOSH does, as it should, follow these procedures. Then we really don't have quite the same process, or we may not have quite the same process, when the blinds are gone over by --

Ms. Gogliotti: Well, some of it does come down to professional judgment and --

Chair Kotelchuck: Yeah. Yeah. Do any of the other Subcommittee folks, do you have any thoughts on that? Or is that something that concerns you or --

Member Beach: Dave, this is Josie.

Mr. Calhoun: Dave, this is Grady.

Member Beach: Go ahead.

Mr. Calhoun: Let me just try and give you an illustration here why I think it would be really hard for us to try to task SC&A to do this. And here's why.

Chair Kotelchuck: Okay.

Mr. Calhoun: Let's just say hypothetically it's a lung cancer, okay? Our initial approach is always going to be, let's look at internal dose. And we look and the guy's records has plutonium and uranium, just hypothetically. We do the plutonium dose and it gets him at the 52 percent. We would stop then, and we're perfectly good. We wouldn't look at uranium dose. We wouldn't look at the external dose, even he has 100 rem external dose. We wouldn't look at X-ray dose. And so, you know, it's like where would SC&A stop?

Chair Kotelchuck: Yeah.

Mr. Calhoun: I'm just saying that they could use -- in that ridiculous example, if we had 100 rem external

dose, they could have gone the external dose route and compensated it based on external and not do internal.

So, trying to compare an underestimate or an overestimate is really -- you know, once you get to the desired point there through each of those deficiency methods, trying to compare those afterwards is very, very difficult, in my opinion.

Chair Kotelchuck: Yeah. Yeah.

Mr. Calhoun: And I think Rose would probably agree with me.

Ms. Gogliotti: I do.

Chair Kotelchuck: Yes, and I see that. I see that. It's a bit of a conundrum that I had not thought about before, but --

Ms. Gogliotti: I would like to point out I think the Board's main focus -- and I don't mean to speak for the Board --

Chair Kotelchuck: Go ahead.

Ms. Gogliotti: -- with these blinds is to make sure that the right compensation decision is being reached, for us to give you --

Chair Kotelchuck: Yes. Yes. Well, that certainly is the bottom line. And when we started doing blinds, we would often go fairly far, a fairly wide range from 45 to 52 percent. Those were the ones we chose to look at.

Ms. Gogliotti: I believe that's still the range that was selected.

Chair Kotelchuck: Yeah. No, it is. It is still the range. So, this wouldn't come up often, but I think you're right. I mean, ultimately, it must be that the compensation decisions are the same.

Oh, what I was going to say is, as we get closer to 50 percent, and we're starting to deal with PoCs very close to 50 percent and then putting them up for blinds, of course there will be differences in the compensation decision because one of the PoCs will be just barely above 50 percent, another one will be just barely below.

We haven't come across that too often, but it's something that will happen from time to time, and we should expect that. I think you're right, and I think we are -- I think, my concern, I think both of you and Grady have addressed and that there really is no practical way of doing it precisely with either underestimates or overestimates.

So, okay. Well, as far as I'm concerned, that answers it. If other folks have other -- other Subcommittee Members have any comments about that, or agreement, disagreement, do say.

Hearing none, are there any other questions regarding this? And it's just, as I said, remarkable agreement for a multiple cancer situation, multiple cancer sites.

Anything further?

Member Beach: Nothing here, Dave. Thanks.

Chair Kotelchuck: Okay. Hearing none, should we consider this accepted and closed?

Member Beach: Yes.

Member Valerio: Yes.

Chair Kotelchuck: Alright. Okay. Good. Good. Loretta?

Member Valerio: Yes.

Chair Kotelchuck: Good. Okay. So, we are all in agreement and that is -- and thank you for that,

Rose.

So, let's go on now to the next, to No. B40, which is an SRS case.

Ms. Gogliotti: Okay. Kathy, are you still on the line?

Ms. Behling: Yes, I'm on the line.

Ms. Gogliotti: Okay.

B40 - Savannah River Site (SRS)

Ms. Behling: Okay. Good morning. As we stated, this is a case from the Savannah River Site, and I am going to begin my discussion on page 7 of the report.

Chair Kotelchuck: Okay.

Ms. Behling: And, as Rose indicated, we are going to be very elusive in our description here. So, I'm going to hope that you can follow along with the information that Rose is presenting, or if you have the report in front of you.

This is an EE that was employed at the Savannah River Site for more than two decades. And Table 1-1 summarizes the numerous diagnosed cancers involved in this claim.

If we move on to page 8, both SC&A and NIOSH said that they used best estimate methods and both calculated PoCs that were greater than 50 percent. And, therefore, we assume that this claim was compensated.

Table 1-2 compares the doses calculated by NIOSH and SC&A and the resultant PoCs for each of those calculations. And, as you can see in Table 1-2, both DR methods calculated identical, or nearly identical, external doses.

And there were some minor differences in the internal doses because NIOSH calculated doses

associated with uranium, plutonium, and fission and activation products, while SC&A only calculated environmental doses. NIOSH also calculated environmental doses, and we'll go into more detail on that as we proceed.

Both SC&A and NIOSH calculated doses that varied by only a few millirem. And, as I mentioned, both had PoCs greater than 50 percent.

And, as shown on page 17 of the report, the total PoCs, the combined PoCs, were within two 100ths of a percent of each other. In other words, NIOSH calculated a PoC of 51.34 percent and SC&A calculated a PoC of 51.32 percent.

If we move on to page 18, we have a list here of the key guidance documents that both NIOSH and SC&A used for estimating the doses. And these included the Savannah River Technical Basis Document; OTIB-17, which is your interpretation of shallow dose; PROC-60, which is associated with onsite ambient dose; PROC-61, which is associated with the medical X-ray doses; and the IG-001, which is your External Dose Reconstruction Implementation Guide.

Table 2-1, as Rose explained, that's our comparison of pretty much trying to point out similarities and differences between NIOSH's approach and SC&A's approach. And, again, the minor differences, which, as I said, will be discussed a little later, were associated with missed photon dose -- some very minor differences there -- unmonitored photons, and the internal dose, as I previously mentioned.

And if we move on to page 20 I'll start to go through the details of the doses. For the external dose, the EE was periodically monitored for photon exposure. However, there was only one badge exchange that was greater than the LOD over 2 value.

This recorded dose of 20 millirem was multiplied by a dose correction factor of 1 in accordance with OTIB-

17. And the photon dose of 20 millirem was entered into IREP as a 30 to 250 keV photon with no uncertainty or a constant distribution.

There was also only one badge exchange showing a greater than LOD over 2 value for the shallow dose. And, again, this was multiplied by a DCF of 1.

And for cancers that were covered with clothing, there was an electron dose attenuation factor of 0.855 that was applied. And, again, this is in accordance with OTIB-17 guidance. This resulted in a dose of 15 millirem for the cancer locations that were not affected by the clothing attenuation, and 13 millirem for those that were underneath clothing.

For missed photon dose, both NIOSH and SC&A used, again, OTIB-17 for assessing the missed photon dose. There was one quarter of monitoring where there was a gap in that monitoring, and both NIOSH and SC&A filled that gap with adjacent data. And so they assigned a zero dose for that gap.

Table 3-1 shows NIOSH's missed photon dose calculations. And Table 3-2 shows SC&A's annual missed photon dose calculations.

The only difference between the two methods is that SC&A, for one of the years of monitoring for cancer number 1, counted eight zeroes. And that was due to the fact that the cancer was -- the date that the cancer was diagnosed. NIOSH used a more maybe claimant-favorable approach and they assigned 12 zeroes for that particular year. So, that was the only difference in the missed photon dose. And this resulted in NIOSH assigning a total dose for cancer 1 that was 40 millirem greater than SC&A's calculation for missed photon doses.

Both methods entered all the annual doses into IREP as photons 30 to 250 keV with a log-normal distribution and a geometric standard deviation of 1.52.

Okay. Now, for missed shallow dose, in accordance with OTIB-17, when both the open window and the shielded window are at zero, missed doses should be assigned using the open window LOD value divided by 2 and considered 30 to 250 keV. So, all missed shallow doses were incorporated into Tables 3-1 and 3-2 above. So they were already considered in the 30 to 250 keV range.

Onsite ambient, the EE was not monitored for a period of approximately 14 years of the employment. And, therefore, NIOSH and SC&A calculated onsite ambient dose for this unmonitored period based on values cited in the Technical Basis Document, Table 3.4-1. And both methods calculated identical doses. And the annual doses were entered into IREP with a log-normal distribution and an uncertainty of 1.3.

And if we move on to page 22. Okay, you're there. NIOSH and SC&A also assigned occupational medical dose based on the actual number of X-ray exams reported in the DOE records using dose data. In the Savannah River Site TBD, Table 3-12, both methods calculated identical occupational medical doses. And those doses were entered into IREP as a normal distribution with 30 percent uncertainty.

So, that's the external dose in a summary. Does anyone have any questions at this point? If not, I'll move on to the internal --

Chair Kotelchuck: I don't.

Ms. Behling: Okay.

Chair Kotelchuck: Do others?

Member Beach: No, nothing.

Member Valerio: I'm good.

Chair Kotelchuck: Okay. Okay.

Ms. Behling: Alright. Now, you'll find this interesting,

but, for the occupational internal dose, the DOE records show that the EE was monitored for uranium, plutonium, and fission and activation products. All of the results were less than MDA. And, in this particular case, NIOSH calculated doses associated with those monitoring results and SC&A did not.

And the reason for that was SC&A determined that the PoC was going to be greater than 50 percent by only using environmental internal dose. And so therein lies the difference between why the internal doses were calculated a little bit different and the doses were slightly different.

So, I'll go through NIOSH's internal dose calculations. As I said, the EE was monitored --

Dr. Roberts: Excuse me. Hi. I'm sorry to interrupt. I just want to make sure that it's not just me having some problems with hearing you. Are other people having some difficulties with the line or is that just me?

Chair Kotelchuck: I don't have any problem.

Member Lockey: Jim Lockey. I have no problems.

Member Beach: Yeah, and Josie, it's clear here.

Chair Kotelchuck: And, more importantly, is the court reporter having any problems?

Court Reporter: This is the court reporter. It sounds good to me.

Chair Kotelchuck: Okay. Good.

Dr. Roberts: Thank you.

Chair Kotelchuck: Okay. Hopefully you can resolve that. Thank you.

Ms. Behling: I'm sorry about that. I'll try to speak louder and maybe slower. And if you are not hearing

me, just stop me at any point.

I was about to say that I'm going through the calculations for NIOSH's internal dose. And, as I mentioned, the EE was monitored for exposure to fission and activation products via a single whole-body count. And so, doses were calculated based on one-half the MDA for ruthenium-106 and assumed a Type S solubility. And, using IMBA, a chronic inhalation intake of 907 picocuries per day was calculated.

This intake rate was then entered into the CADW program to generate a dose of 10 millirem. And that dose was entered into IREP as electrons greater than 15 keV with a GSD of 3.

For the uranium intake, the EE was monitored several times using urinalysis for uranium. All results again were less than the MDA values. IMBA was used again to estimate a chronic inhalation by using one-half of the MDA value for assuming 100 percent of uranium-234 and comparing solubility Types F, M, and S. And it was determined that Type S generated the highest dose.

Then the IMBA-calculated intake rates were entered into CADW and doses were calculated that range between less than 1 millirem through 3 millirem. And the annual doses were entered into IREP with a log-normal distribution and with a GSD of 3.

Then we'll move on to plutonium intakes. The EE was again monitored for plutonium via urinalyses, and all results were less than the minimum detectable activities. NIOSH assumed, in this case, a 10-year, 12 percent fuel-grade plutonium-239/-240 material.

Chronic inhalation using one-half of the MDA for plutonium-239 was used to calculate an intake rate. And they compared solubility Types M and S, and Type S resulted in the higher dose. They also included the isotopic ratios associated with other

radionuclides in this calculation.

Because this was plutonium for the Savannah River Site, they also considered Type Super S plutonium. And, in accordance with OTIB-49, the annual doses after the last urinalysis were multiplied by 4 to account for this Type Super S plutonium retained in the body longer. This resulted in doses ranging from less than 1 millirem to 86 millirem. And, again, the doses were entered into IREP as a mode of a triangular distribution with the minimum being zero and the maximum value being two times the mode.

In addition, NIOSH assessed a dose for environmental internal exposure, and estimates were based on maximum annual intakes of tritium, iodine, uranium, and plutonium. Now, the environmental uranium and the plutonium were not calculated when missed dose was assigned, for those periods that missed dose was assigned for uranium and plutonium.

This resulted in the assignment of a dose that ranged from 15 millirem to 27 millirem based on the cancer diagnosis date. And data was entered into IREP as a log-normal distribution with a GSD of 3.

And, as I mentioned, SC&A chose to only calculate dose for the environmental intakes and that decision was based on the fact that they concluded that the external dose, plus the environmental internal dose, was sufficient to put this claim over the 50 percent PoC.

So, for efficiency measures they did not go to the calculations associated with uranium, plutonium and fission and activation products. They simply did environmental internal intakes.

They used the Savannah River general environmental intake information as incorporated into the CADW program.

And they also calculated doses that matched NIOSH's environmental doses that range from 15 millirem to 27 millirem.

And SC&A, again, entered the data in the same fashion into IREP with a log-normal distribution with a GSD of 3.

And if we move on then to the professional judgment decisions, when it comes to unmonitored periods, that always requires some sense of professional judgment.

And I found it interesting that to make that decision, you have to look at the EE's monitoring data, his job functions, the length of the unmonitored period and it can be filled either with recorded doses, gaps can be filled with adjacent doses, coworker doses or environmental doses.

And it was interesting to me that both SC&A and NIOSH used the same philosophy for the unmonitored doses, and that was for small gaps in data they used adjacent dosimetry cycles to fill in that gap.

And for more extended unmonitored periods they used the environmental external dose. And again, that was based on job functions and other monitoring data.

So, those are -- that was the only decision -- professional judgment decision point that we felt was -- could be identified in this particular case.

We go on to the summary/conclusions. Table 6-1, again, shows a comparison of the total external and internal doses and individual PoCs.

And if we move down to page 28, we can see that, again, the total PoCs were -- the combined PoCs were nearly identical at 51.34 percent and 51.32 percent.

Again, just a summary of the differences. Missed

photon dose, SC&A calculated -- or counted a few less missed photon exchanges for one particular year of monitoring because of the date of the cancer diagnosis, and NIOSH used a full year of missed doses -- missed cycles.

And, also, the discussion of the internal doses where NIOSH calculated internal doses for all of the monitoring that was provided by the DOE, and SC&A chose just to use the environmental internal dose calculations.

Chair Kotelchuck: Very good.

Ms. Behling: So, that sums it up. Do you have any questions?

Chair Kotelchuck: Well, that's very good. Again, a remarkable agreement. And I must say just to comment, again, on the professional judgement page, I find that, as I review the blinds, the -- one of the most interesting pages -- well, one of the most interesting sections of the report.

And at least for myself, I kind of read over them very carefully and try to think about its larger impact and we'll be talking further about putting all this together -- the professional judgments together and kind of seeing the patterns and seeing what we might learn in terms of procedures.

So, excellent. I don't have any questions. I have comments, but I don't have any questions.

Do others have questions?

Member Beach: Yeah. Dave, this is Josie. I did have -- I wrote down a question on the 12 badges versus the 8, but I think you answered that, Kathy.

The other question I had was if the PoC was not greater than 50 percent, would SC&A's approach have been different or similar to NIOSH's? I was just curious about that as I was reading through this.

Ms. Behling: Yes, definitely. We would have certainly calculated internal doses based on the monitoring records and calculated doses for all of the monitoring records. There's no doubt about that.

We were using a more efficient approach here and running the environmental internal is -- it's set up in CADW. It's very simple to run. And once we realized that that would suffice in putting the PoC over 50 percent, it was just done as an efficiency measure.

And as we were discussing previously, I think SC&A, as we go through this process, we do -- we have looked at enough of NIOSH's and ORAU's work to realize what they -- to anticipate what they may do also.

And, you know, according to, you know, the regulations, they do state for efficiency purposes you can stop calculating doses as soon as you are aware that the case will be compensated.

Chair Kotelchuck: Yeah.

Member Beach: Okay. Thank you.

Ms. Owens: Excuse me. May I ask a question? I realize I'm from the public, but could I ask a question?

Chair Kotelchuck: Who is this speaking?

Ms. Owens: This is Katherine Owens (phonetic). I'm listening from the public and --

Chair Kotelchuck: Oh.

Ms. Owens: -- my question is you stated --

Chair Kotelchuck: Ma'am. Ma'am. Excuse me. Excuse me, ma'am. Normally for meetings of the Subcommittee like this there is no public input.

Ms. Owens: Okay.

Chair Kotelchuck: At a public meeting, that is, at a Board meeting, there is always a chance to ask questions. I'm sorry, but that is our practice.

Ms. Owens: That's fine. I understand.

Chair Kotelchuck: Okay.

Ms. Owens: Thank you.

Chair Kotelchuck: Okay. But next meeting please feel free to make sure that you, or someone representing you, has a chance to talk about it, if you wish to.

Dr. Roberts: And just to add to that for the public, we will be having a full meeting of the Board in December where there will be a public comment period.

So, please keep that in mind and check the NIOSH website for additional information.

Chair Kotelchuck: Yes. Okay. Thank you.

Ms. Owens: Thank you.

Chair Kotelchuck: Subcommittee Members, any further comments?

Member Lockey: David, Jim Lockey. I wanted to follow up on the professional judgment question. SC&A and NIOSH agreed in regard to how that was approached in this case.

I assume that when we go back and record these, we'll be recording both SC&A's approach and NIOSH's approach in regard to professional judgment?

Chair Kotelchuck: Oh, yes.

Member Lockey: And are we looking for discrepancies there or what are we looking for? If they agree, is there something above and beyond that we're concerned about?

I'm just curious about that.

Chair Kotelchuck: Well, I've always understood that there may be ways that if [we] professional -- to minimize -- if there were to look at the results and ask are there ways of limiting the degree of professional judgment or is there something that professional judgment is used on that we really don't need to take advantage of professional judgment, that we can set up a rule, you know, and a guide for people.

So, that's kind of what I've always understood or what I'm looking for.

Member Lockey: I guess what I was -- I would say both SC&A and NIOSH use the same approach in regards to professional judgment.

If they thought there were different approaches and one was making -- one would make a significant difference in the calculations, then we would see that when we review these cases.

So, I'm just trying to get what's the end of looking at the professional judgments if both NIOSH and SC&A agree? We're not going to change something, I don't think, right?

Chair Kotelchuck: Well, no. I think, in my opinion, the Board could look at it at a later time and say that both SC&A and NIOSH used professional judgment in some particular situation that it is no longer -- not necessary, or no longer necessary, and ask that there be perhaps a change in the procedures such that rules can be written down and professional judgment can be limited.

So, they could agree and we could, as a Board, feel -- and instruct the staff that we think we could do better and limit the degree of -- the amount of items -- the number of items that we do use for professional judgment.

At least that's my --

Member Lockey: I understand that. That's what I thought you were thinking.

And I would ask SC&A, you're on the phone, if you would run across something where you think that there's something above and beyond professional judgment that would be indicated, would you let the Board know that in these case reviews?

Ms. Gogliotti: Above and beyond -- we do not make value judgments. If SC&A and NIOSH had made an entirely different decision in the case and we thought that there was a problem, we might indicate that we had made a significant judgment difference and then we would discuss it here.

Chair Kotelchuck: Right --

(Simultaneous speaking.)

Ms. Gogliotti: -- say right versus wrong in these blinds because that's kind of outside of the purview of -- or the scope of these reviews, but we do --

Member Lockey: So, it would be in your scope to say we agree with NIOSH's approach, but there's something else that we should consider looking at this, so we take it out of the professional judgment.

That would be beyond your scope; is that right?

Ms. Gogliotti: Within our scope would be to say there were differences in professional judgment. But if I thought there was an error made, we would just indicate --

Member Lockey: No, I don't mean error. I meant that there's -- there may be another approach that we could take where professional judgment would no longer be indicated, but there's a more systematic approach. That's what I'm saying.

Chair Kotelchuck: I really do think that's a Board issue, not for SC&A.

Member Lockey: Okay. Thank you. Alright. I was just curious where we --

Chair Kotelchuck: Errors they should point out, but professional judgments about procedure, I think, is a Board responsibility.

Although, look, there's never any problem with folks from SC&A or NIOSH pointing out to committee members that there are some problems. And if they have some ideas, they might want to more informally raise it, but I don't think it's a matter of the writeup for each of these. I don't think they should make value judgments.

Member Beach: And I think that's why we're asking for tracking -- this is Josie again -- so that we can just see -- keep track and see what's being judged professionally.

And like you said, Dave, if there's changes in the documentation that need to be made or the procedures --

Ms. Gogliotti: Well, for instance, in this case, we could have added to professional judgment -- or to the Professional Judgment section the way that internal dose was assessed because of the PoC that was reached.

And the SC&A team felt that the PoC was greater than 50 percent and ran the numbers prior to assessing the positive intakes and that is a professional judgment.

Chair Kotelchuck: Yeah, it is. It is -- well, actually -- but we now know, as the Subcommittee, that this is the way it is done and needs to be done.

That is, our earlier discussion for the first blind, I think, certainly resolved that for me that any time

we're over 50 percent there is no -- there may be differences in procedure because compensation has been decided upon.

So, I don't -- in a sense, I don't think -- I think it would be repetitive to do it, to put that in as a matter of fact that there may be differences stopping at 50 percent.

Ms. Gogliotti: And that may have been why we left it out. I don't recall the exact decision process for the --

Chair Kotelchuck: Yeah. Well, these are -- look, Jim, this is -- it's good that you raised it and I think it's good that we think about it as a Subcommittee.

I mean, this is a process that we're developing, you know. We never did blinds before putting in professional judgment and I'm so glad that we decided to do so with the Board's approval.

And I think it may -- it will help us see what's going on and make sure that all is well.

Member Lockey: No, I agree with that. I was just curious where we were going to go with it.

I would be really concerned if SC&A and NIOSH got to the professional judgment and there was a discrepancy as to how their approach was. That would be raising all kinds of flags for me.

Chair Kotelchuck: Oh, yeah. Absolutely. And that would be in the report because there is a disagreement, there is a different approach.

Member Lockey: Right. Okay.

Chair Kotelchuck: And SC&A would point that out.

Okay. Well, should we accept now this blind? Does everybody agree?

Member Lockey: I agree.

Member Beach: I agree also.

Member Valerio: I agree.

Chair Kotelchuck: Wonderful. We're in agreement. So, it's accepted.

Now, we have about a half an hour. I think that would be the amount of time that we could use for the last blind.

So, what do you think, Rose? Well, I guess you can't know, but given that we've been moving along and there was agreement on that blind as well, I think we can finish it in a half an hour; do you agree?

Ms. Gogliotti: We can certainly try to. And if we have to stop midway through, we'll just --

Chair Kotelchuck: Alright.

Ms. Gogliotti: -- pick up after we come back.

Chair Kotelchuck: You're right. We certainly can continue at 2:00. Sure. Let's go.

B41 -- Savannah River Site (SRS)

Okay. So, another SRS blind.

Ms. Gogliotti: Okay. And we still have Ron on the line?

Dr. Buchanan: Yes. I'm here.

Ms. Gogliotti: Alright. Take it away.

Dr. Buchanan: Okay. This is Ron Buchanan with SC&A and I'll be doing Blind No. 41, which, again, is a Savannah River Site blind.

And we start out on page 7. Rose, if you can come up with that? I think that's where we're at.

Okay. On page 7, we see that this is, like I say, Savannah River. The person worked there about 20 years in the '70s, '80s and '90s off and on in several employment periods.

We see that Table 1-1 on page 7 lists the cancers. And we see this is similar to our last case.

And I won't go into detail, but you can all see that. And so, if we go down to page 8, we see that in both DR methods, they used best estimate and estimated the PoC slightly under 50 percent.

And at Table 1-2 on page 8 there, lists the radiation that was assigned, the doses that were assigned, PoCs and we had a recorded dose, shallow 30 to 250 keV photons, greater than 250 keV photons, and we had missed dose also, environmental external and occupational medical.

We had internal tritium, fission and activation products, actinides, uranium, plutonium, environmental.

If we page down through there, we see that the doses assigned and the resulting PoC for each individual cancer site was very similar and we see that we come out with -- on page 16, then, we see that the combined PoCs were all around the 49 percent range within a few hundredths of a percent. So, that is slightly under the 50, but both agreed pretty closely.

That brings us to page 17. We see that this worker had internal dose records and external dose records, and that the documents reviewed was of course the TBDs for Savannah River Site and OTIB-0017 and 0049 and Procedure 61, some of those that are listed there, and TIB-006.

And we see that Table 2-1 on page 17 compares again our dose reconstruction methods and NIOSH's and any differences [from what] SC&A used.

And, as previously stated, of course we don't have the workbooks, so we used manual calculations plus the TBD scores. NIOSH uses the TBDs plus their dedicated workbook for that site. In this case, Savannah River.

So, on page 18 we have a slightly different number of zeroes for missed dose. Quite a few off by probably one percent there. And we'll get into a little more detail on that.

The biggest difference with missed dose reconstruction was NIOSH's use of reversed attenuation factor for the shallow doses, both missed and recorded.

And that the person was wearing a plastic suit and they did a reversed attenuation for the electrons increasing the dose to the outside skin surfaces, and SC&A didn't.

That's the first time I'd seen that used, but we'll discuss the differences as we go through this and we get into that section.

That brings us to page 19 for internal doses. We see that -- pretty much agreed on that except for the tritium.

This worker had a lot of tritium monitoring, over 100 [cases]. And depending on how you divided it up on what you considered to be dose intake periods, resulted in using a different number of results and what was considered significant and what wasn't.

And that other slight difference was fission and activation products. NIOSH assigned all the doses and SC&A didn't assign any that were less than 1 millirem.

Well, that's the introduction part. We'll go to page 20 and we'll start looking in detail on the occupational external doses.

In Section 3.1, both parties calculated the dose using 100 percent 30 to 250 keV for the first period.

The worker changed location. So, a second -- so, the following period is 50 percent 30 to 250, 50 percent greater than 250 keV and of course assigned the lower doses as electrons.

NIOSH did assign those doses and SC&A assigned a very similar dose. The only difference was in one-year NIOSH assigned 210 millirem and SC&A assigned 215 millirem.

And this was dependent on how you defined the dose, the open window, the shielded window, the LOD over values -- over 2 value right near the recorded dose.

And also, for a few years, Savannah River listed tritium as an external dose. And so, you had to subtract that out.

And so, that resulted in a difference of 5 millirem between the two dose assignments, SC&A and NIOSH.

And so, that brings us to Section 3.2, recorded shallow dose. And, again, it was assigned to both parties as greater than 15 keV electrons as recommended in OTIB-17.

And NIOSH assumed -- now, this is where the difference came in. The CATI report indicated that the worker wore a plastic suit and protective suit.

And so, NIOSH assumed that the dosimeter was under the suit and in direct contact with the skin.

And so, what the dosimeter read was what the -- any scan that wasn't exposed was assigned.

And that assumed that the hands and face were outside the plastic suit and assigned a reversed attenuation factor of 1 over 0.855, which effectively increased the dose to the hands and face.

Whereas NIOSH assumed that the person had some -- had the regular coveralls or clothes on and the dosimeter was taped or in the pocket of that clothing and then had a plastic suit over that.

And if you had that, then NIOSH assumed that they would have some sort of hand covering such as gloves and some sort of head covering or face shield to attenuate the electrons coming through to those skin locations.

And so, SC&A did not apply any reversed attenuation factor and applied the 0.855 to skin that was located under the inside normal protective clothing.

And so, we see on page 21 there the comparison is summarized there, and this is how they explained. This would result in NIOSH assigning a slightly higher shallow dose than SC&A.

And, again, there's a little -- other additional -- small amount of dose in one year and NIOSH assigned an extra 10 millirem, and 12 millirem to some of the other cancer sites depending on whether it had the reversed factor or not.

And this difference came about because in these records sometimes they'll have a -- many pages of detailed dosimetry information. And then in the front of it they'll have just several pages of yearly summations.

And so, sometimes the yearly summations will be slightly different than the detailed badge exchange information.

And so, how you reconcile those two differences? Sometimes it's assigned as a missed dose, sometimes it might be assigned as a gap dose, and -- or to reconcile those differences.

And so, that's where the difference of a few millirem came in also on that shallow dose assignment.

Now, on page 21 we also had -- Section 3.3 we had recorded neutron dose. There was no recorded neutron dose -- a positive neutron dose on neither was assigned. So, it wasn't assigned by either party. [We] agree with that.

Then we looked at missed neutron dose in Section 3.4, starting on page 21. And NIOSH assigned about 188 [zeros] and assigned about just slightly under 2 millirem [for each].

SC&A then we see on page 22, we see -- excuse me. There was no recorded neutron dose. Okay. Section 3.4 is missed photon dose. I misspoke, I said neutron. Missed photon dose. NIOSH used 188 [missed doses] and assigned slightly under 2 millirem to each of the sites.

Now, SC&A identified 185 difference of 3 zeroes there missed dose. And, again, it depends how you extract out the tritium-3 external dose and the LOD over 2 value, how you assign doses that are right around that area. And so, we assigned slightly lower dose, but very similar to NIOSH for missed photon.

So, that takes us to page 22, Section 3.5 and we have missed shallow dose. And, again, NIOSH identified 5 missed shallow doses. SC&A identified 5.

We used same procedures and assigned similar dose. However, again, NIOSH did a reversed attenuation factor for shallow dose and SC&A did not for the hands and face.

And so, that came out very similar doses, same procedure, but slightly lower dose assignment for SC&A than NIOSH.

So, that brings us now to Section 3.6, page 22, which is missed neutron does. And SC&A and NIOSH both identified missed neutron doses for several periods.

The worker was not monitored continuously for

neutrons. The worker had different employment periods in different areas.

And so, both assumed that the worker was monitored for neutrons, if needed, and all the neutron records showed zero.

So, we assigned -- and worker was assigned missed neutron dose, and both identified 9 missed doses. And both assigned the same dose at around 133 millirem, and NIOSH 134.

The 1-millirem difference was the difference between the rounding off, whether you carried it all the way through and rounded it or rounded the multiplication factors as you went. And so, that was essentially the same dose.

So, that brings us to Section 3.7, the ambient dose on page 23. Now, the worker was not monitored for external radiation for several periods at Savannah River. So, both parties assigned an external ambient dose using a TBD.

And NIOSH assumed 2500 hours a year and prorated for a partial year of employment and assigned the maximum ambient dose at Savannah River Site.

Now, SC&A did very similar assignment, except SC&A looked at the internal monitoring records and assumed a given area was where the worker spent most of the time.

And so, used that out of the TBD, used that Table C-19, used that for that particular area and assigned a similar, but slightly higher, dose for external ambient dose.

And so, that -- in addition, we see on page 23 at Section 3.7.3, we see that SC&A also assigned ambient dose for an extra few months, whereas NIOSH stopped the ambient dose assignment slightly earlier than that. So, that gave a slight difference in

the ambient dose assignment also.

That brings us to occupational medical dose on page 23. There were no records in the EE's files.

And so, we assumed that the medical X-rays were taken according to the TBD for the first period and there were X-ray records for the second period. And so, both SC&A and NIOSH used the TBD and the recorded exposures to assign medical X-ray.

And of course NIOSH used the TBD dose assignments and assigned it as shown on the bottom of page 23, a range depending on the date of diagnosis of the cancer.

We go to page 24 and we see that SC&A, in Section 3.8.2, assigned the same except SC&A included a pre-employment scan and an annual scan for the first employment period in addition to what NIOSH assigned.

And so [we], assigned a slightly different -- slightly higher dose. Used the same procedure, just included pre-hire and one more annual exam.

So, in Section 3.8.3, we see that it was similar, but the additional exam increased SC&A dose slightly.

So, that's the external -- yeah, external dose assessment. So, if there are any questions on that before we go to internal dose?

Member Beach: Hi, Ron. This is Josie. I had a question on the ambient doses.

I think SC&A assigned the 8.8 months more. Is there a reason why that -- the extra months were added?

Dr. Buchanan: Yes. Because the worker wasn't monitored during that period. There was no external monitoring records.

There were gaps in the records for that -- about nine

months. And so that's the reason SC&A assigned it. NIOSH assigned environmental dose up into part of that gap period, but not for the full period.

Member Beach: So, is that -- and I didn't go back and look after I made my notes for questions. Was that part of professional judgment again on the time gaps?

Dr. Buchanan: Yes. I'd have to go back and look, but we'll probably get to that. But, yes, that's part of the professional judgement.

Chair Kotelchuck: I noticed that as well, that issue on 3.7.3. I don't understand why NIOSH didn't include the partial months.

I mean, it seems to me, if you will, an error, I mean, that they could have -- they could have taken the result from 1995 and extended it to 1996 for eight months. Wouldn't have been a bad estimate.

There's a difference there, but I'm not sure that that's really professional judgment.

If we were reviewing this as just simply a case, I would say SC&A -- if we were discussing this as a case, SC&A would, I believe, call this out as a finding and I would agree with that. So, there is a difference.

I'm not -- to me, it's not a -- it is a difference, but it is not a professional judgment because it could easily have been -- it could have been consistent, and would have been, had we done this as a regular review.

So, I don't know where to -- what to do with that -- what to do with that comment or observation on my part, but that's somewhat bothersome, the difference, to me.

Enough said. Any other comments before Ron goes on?

Member Beach: No. Dave, this is Josie. I know it's only eight minutes after and I'm going to sign off at a quarter after.

Chair Kotelchuck: Right.

Member Beach: And I had probably five or six different questions. So, hopefully if I miss that part of the discussion, the last 15 minutes, if I could go back and ask those questions --

Chair Kotelchuck: Right. By all means. But, in fact, folks -- you were going to leave at 12:15 anyway. We do not have a quorum as you leave.

And so, I would like to just simply call an end to this session and resume it at 2:00. It's more than a lunch period, but I thank you for being on this morning because you had other obligations and you managed to re-arrange them.

And you'll be on this afternoon, I gather, and also David Richardson will be on. But, for the moment, if we don't have a quorum, I think we have to adjourn. I don't think we have any option on that.

So, thank you. So, folks, I can continue to talk to people to just say I think we have to call an end, because we have no quorum, and resume at 2:00. Okay?

Member Beach: That would be great. Thank you.

Chair Kotelchuck: Sure. Thank you.

Okay, folks. Okay. So, we will all get together at 2:00 and continue with our good work. Thank you very much, folks.

(Whereupon, the above-entitled matter went off the record at 12:10 p.m. and resumed at 2:02 p.m.)

Dr. Roberts: Okay. Great. Well, we don't have Richardson, but we do have Beach. So, I think we do

have the quorum.

Chair Kotelchuck: Right.

Dr. Roberts: Dave, how are you feeling about moving ahead?

Chair Kotelchuck: Yes. We are.

Dr. Roberts: Okay.

Chair Kotelchuck: I did not know originally that Josie would be able to join us at 2:00.

So, I alerted David because David has a conflicting meeting at the same time --

Dr. Roberts: Right.

Chair Kotelchuck: -- a UN Commission meeting. So, I alerted him. So, I said, why don't you come on, you know, and check things. But then if you have to leave earlier, So, he may be a little late or he may not be on. We'll see.

We have enough to go ahead and I --

Dr. Roberts: Okay.

Chair Kotelchuck: -- I'd like us to go ahead.

Dr. Roberts: Okay. Well, I will turn it over to you except to say that just be mindful of your mute button. If you're not speaking, make sure that it's on mute.

If you don't have that button, press *6 to go on mute and *6 to come off it. Okay. It's all yours, Dave.

Chair Kotelchuck: Okay. Thank you.

So, as I recall, we were on the 41st blind, the SRS blind. And I believe we had stopped at when we were getting ready to begin occupational internal dose.

Is that correct, Ron?

Dr. Buchanan: Yes.

Mr. Siebert: Actually, Mr. Kotelchuck?

Chair Kotelchuck: Yes.

Mr. Siebert: This is Scott Siebert. Hey, I know we had some discussions at the end of the last session about the ambient and the differences and I can shed some light on that.

I wanted to verify it over the lunch break, so --

Chair Kotelchuck: Excellent. Okay. Well, thank you. Please go ahead and tell us.

Mr. Siebert: Absolutely.

Yeah, the difference is we, the NIOSH team, switched over to a quarterly monitoring -- quarterly badging in 1994, which is where you start seeing the differences.

Savannah River went to quarterly badging at that time unless there were apparently job-specific reasons for them to do more frequent monitoring.

So, as long as an individual has quarterly monitoring after '94, we will take into account that they were monitored and determine it as missed dose based on the actual monitoring results.

If there are additional monthly results outside of the normal quarterly, we'll take that into account and we may fill the empty spaces with ambient, if needed.

But as long as we see quarterly, we assume that they're on quarterly monitoring. So, there would be no reason to assign ambient because they're already being monitored.

And in this specific case, we are talking about '96 and '97. And that's -- from the records, that's exactly

what that individual appears to be on quarterly monitoring.

Chair Kotelchuck: Got it. Okay. Well, thank you very much.

Mr. Siebert: Absolutely.

Chair Kotelchuck: Good. Good. So, let's go on. Were there other questions?

In particular, Josie, I believe you had some questions before we get into the occupational internal dose or do you have such questions?

Member Beach: No. I did have a question on that, which Scott answered. I have questions as we move through.

Chair Kotelchuck: Oh, okay. Very good.

Member Beach: Thank you.

Chair Kotelchuck: Good. Okay.

So, Ron, why don't we continue ahead now starting with Section 4, occupational internal dose.

Dr. Buchanan: Okay. I did want to say that the DOE records show that the person was externally monitored at 1, 4, 5, 6, 7, 8, 9, 10 and 12 [months] for 1996.

So, that's -- SC&A had indicated a monthly badging with a few gaps. So, I understand what NIOSH is saying, but that was our reasoning because it looked like they could have been badged for monthly.

Chair Kotelchuck: Good.

Dr. Buchanan: Okay.

Member Beach: Wait. Ron, could I break in on that note?

So, Scott had said that they were badged quarterly unless there was a reason for them to be badged.

So, in this case, based on what you just said, Ron, this individual could have been badged because of whatever work he was performing. Is that a possibility?

Dr. Buchanan: Yeah. Okay. You can look at it one of both ways, the way NIOSH looked at it and the way we looked at it.

[The person] was badged a number of times, nine times, during 1996. And it's true the badges coincide with the quarters, but there are also some months in between that the person was badged maybe on an as-needed basis.

So, it's hard to say. Was he badged on an additional as-needed basis or were these periods unbadged? And so, that's the two scenarios you could operate under.

Member Beach: Okay. Thanks. Good.

Dr. Buchanan: Okay. So, now we're on page 25 and we stopped in Section 4 with occupational internal dose.

And the EE was monitored for intakes and all of them were below the detection limit except for the tritium urinalyses.

And so, both SC&A and NIOSH followed the guidance in the TBD and we'll start out with Section 4.1 tritium intake.

There was many of these samples. Some of them -- a number of them were above the lower limits of detection.

And if there was no tritium sample submitted, then they didn't fill in gaps, and neither did SC&A, but that was accounted for in environmental tritium when we

get to that point.

So, NIOSH identified over 100 tritium analysis results during the approximately 20 years.

And they used the tritium dose uranium data workbook to calculate the dose, a little under 200 millirem, and assigned it as a log-normal distribution.

Now, SC&A, in Section 4.1.2, there we reviewed it and what we did, we came up with a slightly less than 100 significant tritium bioassay data points.

Some of them -- a number of them was less than the LOD. And so, we did not include those in some of the analysis.

Both parties used three major intake regime periods. And so, we came out with a dose that was slightly higher, just under 200 millirem also, but slightly higher than NIOSH.

And so, the comparison on the bottom of page 25, there in 4.1.3, it was the approach we used.

NIOSH used the -- what appeared to be significant positive tritium bioassays, and NIOSH modeled all of them. So, again, slightly different intakes and doses.

Now, the EE was also monitored for fission and activation products in Section 4.2 on page 25, and all the results were below the detection limit.

The worker was monitored by both in vivo and in vitro measurements. And so, both NIOSH and SC&A divided those up, beginning on page 26, into two time periods. One when the urinalysis was conducted and when the whole-body counts were conducted.

And what we did there since it was all less than detectable, NIOSH went through the TBD and used the intake rate of 4400 DPM (disintegrations per minute). And then also they associated fission products associated with ruthenium and cesium and

cerium, and cobalt was also factored into that.

And so, that was put into the CADW and the -- doses model resulting in about a little over 100 millirem from that dose.

And then for the second period, when whole-body counts was the bioassay method, again that was below detection limits.

And so, looked at what the fission and activation products that would create the greatest dose to the organs of interest in this case. That was europium-154 metastable.

And used that as -- to be modeled and put that in the IMBA program to determine an intake rate.

And used the dose modeling in the CADW and came out with doses that were just 2 to 3 millirem depending on the cancer [diagnosis] date.

So now, also, there is a third isotope, strontium-90 -- or strontium in general. NIOSH did not address that in the DR report.

However, in their CADW, they did have a strontium dose model from that bioassay, and they showed a missed strontium-90 dose Type F during this period and -- but the dose was less than 1 millirem.

So, the total doses NIOSH assigned is on page 23 there. It ranged from around 100 millirem depending on the diagnosis date of the cancer.

So, SC&A in Section 4.2.2 did a very similar thing, used the urine bioassays for the first period at 4400 DPM, put that in the CADW and determined the appropriate doses.

Second period again used the whole-body counts, found that europium-154 metastable -- or Type M, excuse me, provided for the greatest dose and used the radionuclide chooser to determine that and we

derived doses of around 2 to 3 millirems from the whole-body count results. Additionally, we modeled the strontium-90 intake and determined that that dose would be less than 1 millirem.

So, adding those up, we come up with about 100 -- around 150 millirem. And so, comparing those two, they were very similar, same methods and same technique except that NIOSH started the intake one year prior to the first urinalysis.

And SC&A considered that the EE could have been exposed from the beginning of the second employment period.

And so, NIOSH -- or SC&A's dose was slightly larger than NIOSH's dose because of the different start dates on those that were assumed.

Okay. So, the worker was also monitored for uranium. That's Section 4.3 on page 27. And -- for a period and all the results were below detectable.

Therefore, SC&A and NIOSH assigned missed dose assuming it was uranium-234 100 percent, which is claimant-favorable for this organ and the organs involved.

So, when you look at Section 4.3.1 there, NIOSH's missed dose, they checked the three solubility types and found that Type S was most claimant-favorable.

And they used the intake as derived from the IMBA program and beginning with the date the worker began working in a certain area at Savannah River until the last day of bioassay and derived skin doses from 3 to 6 millirem.

So if we look at SC&A on page 28, we see we did similar calculations, found Type F uranium. We divided the intakes.

The only slight difference was we started the second employment period instead of the employment -- the

date that NIOSH used. It was a longer period of time and we derived 1 to 3 millirem also.

Comparing them we see that the main difference was the start date. NIOSH assumed a later start date and SC&A selected the start as the second employment period.

So, the worker was also monitored for plutonium intake, Section 4.4 on page 28. Had urinalysis with plutonium. None of them was above the detection level. And so, both NIOSH and SC&A assigned missed dose.

So, Section 4.4.1 there on page 28 lists NIOSH's method for assigning missed plutonium dose and that was -- they assumed a 10-year age, 12 percent fuel-grade plutonium-240 was chronically inhaled over two intake periods.

And these corresponded with the approximate times the worker began and ended in certain work areas and the last plutonium bioassay.

They used IMBA and found out -- for both Type S and Type M and calculated that Type S was claimant-favorable.

And used the plutonium ratios and recalculated this plutonium -- let's see -- plutonium-240. Then used the plutonium radioisotope ratios to determine the other plutonium isotope intakes.

And then adjusted this for Super S type plutonium according to OTIB-0049, and assigned anywhere from 6 to 160 millirem to the cancer sites depending on the dates they were diagnosed.

So, we look at SC&A's method on page 29. We see it's very similar to what NIOSH used except we used a different change date in the areas and used the last bioassay date as the end date.

And we used twice the detection level from the

bioassay listed in the bioassay data sheet and derived that Type S was the greater dose.

We used the plutonium ratios to determine the different isotopes of plutonium for the 10-year age, 12 percent fuel grade plutonium-240.

And put that in the CADW and adjusted the resulting doses for Super S type plutonium from OTIB-0049 and derived 6 to 160 millirem.

So, very similar dose. Almost identical. Slightly different intake periods as shown in Section 4.4.3 on page 29.

And there was not much difference even though it's slightly different in the intake period.

The worker was also monitored for actinide intakes in Section 4.5 on page 29. And it showed that a urinalysis for trivalent alpha-emitters and americium, curium and californium all below the detection limit.

And so, NIOSH's method is shown there in 4.5.1. And so, they adjusted it for the daily excretion rate and used IMBA to determine the projected intakes for the different types, those three isotopes.

And then derived the potential doses and they range from less than 1 millirem to 7 millirem assigned as a triangular distribution.

Section 4.5.2 on page 29, SC&A used twice the detection limits adjusted for the excretion rate and used MDA values as listed on the bioassay data sheets.

And used the date that started from the previous alpha-emitting radionuclide bioassay. So, slightly different again in the assumption date.

And SC&A then, on page 30, used IMBA to derive the potential intakes and then counted americium-241 as the most dose-significant and assigned all the intake

to that, which resulted in very similar doses less than 1 to 10 millirem and whereas NIOSH had less than 1 to 7 millirem. So, slight claimant-favorable assumption there.

And so, we see in Section 4.5.3 on page 30, compare that and, again, we started a couple months earlier than NIOSH in our intake scenario. And we also bundled all the trivalent as americium-241 and gave it a moderately greater dose.

That brings us to the environmental intake on page 30, Section 4.6. And the worker worked in various areas during the employment there.

It was assumed that he was occupationally exposed. Environmental intake and that may not have been accounted for in the bioassay.

So, Section 4.6.1 there on page 30 NIOSH models iodine-131, Pu-238 and U-234 and tritium environmental exposures.

And, again, they were adjusted for employment time and the time that the EE was actually monitored for some of these radionuclides.

Using these assumptions NIOSH found that only tritium contributed to dose greater than 1 millirem. And dividing it up into 7 unmonitored periods resulted in a dose of 24 millirem.

And so, Section 4.6.2, same page, describes SC&A's method. And, again, same thing as NIOSH did and found that tritium was the only significant dose contributor and derived a dose of about 30 millirem.

So, compare these in Section 4.6.3 and the main difference was that remember back when we did tritium dose, NIOSH used all the data points and whereas SC&A only used the most significant data points.

And so, that left more data points less than LOD,

which SC&A then incorporated into this environmental dose, which resulted in a slightly greater dose you see there at the bottom of page 30. SC&A had about 15 percent more days as compared to NIOSH because we didn't use all the smaller doses back in the original tritium dose analysis workbook.

So, that brings us to page 31, which compares the start and stop dates. We all had -- most NIOSH and SC&A had the same number of periods and similar periods, but slightly different dates.

And so, that is why we had a few more days than they did in our environmental tritium intake.

Okay. So, that brings us to page 32, Section 5. And that's the professional judgment [section]. And we find that when we interpret these records, it depends on when you start the intake to a certain extent.

For example, for missed uranium intake, NIOSH assumed the exposure one year before the first uranium analysis, whereas SC&A assumed the start of the employment period. And both used the last urinalysis as the stop point.

We see that this makes some difference in assumptions, but only usually results in a few millirem difference in actually assigned dose, especially to the organs we're talking about in this case.

Similar assumptions also are applied to plutonium, fission products and actinide intakes.

Now, shallow dose, we discussed that in that OTIB-0017 provides guidance for attenuation by clothing or PPE. However, it doesn't say anything really about if the dosimeter is worn under the protective clothing.

So, in this case, NIOSH assumed that the dosimeter was next to the skin and then they had protective clothing on the outside of that, and so that the hands

and face may not be covered.

SC&A assumed that the dosimeter was hooked up to a pair of inner clothing such as coveralls and the worker was wearing a plastic suit, which would cover the dosimeter and also would assume that the person's hands had gloves and head gear and face protection.

So, we did not apply a reverse attenuation factor, as NIOSH did, to several of the cancers that would be exposed potentially without shielding.

So, that brings us to page 34, Section 6, which is a summary of the conclusions. And now, we went through this table previously, Table 6-1 compares the PoCs and doses. As we can see, they were very similar down through page 35.

And we see that in Table 6-2, we compare the PoCs to see they both were under 50 percent, and so -- but very close.

And so, as we said before, the shallow dose attenuation factor and the starting of the potential internal intakes were the main differences in this case that gave a little variance in the total dose taken in.

So that concludes the internal intake. I'm open for questions.

Chair Kotelchuck: Very good. Okay. Folks, people have questions again? Very good agreement.

This time, of course, we are PoC below 50 and, therefore, best-estimate dose evaluations were made. So those are [methodologically] identical.

And, of course, for PoC less than 50 percent that's good. Those are the most important ones that could change and we have agreement with both NIOSH and SC&A following the same procedures except for the differences that Ron talked about.

Other questions?

Member Beach: Yeah. This is Josie. I had a question.

Did we cover the medical doses on page 20 -- starting on page 23? I feel like we missed that or else I missed it.

And there was a disagreement on the amount of X-rays. NIOSH chose 11, SC&A chose 12, because of that first employment period.

Was that discussed or did we know that?

Chair Kotelchuck: I thought we did go over that, but this is time for question and --

Member Beach: So, I'm just curious. Is that considered a professional judgment on that X-ray?

It's a small difference in dose, but where you have those really close ones, that could be something that would tip somebody over, the difference between the 11 and the 12.

Can you expand on that just a bit? Could this happen more often?

Mr. Siebert: Yes. This is Scott. I'd be happy to do that.

Yeah, it's not actually professional judgment. It's implementation of how we do X-rays.

There can be default exam frequencies in TBDs. But if we have actual X-ray records, those take precedence over any of the defaults in the TBDs.

And at Savannah River for this specific claim, we did have the actual X-ray records.

So, we assigned what they actually were -- the exams they actually had rather than making any default assumptions.

Member Beach: So, do we know that they didn't have X-rays during that first period or you're just assuming they did not?

Mr. Siebert: Well, we've never had an indication that their X-ray records, when they gave it to us, were incomplete.

Member Beach: Okay. Thank you.

Mr. Siebert: Certainly.

Dr. Buchanan: What SC&A assumed was that the TBD says, you know, there could have been a pre-hire exam.

And so, there wasn't any in the record. So, we did assume that. And so, that was what you'd consider claimant-favorable, but, you know, that would be up to question.

Mr. Siebert: Yeah.

Chair Kotelchuck: Okay. Other questions?

Member Valerio: This is Loretta. I have a question.

So, SC&A included a pre-employment scan. So, I'm assuming that there were records indicating that the pre-employment scan was done onsite?

Dr. Buchanan: No. There were records of X-rays being done onsite after the employment period began.

And so -- and the TBD said there could be pre-employment exams. And so, SC&A assigned that even though it wasn't in the record.

And NIOSH is saying, well, they've never seen when it wasn't included in the record. So, they didn't assign it.

Member Valerio: Okay. Thank you.

Dr. Buchanan: Um-hmm.

Mr. Siebert: Go ahead. I'm sorry.

Chair Kotelchuck: No, no. Go ahead, please.

Mr. Siebert: Yeah, this is Scott.

Just -- there was another -- one thing that was mentioned that I just wanted to cover just because it has an issue to do with professional judgment or not.

When we talked about the fission product dates, SC&A went back to the beginning of employment and we used one year prior to the actual first fission product and activation products monitoring.

That's actually proceduralized in OTIB-60. So, we were following the specific procedure that outlines how to do that accurately.

So, I just wanted to point out that one actually is not a professional judgment difference.

The uranium one, however, is because it is based on -- SC&A took it back to the beginning of the employment period, whereas we took it back to the beginning of working in an -- we had an indication of working in an area that had uranium that started on a certain date.

That's why those dates were different and that one is a professional judgment decision.

Chair Kotelchuck: Okay. Thank you.

I'm just looking at the professional judgment page. I guess, is there anything that needs changing? Well, I guess what you're saying is in the record. So, we don't need to make any changes.

I was looking over the professional judgment page to see if we said -- if something was said that suggested that the -- let's see.

You said the -- which product? The uranium is a professional judgment and the other is the -- what is the other --

Mr. Siebert: The fission and activation products are not.

Chair Kotelchuck: Fission, right. Right.

Mr. Siebert: Yeah. That's outlined in OTIB-60.

Chair Kotelchuck: Yeah. Right. Okay.

Member Beach: Well, and on page 33, Dave, of the professional judgments, it says both assessments use reasonable professional judgments to interpret the statements in the CATI and NIOSH's assumptions are modestly more claimant-favorable.

So, I thought that was a good paragraph to add also.

Chair Kotelchuck: Okay. Good. Yes. Okay. Good. I see it now, yeah.

Alright. Anything else, folks?

Ms. Behling: This is Kathy Behling.

Chair Kotelchuck: Yes.

Ms. Behling: I was just going to ask a question also.

When -- obviously when SC&A does these blinds, we're following the procedures and the guidelines that are available to us and I have never heard of this reverse attenuation factor that was used for the shallow dose.

And I've gone through OTIB-17 and I don't see anything specific to that reverse attenuation.

And so, I personally have never seen it and I wondered if that was documented anywhere.

Mr. Smith: This is Matthew Smith with ORAU team.

Scott and I were talking about that earlier.

It's not explicitly documented, but we do always ask that our DR authors write up in the report exactly what their assumptions are with respect to applying that.

The data are in there in OTIB-17 to perform that operation. So, you know, again, we're capturing that assumption and application of it in the report itself.

Ms. Behling: Okay. I guess, in going through OTIB-17, which is always somewhat confusing unless you use it a lot, which we all do, but it just seems to me if that's something that's being used routinely, it should be documented and it should be used consistently.

Like I said, this is the first time I've seen it and I've heard Ron say the same thing.

And I'm just wondering how often this does get applied and do your dose reconstructors apply it consistently.

Mr. Siebert: Yeah. This is Scott. I can address that.

Yeah. The reason you haven't seen it is because it is relatively infrequent that we -- and I would say it's actually probably more the word "rare" -- that we have documentation from the claimant that states they wore their dosimeter, but underneath specific protective clothing. That's a relatively unusual situation.

So, we have talked to the dose reconstructors about that and it's pretty much the logical extension of using an attenuation factor, if skin is underneath protective clothing and the dosimeter isn't, that you could go in the opposite direction.

I agree that the documentation of it is wise and our plan is to the next time we have OTIB-17 updated -- and, Matt Smith, you can correct me if I'm wrong,

but my understanding is we're going to put more specific direction in that next version when we start working on that.

Mr. Smith: You are correct.

Chair Kotelchuck: Right. And certainly, the reversed attenuation makes complete sense. There's no issue about that.

Ms. Gogliotti: Have you looked at if the value is the appropriate value for just a layer of plastic versus what that value actually entails? I think it's two layers of coveralls and something else.

It's claimant-favorable, but I'm just curious why it's so rare. Does this ever come up?

Mr. Siebert: Yeah. The DR staff are going to use what's available to them in that OTIB because it's citable.

If we get into a situation where we would really want to assess a particular type of PPE, we could certainly sit down with VARSKIN and so some modeling with -- if we've got good knowledge of what the PPE is in terms of density and thickness. As you can imagine, that's not always easy to find.

So, as seen here with this claim, claimant-favorable choices are made using data that we can cite that comes from, you know, sources that themselves have a good lineage.

In this case, the citation is going to the -- is coming from the DOE good practices manual for uranium.

Chair Kotelchuck: Alright. Good.

Kathy, does that --

Ms. Behling: Yes. I just --

Chair Kotelchuck: --- satisfy your concern?

Ms. Behling: -- like I said, I love the opportunity that we have in doing these blinds to make these types of comparisons to identify these types of things.

Because as you're seeing although we're close with numbers in PoCs, there's certain methodologies that we just -- SC&A wouldn't make something up like this. We wouldn't know what to do with that.

And that's why I said I just think this is something that needs to be documented and OTIB-17 is where it should be.

So, if that's something that is planned for the future and, like I said, I wasn't sure how often the NIOSH and ORAU dose reconstructors encounter this, but I do think it's something that should be applied consistently and so it should be documented.

Chair Kotelchuck: Let me ask you -- let's say -- now, Matthew, you said it will be looked at and included in the next upgrade of 17, but how do we know that it will be done?

That is, what mechanism is there such that you or someone else who is on this call will bring -- of course Josie is chair of the Procedures Committee, but it's important that as these discussions go on, that we know there's some mechanism by which this -- that we make sure that this happens and doesn't get overlooked later particularly if it's a long time from now that the upgrade occurs.

Mr. Smith: Certainly that question goes to management of the project both for ORAU team and for DCAS, but, in short, I'll just repeat that Scott and I have talked about this earlier and Scott is in a position to do a review of whatever I write.

Chair Kotelchuck: Okay.

Mr. Smith: So, I'm anticipated to be the author who revises OTIB-17 and, you know, Scott will be in the

position to review what I do.

Chair Kotelchuck: Very good. Okay.

Ms. Gogliotti: I think that that topic actually came up at the last meeting and I just want to confirm that I understand the resolution correctly.

At the last meeting, Scott, you had mentioned that there is now a system in place to track these things? Am I misremembering this?

Mr. Siebert: No. I was actually going to point that out. Yes, there is in our document-control system, we can make notes on documents that need to be updated and we can make that note that that's something that needs to be addressed. So, yeah, we can definitely do that.

Chair Kotelchuck: Good.

Ms. Behling: This is Kathy again.

In the interim, until this OTIB gets updated, would it be appropriate to include this guidance in your DR guidance documents that now get incorporated into these files that will --

Mr. Siebert: This is Scott.

Really, DR guidance documents are specific to a site and this is more of a complex-wide issue that if we see this in the CATI, you know, we will address it.

So, there isn't a single, specific place we could put this information until we put it in OTIB-17 other than the fact that we've documented -- we've told all our dose reconstructors to address it this way and that's how we do it commonly.

Ms. Behling: Okay. Alright. Thank you.

Mr. Siebert: Yeah.

Chair Kotelchuck: Okay. Now, folks, are we ready to

accept the -- subcommittee folks, are we ready to accept this report on the blinds?

Member Beach: Yes, I am. This is Josie.

Chair Kotelchuck: Okay.

Member Lockey: I am. This is Lockey.

Chair Kotelchuck: Good.

Member Valerio: I am. This is Loretta.

Chair Kotelchuck: Very good. And I am. So, this is unanimously accepted and now we're ready to go on to Set 25.

There was a --

Ms. Gogliotti: Dave, can I stop you for one second while we're still on the blinds?

Chair Kotelchuck: Rose?

Ms. Gogliotti: This is Rose, yes.

Chair Kotelchuck: Yes. Certainly.

Ms. Gogliotti: In the past, we've been tasked with creating a summary document for the blinds that summarizes our comparisons.

Chair Kotelchuck: Right.

Ms. Gogliotti: Would you like us to complete that again?

Chair Kotelchuck: I would. In fact, I was going to raise it at some point actually in the future as we finish up Set 28, but, in general, yes, I think that's been really very helpful to me.

But I think if you haven't updated it, you had it for the first summary. If you would, you could either add these three on to bring the list up to date or, if you

would like, wait until we go to the next three, finishing Set 28.

I leave that to you and your convenience, but, yes, definitely we want to have a summary --

Ms. Gogliotti: Okay.

Chair Kotelchuck: --- and look at it.

Ms. Gogliotti: Great. We will make that happen.

Chair Kotelchuck: Okay. Very good.

Alright. Set 25 -- and I may also say, Rose, you suggested to me that when you had -- and we have a particular interest in the Paducah Gas Diffusion Plant 551, which is in set 27. Our agenda says go on to 25.

Grady, are you here now?

Mr. Calhoun: Yeah, I'm here.

Chair Kotelchuck: Okay. Well, if you'll be here, we can -- if there's a reason you may be called away -- I know often you are -- but if you'll be here through the end of today, as far as you know, then let's just go ahead with Set 25 and we'll get to Set 27.

If you had to leave earlier, I would have said let's go to 551 right now, but --

Mr. Calhoun: I will be here for the duration.

Discussion - Set 25: Review remaining open and in progress cases

Chair Kotelchuck: Very good and we appreciate that. Good. Well, then let's go with Set 25 as it is on our agenda.

Hooker Electrochemical and Carborundum

Chair Kotelchuck: And I think if folks will put that on

the screen. This is the Hooker/Carborundum case 520. I'll go locate it myself on my machine.

(Pause.)

Ms. Gogliotti: Okay. 520.

Chair Kotelchuck: Alright.

Ms. Gogliotti: This one we discussed back in September.

Chair Kotelchuck: Yes.

Ms. Gogliotti: Observation 2. At that point, NIOSH was asked to go back over the issues for Carborundum and see if this particular issue was addressed in pending TBD revisions, but they have not responded in the BRS. It has to do with a 10-hour workday being assumed.

Chair Kotelchuck: Right. Will that be -- do we know -- Can we hear from NIOSH folks if they --

Mr. Allen: Yes. This is Dave Allen. I was going to respond to that one.

And as far as -- if you look down below that on this Carborundum/Hooker Case 520, you see a number of findings. All of which have been transferred to the Carborundum Work Group.

Chair Kotelchuck: Right.

Mr. Allen: And if you go back to this observation, even -- there's an added-on statement there saying it was transferred to the Work Group. It was just the status was not changed.

So, the best I can tell, it was intended to be transferred to the Carborundum Work Group. And I think that's where it belongs because I know they were assessing the whole dose modeling associated with this.

Chair Kotelchuck: Yes.

Mr. Allen: And it seems like that's where --

Ms. Gogliotti: I thought that this one had a specific reason because this is a TBD issue rather than a SEC issue. I believe that's why this one was still here.

Mr. Allen: Well, it goes right along with all the other ones that are basically why is it so many -- so much dose rate? Why is it so far away? Why is it so much time? It goes right along with those.

I mean, bottom line, I don't even know for sure if this is a legitimate comment anymore because those models have changed quite a bit.

I mean, it might be a moot point for all I know. So, I really don't understand why it's not transferred in.

Like I said, it is listed in there as being transferred. So, I was under the impression it was just a mistake.

Chair Kotelchuck: Well, I'm going through it and there just seems to be -- it's clearly in there, David, that you said that we should go to Carborundum. And Rose said that, no, it should be discussed further presumably here.

So, is there anything else?

Mr. Allen: Well, if you --

Chair Kotelchuck: Yeah. Is there anything else? -- This sounds like something that -- there were other references to the Carborundum group here and other decisions to move things to Carborundum.

Mr. Allen: Right. And you will see that exact same statement from Rose in those other findings and stuff that they were transferred.

Chair Kotelchuck: Right. I'm seeing that.

Mr. Allen: Yeah. So, I think -- you know, like I said,

I'm pretty sure that was a mistake.

And if you look in the original comment section, you know, before you expand it into additional comments --

Chair Kotelchuck: Um-hmm.

Mr. Allen: -- there is a sentence added to the bottom there that says it was transferred. It says to the DCAS PER-0054.

Chair Kotelchuck: Um-hmm. Let me just see. I'm going up -- scrolling back up.

Mr. Allen: Okay.

Ms. Gogliotti: I think I would have to go back to the transcripts to remember this exact discussion.

Chair Kotelchuck: Well --

Ms. Gogliotti: But if we want to relegate this to the Carborundum Work Group, I'm fine with that.

Chair Kotelchuck: Then let's do that.

Mr. Allen: Yeah. There have been discussions -- I was going to say if there was some discussion not to, I would argue against that because this is clearly some specifics to the modeling, which is what they're doing.

It clearly belongs there in that Work Group.

Chair Kotelchuck: Okay. And, Rose, you're open to that. So, let's just await then -- for 520, we'll just await results from Carborundum, and I think we should just move on.

I don't have any idea when the Carborundum Work Group will meet and consider this.

Does someone else know?

Mr. Allen: I know -- this is Dave Allen again.

Chair Kotelchuck: Um-hmm.

Mr. Allen: I don't know a lot about the specifics on that Work Group, but I do know Bob Anigstein was asking for some files just yesterday. So, I know he's looking into the modeling.

Metals and Controls Corp.

Chair Kotelchuck: Okay. Good. Good. So, there's movement on that. Fine. Then let's go on.

The next one was the National Metals; was it not?

Ms. Gogliotti: Yes, Metals and Controls Corp.

Chair Kotelchuck: Yeah.

Ms. Gogliotti: It is Tab 510, Observation 1.

Chair Kotelchuck: Oh, I missed that. Okay. I overlooked that, yeah. Go ahead, please.

Ms. Gogliotti: And we have had some discussion on this one and --

Chair Kotelchuck: Oh, yeah. Metals and Controls. As I recall the last discussion, Josie and I had suggested that since we're considering that actively in the Work Group, that we would like to just hold off moving on that, acting on that, and let -- we're trying to get things cleared up in the Work Group.

Ms. Gogliotti: Okay. So, we would like to keep this one open?

Chair Kotelchuck: Yeah.

Member Beach: That was my understanding as well, Dave --

Chair Kotelchuck: Yeah.

Member Beach: -- that we --

Chair Kotelchuck: Yeah. That's what I thought.

Ms. Gogliotti: Okay.

Chair Kotelchuck: Yeah.

Ms. Gogliotti: And then this one also has two other observations. So, we'll just make a note of that.

Chair Kotelchuck: Okay.

Ms. Gogliotti: And whenever Metals and Controls Corp is resolved, we can come back to them --

Chair Kotelchuck: Right.

Ms. Gogliotti: -- if that's your preference.

Chair Kotelchuck: Right. Yes, it is.

Ms. Gogliotti: Okay. There is one observation for here, though, that I believe we can close out.

Chair Kotelchuck: Okay. Let's see.

Ms. Gogliotti: Our initial observation had to do with the approach used in the SEC and Site Profiles for GSI and Carborundum and we had recommended using the NUREG/CR-5512 approach.

And NIOSH came back --

Chair Kotelchuck: I'm --

Ms. Gogliotti: Go ahead. I'm sorry.

Chair Kotelchuck: No. No. Nothing to be sorry. I'm sorry I interrupted you. However, I intend to raise the issue of inadvertent ingestion in the Work Group and that will be coming up at some future meeting. I wanted to go over that.

So, let's just keep -- I would ask that we continue to leave that as something to be -- is being considered

by the Work Group or may be considered by the Work Group.

Nuclear Metals Inc

Ms. Gogliotti: Okay. We can certainly do that.

The next one that's open is 503.5.

Chair Kotelchuck: Right. NMI. Go ahead.

Ms. Gogliotti: And this one had to do with external dose from the chronic deposition of uranium onto the skin and clothing.

Chair Kotelchuck: Okay.

Ms. Gogliotti: And, again, this came up in September of last year and NIOSH was asked to provide an updated response.

Chair Kotelchuck: Right.

Mr. Allen: Okay. This is Dave Allen.

I wasn't aware of the coming-up-in-September part of that and I apologize for that. I had to miss that meeting.

Chair Kotelchuck: Okay.

Mr. Allen: Our original response was that -- well, to back up just a hair, this response was about accumulation of uranium particles on the skin. In other words, deposition from airborne onto the skin.

Our original response was that there's no reason to believe it wouldn't also be deposited on the film badges and, therefore, since the doses in this TBD are based on film badge readings, it would already be accounted for.

And then John Mauro came back saying that's a long-established precedence. And this is a September meeting or September comment, anyway, that I

missed.

And he said, long-established precedence in the project to assume film badge readings for beta is from the source located at a distance from the worker.

I can't find a single time where we've ever assigned film badge -- I mean, I cannot find a single time where we've ever actually assigned beta dose to somebody from skin deposition.

So, there is -- John's going to have to explain to me what this longstanding precedence is. We cannot come up with it. We can't find it.

Ms. Gogliotti: Okay. I do not have John on the phone.

Mr. Allen: Okay. And I --

Ms. Gogliotti: I can certainly get him on the phone at the next meeting or a response to be written.

Mr. Allen: Yeah, because I'm at a loss on this. It just makes no sense to me why it's going to be -- why the dose is going to be positive on the skin, but not on the film badge.

And to me it seems like the skin is more likely to get washed from day to day than the badge.

So, it's even a, you know, leaving deposition on the film badge, it seems like, is a favorable way of accounting for it honestly, you know, assuming all that is skin dose in that kind of environment.

Chair Kotelchuck: Um-hmm. Okay. Well, then that is -- look, you followed up and you couldn't find anything.

So, John -- Rose, you will ask John to write something up or put something in the BRS, right?

Ms. Gogliotti: Yes.

Chair Kotelchuck: Alright. And then we will deal with that the next meeting. Let me make a notation myself for my own note. I'll certainly have -- I have this listed from our last meeting also in July.

Okay. I have it in my notes. Alright. So, the next one I see is West Valley.

West Valley Demonstration Project

Ms. Gogliotti: Correct. 519, Observation 2. And this one we discussed at the last meeting. And the discussion kind of evolved and essentially there was a -- new information that came up after the dose reconstruction was completed.

NIOSH did a rework and determined it didn't have an impact on the case. They notified the claimant of this, but they did not actually do a rework.

Chair Kotelchuck: Right.

Ms. Gogliotti: And NIOSH, I believe, said that a rework would only be done if the claimant requested the rework.

And we questioned whether or not the claimant was offered that, the option of a rework, or whether or not they had to know in advance that they could request this. And Scott had to look into it, and he's responded here.

Chair Kotelchuck: Right. He has.

And it's the -- I think this is an important issue in terms of claimants knowing what their rights are.

And it is equivocal as to whether -- well, they are given the -- they are not certainly given the information.

Ms. Gogliotti: Scott, just for the record, do you want to expand on your response so it's in the notes?

Mr. Siebert: Sure. I can summarize this.

Basically, yes, if it makes a difference in compensability, we will automatically do a rework for that individual.

If it does not, we will explain the information in detail during the closeout interview, or follow-on phone call, as many times as it takes to get the information to the claimant and have them understand what's going on with it.

But, yeah, unless it's a change in compensability, we have not historically done a full documented rework.

It's documented in the phone interview so that if we ever need to come back and rework the claim again, based on an additional cancer or change of employment or anything like that, we have the information that we addressed to the claimant at that time, but we do not do a full, new written reply unless they specifically request it.

It's not that it's required for us to do so. But if they do request it, we will give that to them.

Chair Kotelchuck: The question is, why -- I mean, it's a lot of work to do a redo and to send it off.

On the other hand, why not do it? Why not have them know that they can do it? If they have a right and they don't know the right, then it's not a right.

I wonder what other people on the Subcommittee -- maybe I'm being overly concerned about this.

What do other people think on the Subcommittee?

Mr. Allen: This is Dave Allen.

I'm not on the Subcommittee, but just to point out, I mean, the --

Chair Kotelchuck: Sure.

Mr. Allen: -- the idea of correcting whether they know they have a right or not would be to give them -- make them a phone call, which is what this is.

I mean, we notify them, we document the notification, told them it's not going to change the compensation.

Chair Kotelchuck: Right.

Mr. Allen: I don't understand why that's not correcting that notification.

Chair Kotelchuck: Well, but that's -- to say that there's a phone call and not at the same time say if you want to have a written documentation of the change -- and I admit they will probably -- if I guess right, many of the claimants will say, sure, why not? And that's work for you.

But on the other hand, why do we -- if it was decided by us that that should be part of their right, then it seems to me it should be part of the phone call.

Mr. Allen: Well, I think some of these phone calls -- because we've done a few of these. I mean, it's not super frequent, but it does happen and some of these are a phone call to tell them that it won't make, you know, won't change the compensation and they drop it.

And that prevents us from having to go through an evaluation on how big of a difference this makes, how much the right factor is, where do we, you know, whether it even is legitimate or not, you know, and that sort of thing.

Chair Kotelchuck: Yeah.

Mr. Allen: If it's not going to matter, it's not going to matter. We contact them to cure the issue you were having there.

And at that point, you know, they're okay with not

putting it in there and we're done.

Chair Kotelchuck: Well, let me ask, Grady, if you're on -- and you're on the line. So, because that's an administrative thing.

Obviously if everybody had any change made, particularly changes that maybe they're frequent that don't actually change the compensation, then is that putting a heavy burden on your staff?

I'm not aware -- I mean, I'm not sure how heavy the burden is. I'm open.

Mr. Calhoun: Well, since we're actually going through and talking to them about the changes and they don't voice any objection and seem to be somewhat satisfied with our responses, I consider our work done. It is when we've gone out and communicated with them on that level.

Now, if we -- I don't know -- I can't tell you off the top of my head what kind of an impact that would be if we just said, and, by the way, if you want a rework of this, we'll do it.

Now, we have had people that have said, you know what, you put -- I don't know. I'm going to make something up -- you put the wrong date of this cancer diagnosis that was off by three days.

Chair Kotelchuck: Yeah.

Mr. Calhoun: Will you change that? And we'll say, sure, we'll change it. And we've changed the cover sheet and sent it to them.

Chair Kotelchuck: Um-hmm.

Mr. Calhoun: Now -- but if we were to offer that, I think that, you know, I can't gauge how much work that would be, but if a documented telephone call with the individuals explaining what the potential issues were, if they're satisfied with that, I figure that

we're done at that point.

Chair Kotelchuck: Yeah. I'm just sitting here --

Mr. Calhoun: I mean, I don't know what impact it would have to -- I mean, not on my staff, but what's the point of offering it and reworking it? I don't know what that changes here.

Chair Kotelchuck: Yeah.

Mr. Calhoun: Customer service, but I figure the fact that we call people and communicate with them so frequently, I mean, I'm fairly comfortable with our customer service on that.

Chair Kotelchuck: Um-hmm. Um-hmm.

Member Lockey: This is Jim Lockey. Can I ask a question about -- a follow-up on that?

So, do you ask them, in return, do you understand everything we talked about today? Do you have any questions?

How do you lead into the final conversation that they do have an understanding of what you're talking about and are satisfied with the conclusion?

Mr. Calhoun: I don't know that because I don't do that very often. So, I don't know if Scott or somebody from ORAU can deal with that, but, I mean, I don't know if it's in the log or not.

Mr. Siebert: Yeah. I mean, I can't speak directly to it because I'm not a claimant communications manager.

But my understanding is absolutely they don't get off of any call until the questions have been answered to the satisfaction of the claimant.

Member Lockey: Has anybody actually looked at this phone log to see what it says?

(Simultaneous speaking.)

Mr. Siebert: I guess that's what I'm saying. I mean, when you're talking to -- I think I understand where Dave is going with it.

If you're talking to somebody and the language is somewhat foreign to them and you have somebody from a technical background talking with them, they may just say yes.

It's how you approach their response, which I think is important. And I guess that's the piece that maybe somebody should look at.

How are those questions -- how is that satisfaction level obtained from them? In what manner?

I just -- I'm not saying it's not being done correctly. It would just be interesting to see how it's performed.

Chair Kotelchuck: Grady, do the people -- are the -- do the communications people schedule the call and tell the person that they're going to be calling or is it for the person -- for the claimant, simply a call out of the blue?

Mr. Calhoun: Is this for a closeout interview?

Ms. Gogliotti: This one was a closeout interview.

Mr. Calhoun: Yeah. We always schedule that, yeah.

Mr. Siebert: I'm actually -- this is Scott. I'm looking at the phone log right now and the phone log states that the interviewer spoke with the claimant, explained the additional information provided, described the impact, explained that based on the location of the cancer and dosimeter worn, the correction factor blah, blah, blah.

I don't want to get into specifics --

Mr. Calhoun: Right.

Mr. Siebert: -- but Mr. X thanked me for calling and did not have any additional questions or information to provide and has already returned the OCAS-1 Form. I provided my name and number asking him to call me back if he had any further questions on the report.

So, I believe it sounds pretty clear that the claimant was happy with the resolution and it was explained to them.

Chair Kotelchuck: That's good. Thank you for giving that to us, telling us about that. Because to leave it off with your giving them a phone number so that they can think about it and then call you back, that allows them to say -- to ask for reconsideration or that they are -- that they have some concern.

I mean, what will happen, I would expect, is that the claimant will hear and maybe would say, okay, thank you, because they appreciate the call. And then talk with their family or their lawyer or whatever, whomever they consult, and then have some concerns later.

But as long as you -- I'm satisfied that if you leave your name and phone number to get back to them -- that they can get back to you, I'm satisfied.

Ms. Gogliotti: Is that standard procedure?

Chair Kotelchuck: Pardon?

Ms. Gogliotti: Is that standard procedure? I'm not familiar with the interview process.

Chair Kotelchuck: Yeah.

David?

Mr. Allen: All of the individuals -- all the claimants have our contact information and many of them avail of it directly all the time to call our 1-800 number for specific information directly.

So, yes, we are not unclear that they can contact us again if they have additional questions.

Chair Kotelchuck: Okay. To me, that answers my question or my concern because I just don't want somebody, you know, hearing something and then, you know, just saying, oh, yes, because they don't quite follow.

As long as they have your number, then I don't see -- I know it will be a lot of work to redo -- to redo the documentation -- write up the documentation when it's not going to change the compensation.

So, it's a lot of -- it will be a fair amount of work. They can always get back to you and that satisfies me that they have an opportunity to rethink what you said and to object to it, perhaps, or ask for some problem -- or ask you for follow-up in some way. So, that's -- I'm satisfied with that.

Jim, what do you think?

Member Lockey: I think that answers the question. I would just ask is there a standard closeout script that people follow? Does everybody follow it the same way?

I mean, I can imagine three or four questions that would be a standard closeout. Do you feel that I have answered all your questions? Do you understand the answers to all the questions? Do you understand you can call me back if you have additional questions that come up in the future?

Something along those lines, has that been standardized across all the people that do this or not?

Mr. Calhoun: The closeout interview process is covered in Procedure 92 and specifies the discussions, including -- one of the steps which ensures all questions have been addressed and advises the claimant to contact NIOSH by telephone

or in writing using the contact information if they have additional questions.

So, yeah, that information is there and handled by procedure by all our closeout interviewers.

Member Lockey: Perfect.

Member Beach: Well, and I -- this is Josie.

I thought we handled that script when we reviewed the 10-year -- or went through the 10-year review process. I thought that was one of our big things that we looked at.

Member Lockey: I think you're right, Josie, and I had forgotten about that.

Member Beach: Yeah. And I have a question for -- back to Dave because early on it sounded almost contradictory that you know for sure when you tell a claimant it won't change the outcome. Do you know that before you tell them that?

And then later on the way you worded it, it sounded like that stopped the proceedings. And so, I guess my question is, are you 100 percent sure, in all cases, that it wouldn't affect the compensation?

And if so, how do you know that for sure if you don't re-run it?

Mr. Allen: This is Dave Allen.

Chair Kotelchuck: Yeah, Dave Allen.

Mr. Allen: I think you're asking me.

Member Beach: Yes, Dave Allen.

Mr. Allen: In some cases, you can re-run some numbers fairly easy. It's the whole writeup of getting it all back and, you know, doing a whole bunch of administrative stuff that can be time-consuming and just confuse them even more by the time you're all

said and done if they're tired of it and don't want to deal with it.

So, yeah, sometimes you can re-run it and many times you get something like this and honestly it just doesn't have an effect.

It's not that it will go up, but not enough, it's that it has no affect such as, say, Super S plutonium. And that would only lower the dose for this particular organ that person has or something along those lines.

So, not every time, by any means. In fact, most times you probably don't have to run any numbers to inform them that their new information won't affect the dose reconstruction.

Sometimes it's very obvious that it's, you know, going to raise it only a little bit and dose reconstruction is at one or two percent and the person making the call talks to an HP and figures out that it's not going to be enough to push them over 50 percent.

Other times, maybe you do run some numbers. By the time you start running numbers, you might -- you're not going to argue with them too much.

You're going to talk them out of it and say it's not going to be enough for compensation. Do you still want it? If they do, then we do it.

Member Beach: Um-hmm.

Mr. Allen: And the thing that hasn't come up here is that is if it is in-house. Sometimes we get these calls after we've already sent it to Department of Labor.

At that point, it gets much more difficult and we have to convince Department of Labor to return the claim to us in order to give them a new one and that's a whole different story.

Chair Kotelchuck: Yeah. That would be a whole different story because that's -- it's been decided upon --

Mr. Allen: Yeah.

Chair Kotelchuck: -- and approved.

Mr. Allen: Yeah. Once they get a final decision, that gets hard. And so, it is --

Chair Kotelchuck: Yeah.

Mr. Allen: -- much better for us to run a few numbers and say it's not going to make a difference, you know, do you really want us to go through this?

Chair Kotelchuck: Um-hmm. Well, frankly, you've run some -- you said you'll say to them in the course of not when it's decided, but while it's still being considered, you will tell them, look, this will not change things and, you know, just wanted to tell you. And then you have my phone number if you want to call me back further or if there's any concerns that come up at a later time.

And that's adequate, it seems, to me. So, as I say, I'm satisfied. And we have had this discussion and also the closeout interview is pretty well-defined, I'm sure.

So, I'm ready to move on. I'm ready to accept and close it. Are others open to that or do you want to reconsider or have a different take?

Member Lockey: I'm good. Jim Lockey. Moving on.

Member Beach: Josie is ready to move on. I accept the discussion.

Member Valerio: Loretta is ready to move on.

Chair Kotelchuck: Okay. So, we all are. Thank you all. So, we're now on to --

Ms. Gogliotti: The 27th set.

Chair Kotelchuck: 27, fine. And since we had a long break before, we're not going to stop for a comfort break. Unless I hear a request, I will just go on.

Ms. Gogliotti: There's not that many more left.

Chair Kotelchuck: No, there really aren't.

Okay. Let's go on to 27.

Discussion - Set 27: Review remaining open and in progress cases

Ms. Gogliotti: Okay. And we can just start at [case] 551 here.

Chair Kotelchuck: Okay.

Ms. Gogliotti: This came up at the last meeting. We discussed it briefly, but Grady was not on the line and we voted to table the discussion until he was here. And he's here now, so I think we should talk about it.

What happened in this case is interesting. We've never seen it before. And that is why we have it as a finding because it's so unique.

The Claimant reported their initial employment to DOL. And DOL sent them a letter back verifying specific employment dates.

Here we go. In that letter, they say specifically we're notifying NIOSH of these employment dates and they will be using [these in] their dose reconstruction to summarize.

And then a NIOSH summary referral document was also sent to NIOSH from DOL and the dates do not match.

And then the claim was revised. The EE provided some additional employment information. And DOL again notified the claimant of verified employment

dates that they informed the claimant they were telling NIOSH. And those dates again do not match the dates that were provided in the NRSD.

Now, NIOSH used the dates that were provided to them in the NRSD, which I believe is their official means of where they're supposed to get the DOL-verified information, but the dates do not match what the claimant was notified about.

And this particular case has a PoC of 49.7 percent and even a few months did significantly increase the dose because of the uranium dose that was assigned in this case.

And at the last meeting we were talking about whether or not DOL should be informed of this.

I don't know what caused this or how this happened and we wanted to wait until Grady was present.

Mr. Calhoun: I'm back. So, this does happen occasionally. And whenever we find this area is a discrepancy in employment, we do, in fact, contact DOL.

And we have it documented that we contacted DOL and we said, hey, this person claims that -- and we contacted the specific district office [that sent] the claim to us from DOL.

And we say, hey, this claimant claims that they have additional employment, and we gave them the dates of this employment.

And then I also looked through the phone record. And when we talked to the individual and they mentioned that, we told them that we contacted DOL, but you need to contact DOL and tell them of that as well.

So, there were two instances. No. 1, we actually contacted DOL specifically. Then we, during a closeout interview, spoke to the claimant, told them they needed to contact DOL and at that point our job

is done.

You know, how many times do you do it? I think it's really just a courtesy for us to do that.

We certainly want to get it right any time we have any indication, but it's DOL's responsibility to verify employment, verify cancer.

And we'll advise them, you know, once when we find it, but I'm not -- I don't think it's appropriate for me to keep going back multiple times and telling them that they may be wrong.

Now, they may be right, you know. The employment very well could be something that wasn't covered for some reason. And we've seen that, too.

Ms. Gogliotti: May I interrupt you? Because I think we're talking around each other.

I agree that that communication absolutely happened, but the actual letter in the second round leaves the same dates and simply adds a new employment period to the dates.

But the initial dates that DOL notified the claimant were covered are not the same dates as DOL notified NIOSH were covered. There's a discrepancy between the dates that they told each party.

Mr. Calhoun: Right. And we used the ones that DOL sent to us, I would imagine.

Ms. Gogliotti: You did.

Mr. Calhoun: Yes.

Ms. Gogliotti: Which I assume --

Chair Kotelchuck: Pardon me. I missed that last -- Grady, what did you say?

Mr. Calhoun: I said we used the dates the Department of Labor sent to us.

Chair Kotelchuck: Yeah.

Mr. Calhoun: Because this was actually -- this -- if -- I'm looking at the documents right now and this covers eight, nine months.

And DOL did send back new dates and you're correct they didn't actually -- they weren't the same dates that the employee claimed, but --

Ms. Gogliotti: Yes, but they're --

Mr. Calhoun: They requested us to do a new dose reconstruction to include the additional dates, and we did.

Now, they don't match with what the employee said, but, you know, how many times do you go back?

Ms. Gogliotti: Well, not with what the employee said. They don't match what DOL told the employee was covered.

Mr. Calhoun: Right. And at that point, it's up to DOL and the employee to get their dates straight.

We can only use what DOL provides to us especially after we go back and request clarification and they gave it.

Well, clarification may not be great, but that's still their clarification, you know. Their job is to verify employment.

Ms. Gogliotti: And I don't disagree with that.

Chair Kotelchuck: Does --

Ms. Gogliotti: I just have an ethical problem with telling the Claimant that something is covered and then not actually covering it because it's not the same as what they informed another party about.

Mr. Calhoun: Right. I understand that, but I guess your ethical problem would be with the Department

of Labor.

Ms. Gogliotti: Well, yes. And so, we were discussing whether or not we should notify DOL and get to the bottom of how this happened and prevent it from happening in the future.

Mr. Calhoun: I don't really think it's your guys' place to contact DOL on anything, really.

Chair Kotelchuck: Yeah. Does the Claimant know that the dates given to NIOSH are different than the dates that were given to him or her?

Ms. Gogliotti: I don't believe.

Mr. Calhoun: Yes, he does.

Chair Kotelchuck: Okay.

Mr. Calhoun: And in the phone log we tell him that. And just like the phone log that Scott told you about, it's documented and --

Chair Kotelchuck: Okay.

Mr. Calhoun: -- we tell them that, hey, it's different, they verified that and, yes, they are different, and we tell them they need to contact DOL.

Chair Kotelchuck: It seems to me -- I do agree it's not our responsibility to -- after calling DOL, to keep at it.

On the other hand, is this something for ombudsperson -- to refer the person to an ombudsperson -- one of our certified ombudspersons and ask them for help?

But I agree it's -- it does not --

Mr. Calhoun: Well, I'll tell you what. I can forward this to Denise Brock if you want to deal with -- if you want me to get the ombudsperson involved, but this is something not typical.

And I think that this shouldn't -- I mean, I guess you can call it an observation, but it really isn't that. It's certainly in the finding.

Chair Kotelchuck: Yeah, it is. Well --

Ms. Gogliotti: And if we can --

Chair Kotelchuck: Go ahead. Sorry, Rose.

Ms. Gogliotti: This one, there's several other observations that we made with this case being there were dosimetry records that were present and --

Mr. Siebert: I'm sorry, before we move on to any others -- this is Scott -- I just want to point out that, yes, all that discussion is true, but the amount of employment the DOL verified for us that we base the dose reconstruction on is about six months more than they actually told the claimant.

So, the numbers that we used were claimant-favorable. It wouldn't make a difference from changing the decision in this claim. I just wanted to point that out.

Chair Kotelchuck: Okay, that's useful. Thank you.

Ms. Gogliotti: Unless you all verified all of the dates.

Chair Kotelchuck: Well --

Ms. Gogliotti: Which is beyond our purview, I know, but just for double-checking it there.

Chair Kotelchuck: If the dates are longer, then it doesn't -- it changes nothing.

Ms. Gogliotti: If there was more employment, it would change something potentially. We didn't run the complete numbers because that's outside of the scope of our review.

Member Beach: It seems like we're at a standstill to be able to handle this. I think the idea of the

ombudsman is not a bad idea to make sure that the employment is verified correctly. I feel like that's a good move.

Mr. Calhoun: And I'll do that but I just want to be clear that, you know, I believe we actually went the extra step on these to try to get that information. If it comes back and there's extra data and this thing flips positive, that's great for the claimant but it's not a finding or an observation on what we were supposed to do.

Chair Kotelchuck: Right, yes. Yes. I mean, this is -- here's a case where, you know, the person would -- I mean, as I recall, Rose, the person was fairly close to 50 percent. Although if the dose reconstruction was made for six more months, they're not going to get more. If anything, it would be less so there is no point to --

Member Beach: But, Dave, what Rose was saying is there actually should be more than the six months.

Ms. Gogliotti: Potentially. It's not my job to verify.

Member Beach: No, no, it's not.

Chair Kotelchuck: Well, can we -- I mean, I'm not sure this is a procedure or the question is whether this is a single case that we're deciding to function in this way. I think it sounds like we have a -- there is a reasonable procedure if there's a discrepancy between what the person is told and what we believe the work records show.

Mr. Calhoun: And generally our approach is that if the claimant says it, we'll add it if it ends up being a non-comped case without a lot of extra verification.

Chair Kotelchuck: Yeah.

Mr. Calhoun: Because this is so close, we can't just add that dose without DOL telling us they worked there. We just can't.

Chair Kotelchuck: Yeah, yes. So let us -- let us contact the ombudsperson.

Mr. Calhoun: I will do that.

Chair Kotelchuck: Okay, wonderful. Wonderful.

Mr. Calhoun: I'm taking care of that.

Chair Kotelchuck: Okay. I appreciate that because the next question was who's going to do it and you are an appropriate person, or the appropriate person. Thank you.

Okay. Then we've resolved that, right, folks? We can close it.

Ms. Gogliotti: Yes, I think we can close that one.

Chair Kotelchuck: Okay.

Ms. Gogliotti: There are some other observations.

Mr. Siebert: I'm sorry. This is Scott. The only question I had -- I don't think Grady's question got answered -- is should this be an observation or a finding.

Mr. Calhoun: It's definitely not a finding. Definitely not.

Chair Kotelchuck: Yeah, I think that's correct. It's an observation because there was nothing that was done wrong. NIOSH did nothing wrong and there was not an error in what they did.

Mr. Calhoun: We actually exceeded expectations by going and asking the question.

Chair Kotelchuck: Yes. I agree that it should be an observation. There are other observations, too, in terms of the numbering. I think that is an observation.

Ms. Gogliotti: We do not go back and re-edit cases so

we would just change this to an observation but it wouldn't get its own number.

Chair Kotelchuck: Okay, that's fine. Okay.

Folks on the Subcommittee, do we agree that it's an observation?

Member Beach: I agree with that.

Member Lockey: Yeah, I do too.

Member Valerio: I agree with that.

Chair Kotelchuck: Okay, then it's an observation and it is now closed. Good, thank you. Alright.

Now, we just have a few more and not that many.

Ms. Gogliotti: Yes.

Chair Kotelchuck: There was a K-25 at 547.1.

Ms. Gogliotti: Do you want to formally close out the rest of the ones associated with [case] 551 before we move on?

Chair Kotelchuck: Yeah, I believe so, yeah. They all relate to that same issue, right?

Ms. Gogliotti: Um --

Chair Kotelchuck: Most of them do.

Ms. Gogliotti: Somewhat.

Chair Kotelchuck: Let's check.

Ms. Gogliotti: Observations 1, 2, and 3 are the same except they are for recorded photon dose, missed photon dose, and missed neutron dose.

Chair Kotelchuck: Okay, okay.

Ms. Gogliotti: EE had monitoring outside of the DOL-verified period of employment.

Chair Kotelchuck: Okay.

Ms. Gogliotti: NIOSH didn't define dose because they are not allowed to. But a more fundamental question, we kind of had the question if there's evidence of the EE being on site and being exposed during an uncovered period of time. Are they procedurally required to notify DOL? Do they ignore that? Do they include it unless it makes a difference?

Chair Kotelchuck: You're talking about Observation 4?

Member Beach: One.

Ms. Gogliotti: One, two, and three.

Chair Kotelchuck: I thought one, two, and three are the same issue.

Ms. Gogliotti: They are but these have to do with physical dosimetry records rather than statements made by DOL.

Member Beach: There are dosimetry records during that period. Is that correct, Rose?

Ms. Gogliotti: Yes.

Member Beach: I thought I read that.

Ms. Gogliotti: There are.

Mr. Siebert: I can address that a little bit, Grady, if you want me to. This is Scott. Yeah, I looked very specifically into this and, as Grady mentioned, we had already gone back to DOL and requested that they re-examine the employment time frame.

I went back and I looked at what they referred to us and what we originally had in the DOE files and I did a cross-reference and everything that we had in the DOE files, the monitoring data we have in 2000, 2001, DOL also had that in their new referral to us.

The exact same pages were in their referral so they had that information when they went through their determination on employment. There's no need to go back to them again because they had that information.

Chair Kotelchuck: Okay.

Ms. Gogliotti: Okay. So there's no potential that they might have missed it because they get hundreds of files?

Chair Kotelchuck: Right.

Ms. Gogliotti: We just accept that?

Mr. Allen: This is Dave Allen again. Can I say one thing to try to clarify this whole situation, especially this extra dosimetry information?

Chair Kotelchuck: Mm-hmm.

Mr. Allen: The sites of Paducah and Portsmouth, at one point the U.S. government experimented with the idea of giving it to a private entity called U.S. Enrichment Corp. and they did that in this time frame, gave it to a private entity, blocked off what they called that, and that is not covered under EEOICPA because it was not part of DOE. There were people working there enriching uranium in a private entity that is not covered by this program.

Chair Kotelchuck: And that may be what happened. Right?

Mr. Allen: Exactly.

Chair Kotelchuck: That's what Grady was talking about.

Member Beach: What are the dates for that?

Mr. Allen: I'm sorry. They eventually gave it back to the Department of Energy but, as far as the

Department of Labor is concerned, all the lawyers are concerned, that is not a covered time frame. At one or both of these sites, it's a piece of the site that is not covered, not the entire site.

Chair Kotelchuck: Yeah.

Mr. Allen: So it --

Chair Kotelchuck: Go ahead.

Ms. Gogliotti: Is there a way of verifying that the EE was in one area versus another?

Mr. Allen: There's a way of verifying who they worked for. If they worked for U.S. Enrichment Corp. it's not covered.

Chair Kotelchuck: Right.

Mr. Calhoun: That's DOL's issue.

Chair Kotelchuck: That's right.

Mr. Allen: That is DOL's issue. That is not a good issue to deal with. They are struggling. DOL is struggling with it so we're not going to just keep pinging them worthlessly over the head if they got it somewhat different than what we would have done.

Chair Kotelchuck: Yeah.

Mr. Allen: It's not just their job, they are doing what they had the authority to do. We're just going to keep saying, are you sure this isn't U.S. Enrichment Corp. Are you sure this is U.S. Enrichment Corp? We'll ask them once and that's about it. We can't continuously ping them over the head on it.

Chair Kotelchuck: Well, I agree with that and I accept that. As long as they have the records, as David said, as long as they had the records when they made their decision, then I would close it out and the ombudsperson should handle that.

I mean, that gives the person a little bit more leeway. But it seems to me we have to close it. They knew about this and they didn't do it and now we hear a credible reason why they might not have. And since we know they had it, Grady called them once, I think by sending -- by Grady sending information over to the ombudsperson, then I think we're settled.

Mr. Calhoun: Even more on that, and I'm glad that Dave Allen brought that up actually.

Chair Kotelchuck: Mm-hmm.

Mr. Calhoun: Just this -- no, last week I'm dealing directly with Department of Labor on this exact issue. This exact issue. And telling them that this is a problem for us and it's a problem for them and I would really like for them to start looking closer at what is covered employment versus verified employment.

They are two different things. And I just sent a message over to DOL last week to try to encourage them to send us what is really important because it's confusing us and it's confusing the claimants. They are looking at it globally, too.

Chair Kotelchuck: Good.

Go ahead.

Member Beach: I've got one quick question. This is Josie. I think this is the first we're hearing about that employment period. Do you have the dates for that or can we know that?

Mr. Rutherford: This is LaVon. The dates are 7/28/98 through May of 2001.

Mr. Allen: Okay, Bomber [nickname for LaVon Rutherford], I think that's for Paducah or Portsmouth.

Mr. Rutherford: Okay, his one is for Portsmouth. You

are correct, Dave.

Mr. Allen: For Paducah it looks like it is July 1998 to May of 2013.

Court Reporter: This is the Court Reporter. I'd remind parties to identify themselves when they speak.

Mr. Allen: This is Dave Allen speaking.

Member Beach: Thank you. That's helpful.

Mr. Rutherford: But, Josie, it's on the DOE website where it says the site description, what they did and everything. It's listed in there for both of those sites.

Member Beach: Okay, thank you.

Chair Kotelchuck: I would like to close out the first four observations. Rose, let's come back to that. The fifth observation is about lung cancer. An employee reported having lung cancer and Scott indicated that they evaluated and determined that lung cancer was not diagnosed. To me that can be closed right now. That's not an ombudsperson issue.

Ms. Gogliotti: Okay, we will close Observation 5.

Chair Kotelchuck: Five. And then 1 to 4 we, the Subcommittee, will close.

Ms. Gogliotti: Okay. And Grady is going to take care of the others.

Chair Kotelchuck: Exactly, right.

Ms. Gogliotti: Okay.

Chair Kotelchuck: Good.

Mr. Calhoun: That's going to be an FYI, too. There's really no follow-up on that other than me asking her to follow up on that.

Chair Kotelchuck: Yeah, correct.

Ms. Gogliotti: That's fine because we won't come back to it if it's closed out.

Chair Kotelchuck: Yeah, okay. Good. Let's keep going.

Ms. Gogliotti: Okay. We'll jump then to Tab 547.1

Chair Kotelchuck: Mm-hmm.

Ms. Gogliotti: This one has to do with strontium intakes. We had a urine bioassay for strontium that was negative but NIOSH did not assign missed dose. We did discuss this at the last meeting. Scott came back and initially said that strontium-90 was not part of the source term at the site that the EE worked at.

It's an Oak Ridge facility. We just questioned whether or not it was claimant-favorable to exclude it because it's not unreasonable that the EE may have visited ORNL which would explain the strontium-90 monitoring, and NIOSH was asked to respond at the next meeting and Scott has some input in here.

Chair Kotelchuck: Right.

Mr. Siebert: I can go over that just briefly. Basically, what it comes down to is what we had previously said is there was no strontium-90 at K-25 based on the TBD at the source term in place. There is no indication the individual went to ORNL so there would be no reason to deal with strontium-90 at that point.

We have gone back and we've done more investigations and actually there's been over the last couple years since the claim was actually worked, there have been some data captures and there is an indication that strontium-90 may have been one of the source terms at K-25 based on the fact that they had an incinerator running at some point during that [time].

We're going to be having that information put into the K-25 internal TBD. Until that time we've added to

the DR guidance document that, if they see bioassays such as strontium-90 that doesn't seem to be part of the source term by the TBD, go ahead and include it based on this incinerator and then once we have the TBD up, that will be documented there as well.

Oh, and I should also mention we looked at it for this specific claim and it had no impact on the claim, the strontium-90.

Chair Kotelchuck: Yeah.

Ms. Behling: This is Kathy Behling. Will this become a PER issue?

Mr. Siebert: Once the TBD is updated, I would assume that is a likely scenario.

Ms. Behling: Okay. David Allen, I assume this will become a PER.

Chair Kotelchuck: Okay. And Rose, you're suggesting closure. You accept?

Ms. Gogliotti: Yes.

Member Beach: Can we get that written up prior to closure? It's not written up, is it?

Ms. Gogliotti: It is in here.

Chair Kotelchuck: I saw it. Yeah, I'm reading it. It's fairly lengthy, in fact, as they go.

Member Beach: Alright. I missed that.

Chair Kotelchuck: Yeah, I'm looking at it now. It wouldn't make any difference in compensation, less than one millirem. I think we can close it unless there are other concerns. Shall we close, folks?

Member Beach: This is Josie. I agree with that.

Chair Kotelchuck: Okay.

Member Valerio: I say to close it, Dave.

Chair Kotelchuck: Okay. Jim?

Member Lockey: Close.

Ms. Gogliotti: Okay.

Chair Kotelchuck: All right. I think [case] 552 is our next one.

Ms. Gogliotti: Yep.

Chair Kotelchuck: Paducah, Observation 2.

Ms. Gogliotti: 552, Observation 2. This one we also discussed at the last meeting. To briefly summarize, the EE had a scan done. In the results of that scan, the technician thought there might be a problem so they suggested that there be a re-scan repeated in three months. That scan was completed and normal.

We agree with the way NIOSH handled it but we thought that OTIB-6 was vague in the guidance for this where the second scan could reasonably be classified as diagnostic. Or it could be classified as a screening examination and the results of that were basically contingent on the results of the scan and NIOSH agrees that there's some ambiguity but they agree that it was handled correctly.

They found it was fairly rare and didn't believe that a guidance document change was necessary. We do think it's an unlikely scenario that this is not very common but we're skeptical that the secondary scan would have been treated the same way if results were different and we do suggest procedural guidance for consistency. At the last meeting, we discussed it and Grady wasn't here. Scott said that was his call but Grady's here now.

Mr. Siebert: Grady, I will take it. I've actually noted a comment in our document control application as we discussed earlier for the next revision to address this

situation and determine if clarity needs to be added so I do have a note in there for that clarification purpose already.

Mr. Calhoun: I see that. Okay. This is Grady. Yes, I see that. I think that's the right way to go forward.

Chair Kotelchuck: Sounds good. Where is the clarification going? What exactly is being clarified? Not what issue but what --

Mr. Siebert: What document?

Chair Kotelchuck: What document, yes.

Mr. Siebert: It's OTIB-6.

Chair Kotelchuck: Okay, good. That would seem to satisfy it.

Rose, you would agree to close it?

Ms. Gogliotti: I would agree, yes.

Chair Kotelchuck: Okay. And I would agree.

Member Beach: This is Josie. I agree as well.

Chair Kotelchuck: Yeah.

Member Lockey: I do, too.

Member Valerio: This is Loretta. I agree.

Chair Kotelchuck: Okay, we're in agreement so we'll close it.

Ms. Gogliotti: Okay. 557, Observation 1. This is essentially the same as 558, Observation 1, so we can actually tackle both of these at the same time.

Chair Kotelchuck: 557.

Ms. Gogliotti: This had to do with the application of an uncertainty correction factor when assigning recorded photon dose as it applies to skin cancer

using OTIB-17. And we had some questions initially about when this correction factor was being applied and when it wasn't because we had some cases with similar PoCs that it wasn't applied to versus [some that it] was.

I think we got that part answered. However, when we interpreted NIOSH's statement to mean that in overestimating dose reconstruction where cancer doesn't use OTIB-17 should have this uncertainty correction applied and we just requested confirmation of that which is the first aspect of this. Then the second aspect would be that we don't necessarily believe that OTIB-17 specifically says that it addresses uncertainty multipliers.

At the last meeting we had asked NIOSH to go back and look at whether or not OTIB-17 was claimant-favorable for all cases or all uncertainty multipliers and NIOSH responded that they had gone back and done that in the BRS since the last meeting.

They said they evaluated the range of uncertainty multipliers across the complex as they are summarized in OTIB-8 and 10 and determined the provisions of OTIB-17 were claimant-favorable. But NIOSH said they would consider adding wording to address the observation in the next update of OTIB-17.

We just had some follow-up questions and we think this probably needs to be discussed with the work group more. Is this evaluation documented somewhere? What does this evaluation entail? We did go back and look at OTIB-8 and 10. It looks like there's discussion of a correction factor of 1.6 and 2, I believe. Is that the range that was being discussed?

Mr. Smith: Yeah, this is Matthew Smith with the ORAU team. I'll put all these things in context. OTIB-17 was authored in early 2005 and at that time certainly we didn't have all of the TBDs for every site available to us with information about the dosimetry

uncertainty for the systems at all those different sites.

At the beginning of the project the two TIBs that we referenced there, OTIB-8 and OTIB-10, were written to help us deal with processing claims in an over-estimating manner. Those factors of approximately times 2 that are in both of those documents were derived by looking at a wide range of the possible uncertainties and dosimetry system responses for both film and TLD.

The TLD TIB was released in late 2003 and the film TBD came shortly after that in early 2004. Both of those do mention not to use them with skin claims because, at the same time, we had TIB-17 under development.

As I mentioned last time, we followed the same process of being claimant-favorable and overestimating. I think last time I gave the example, and I'll repeat it again, with respect to electrons the ICRP-74 DCF, that the maximum energy for uranium electrons would be .5. If you drop down into the average energy of .4 and if you go downward from there, the DCF drops down to .2.

One of the provisions in OTIB-17 that was even discussed earlier in this meeting is we've recommended DCF be 1, not just for electrons but for all radiation types and energies across the board. In addition, the TIB has other favorable provisions that, again, were mentioned earlier today.

With respect to SRS and any other site when we have a 00 miss dose situation, select the LOD that is higher. For SRS it was higher for open window so we used that LOD. We then applied that to the missed dose as if it were 30 to 250 keV photons which is the more favorable energy -- I'm sorry, radiation type and energy range selection with respect to PoC.

The TIB-8, I believe, contains some language that is

not in TIB-17 but it goes to the philosophy that was being used at the time. TIB-8 has a statement that says, in addition, it's not appropriate to apply estimates of uncertainty after the application of overestimating assumptions.

That was the same rationale – the same provision or rationale -- that was being expressed in the uncertainty section of OTIB-17. Certainly we're a decade or more down the road. As we spoke earlier, this TIB is going through a review process and we will take this item and issue a new review as well to help clarify.

Ms. Gogliotti: Is that actively undergoing the review process or is that just if it has to be updated, this will be done?

Mr. Smith: I can't speak to the exact scheduling and such. That's a management issue with ORAU team and DCAS. That's above my level to comment on.

Member Beach: So it's not going through review right now that you know of? This is Josie.

Mr. Smith: As Scott said, we've got these comments in there for the review cycle that is most likely coming up. This group has generated this issue and the other one so I just can't speak exactly to the when, where, and how of everything.

Chair Kotelchuck: Rose, so you asked the question. He said he can't authoritatively answer it. Are you satisfied since you, SC&A, believe that it warrants further discussion? I'm not sure I completely follow.

Ms. Gogliotti: I'm not -- we don't actually see OTIB-8 and OTIB-10 applied, especially because they are overestimating and we typically review best-estimate cases so I'm not familiar with the quote that was just mentioned about how it says it's inappropriate to include additional uncertainty multipliers.

Chair Kotelchuck: Yeah, well --

Mr. Smith: What we're saying is, especially at the time, given the era the project was in, is that we were taking an over-estimating approach even in OTIB-17 and, therefore, it would be inappropriate to apply additional uncertainty on top of that.

Chair Kotelchuck: Rose, does this perhaps warrant a technical discussion between NIOSH, ORAU, and SC&A?

Ms. Gogliotti: Not necessarily.

Chair Kotelchuck: I don't feel ready to act on it myself without understanding it better or, at least, minimally that you have understood it. You have raised the question and if you understand it better and move it to be closed, that would be helpful to me.

Ms. Gogliotti: Let me just -- so OTIB-17 is inherently claimant-favorable. That's fairly accepted. SC&A has reviewed it, but I think that, at least on SC&A's side, we were not aware of the discussion of uncertainty in OTIB-17 was implying that uncertainty multipliers such as that or a glovebox -- no, maybe not a glovebox correction factor, but we weren't aware that that was being done.

It's not clear on OTIB-17 when you read that that is the intended meaning. I was not familiar with the history with TIB-8 and that predates my time with the program. We have not looked at that.

If the Board was interested in pursuing that further, I think that would be a tasking probably for the Procedures Subcommittee to look at that further. But from the dose reconstruction standpoint, I think that's outside of our purview.

Chair Kotelchuck: Okay. So I'm comfortable --

Ms. Gogliotti: I would recommend at least updating the TBD to reflect that because it doesn't clearly state

that now and, if you're not familiar with that history, I don't know how you would come up with that.

Chair Kotelchuck: I don't feel that I'm able to make a proper evaluation of this. I would be open to sending it to the Subcommittee, the Procedures Subcommittee.

Member Beach: This is Josie. Is Kathy still on the line?

Ms. Behling: Yes.

Member Beach: Have we looked at this in the Procedures Subcommittee? I don't know off hand.

Ms. Behling: Yeah, I was about to interject here. Let me be sure I understand what is being recommended here. We reviewed OTIB-10 and 8 a very long time ago. They are conservative procedures, conservative OTIBs. We use those -- I've been around unfortunately long enough. I'm giving away my age here, but I've used those procedures in the past. I'm not sure if you're suggesting that we look at OTIB-8 and 10 again.

Ms. Gogliotti: No, no.

Ms. Behling: Okay. But I do think --

Ms. Gogliotti: We're discussing OTIB-17.

Ms. Behling: Right.

Ms. Gogliotti: The specific instance of uncertainty.

Ms. Behling: Yes, but I do think obviously when OTIB-17 is revised, that should be looked at by the Subcommittee but we have reviewed OTIB-17, yes.

Member Beach: And that would be part of our normal process, correct?

Ms. Behling: Yes.

Member Beach: To review the new, when it comes out again, OTIB-17.

Ms. Behling: A lot of times it's dependent on the type of changes that are incorporated.

Member Beach: Right.

Ms. Behling: Sometimes there's a clarification of things. But, in this particular case, I think I should make note that we want to keep a watch for this OTIB being updated.

Member Beach: Agree. This is Josie again. I'd be happy and satisfied with that.

Ms. Behling: Okay. Will do.

Chair Kotelchuck: Okay. So, we will send it to the Procedures Subcommittee which will keep an eye on it.

Ms. Gogliotti: Yeah, but we will -- we can formally close out this issue.

Chair Kotelchuck: Yes, for us.

Ms. Gogliotti: And 558, Observation 1 also, which is the same.

Chair Kotelchuck: Yes.

Ms. Gogliotti: Okay, wonderful.

Chair Kotelchuck: Yeah. 558, I believe, is similar.

Ms. Gogliotti: It's the same issue.

Chair Kotelchuck: Yeah. So that can be closed out, too, again.

Ms. Gogliotti: Yes.

Chair Kotelchuck: Okay, those two issues go to the Procedures Subcommittee.

Ms. Gogliotti: That was the last of them in the 27th set.

Chair Kotelchuck: Yes.

Ms. Gogliotti: So we just have a couple stragglers in other sets, but I don't think that they are ready to be closed out at this time so it wouldn't be worth going back through them.

Chair Kotelchuck: Okay. Well, I think we've done a good job. I think it seems to me maybe we should just start -- it's 4:00. We should start talking about the next meeting.

Rashaun.

Dr. Roberts: Yes, great. So, again, because this is a subcommittee, I do have to prepare a Federal Register notice for this and it needs to be submitted 60 days in advance. We need to take that into account as we're trying to identify when we would meet next. We would be into the next calendar year.

Chair Kotelchuck: We certainly would. I was thinking that early January would be a wonderful time to meet because things tend to be a little quieter after the holiday season, but I'm not sure we can make the 60 days because it will take a while --

Dr. Roberts: Yeah, because we do have -- right. We have to include a draft agenda and some other materials with that.

Chair Kotelchuck: Sure.

Dr. Roberts: We really shouldn't jam ourselves up on the time.

Chair Kotelchuck: I agree. It seems to me we can't do it before the last couple of weeks in January, or perhaps in early February depending on people's availability. What would you think? I don't know how long it takes to develop the write-up for the meeting.

Dr. Roberts: I think February could be a possibility.

Chair Kotelchuck: Okay.

Dr. Roberts: I do think January is pushing it a little bit.

Chair Kotelchuck: Alright. Well, the first two weeks in February? The 2nd is Groundhog Day but I don't think we have to worry about that.

Dr. Roberts: (Laughter.) Right. I know we've got some things on the books in February for, I think, the 18th, and the 24th is the full Board meeting.

Chair Kotelchuck: The 18th. And when is the full Board meeting?

Dr. Roberts: The full Board is on the 24th of February.

Chair Kotelchuck: Okay. Can we meet the week before? Early the week before? Well, Presidents' Day is the 15th. The 16th -- no. 16th, 17th, 18th, or the 17th, 18th. It would be nice to meet --

Dr. Roberts: What about the 17th or 20th?

Chair Kotelchuck: Okay.

Dr. Roberts: No, the 17th or 19th. It would be either a Wednesday or a Friday.

Member Beach: I would rather do after the Procedures Subcommittee. That's a lot to get ready for at one time.

Chair Kotelchuck: Uh-huh.

Dr. Roberts: Okay.

Chair Kotelchuck: When was the Procedures meeting?

Dr. Roberts: On the 18th.

Chair Kotelchuck: Oh, yeah, it is. That's a bit of a problem. Let's see. Well, I hate to have a meeting early in the week of a Board meeting. We're going to do --

Member Beach: The 24th --

Dr. Roberts: That's a planning -- yes, that's a planning meeting so I think we could, if you wanted to, do something earlier in the week like that Monday or something. We could certainly try to do that.

Chair Kotelchuck: That would work, the 22nd or 23rd.

Member Beach: The 22nd is Washington's birthday. Some people take that off.

Chair Kotelchuck: Right, okay.

Member Beach: What about the 25th, a Thursday?

Chair Kotelchuck: Well, that certainly sounds good, the 25th. Now, David Richardson is not here so we need to make a date and alternate date. How about Thursday the 25th, folks?

Dr. Roberts: Sure.

Member Lockey: Yes, that's good for me.

Dr. Roberts: Okay. Last time you came up with an alternative in case it didn't work. Do you want to do that again?

Chair Kotelchuck: Yeah, I think we have to.

Dr. Roberts: We would be looking at March.

Chair Kotelchuck: Oh, yeah. Is there any chance we could push something to Monday the 22nd as a backup and hope that we don't have to use it?

Member Beach: What about the holiday?

Chair Kotelchuck: Oh, you said. You just said.

Dr. Roberts: The holiday.

Chair Kotelchuck: You just said that, yeah. What about the 23rd, Tuesday the 23rd?

Member Beach: As a second choice that would be okay with me.

Chair Kotelchuck: It's a second choice. Hopefully David could make it. The rest of us are here.

Dr. Roberts: Okay. So the second choice is the 23rd of March, Dave?

Chair Kotelchuck: Yes, February.

Member Beach: Oh, of February.

Dr. Roberts: February.

Chair Kotelchuck: First choice Thursday the 25th of February. Second choice Tuesday the 23rd.

Dr. Roberts: Okay.

Chair Kotelchuck: Good. Alright.

Dr. Roberts: Right.

Chair Kotelchuck: Sounds good. Folks are we -- I think we're settled.

Ms. Gogliotti: Dave, could I add just one more thing?

Chair Kotelchuck: Yes.

Ms. Gogliotti: Between now and then we will be submitting the 29th set and we will have to do one-on-ones again.

Chair Kotelchuck: Okay.

Ms. Gogliotti: Last time we tried out the one case per call and that was very not popular.

Member Beach: It was nightmarish.

Ms. Gogliotti: (Laughter.) Well, try scheduling 30 calls.

Member Beach: I know. It was a nightmare for everybody.

Chair Kotelchuck: It was.

Ms. Gogliotti: Do we want to do three this time? In the past we've done six but I felt like that was pushing attention spans. Is there --

Member Beach: I'd be open to six but on two separate days versus the separating each and every one of them.

Ms. Gogliotti: So two days of three each.

Member Beach: Each, yeah.

Chair Kotelchuck: Two days of three each sounds reasonable.

Member Valerio: That works better.

Ms. Gogliotti: Okay, we'll plan on that.

Rashaun, I'll be contacting you for assignments.

Chair Kotelchuck: When roughly are you thinking about that? Are we talking about that in January perhaps?

Ms. Gogliotti: We will be submitting them the first week of December.

Chair Kotelchuck: Okay. Oh, good.

Ms. Gogliotti: That is a challenging time to have calls. We tried to do it last time with problems but I will at least try to start scheduling in the beginning of December, and then we'll take a two- or three-week break from scheduling and then I'll pick up scheduling again.

Chair Kotelchuck: That sounds good. That sounds very good.

Ms. Gogliotti: Okay. And then one more thing. With the last set, we were asked specifically to not finalize the cases, to send out a pre-distribution draft, and then finalize them after the one-on-one calls. Is that still the --

Chair Kotelchuck: The blinds. Are they talking about the blinds?

Ms. Gogliotti: No.

Chair Kotelchuck: What are you talking about?

Ms. Gogliotti: The 29th set of 30 dose reconstructions.

Chair Kotelchuck: Oh, yeah.

Ms. Gogliotti: Because that saves us from formally having to revise them.

Chair Kotelchuck: I'm not clear. I'm sorry.

Ms. Gogliotti: I can talk to Rashaun.

Dr. Roberts: Maybe these questions can be handled offline.

Ms. Gogliotti: Okay, yep. We can certainly do that.

Chair Kotelchuck: Yeah.

Dr. Roberts: Thank you.

Chair Kotelchuck: You're going to ask us to do the 29th -- the choices for the 29th set sometime soon, before December 1st.

Member Beach: Yeah, and then the only up-in-the-air question is the finalization either before or after. Right?

Ms. Gogliotti: Yes.

Chair Kotelchuck: Got it. Okay.

Member Beach: Sounds good.

Adjourn

Chair Kotelchuck: Alright, folks. Thank you very much and thanks for -- this was a challenging meeting because of quorum issues and it's most appreciated that we were all able to finish our work today and do a good job. Thanks much, everyone.

(Whereupon, the above-entitled matter went off the record at 4:12 p.m.)