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

+ + + + +

ADVISORY BOARD ON RADIATION AND
WORKER HEALTH

+ + + + +

SUBCOMMITTEE ON DOSE RECONSTRUCTION REVIEW

+ + + + +

MONDAY
FEBRUARY 4, 2013

+ + + + +

The Subcommittee convened in the Zurich Room of the Cincinnati Airport Marriott, 2395 Progress Drive, Hebron, Kentucky, at 9:00 a.m., Mark Griffon, Chairman, presiding.

PRESENT:

MARK GRIFFON, Chairman
BRADLEY P. CLAWSON, Member
DAVID KOTELCHUCK, Member
WANDA I. MUNN, Member*
DAVID B. RICHARDSON, Member*

ALSO PRESENT:

TED KATZ, Designated Federal Official
KATHY BEHLING, SC&A*
GRADY CALHOUN, DCAS
DOUGLAS FARVER, SC&A
STU HINNEFELD, DCAS
JENNY LIN, HHS
JOHN MAURO, SC&A*
BETH ROLFES, DCAS
SCOTT SIEBERT, ORAU Team*
JOHN STIVER, SC&A

*Participating via telephone

C-O-N-T-E-N-T-S

C-O-N-T-E-N-T-S (CONTINUED)

C-O-N-T-E-N-T-S (CONTINUED)

C-O-N-T-E-N-T-S (CONTINUED)

C-O-N-T-E-N-T-S (CONTINUED)

C-O-N-T-E-N-T-S (CONTINUED)

C-O-N-T-E-N-T-S (CONTINUED)

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

9:02 a.m.

MR. KATZ: Welcome, everyone.

This is the Advisory Board on Radiation and Worker Health, the Subcommittee on Dose Reconstruction and Review.

Our Chair is here. We will get started. Let's just get going with roll call, and we can speak to conflict of interest. We need to, as we go through that, beginning with the Chair, Board Members.

(Roll call.)

MR. KATZ: Okay. Then, the agenda for the meeting is posted and there are some materials, I think, posted related to this meeting.

And it is your meeting, Mark.

CHAIR GRIFFON: Alright. Let's see, I am still logging onto my computer but as I do that, because I want to pull up the notes from the last meeting.

But I guess we can start with an

update on the blind dose reconstruction quality control case reviews, NIOSH's blind reviews.

MR. CALHOUN: Yes, this is Grady.

Yes, this one is going to be brief because we have only completed a couple more since our last time. So, I haven't come up with a new assessment or anything like that. There is really nothing new to report on that.

I believe that we are either on our way or we have completed providing you guys access to it. I am not sure about the exact status of that, but I think it is close.

MR. HINNEFELD: Access should be available to the Board Members.

MR. CALHOUN: Yes.

MR. HINNEFELD: They should be able to click on the application from the staff tools and see the same things that we see when we click on it.

MR. CALHOUN: And that is really all I have got as far as an update.

CHAIR GRIFFON: Has anybody tried that access?

MR. KATZ: Dave?

MEMBER KOTELCHUCK: Yes. Yes, I have got it.

CHAIR GRIFFON: Oh, you do? Okay.

MEMBER KOTELCHUCK: I have got it now.

CHAIR GRIFFON: I haven't tried it, but good. I am glad.

Alright. Well, that was a quick update.

I think the other items we are going just kind of move through our cases, which is why we called for this meeting, too, to catch up.

So, without further ado, I guess we can start off with Sets 8 and 9, hoping to close those out. And then, we are going to go into the site-specific sets, right? Is that okay?

MEMBER CLAWSON: Mark, I have got

a question. I thought that SC&A was going to do some blind reviews, too, didn't they? Didn't you --

MR. KATZ: They have been tasked. They have been tasked.

MR. STIVER: They haven't been assigned yet.

MEMBER CLAWSON: Oh, okay. Okay.

CHAIR GRIFFON: Yes, we still have to select those cases, which actually maybe we can talk about the mechanics of that, too, at some point in this meeting, maybe after lunch when I really get my bearings.

MEMBER CLAWSON: While we are on blind reviews, I just had that question.

CHAIR GRIFFON: Yes. I mean, I just have to be refreshed on how we did it last time. Stu, I don't know if you recall how we selected the --

MR. HINNEFELD: I think we selected from a larger selection matrix, and we just decided we will take these two and

make them blind reviews, as opposed to the typical --

CHAIR GRIFFON: So, it was in a normal selection process. We just took out two of them for blind reviews?

MR. HINNEFELD: Yes, I think we just designated two of them as blind from the ones we were going to review.

CHAIR GRIFFON: Okay.

MR. HINNEFELD: I think that is what we did. Now we could put some additional criteria on it --

CHAIR GRIFFON: Right.

MR. HINNEFELD: -- in terms of selection, and we could use the last group we put together. You know, we have put together a selection matrix not that many months ago to select. Was that the 16th set?

MR. KATZ: Yes.

MR. HINNEFELD: We could choose from that, if there are any on there you feel like, or we could generate another -- if we

want to generate a list just for blind reviews, and it is going to be a relatively small selection, we would generate a smaller list of cases, and you could make them newer that way. It will take so long to do that.

CHAIR GRIFFON: Yes, let's think about that.

MR. HINNEFELD: Yes.

CHAIR GRIFFON: And we don't have to do that right now, but good point. We will add that to the list of things to do.

MR. HINNEFELD: Yes.

CHAIR GRIFFON: So, it says 8 and 9, if we can find those matrices and work from that, assuming we still don't have our database functional.

MR. KATZ: That is too soon.

CHAIR GRIFFON: Yes, yes.

MR. KATZ: That's too soon.

CHAIR GRIFFON: Right, right.

We are still going to work from the matrices at this point, and then we will

use those to populate the database, I assume. Okay.

So, sets 8 and 9, starting with set 8. I am going to try to find the latest copy.

MR. HINNEFELD: Okay. Now Beth sent something on Friday, right? You sent a copy of the eighth and ninth set matrices on Friday?

MS. ROLFES: I did.

MR. HINNEFELD: Does that include the most up-to-date information that we have provided?

MS. ROLFES: Correct.

MR. HINNEFELD: Okay. So, our most up-to-date stuff would be on Beth's message from Friday.

MR. KATZ: And I sent that to your CSB. Well, Beth sent it actually to your CSB.

CHAIR GRIFFON: Okay. So, I have the latest version that was sent from NIOSH, and is it safe to assume the highlighting

still applies to that? If it is highlighted, they are --

MS. ROLFES: I did not remove any highlights.

CHAIR GRIFFON: Okay. Okay. So, that would be probably the quickest way to go through. If it is highlighted, it is an open item.

And I see on No. 149.1, there was an update on 1/31/13.

MS. ROLFES: There is a new TBD out, and Jim signed it. And I am told it is waiting for DOE to review it.

MR. CALHOUN: Yes, final DOE review is where it is at right now, and it does contain a $95^{th}$ percentile.

MR. FARVER: And I believe this is a Bridgeport Brass --

MR. CALHOUN: Correct.

MR. FARVER: Okay. Now I don't know if this problem comes into play with talking about the attachments, Attachment 1,

where we did a mini-Site Profile of Bridgeport Brass.

CHAIR GRIFFON: Right.

MR. FARVER: I am not sure if this particular issue is in that. We will have to keep that in mind when we get to Attachment 1, the findings.

MR. CALHOUN: Sure.

DR. MAURO: Mark, this is John Mauro.

CHAIR GRIFFON: Hi, John.

DR. MAURO: Can you guys hear me okay?

MR. KATZ: Yes.

DR. MAURO: Yes, I just wanted to jump in. On these Bridgeport Brass and a couple of others, as you know, we had those three attachments, which was Bridgeport, Harshaw and Huntington. You may know -- and this might help to expedite the process, is the only reason I bring it up -- 149 is Bridgeport Brass.

I noticed in the blue information, the new information, that apparently there is some new material that NIOSH put out. But I guess I believe that in our previous work on Bridgeport Brass, Harry Chmelynski and SC&A carefully reviewed other exchanges. And there is actually some material in the very back of this matrix where Harry delineates a reevaluation of the data.

I believe all the original Bridgeport Brass mini-Site Profile review issues -- that was that Attachment 1 to the eighth set -- have been resolved, including, now which I find interesting, including the item that is in blue right here on Item No. 149 dealing with this factor of two. I believe that Harry reviewed that data from another perspective, now not this new material that is in this new TBD, and came to a conclusion that, no, it looks like NIOSH was right and we were wrong, so to speak.

But we haven't seen this new TBD

and how it deals with this issue. So, this is a new twist. But I thought the Bridgeport Brass issues were primarily resolved.

MR. KATZ: Is the new TBD just implementing the 95th percentile? Is that the only change?

MR. CALHOUN: I don't know of all the changes that have been made, but --

DR. MAURO: You can actually see the write-ups at the very, very end of this matrix where Harry goes through his own analysis -- that was done some time ago -- on this factor of two business and where he comes out on it. This was something that was discussed and I believe resolved.

CHAIR GRIFFON: Well, I still have some open -- I mean, I am looking, John, at the back of the matrix.

DR. MAURO: Yes.

CHAIR GRIFFON: And if these were resolved, they don't show up that way in this matrix.

DR. MAURO: Well, I'm sorry, I shouldn't say the word resolved. Harry and SC&A's recommendation is that we believe these matters were addressed, based on our reanalysis.

Certainly, you folks would want to hear a little bit more about that, and that is fine. But this is what SC&A has done.

CHAIR GRIFFON: Okay. So, I mean, it sounds like we could come to quick closure on this --

DR. MAURO: We could.

CHAIR GRIFFON: -- but we haven't seen what you and Harry have worked on, or whatever, have we? Have you brought it to the Committee? I don't think so. It doesn't show up as --

DR. MAURO: Well --

CHAIR GRIFFON: I mean, the last note I have is NIOSH to provide additional information on that 95th percentile versus factor of two.

MR. FARVER: I believe it was in our March of 2012 responses.

DR. MAURO: That's correct. That's correct.

CHAIR GRIFFON: Okay. Maybe we just didn't get to them.

MR. FARVER: We didn't get to them.

CHAIR GRIFFON: Right, right.

MR. FARVER: Correct.

CHAIR GRIFFON: So, let's do that. Let's try to get to those today, then. So, let's hold that, John.

DR. MAURO: Okay.

CHAIR GRIFFON: Okay. But it sounds like you might be closing that, and maybe we can come back to this Item 1 as well.

MR. FARVER: Yes. What I did is I took Beth's matrix and their responses and, over the weekend, added some of our responses. So, I can just send this whole thing to you.

CHAIR GRIFFON: Okay.

MR. FARVER: And then, you will have the information of Harry's analysis, and you can just paste it in.

CHAIR GRIFFON: Okay. You edited, you worked from hers and --

MR. FARVER: Yes.

CHAIR GRIFFON: Maybe I should put any comments into yours. That would make the most sense.

MR. STIVER: His is the most updated version.

CHAIR GRIFFON: If it is the most updated. You have everything that she put in, right, and then you added some --

MR. FARVER: Yes, and additional material on top of that.

CHAIR GRIFFON: Yes. So, I think I should work from your copy, if you could send that.

MR. FARVER: And also, I don't believe her copy, and I am not even sure that your original copy, had their initial

responses to some of the Attachments 1, 2 and 3.

CHAIR GRIFFON: Okay.

MR. FARVER: I think those were missing because we have sent things in separately.

CHAIR GRIFFON: Yes.

MR. FARVER: And they just didn't get added to the matrix.

MEMBER MUNN: What date was that sent, do you think? Do you think that was a part of what we were supposedly discussing back in March? Do you know what date it was --

DR. MAURO: March 2012 is when I believe we first delivered this package of Harry's responses.

MR. FARVER: We never talked about at the meeting.

DR. MAURO: But we didn't talk about it, yes.

MEMBER MUNN: Oh, all right. That

explains why we don't have --

MR. FARVER: And Mark added some of the responses afterwards.

MEMBER MUNN: Okay.

MR. FARVER: And that is why I believe it says it was not discussed at the meeting there on some of the items.

MEMBER MUNN: Okay.

MR. STIVER: Okay. Mark, I just sent you the email that has those attachments to your CSB.

CHAIR GRIFFON: Okay. Alright.

MEMBER MUNN: Can you send me a copy of that, too? This is Wanda.

MR. STIVER: Okay. I sure will, Wanda.

MEMBER MUNN: I appreciate it. Even if it is a duplicate, it would be helpful.

MR. STIVER: Okay. Do you have access to your CDC account, Wanda, right now?

MEMBER MUNN: Well, actually, I

would prefer the AOL account.

MR. STIVER: Okay. Alright. Here it comes.

MEMBER MUNN: It is the one I keep up more easily.

MS. LIN: Wait. If it is Privacy Act information, you should not send it to the AOL account.

MR. STIVER: Yes, this is something that has got some personal identifying information in it.

MS. LIN: Wanda, did you hear that?

MEMBER MUNN: Yes, I did. I will go to the CDC account.

MS. LIN: Okay. Thank you.

MEMBER MUNN: Thanks.

CHAIR GRIFFON: Okay. So, we will just move past this one for now. And when we get to the attachment stuff, maybe we can come back to 149.1. But I would say, if you are satisfied -

MR. FARVER: With what, 149.1?

CHAIR GRIFFON: If we close Attachment 1, then we can say 149.1 is, you know --

MR. FARVER: Just so you know, my computer died this morning.

CHAIR GRIFFON: I would like to know that NIOSH --

MR. FARVER: It would not boot up. It was giving me hard-drive errors. Mine is dead. So, we are going with a backup plan on some of this.

CHAIR GRIFFON: Okay.

MR. FARVER: If we are a little slow at telling you an answer to something, it is because I don't have all my files in front of me.

MR. STIVER: We have about three layers of attachments to get through.

MEMBER MUNN: That never happens to me.

(Laughter.)

DR. MAURO: This is John.

One point related to this 149.1, the way I see it, it is a two-step process. One, we probably should put to bed Harry's material at the very back of this on Bridgeport Brass. And everybody get comfortable where we are coming from. And then, of course, once we have that Site Profile addressed, then going to 149.1 itself, these are the specific issues on a particular case, which basically draw from the original review of the Bridgeport Brass.

What I find interesting, and why I would be interested in it, is I noticed in this matrix -- mine are in blue. They are yellow and blue under resolution. Under the blue one on 149.1, there is some new material here, dated 1/31/2013, indicating that there is a new TBD, something that I have not seen. I don't know if others have reviewed it.

In theory, I think we believe we resolved the issues. However, there is this

now new material that is out there regarding the Bridgeport Brass in terms of the Site Profile that is new on the stage, so to speak.

MS. ROLFES: I would have to ask Dave Allen why there is another one out.

CHAIR GRIFFON: We are going to check that, John, to see if whatever you reviewed is consistent with this.

DR. MAURO: Exactly.

CHAIR GRIFFON: Okay. Let's move on to 149.3, then, in the meantime. I see NIOSH is continuing to examine this issue.

MR. CALHOUN: The same thing.

CHAIR GRIFFON: Is that kind of the latest -- yes.

MR. CALHOUN: It is the same issue.

CHAIR GRIFFON: It is the same issue.

DR. MAURO: The same issue.

CHAIR GRIFFON: Right. Okay.

MR. STIVER: So, that was it for

149, right?

CHAIR GRIFFON: Yes. And I am looking for highlighting.

MR. FARVER: 160.1. This is a finding where a photon dose for a specific year was not included in the final IREP tables.

CHAIR GRIFFON: Right.

MR. FARVER: The case was reworked, and it was corrected during the rework. So, we can go ahead and suggest closing this one.

CHAIR GRIFFON: Okay. So, I assume, not hearing otherwise, that we can close that. Alright.

160.2, is 160.2 similar?

MR. FARVER: 160.2 is similar, but a little different.

CHAIR GRIFFON: Okay.

MR. FARVER: The photon dose was not added in the first one. This has to do with the neutron dose where you would use the

proton/neutron correction factor. They reworked the case, but when they reworked the case, they didn't include a dose for '52 or '53, and I don't understand why. I mean, there was a recorded photon dose for '52 and '53. So, you would apply a neutron/photon correction factor, but to just zoom in for '52 and '53.

MS. ROLFES: Scott told me earlier that we cannot hear him.

Scott, are you there?

MR. SIEBERT: Yes, I am here.

MR. CALHOUN: Did you get that, 160, or do you have anything on that one?

MR. SIEBERT: Let's see, 160?

MR. CALHOUN: Point two.

MR. SIEBERT: Yes, it is a question as to why neutrons were not assigned in '52 and '53, is that correct?

MR. KATZ: That's correct.

MR. CALHOUN: Yes.

MR. SIEBERT: Okay. What I am

seeing here is the individual was in Building 313, which is a fuel fabrication facility and not listed as a neutron area. That is information that we got from a CATI in 2010 that we didn't have for the original assessment back in 2006. So, when we reworked it, we reflected that information. So, we would not assign neutrons for those two years based on the facility.

MR. FARVER: It was just those two years you had that facility?

MR. SIEBERT: That is what I am seeing, yes.

MR. FARVER: Okay. That is a fair explanation. I suggest we close that, then.

CHAIR GRIFFON: And it was based on the CATI, you said? Based on the CATI information?

MR. SIEBERT: Yes, we had a new CATI, a survivor CATI, in 2010 that was not available. Well, let me take that back. I assume it was a survivor since it was later.

It could have been we came back and talked to the same person again. I honestly am not sure. I made that assumption just a second ago. But we did have a new CATI in 2010 that we didn't have in 2006.

MR. FARVER: So, when they did the rework phase, they just had more recent information.

CHAIR GRIFFON: Yes. No, I understand. I am just thinking of using the CATI information of a survivor to sort of place a worker to take away dose. You know, this is an interesting wrinkle.

MR. FARVER: Yes.

CHAIR GRIFFON: I don't know how close the case was.

MR. CALHOUN: Chances are it was not a survivor because the claimant is not deceased.

MR. FARVER: Now, Scott, was this a compensable case?

MR. SIEBERT: It was when we

reworked it in 2010, yes.

CHAIR GRIFFON: Okay. Okay.

MR. SIEBERT: Or after the 2010, yes.

CHAIR GRIFFON: Alright. In that case, I think it is fine. Alright.

MR. CALHOUN: Yes, and just for the record, it was not a survivor.

MR. SIEBERT: Yes, I just saw that, too.

MR. FARVER: Go on to 160.3, and this has to do with the internal --

CHAIR GRIFFON: Just to say we are going to close that out.

MR. FARVER: yes.

CHAIR GRIFFON: Yes. Okay.

MR. FARVER: 160.3 has to do with the internal doses for the same case. When they reworked the case, they just did a partial DR, and they did not do internal doses. So, therefore, the finding is no longer relevant.

MEMBER MUNN: That should be an easy closure.

CHAIR GRIFFON: Yes. Okay.

MR. FARVER: And I believe this was one of the cases that Kathy wrote up the report on. I believe so.

CHAIR GRIFFON: Okay. And 160.4, oh, is that similar? Yes, internal dose again, right?

MR. FARVER: 160.4, the same thing.

CHAIR GRIFFON: Yes. So, it is closed.

MEMBER MUNN: We will close it.

CHAIR GRIFFON: Close it, Wanda.

MEMBER MUNN: Yes, good.

CHAIR GRIFFON: Alright. And that is it for that case.

MR. FARVER: That is it on 160.

CHAIR GRIFFON: Okay. So, it seems like Mauro's work is going to hold us up from closing this out, right?

(Laughter.)

I am just teasing.

We miss you here, John, you know.

DR. MAURO: I could tell. I could tell.

(Laughter.)

MR. STIVER: He is here in spirit.

MR. FARVER: I think the next one is 165.4.

CHAIR GRIFFON: There you go, yes, 165.4, which is -- just for our reference, what site is this?

MS. ROLFES: INL.

CHAIR GRIFFON: INL? Okay. Is the June 6th, 2012 update the last that we have? NIOSH review all INL claims and identify non-claimants that were in the area. Is that the right one? NIOSH was supposed to report back on it?

MR. FARVER: And then, they had a response in there. It is in green under the NIOSH response column.

MEMBER MUNN: It is brand-new.

CHAIR GRIFFON: Oh, okay. February --

MEMBER MUNN: Yes.

MR. SIEBERT: This is Scott.

I tried to put the newest stuff in green, so it stuck out.

CHAIR GRIFFON: Yes. Okay.

MEMBER MUNN: Thank you very much. That was most helpful.

MR. FARVER: Based on their response, we would suggest closing it.

CHAIR GRIFFON: Right. Yes. Okay. Yes, that answers the question. So, that is closed.

And then, 165.5.

MR. FARVER: 165.5, this is the wrong uncertainty was used for the medical exams. It should have been 30 percent, but they used 20 percent.

MEMBER KOTELCHUCK: I am curious. How would you determine that? What was that

based on?

MR. FARVER: The procedure says 30 percent.

MEMBER KOTELCHUCK: It was just a simple mistake?

MR. FARVER: It was --

MEMBER KOTELCHUCK: Okay. Thirty percent was the number --

MR. FARVER: Yes.

MEMBER KOTELCHUCK: -- that should have been there?

MR. FARVER: Yes.

MEMBER KOTELCHUCK: Okay. It is not a question of your deciding that 30 percent was a better number than 20?

MR. FARVER: No, no.

MR. STIVER: It is not based on the science. It is just it was a --

MEMBER KOTELCHUCK: Oh, okay. Fine.

CHAIR GRIFFON: And it looks like it was an individual override, right?

MR. FARVER: Yes.

CHAIR GRIFFON: The tool wasn't messed up, right. That is what we asked, right, was, did this impact all cases? So, it is just a quality assurance problem and nothing wrong with the tool?

MR. FARVER: It is a QA problem, but I am not sure that is a typical parameter you would enter. The 30 percent should be hard-coded.

CHAIR GRIFFON: Right.

MR. FARVER: So, I am not sure how you would get to 20 percent.

MR. STIVER: So, it was entered separately by the dose reconstructor at the time.

MR. SIEBERT: This is one, if you recall correctly, this is one of the INELs that we did. I am sure this is going to come rushing back to you with pain.

(Laughter.)

We had to do a best estimate, but

there was no best estimate tool for INEL at the time. So, they used the complex-wide best estimate tool and made adjustments to that to fit the circumstances of INEL.

What the dose reconstructor did in this case with medical x-rays is they did not put it in the tool. They had the values for the medical x-rays and just did a side calculation because they didn't want to do more changes to the tool. And unfortunately, when they did that site calculation, they multiplied by .2 instead of .3.

MR. FARVER: Okay. I have seen them do that before, and they just do it on the sidebar of the IREP table.

MR. SIEBERT: Right.

MR. FARVER: They just do that calculation, multiply it by .3, or in this case they just typed in .2. Okay. I understand.

CHAIR GRIFFON: Okay.

MR. FARVER: It is just a QA,

another QA issue.

CHAIR GRIFFON: Yes, yes.

MR. FARVER: But we can go ahead and close this.

MEMBER MUNN: Please do.

CHAIR GRIFFON: Okay. That is closed.

MR. FARVER: 166.6, this looks like the CADW data was inconsistent with the IREP input data. What it came down to is we were tasked to go back and review a NIOSH response from March of 2012, and we did that. And we agreed with what they did. So, we suggested closing this finding. That is the short response.

You know, it is another QA issue.

CHAIR GRIFFON: Yes.

MR. STIVER: Without having the work showing in the file, so not being quite clear on what was done and why.

CHAIR GRIFFON: Okay, but I think we are okay with closing it.

MR. FARVER: Yes.

CHAIR GRIFFON: We are not losing the fact that it was a QA here.

MR. FARVER: No.

CHAIR GRIFFON: Closed, Wanda, okay?

MEMBER MUNN: Yes, fine. And I am just thinking how nice it would be if we had a database squared away, so that we could just click on that attachment there.

(Laughter.)

MR. HINNEFELD: I was very clear at the design meeting that nothing would be done for this meeting.

(Laughter.)

MEMBER MUNN: Yes, I know.

CHAIR GRIFFON: I thought at the design meeting we assigned this to Wanda to finish. Maybe not. I could be wrong.

(Laughter.)

MR. STIVER: We have gotten adept at working with three or four different

versions of a matrix.

MR. FARVER: 171.2.

MR. STIVER: What site is this for?

CHAIR GRIFFON: So, this was in your hands to review further, SC&A.

MR. FARVER: Yes. We reviewed it further. The original finding indicated that the neutron assignment ended in '64. However, NIOSH did assign interim doses through '74. And beginning in '75, all the employees' photon doses were zero and no neutron monitoring was performed.

So, based on that information, the job description, SC&A agrees that the neutron dose after '74 is unlikely, agrees with NIOSH, and recommends closing the finding.

MEMBER MUNN: I am not seeing anything like that on the entry here. We are just now entering it?

MR. FARVER: Yes.

CHAIR GRIFFON: Okay.

MR. STIVER: She said she didn't see what you just read, page 8. But she doesn't have it.

Wanda, I did email that to your CDC account.

MEMBER MUNN: Okay.

MR. STIVER: So, the latest version with Doug's comments is in that.

MEMBER MUNN: Good. Thank you very much. It wasn't there when I last checked, but I go look again.

MR. STIVER: Okay.

CHAIR GRIFFON: Okay. So, let's close 171.2. We are saying closed.

MR. FARVER: It looks like 171.2 is closed.

171.3, occupational medical x-ray dose was not assigned for the pancreas from '84 through '89. It was inadvertently left out of the workbook, the '84-to-'89 data.

MEMBER KOTELCHUCK: Was this a case of pancreatic cancer or what?

MR. HINNEFELD: It must have been or it wouldn't matter.

MEMBER KOTELCHUCK: Why wouldn't you look at the pancreas?

MR. HINNEFELD: Well, they did, but they just left a few years out. Those five to six years were inadvertently left out of the dose reconstruction.

MEMBER KOTELCHUCK: Oh, okay.

MR. HINNEFELD: But the rest of the employment they did.

MEMBER KOTELCHUCK: Okay.

MR. CALHOUN: Doug, can you email that matrix to Scott Sieber?

MR. HINNEFELD: Actually, why don't you send it to all of us? I mean, we are working from Beth's, and you have added things to that.

MR. FARVER: Okay. It is not that much different until we get down to the attachments.

MR. HINNEFELD: Okay.

CHAIR GRIFFON: Can you tell me, I see the note on 171.3 that NIOSH will determine if all these modifications from these case findings taken together would affect the case outcome? You looked at the case --

MR. CALHOUN: Scott, hello?

MR. SIEBERT: Oh, I'm sorry, I didn't know you were addressing that to me.

CHAIR GRIFFON: No, I was broadly addressing it, but anyway.

(Laughter.)

MR. SIEBERT: Sorry about that.

Yes, this claim was actually reworked in 2011, and the dose reconstructor took into account a lot of these issues and addressed it. Obviously, those medical x-rays were included in the most recent version as well. And it was still non-comp.

CHAIR GRIFFON: And what was the PoC?

MR. SIEBERT: Oh --

CHAIR GRIFFON: I didn't catch that number, the oh.

(Laughter.)

MR. SIEBERT: Give me a second here.

CHAIR GRIFFON: Sure, sure.

MR. SIEBERT: The updated PoC in the latest version was 42.35.

CHAIR GRIFFON: Okay. So, it wasn't really, really close. Okay.

DR. MAURO: This is John Mauro again.

I had an administrative question, the answer which I thought we should have known. But when you have a circumstance like this where an issue comes up on a particular case, and you realize, oh, yes, we do have to fix this, and you fix it, just as you have done, how is that captured? There is a new PoC and it is still uncompensated. How is that captured administratively within the record?

MR. CALHOUN: It depends on what drives us to look at that change. If there is a procedure that changes, we will catch it up with a PER.

DR. MAURO: Yes.

MR. CALHOUN: Okay?

DR. MAURO: Yes.

MR. CALHOUN: If there is new data that comes up, we will catch it with what we call a PAD, a post-approval dosimetry review. Those are individual reports.

If it is something that would change compensability, we would request a rework from the Department of Labor and revise the claim.

DR. MAURO: Okay. So, the rework occurs and reissued on a much more formal basis when there is a reversal on a compensation decision, but the records just administratively that apply if this didn't move forward, that is more of an internal document to the NIOSH records?

MR. CALHOUN: Right, right.

CHAIR GRIFFON: Okay. So, where we left off, 171.3, I think I got the answer we wanted, which was that they did look at all these issues and rework the whole case, and it really didn't have any bearing on the PoC; it wasn't important. So, I am comfortable with that.

MR. KATZ: Closed.

CHAIR GRIFFON: Closed?

MR. FARVER: Closed.

CHAIR GRIFFON: Okay.

MR. STIVER: Okay. I have sent the latest matrix with the updates to all of you.

MS. ROLFES: Thank you.

MR. KATZ: Good.

MR. STIVER: It should be showing up momentarily.

CHAIR GRIFFON: 171.4 then?

MR. FARVER: Okay. This has to do with assigning coworker doses for unmonitored years. This is where I am going to have to

-- you really need to look at Table 5 of our DR review because it spells out the yearly assignments. It is kind of confusing unless you look at that. I really couldn't include it in the matrix.

CHAIR GRIFFON: This is in what you just sent?

MR. STIVER: Yes, this should be. What page are we on?

MR. FARVER: Page 86, 87.

MR. STIVER: Yes, dose responses, and then keep going way down in 88 or 89.

MR. FARVER: Now if I can find that document?

CHAIR GRIFFON: Now help me. We were on 171.4, right?

MR. FARVER: Yes. I will have to look and see what case that is.

CHAIR GRIFFON: I think we had two questions in here, while he is looking for that. One was on the case, but one at the bottom, before the blue, where SC&A entered

their information, it says, NIOSH will consider the policy conversation on the decision-making process for the returning worker, the workforce potentially exposed for the model versus non-exposed, you know, versus environmental. That is something that I think we -- this is a generic issue, I guess. I don't know if it is captured in the overarching guidelines. Stu, do you know?

MR. HINNEFELD: I don't think it is on the list right now.

With respect to that, it is generally done off of information about the employee's work and whether there is sufficient information to conclude that this person really wouldn't have been exposed particularly. And so, they would get environmental, versus someone who potentially was periodically exposed.

So, it is essentially a three-point decision. Someone who was not probably exposed would get environmental. Someone who

was exposed somewhat, you know, who wasn't excluded from radiological areas, but didn't necessarily work there all the time or didn't work with hands-on reactive material, they could get 50 percent of a coworker. And then, people who we would expect to be fairly readily exposed would get the 95th percent. So, it is a three-piece decision, and it is based on information in the file. The less information in the file, the more likely you are going to be at the higher end of the distribution because you, essentially, start there, absent evidence of -- that you believe something else.

So, that is how it is done, but I don't know where that is written down anywhere.

CHAIR GRIFFON: So, that is consistent across all the sites, right?

MR. HINNEFELD: Yes.

CHAIR GRIFFON: That is our philosophy?

MR. HINNEFELD: Yes.

CHAIR GRIFFON: It just may be the different teams --

MR. HINNEFELD: Then, the application of that --

CHAIR GRIFFON: There is judgment there, too.

MR. HINNEFELD: There will be judgment in the application of that.

CHAIR GRIFFON: Right.

MR. HINNEFELD: And I can't argue with that.

CHAIR GRIFFON: But is the policy spelled out in a certain document or is it --

MR. HINNEFELD: Boy, I bet it is --

MR. CALHOUN: I think it is.

MR. HINNEFELD: Yes.

MR. CALHOUN: I can't point to the document, but I know that in some of the coworker TIBs that exist --

MR. HINNEFELD: It is in there,

yes.

CHAIR GRIFFON: Okay. I think that is what we were --

MEMBER MUNN: Excuse me. I don't know if it is my phone or not, but I am not getting a lot of what you are saying.

MR. SIEBERT: Yes, the same goes for me.

CHAIR GRIFFON: Are you not hearing certain people or nobody?

MEMBER MUNN: Well, it sounds like your conversation is taking place a long way away from the microphone. That is just what it sounds like, but maybe it is not true.

I really didn't get the gist of what that discussion was about. Did I gather correctly that there is some question about what the guidance document is for the action that was taken here?

CHAIR GRIFFON: Yes, the overarching -- can you hear me better now, Wanda?

MEMBER MUNN: Beg your pardon?

CHAIR GRIFFON: Can you hear me better now?

MEMBER MUNN: Yes, I can hear you a little better now.

CHAIR GRIFFON: Okay. Okay.

MEMBER MUNN: So, the comment about OTIB-60, is that still being debated?

CHAIR GRIFFON: I don't know that we brought up a particular OTIB, but we were asking the question on the bottom of 171.4.

MEMBER MUNN: Right.

CHAIR GRIFFON: That NIOSH will consider the policy regarding assigning worker exposure levels or environmental, coworker or environmental. And Stu is saying that the philosophy is to do 95th if they are definitely exposed a lot, 50th if they are likely in areas where they would get exposures, and environmental levels if they are not likely to be in areas where they would get exposed.

MEMBER MUNN: Right.

CHAIR GRIFFON: Which makes sense. And I just asked if that is in some of the overarching guidance documents, and that is what we were -- Grady seems to think that it is in probably several, but that is all we were discussing.

MEMBER MUNN: Okay. Alright.

CHAIR GRIFFON: No controversies.

MEMBER MUNN: So, we don't actually know whether the OTIB which was referenced earlier in our discussion of this particular item is, in fact, adequate? That is the bottom-line question here, right?

CHAIR GRIFFON: Yes, I don't know that we were discussing any particular OTIB.

MEMBER MUNN: Yes, well, the only reason I keep bringing that up is because that was a part of the response earlier to 171.4.

CHAIR GRIFFON: Oh.

MR. STIVER: Yes, I think what she is referring to is TIB-60, Section 5.4.2.1.

It should be on page 87. There is a yellow highlight.

MEMBER MUNN: Yes, right.

MR. STIVER: Excerpts from that OTIB.

CHAIR GRIFFON: Oh, yes, you're right, OTIB-60. I'm sorry, Wanda. I wasn't looking at that part. Yes, yes.

MEMBER MUNN: Oh, well, that is the only reason I keep bringing it up.

CHAIR GRIFFON: Okay. Yes, yes.

MEMBER MUNN: I am wondering, since we discussed it before, is that now all moot.

MR. FARVER: Well, I don't know if it is all moot, but it is all confusing because, really, you have to go back and look at the Table 5 from our original report because we spell it out year-by-year, what they assigned. Sometimes they assigned an environmental dose; sometimes they will assign a coworker dose; sometimes it will be no dose.

MEMBER MUNN: You're wondering why?

MR. FARVER: Yes.

MEMBER MUNN: Yes.

MR. FARVER: Because it doesn't appear to be consistent with the OTIBs or just consistent across the board.

MEMBER MUNN: Got it. Okay. I'm sorry, I didn't mean to have you rehash the whole thing you had already talked about.

CHAIR GRIFFON: No, that is okay. Thank you, Wanda.

MEMBER CLAWSON: Mark, this is Brad.

CHAIR GRIFFON: Yes?

MEMBER CLAWSON: How do they classify the person? Is this under job titles that they would do the environmental dose or how?

MR. CALHOUN: No, we would take a look at a bunch of things. You know, you look at the era when it occurred. You look at the

records that you have, the dosimetry records. You look at the CATI and see what the individual said where they worked. And you have got to take all those into account and try to come up with what we think is the best approach.

MEMBER CLAWSON: Okay. So, do you --

MR. CALHOUN: We don't just plug somebody into a category. It is a much more detailed thing to do, because somebody may have a job category that sounds like they were in an administrative area without looking at anything else --

MEMBER CLAWSON: Right.

MR. CALHOUN: -- but you have got to look at everything.

MEMBER CLAWSON: That is what I was getting at.

MR. STIVER: Yes, that was my concern. You might have somebody who was pulled from what would appear to be you have

an engineering or an accounting-type job; they might have to go into the dirty area for a particular job, and it might not have shown up.

MR. CALHOUN: Right. Right, that is how it is done. I, obviously, don't know all the details of this one yet, but --

CHAIR GRIFFON: But that is my point. When you say it is a much more detailed thing, is it outlined anywhere?

MR. CALHOUN: Yes, I believe it is.

CHAIR GRIFFON: Yes. Okay. I'm sorry.

MR. CALHOUN: I got that down. I am going to try to find out where that is.

CHAIR GRIFFON: Alright. That is what we were looking for, I think.

MEMBER CLAWSON: That is the point I wanted to get to.

CHAIR GRIFFON: Yes.

MEMBER CLAWSON: Do we have --

CHAIR GRIFFON: Right.

MEMBER CLAWSON: -- something established that we can hang our hat on? This is how this process would go before we would do that?

CHAIR GRIFFON: Yes. And then, of course, there is still going to be some --

MEMBER CLAWSON: There is going to be some judgment in there.

CHAIR GRIFFON: Judgments, right, in an application, but if there is some guidance overall, that would be good to know, yes.

MR. FARVER: And what they are based on.

Yes, if you go back and look at Table 4 and Table 5, Table 4 just lists the assigned intakes and intake periods and what it is based on, whether it is based on bioassay or coworker or environmental. I mean, so that is how we started to break them down to look at each individual intake, what

is it based on?

And then, we summarized it by year in Table 5, by year and nuclide. And when you go across the board, it is not always clear what they are assigned or, well, why they weren't assigned. Because, for some of the years, they are assigned cesium-137 intakes and -- well, it looks like half and half -- and then, half the time they are not. But I am not sure that the job function had changed.

So, when we try to correlate this with the job function, it doesn't always make sense is kind of how we are looking at it.

MEMBER MUNN: Well, maybe it has nothing to do with the campaign timing.

MR. CALHOUN: Or urinalysis, if it existed.

I don't know; Scott, do you have any more details on that than we do? I am looking through some records here and I can't come up with anything quickly.

MR. SIEBERT: In the original, the

dose reconstructors seemed to have based it mostly upon the fact that the individual did or did not have internal monitoring, bioassay, during the various timeframes. And that is what they seemed to have mostly based the decision upon, whether a person was being monitored as to whether they were being exposed.

That is why there is some inconsistency, it appears, from Table 5, because there are times where they may have been monitored for strontium when they weren't receiving it, or something of the sort.

When we redid it, we were more consistent in how we assigned things because just basing it on the monitoring alone seemed to be, well, as is mentioned in this point, it was a little spotty. So, when it was reevaluated, it was more consistently assigned based on the actual bioassay monitoring as well assuming coworker exposures through -- I'm looking real quick; give me a second

here -- I believe through '72, when the last bioassay sample was collected.

So, we actually assessed and assigned more internal in the rework, based on the fact that we assigned coworker across the board to '72 instead of in a spotty manner that it was in the original assessment.

MR. FARVER: Okay, and why was it reworked?

MR. SIEBERT: Give me a second here.

MR. KATZ: While you are looking into that, Scott, can I just ask everyone on the line -- I don't know who the culprit is, but someone has some sort of, I don't know if it is a speaker phone or a strange wireless connection or what, but we are getting these shrill, little back noises that are annoying. So, if everybody could maybe mute their phone except for whoever is speaking, maybe that will help. Or maybe it is another problem. We don't know, but let's try that.

MR. CALHOUN: Scott, I got this. It looks like -- oh, wait a second, that was '11. Rework complete. Wow, this thing might have been reworked again just now in 2012.

This one, it looks like in '09 there was a PER, and then it was returned and it was reworked. Let me make sure I have got the right case. And then, additional data, we just got additional data, a new employment in '11, and the case was reworked again.

MR. SIEBERT: Correct.

MR. CALHOUN: And it was reworked in January of 2012.

So, the first one was reworked because of a PER. The second one was reworked because we got additional employment from Y-12. And that is where we stand now. That is where the current dose reconstruction is.

CHAIR GRIFFON: And I am trying to understand why the original, going back to Doug's question, why was the original assignment of coworker versus environmental

spotty, as you said, based on whether the person was monitored or not? If it is supposed to be this complicated, detailed approach, not just looking at one thing, how would it end up relying on monitoring to determine whether you assigned a coworker model or not? That seems inconsistent with your policy.

MR. FARVER: Well, some years were monitored.

CHAIR GRIFFON: Was it just a mistake or was it --

MR. FARVER: Some periods the nuclides were based on monitoring; some were based on coworker.

CHAIR GRIFFON: Right.

MR. FARVER: Some were based on just environmental levels.

CHAIR GRIFFON: Right.

MR. FARVER: Some were not assigned at all. But it was very spotty. In other words, sometimes they will assign

coworker doses for a certain time period, except for certain nuclides, and then, those will be environmental or those will be no intake.

MR. STIVER: So, there is a whole patchwork, the thing on the nuclide and the time period. Whether it was a measurement of coworker or environmental, it was just kind of hard to try to unravel that --

CHAIR GRIFFON: Yes, yes, yes.

MR. STIVER: -- to determine the cause, the reasons for the choices that were made.

MR. CALHOUN: Was the actual DR reviewed in this case the one completed in '06? Or was it the one completed in '10?

MR. HINNEFELD: This must have been '06.

MR. CALHOUN: Yes, that is what I am thinking.

MR. SIEBERT: The original is the 2006 version.

MR. CALHOUN: Right. Okay.

MR. STIVER: Yes, this is the '06 version here.

MR. KATZ: Scott, I think it is your phone because, when you muted, it was fine, and now we are hearing it again.

MR. FARVER: Yes, so this was done in 2006.

MR. SIEBERT: Now I just muted it and I could still --

MR. KATZ: Oh.

MR. FARVER: So, I don't know what to do about this finding because it has all changed since then.

CHAIR GRIFFON: Yes.

MR. FARVER: But I don't know that it has been correct --

MR. CALHOUN: Well, if it is the same case that I owe you whatever my determination of environmental versus 50th versus 95th we found, that could help.

MR. FARVER: So, make this another

item to check up on.

MR. HINNEFELD: I think one way to look at this is to try to decide what has happened since 2006 when this was first done, that would standardize, essentially, the decisions about environmental versus coworker. I think what has been done since 2006, and how we fixed a situation that allowed this one to occur in this fashion, and do we feel confident that we are not going to have something like this?

Looking at Table 5, it seems like there is a work location decision being made. For instance, at some point the person worked in a facility where plutonium was feasible and sometimes he didn't.

The same question could be made for some of the fission products. It looks like there is a suite of environmental isotopes that are provided at environmental times which doesn't include the whole raft of potential. And so, this is going to be really

hard to unravel, but I think if we can come up with something that says, since 2006 we have done a better job of standardizing this decision about environmental versus coworker, I think that is where the search has to be on there.

MR. FARVER: Yes. Yes, that is what we are after. But you understand that that is a little confusing initially just looking at that and --

CHAIR GRIFFON: That is what I am thinking.

(Laughter.)

MR. HINNEFELD: Well, we have got in one period, 1969, we have got no for uranium-234 and plutonium-239 but a yes for americium-241.

CHAIR GRIFFON: I guess, Stu, that is why I was trying to understand whether this was an individual situation -- because I understand 2006, it is an older case, but there were a lot of DRs done from 2000 to

2006, I mean, in this program. So, if you improved 2006, does that mean it is going to be spotty going backwards or is this kind of a one-off? I guess that is what I am trying to understand.

MR. HINNEFELD: Yes, I understand exactly what you are saying.

CHAIR GRIFFON: Yes. I mean, if there was no guidance out there, then can we assume that --

MR. HINNEFELD: Yes, what guidance was used in this case?

CHAIR GRIFFON: Right.

MR. HINNEFELD: Because we know what site it is from.

CHAIR GRIFFON: Right.

MR. HINNEFELD: And so, what guidance was out there at the time and could other stuff have been done in that fashion, I guess? I suspect a lot of cases from this site would have been reworked under the Super S plutonium PER --

CHAIR GRIFFON: Right.

MR. HINNEFELD: -- which would have occurred. That is probably the…, what we reworked it under.

CHAIR GRIFFON: Right.

MR. CALHOUN: Actually, this one was reviewed for three different PERs.

MR. HINNEFELD: Okay.

MR. CALHOUN: Twelve, 14, and 16.

MR. HINNEFELD: So, I would think that most of the things that had been done by this time probably were reworked because of the PER, that Super S PER. So many cases were reworked under the Super S PER. So, I suspect everything has been reworked. So, the question, have we standardized the situation sufficiently and had we standardized sufficiently by the time we did the PER work --

CHAIR GRIFFON: Right.

MR. HINNEFELD: -- that we essentially addressed it.

CHAIR GRIFFON: And that is for Idaho or --

MR. HINNEFELD: This is not an Idaho case.

CHAIR GRIFFON: Oh.

MR. HINNEFELD: It is X-10.

CHAIR GRIFFON: I'm sorry, X-10.

MR. HINNEFELD: It is X-10.

CHAIR GRIFFON: Yes.

MS. BEHLING: Excuse me for just a second. This is Kathy Behling. Can I make a quick comment?

It is a little bit of an aside, but I just finished -- well, in fact, a few weeks ago, I sent out the comparison of the second blind review that SC&A did, and I made the comparison between SC&A and NIOSH. It is interesting that this particular issue came up also in that blind review. Hopefully, perhaps at our next meeting I will be able to make that presentation.

But it was also the X-10 facility,

and NIOSH did not assign any coworker data, and SC&A did. So, I think this is an important issue because I believe that case was also reworked, but it was also done at the end of 2006.

CHAIR GRIFFON: Yes. So, that is why I keep harping on this. I think we have heard this issue before, you know, and that is why the question on guidance and timing and when it changed I think might be important, and whether it is a broader issue I think is important for our overall audit.

So, I guess the next step is to find out if there are guidelines and when they were, as you said, improved or what existed prior to them improving, and then, a little more on understanding this case possibly, if it can be unraveled. I think that is secondary. I think the bigger issue is the broader question.

MR. HINNEFELD: Okay.

CHAIR GRIFFON: Alright. So, that

is just a NIOSH action, I think.

MEMBER CLAWSON: You know, one thing I would like to compliment NIOSH on, though, I like when Grady was able to go through all the different changes.

CHAIR GRIFFON: Yes.

MEMBER CLAWSON: That showed, you know, that we are tracking what is going on. I did want to compliment you guys on that because that shows we are keeping track of what and why. That sure helps.

CHAIR GRIFFON: Okay. Let's move on to the next one then.

So, that remains a NIOSH action.

MEMBER CLAWSON: I believe the next one is 174.1.

CHAIR GRIFFON: I still see one before that.

MEMBER CLAWSON: Okay.

CHAIR GRIFFON: Oh, it is observation. It is the Tab 171 observation.

MEMBER MUNN: How about the

reevaluation? That is a graph.

CHAIR GRIFFON: Oh, yes. No further action. I don't know why it is still in blue. Anyway, okay, I think that is okay, right?

MEMBER MUNN: Oh, I guess because we haven't closed it yet.

CHAIR GRIFFON: Yes.

MR. SIEBERT: I think all of us had tried to remove that highlighting and it is stuck there.

CHAIR GRIFFON: I think that is what it is, yes. I have had that happen, yes. It is permanent highlighting.

MEMBER MUNN: Yes.

MR. FARVER: 174.1 pretty much has to do with using a K-25 workbook --

CHAIR GRIFFON: Wait, 174.1?

MR. FARVER: Yes.

CHAIR GRIFFON: Yes. Go ahead.

MR. FARVER: -- a K-25 workbook for a Portsmouth case, and there was an error

in the workbook apparently. Anyway, the final action was for NIOSH to review all the Portsmouth cases, other Portsmouth cases used with this tool that have the same error.

MEMBER MUNN: But there were only four.

MR. FARVER: There were only four. None of the other three used the K-25 workbook and were not impacted by this issue.

So, the only thing we are going to come back with is, okay, is there some guidance now for what they used for Portsmouth? Is there a Portsmouth workbook? Or is there something that says don't use K-25 workbook? So, we don't have this come up again.

CHAIR GRIFFON: And maybe they have done that. Has that been done, Scott or anyone?

MR. SIEBERT: Just a second here; I'm looking.

MEMBER MUNN: So, what is he

questioning? Are you questioning why they used the best estimate workbook?

MR. FARVER: No, no, what is in place now so that it doesn't happen again. In other words, we have four cases and only one of them used a different workbook, and we have a problem with that. So, now what is in place so that doesn't happen again?

MEMBER MUNN: Okay.

MR. FARVER: In other words, if there is not a specific workbook for Portsmouth, is there specific guidance on what workbook to use for Portsmouth?

MR. SIEBERT: I am going to have to send a message to the tool folks and find out. I should be able to get an answer by today, so we will be able to come back to this one.

CHAIR GRIFFON: Okay. We will put that one on hold.

All right. Moving on, 175.1, is there anything? Yes.

MR. FARVER: Okay. This is another case that Kathy reviewed, reviewed a reworked case and compared it to the original.

So, for 175.1, the DR report did not properly account for all missed neutron dose.

CHAIR GRIFFON: And to refresh my memory, the reason was they got the records in the middle, kind of?

MR. FARVER: Yes.

CHAIR GRIFFON: They hadn't received these records from DOE? And then, they got more records.

MR. FARVER: They were received afterwards.

CHAIR GRIFFON: Yes, and then, they were used in the rework?

MR. FARVER: They were used in the rework and considered in the rework. And so, we are closing that one --

CHAIR GRIFFON: Yes. Okay.

MR. FARVER: -- because the rework

corrected it.

CHAIR GRIFFON: That seems reasonable.

MEMBER MUNN: That is -- give me that case number again.

CHAIR GRIFFON: 175.1.

MR. KATZ: 175.1.

MEMBER MUNN: 175.1?

CHAIR GRIFFON: Is closed.

MEMBER MUNN: In which the last entry we had was December of 2011?

MR. FARVER: Yes, that's right.

MEMBER MUNN: Yes. Okay.

CHAIR GRIFFON: Actually, well, other than your recent one, right, the February 2nd?

MR. FARVER: Right.

CHAIR GRIFFON: Okay. Moving on.

MR. FARVER: 175.2, we didn't feel they applied the appropriate hypothetical internal dose model when they did the rework. They used the more contemporary dose model,

OTIB-18 rather than OTIB-2. And therefore, we suggest closing that finding.

CHAIR GRIFFON: What did you say at first, that you didn't think they used the appropriate --

MR. FARVER: Yes, this was we were maximizing the award. Yes, they didn't use the appropriate hypothetical internal dose model. They used OTIB-2.

MR. HINNEFELD: OTIB-2 had what, four choices?

MR. FARVER: Yes.

MR. HINNEFELD: It was like reactor and non-reactor, uranium or not uranium.

CHAIR GRIFFON: Oh, yes, yes.

MR. FARVER: Right.

MR. STIVER: In the rework, they used the TIB-18.

CHAIR GRIFFON: Okay. So, you are recommending close?

MR. FARVER: Yes.

CHAIR GRIFFON: And it seems reasonable. Alright. Closed. 175.2 is closed.

And 175.3?

MR. FARVER: NIOSH failed to properly address all information submitted by the EE during the CATI.

And then, they start off over in the yellow column and it goes on for a ways. Basically, our action was to compare the reworked case with the original case. At the time of the rework, NIOSH was considering the absence of internal bioassay monitoring under an SEC. With regard to external dose, the DOE provided additional dosimetry data that was used in the reworked case. And all other external doses were maximized. Therefore, this finding is no longer relevant.

CHAIR GRIFFON: Yes, that makes sense, yes.

MR. FARVER: Yes, so we are closing it.

CHAIR GRIFFON: Closed. Okay.

MEMBER MUNN: That sounds like an excellent response. Why do I not have a copy of it somewhere?

CHAIR GRIFFON: We are looking at that last -- do you have the last one that was sent out, Wanda?

MEMBER MUNN: Well, I thought I did. I thought I was looking at what just came out yesterday, today.

CHAIR GRIFFON: Today.

MEMBER MUNN: I thought that is what I am looking at.

CHAIR GRIFFON: And you don't show in the blue a 2/2/13 response from SC&A?

MEMBER MUNN: So, I must not have the right copy. Okay.

MR. STIVER: Wanda, it should be the one that I sent you about an hour ago.

MEMBER MUNN: Okay.

MR. KATZ: Page 107.

CHAIR GRIFFON: That's all right.

We are almost done with these.

MEMBER MUNN: Well, I didn't have that back when I checked even the second time. So, I will try it one more time.

CHAIR GRIFFON: So, are we done with the regular --

MR. STIVER: We are done with the regulars.

CHAIR GRIFFON: We are on to the attachments?

Alright. Can I ask can we take a 10-minute break, so I can visit that new -- I haven't been here since that new, little coffee bar came.

(Laughter.)

MR. KATZ: Yes.

CHAIR GRIFFON: Are they open all day?

MR. KATZ: I don't know.

CHAIR GRIFFON: I need coffee.

MR. KATZ: A 10-minute break?

CHAIR GRIFFON: So, let's take 10

minutes and we will start with the attachments.

And, Wanda, you can find the email by the meeting, hopefully.

MEMBER MUNN: It wasn't on my CDC email the last time I checked a half-hour ago. Thanks.

CHAIR GRIFFON: Alright. Ten minutes.

(Whereupon, the above-entitled matter went off the record at 10:13 a.m. and resumed at 10:27 a.m.)

MR. KATZ: Scott, are you back on the line?

MR. SIEBERT: I am.

MR. KATZ: Great.

CHAIR GRIFFON: Okay. Ready to start back up, and we are moving into the eighth set with the attachments, which I think the first one is the Bridgewater Brass one, correct?

MS. ROLFES: Bridgeport Brass.

CHAIR GRIFFON: Bridgeport Brass. I'm sorry.

MR. FARVER: Correct. Attachment 1 is the Bridgeport Brass.

CHAIR GRIFFON: Bridgeport Brass.

So, Doug, you can start. I am sure John is probably going to weigh in a little bit.

MR. FARVER: Okay.

CHAIR GRIFFON: But take us through this.

MR. FARVER: Now NIOSH had a response from April of 2011 that was not included in the matrices that was going around. So, I included it in here on this one that I sent out.

CHAIR GRIFFON: Okay.

MR. FARVER: It just provides a little bit more background information.

CHAIR GRIFFON: When you say, see attached response, where is your attachment?

MR. FARVER: Oh, it is at the very

end.

DR. MAURO: Yes, I could help with this -- I am quite familiar with it -- if you would like.

MEMBER CLAWSON: Okay. Take it away, John.

DR. MAURO: Yes. Let me just march through these.

CHAIR GRIFFON: Well, first, your attached response is all the way at the end of the matrix? Is that --

DR. MAURO: Yes, if you scroll down to the bottom, you will see --

CHAIR GRIFFON: Okay.

DR. MAURO: -- a write-up that was prepared by Harry that goes through many of the issues that we will be talking about.

CHAIR GRIFFON: Okay.

DR. MAURO: The more important ones, in fact.

CHAIR GRIFFON: Alright.

DR. MAURO: Okay?

CHAIR GRIFFON: Alright. Go ahead, John.

DR. MAURO: Okay. The first issue that came up, No. 1, had to do with the airborne sampling data. Bridgeport Brass was a facility -- there was really a couple of labs, one in Michigan and one in Connecticut, that rolled the uranium and thorium as an AWE facility.

In order to do internal doses, the Site Profile, the exposure matrix for the facilities made use of data -- I believe it might have been some bioassay or hair-sampling data -- that were collected in the '60-61 time period and were used to extrapolate back to reconstruct internal doses for earlier years. And our concern was, can you do that?

NIOSH responded back and said, I think we can because, though we only have a limited amount of data in the early years, the data seems to indicate that, related to this, if there had been more data, it would show

that the later years were really limiting. This is a little unusual because you know it is usually the reverse.

So, what we did is -- and that is what the blue little indicator is, if you go to the back of this, and I can give you the 30-second sound bite. We went back to the SRDB, pulled some records, did some data review, data adequacy/completeness analysis. And, lo and behold, without a doubt, the later concentration numbers with relatively abundant data were, in fact, clearly limiting compared to the earlier years.

So, we concluded on that basis that, unlike at other locations, other facilities that we worked with, especially AWE facilities, in this particular facility, using the little bit later data in the early sixties and to extrapolate back is claimant-favorable.

So, on that basis, we would recommend that this issue on Bridgeport Brass be closed.

And the data is back there. You could take a look, if you go back, at the summary in the back, to Harry's work. You see the workup is actually the data there.

CHAIR GRIFFON: John, looking at the table you have there, the B, BRA3 --

DR. MAURO: Yes.

CHAIR GRIFFON: -- they are showing 146 people were studied in that. I mean, the maximum weighted exposure was exactly the same as the number of people? Or is that just a coincidence?

DR. MAURO: No, there is number of personnel studied.

CHAIR GRIFFON: Yes.

DR. MAURO: Okay. We have, yes --

CHAIR GRIFFON: It is just a coincidence, I guess?

DR. MAURO: Yes, but I guess the important point is the concentrations.

CHAIR GRIFFON: Yes.

DR. MAURO: Yes, that were

observed in 1960 --

CHAIR GRIFFON: Yes.

DR. MAURO: -- versus, let's say, '56. If you actually move down, that is what brought us to the point.

CHAIR GRIFFON: Sure.

DR. MAURO: Clearly, there are more personnel there, but the amount of data we had was much less. In the earlier years, they were taking maybe one or two samples a year, while in the later years they were taking more like 9-10 urine samples a year. And it is for that reason there is a richer dataset in the later years, and they came out with higher concentrations also. So, we felt that did the trick for us.

But I see your question, the 146 versus the 17. I don't have an answer to that.

CHAIR GRIFFON: Well, and, also, the 146 and the 146. I mean, it is just a coincidence that the disintegrations per

minute per meter cubed is exactly the same as the number of --

DR. MAURO: I would have to say I don't have an answer to that.

CHAIR GRIFFON: Alright. I just didn't know if that was like you put the wrong number in the wrong field or something like that.

DR. MAURO: Yes, it is possible. We could certainly go back to the original workup that Harry did and check things out, if you would like.

CHAIR GRIFFON: I mean, I don't know. I guess I don't have so many questions on that, except that if you had 146 people studied, I understand you are saying -- that must have been across the board, right? It must have been everybody at the plant or something?

DR. MAURO: Well, I believe that they are only taking about one sample a year for each person --

CHAIR GRIFFON: Yes.

DR. MAURO: -- in the early years, while in the later years they were taking a lot more samples per person.

CHAIR GRIFFON: I mean, I am sure you have this in your --

DR. MAURO: Yes, we could pull this out.

CHAIR GRIFFON: -- richer write-up, but you have 17 people. How many samples? It is a lot more samples you are saying?

DR. MAURO: Yes. Yes.

CHAIR GRIFFON: Yes.

DR. MAURO: In fact, the write-up, if you read the write-up -- it might be right in here -- the shift that occurred was the number of samples collected per year per worker was much higher in the 1960 timeframe than it was in the '56 timeframe. And the results, also, in the dpm -- well, this is air sample, but there was also bioassay sample.

So, I guess that is the best I can

do at this time.

CHAIR GRIFFON: Yes, yes. And you are confident that the reason they went down to 17, they honed in on the more-likely-exposed people? Is that the sense you have or --

DR. MAURO: I am sorry, I can't --

CHAIR GRIFFON: Okay.

DR. MAURO: I can't be that specific. As I said, we could actually pull together the report. It may very well be on file.

What we have captured here was the essence of it. And certainly, we could have done a better job in telling the full story, but I would have to run down the full report that we did.

In effect, what we were trying to do here is confirm the statement made by NIOSH that the concentrations were higher in the later years where we had more data. So, extrapolation back seemed to be reasonable.

And we went and checked that independently and ran down the SRDB reports and confirmed that.

I guess that is about the level of granularity I can give you at this time.

MEMBER CLAWSON: Hey, Mark.

CHAIR GRIFFON: Yes?

MEMBER CLAWSON: Looking at this, I am just reading a little bit here, and it is talking about there is a total of 14 different types of uranium handlers investigated, and then it goes into a total of nine job categories that were studied, meaning that there was other -- were there other ones that they excluded out of this?

MEMBER MUNN: That was what HASL 85 did.

MEMBER CLAWSON: Okay.

CHAIR GRIFFON: Right, which is what we have to work with.

MEMBER MUNN: Yes.

CHAIR GRIFFON: Yes. And, yes, I had the same question, Brad. It seems like

they honed in on job categories that were most likely exposed, I would guess.

MEMBER CLAWSON: Right. That was what I was trying to get the feel; are these the highest exposed or --

CHAIR GRIFFON: Yes. I mean, that is the guess I would have, but I don't know. John said he wasn't sure.

DR. MAURO: Yes, I can't speak to that until I go back to the original work.

CHAIR GRIFFON: Right.

MEMBER MUNN: The write-up says they calculated the exposures of individuals rather than using the collection of exposure readings, irrespective of identity. And so, it spanned a wider range than that of the collective distribution. So they looked at what they considered the widest possible range of workers.

CHAIR GRIFFON: Well, yes, I think that is just SC&A's analysis of the data.

MEMBER MUNN: Yes, it was.

CHAIR GRIFFON: Yes, yes.

MEMBER MUNN: That is correct.

CHAIR GRIFFON: Individual versus collective distribution, I guess, yes.

MEMBER MUNN: Correct.

MR. STIVER: Mark, would you like us to track down that report for you?

CHAIR GRIFFON: I mean, do others have comments on that?

MEMBER CLAWSON: I, myself, I would actually like to --

CHAIR GRIFFON: Yes.

MEMBER CLAWSON: I understand where they are going out with this.

CHAIR GRIFFON: Yes.

MEMBER CLAWSON: And I understand the recommendation. But, unfortunately, some of the numbers don't quite jibe to me. I would like to be able to see the actual whole report.

MR. HINNEFELD: When you say full report, do you mean the report that Harry --

MEMBER CLAWSON: Yes, Harry --

MR. STIVER: SC&A has reviewed it after HASL 85, is what you are saying. It is HASL 85. We have got an SRDB citation for it right here.

CHAIR GRIFFON: Yes. No, more of the full SC&A write-up I think is what you are after right now, isn't it?

MEMBER CLAWSON: That is all I want, yes.

CHAIR GRIFFON: Yes.

MR. STIVER: John, this is Stiver.

Could you get a hold of Harry --

DR. MAURO: Sure.

MR. STIVER: -- or maybe Nancy, and see if we can track that report down --

DR. MAURO: Yes.

MR. STIVER: -- and send it to the Work Group?

DR. MAURO: I will take care of it.

MR. STIVER: Okay. Great.

Thanks.

CHAIR GRIFFON: Assuming we are okay with that, that takes us through a lot of the findings, right, on --

DR. MAURO: No.

CHAIR GRIFFON: Or they are different, separate issues? Okay.

DR. MAURO: No, they are substantive --

CHAIR GRIFFON: Okay. Okay.

DR. MAURO: -- substantially different issues.

CHAIR GRIFFON: All right.

DR. MAURO: For example, the next one, Finding 2, is different in nature.

CHAIR GRIFFON: Okay. So, let's go on to that for now, Finding 2, yes.

DR. MAURO: Yes, and I will try to be brief on this.

Now this case has to do with external exposure and something that is referred to as correlated versus uncorrelated

data when you are building a coworker model.

CHAIR GRIFFON: Yes.

DR. MAURO: Okay. The best way I think about it is let's say you have 100 people, and each person had one measurement taken a month, okay, a film badge reading. So, in theory, what you have got here is 100 people times 12. You have 1200 numbers, let's say, in a given year.

What you can do is, let's say you pooled all those numbers together. So, you have these 1200 numbers in a pool with no personal identifiers. And you said, okay, I am going to use these data to build a coworker model for the workers I don't have data for. But, certainly, for the workers I do have data, I could use the data to reconstruct their external doses.

But if I don't have data for some people and I want to build a coworker model, I am going to take these 1200 numbers, and I am going to go in and, since they are monthly

readings -- now it turns out I think they were more than monthly, but let's just, for the sake of the understanding conceptually it was done.

You go in and you say, well, that means for any given worker, there are 12 readings. So, let's go in and randomly pick from the 1200 numbers 12 and add them up, and that would give you one random estimate of what a person's dose would be for the year.

Then, I go in and do it again, and I do it again, and I do it again. And in the end, you have got a collection of annual doses, if you are following me, that are taken from this pool. And then, you plot that and you pick off the upper 95th percentile. Okay? Stay with me.

This would be considered uncorrelated data. That is, you have taken the pool of numbers, you are not assigning them to any people, and just pulling numbers out. Alright?

We reviewed the coworker model that was done. At the time we did the review, NIOSH claimed that they did an uncorrelated -- I'm sorry. Correlated would be I don't randomly go in and I sort them by people. I say, no, I am going to take Person No. 1, take his monthly readings. That is Person No. 1. That is his dose. And then, Person No. 2, that is his dose. That would be correlated. That is, I am grouping the numbers by people.

From there, I would have these 100 people, each one with their real annual dose. And that would be a different way to come at the problem. And then, I would take that real annual dose or real people and plot that and pick off the 95th percentile.

So, when we reviewed NIOSH's work, we believed that they processed the information as if it was uncorrelated. And that is important because, if you actually have a group of people that tend to have the highest exposures, by doing it uncorrelated,

you are not going to get a good representation of the spread.

So, we expressed concern that we think their coworker model where they said, we went through this process and picked off the upper 95th percentile, and are using that as our coworker model, we went ahead and checked that both using a correlated approach and an uncorrelated approach. And we ended up coming up with exposures that were twice those of NIOSH. We felt that there was something wrong with the way they did their work.

Well, it turns out we went back and re-performed the analysis, taking each person where we had data. And say let's take Person No. 1. Let's get his annual dose. Let's get Person No. 2.

And the outcome was a graph that you could see in the plot. It turns out, when you pick off the upper 95th percentile, we rechecked the numbers, basically. We went back and redid them and said let's do it by

correlated approach, pick off the upper 95th percentile, and see how different that is for the 95th percentile that NIOSH is using. And it turns out that we ended up matching their number.

So, after revisiting the issue, we concluded that NIOSH was correct all along, and we are recommending that we close this issue.

MEMBER MUNN: Wonderful. That explains why I was so pleased when I saw that graph.

DR. MAURO: Yes.

MEMBER MUNN: Yes.

DR. MAURO: And we believe it is the right way to do it for building a coworker model for external exposures.

MEMBER MUNN: Wonderful.

DR. MAURO: I hope that everybody understood that. That statistics stuff always shakes me up a bit.

MEMBER KOTELCHUCK: And in the

end, NIOSH chose which model?

DR. MAURO: Yes. We thought, I have to say we thought that they did an uncorrelated analysis. In fact, they came up with this number. And when we checked it, we went through it and did our own statistical workup in our own way. If the numbers were correlated -- we didn't actually do it by person.

So, when we originally did our check, there are certain statistical techniques that many of you may be familiar with. And if Harry was on the line, I am sure he could explain it better than I could. But there are statistical techniques where you could take your population of 1200 film badge readings and establish some degree of correlation between numbers, higher numbers and lower numbers, as if there is a relationship between them.

And he processed them as if they were correlated. He ended up coming up with

an upper 95th percentile dose when he treated the data as if it was correlated, with a value that was twice that that NIOSH selected for its coworker model. So, we felt that maybe NIOSH did something wrong, that they didn't really use a correlated approach to the data processing.

When NIOSH came back and said, no, no, we did, and it's right, we said, hmm, you know, we have another way to check this. And the way we will check it is we will actually go get the people, you know, not use a statistical method, but let's go grab the people and rank them and plot them. And when we did that, we got their numbers.

MEMBER KOTELCHUCK: Okay. Good.

CHAIR GRIFFON: So, what was the number? NIOSH's number is about 110. Is that --

DR. MAURO: It might be here. I'm not sure. The actual result, the annual dose, you mean? The upper 95th percentile --

CHAIR GRIFFON: Yes.

DR. MAURO: Yes, it has got to be here somewhere. I actually have the report here. I could probably run it down. Let's see what we have got here.

CHAIR GRIFFON: You have 95th doing it two different ways. You get 122 and 108. So, NIOSH's was consistent with that?

DR. MAURO: Mark, as usual, you are ahead of me. I would have to go back and do a little more homework.

CHAIR GRIFFON: Oh, no, this is just in the bottom of the --

DR. MAURO: Oh, the report?

CHAIR GRIFFON: The very bottom of your attachment, yes. Page 129.

DR. MAURO: Okay. Let me get my hard copy real quick.

CHAIR GRIFFON: Yes, the Table 1, right below the graph.

DR. MAURO: Here we go. Let's see.

CHAIR GRIFFON: I assume that is the data that you are talking about --

DR. MAURO: Yes, yes.

CHAIR GRIFFON: -- that when you went back and did it -- yes.

DR. MAURO: Okay.

CHAIR GRIFFON: So, 108 compared well with what NIOSH had reported. Is that what you are saying?

DR. MAURO: Yes.

CHAIR GRIFFON: Okay. Instead of being like a doubling factor?

DR. MAURO: Exactly.

CHAIR GRIFFON: Okay. Alright.

DR. MAURO: Okay. Let's see. We could go on to --

CHAIR GRIFFON: Well, this one I am more comfortable -- I mean, I don't know if others have comments on this, but this one I am more comfortable closing, with what we have.

MR. STIVER: Yes, it kind of makes

more sense because --

CHAIR GRIFFON: Yes.

MR. STIVER: -- the median is quite a bit higher --

CHAIR GRIFFON: Yes, yes.

MR. STIVER: -- even with the 95th percentile, you know, depending on the amount of error.

CHAIR GRIFFON: Right, right.

MR. STIVER: It is a little lower, actually.

CHAIR GRIFFON: Yes.

MEMBER MUNN: I am certainly pleased with it. Closing it is logical to do.

MR. KATZ: Okay. Closed.

CHAIR GRIFFON: Yes.

MR. KATZ: Good.

CHAIR GRIFFON: So, that is Attachment 1, Finding 2, closed.

Okay. John, go ahead on to the next one, then.

DR. MAURO: Okay. This is we are

in Attachment 1. What finding?

CHAIR GRIFFON: No. 3.

MR. FARVER: No. 3, I am not sure we received a response from NIOSH to begin with on Finding 3, but John might have some more information on anything he knows about Finding 3.

MR. SIEBERT: This is Scott.

The finding should be --

MEMBER MUNN: Localized exposures.

MR. SIEBERT: Wait a minute. Sorry. I was going to a different one. Never mind.

DR. MAURO: This is extremities, hands, forearms exposures.

MR. SIEBERT: Correct.

DR. MAURO: I don't have any additional information over and above what is here in the matrix regarding the status of this. Namely, I guess we were expecting a report.

MEMBER MUNN: And it reflects

NIOSH was expecting you to conduct the --

DR. MAURO: Well, in the matrix that I am looking at, and this is what I am going by, the last entry, this blue item that is dated February 2nd, 2013. SC&A has not received NIOSH's initial response of its finding. So, I believe that is the latest position, as we understand it.

MR. STIVER: I could not find any.

MEMBER MUNN: No, I think that is the wrong finding. Or maybe I am looking at the wrong finding.

CHAIR GRIFFON: No, there is --

MEMBER MUNN: Attachment 1, Finding 3, March 2012, says NIOSH/ORAU notes from the December 11th meeting, indicate that SC&A will conduct additional review.

CHAIR GRIFFON: Yes, I think you are still looking at the old Version 1. That is in there, but, then, SC&A added another comment.

MEMBER MUNN: Well, I see it over

in the other column, right.

CHAIR GRIFFON: Yes, yes.

MR. SIEBERT: This is Scott again. There is an April 2009 SC&A White Paper named SC&A Follow-up to NIOSH's Responses to Bridgeport Brass Site Profile Review Findings. And the original responses appear to be in that.

CHAIR GRIFFON: Can you forward that to everyone, Scott? Yes, because I think, even if we have it, we might need to re-get it, right? It may have been sent, but at this point I think we just need to distribute it, yes. So, Scott, can you forward that to folks?

Alright. Going on to Finding 4, I assume Scott is going to forward that. I didn't hear.

MR. SIEBERT: Yes.

CHAIR GRIFFON: Okay. Thanks.

MR. SIEBERT: Yes.

CHAIR GRIFFON: Yes.

DR. MAURO: Yes, with regard to Finding 4, this is linked back to this concern we had regarding the external-dose business. When Harry reviewed the data, he said one of the problems you always run into when you try to fit data to a log-normal distribution and there is a lot of scatter, one of the things you like to ask yourself is, if there is a lot of scatter, and there may be some numbers which you consider to be an outlier that you may or may not trust, you leave it out and you redo your geometric mean, standard deviation, et cetera, to see how it affects the results. So, he called this a leave-one-out analysis.

And he suggested at the time -- if I had had the presence of mind, I would have called Harry this morning -- he suggested at the time, why don't you do a leave-one-out analysis and see how important they are. That is, in terms of affecting the results of your distribution.

But it turns out that, after we

did that re-analysis that we talked about before with the curve, there weren't any outliers to speak of. So, the outcome meant that, well, listen, if we really don't have any outliers when we do it this way, you know, doing the individual workers and say annual dose for this worker, annual dose for this worker, et cetera, there were really no outliers and they fit that log-normal pretty nicely.

So, as a result, we concluded that the whole issue related to leaving one out goes away, and our recommendation is to drop it. That's it.

CHAIR GRIFFON: Yes, I am satisfied with that.

DR. MAURO: Yes.

CHAIR GRIFFON: Others?

MEMBER KOTELCHUCK: Fine.

CHAIR GRIFFON: Yes, that sounds good. Okay.

MR. KATZ: Closed.

CHAIR GRIFFON: Finding 5.

DR. MAURO: Five, I think.

CHAIR GRIFFON: That was done, right?

DR. MAURO: That was done, yes.

CHAIR GRIFFON: Yes. So, Finding 5(a).

DR. MAURO: Oh, well, we know what this is. This is the residual period --

CHAIR GRIFFON: Oh, yes.

DR. MAURO: -- resuspension factor issue --

CHAIR GRIFFON: Yes.

DR. MAURO: -- with 10 to the minus 6, which we have been struggling with for a long time.

CHAIR GRIFFON: We love this one.

DR. MAURO: And I don't think it is still entirely resolved.

For those of you who haven't been involved in this, this is one of these overarching issues that I believe -- and

certainly, if anyone wants to correct me -- I believe there is agreement that there are times when it makes sense, when you are dealing with residual radioactivity on the surface and you are concerned about it becoming resuspended and inhaled through people walking around and vehicles and stuff, there are resuspension factors which relate the activity in the air to the activity that is on the surface.

For the longest time, SC&A has been concerned that the standard number used by NIOSH to derive airborne dust-loading, given the dust-loading on the surface, a value which is 10 to the minus 6, it is basically 10 to the minus 6 picocuries per cubic meter in the air per picocurie per meter squared on the surface. It is an empirical relationship. For the longest time, we felt that 10 to the minus 6 looked low.

And after lots and lots of discussion and data acquisition and review, I

think we have come to an agreement. And that is, when the site is relatively clean and has been cleaned up, there still may be some residual radioactivity, but most of the removable material has been removed, the 10-to-the-minus-6 number is a good number.

However, if you have got a really dirty place, which does occur, especially in the early years of AWE facilities, that 10-to-the-minus-6 number may not be a very good number, and you might be better off with something like 10 to the minus 5.

And I believe NIOSH has actually memorialized this and has taken that position in OTIB-70, the latest revision to it. Correct me if I am wrong. And so, there is a new paradigm where there is sort of -- I guess we have converged on how to deal with this problem.

And so, the question, then, really becomes with regard to this issue, for Bridgeport Brass, are we dealing with a

circumstance where the 10 to the minus 6 might work out pretty good if it was relatively clean and they cleaned up after their operations? Or it was a pretty dirty place, such as, oh, Bethlehem Steel, where you had lots of residual uranium on surfaces that could easily be resuspended.

I am not in a position at this point in time to answer that question. I haven't looked closely enough at Bridgeport Brass in some time to say whether the 10 to the minus 6 might be okay or might not.

But I think all I could say right now is that the 10-to-the-minus-6 issue is a generic issue that was overarching. It has been resolved to, I believe, everyone's satisfaction in OTIB-70 in its latest version. And unfortunately, right now, the question becomes, well, what does that mean to this issue as it applies to Bridgeport Brass? And I am really not in a position right now to say, in my opinion, whether I think we are

dealing with a relatively clean or relatively dirty place.

MEMBER MUNN: Based on the conversations we have had in the Subcommittee, John's synopsis is pretty accurate.

MR. KATZ: Right.

MEMBER CLAWSON: So, I guess the question I have is, how are we going to be able to apply it to this?

DR. MAURO: I have to apologize. If I had had the presence of mind, again, to go back to the Bridgeport Brass data and review it and their practices, you know, I might be in a better position to advise it looks like this might have been a dirty place or not. But I really don't have that information for you at this time.

MR. HINNEFELD: I don't know for sure, but this question may be one of the things addressed by the Bridgeport Brass TBD revision. Didn't we talk about that earlier on? That there is a revision that is -

MR. KATZ: Right.

MR. HINNEFELD: -- going through DOE's final approval for public release. The reason I say that is that we have modified other documents for this specific purpose, to incorporate the agreement that was reached on TIB-70 into the Site Profile document. So, I suspect it was addressed in that.

So, I believe, to complicate matters further at Bridgeport Brass, there has been a change in the designation of one of the two facilities from DOL, I believe from an AWE to a DOE facility. So, for that facility, the residual contamination portion goes away. So, it would only apply, if one of the sites remains an AWE, it would pertain to that part.

MEMBER CLAWSON: So, when we do a TBD from now on, to be able to effectively implement this OTIB, it will basically call out if it is a clean, relatively clean, or dirty facility?

MR. HINNEFELD: It should specify

what, of the TIB-70 avenues -- TIB-70 gives actually various avenues. And it is, you either write one into the TBD or refer to the TIB-70 specifically enough that this is what you would do with it. That is what they should do.

MEMBER CLAWSON: Okay. So, when we looked at a TBD, we would be able to see what avenue it was going to -- how they were going to apply the OTIB?

MR. FARVER: And this relates to AWEs.

MR. HINNEFELD: Residual contamination periods only exist for AWEs.

MR. FARVER: Yes. But is this resuspension factor an issue for other DOE facilities?

MR. HINNEFELD: Well, not in the same fashion because in a residual contamination period where there is no radiological work going on ---

MR. FARVER: Is it handled the

same way? I mean, can a TBD say, for a DOE facility like it would be for an AWE facility?

MR. HINNEFELD: Well, it is not likely because you are going to need to continue to have active operation in a DOE facility. And so, you will not have the situation where you just have a residual with resuspension being the primary exposure method.

So, if you are in an operating activity, you would have bioassay data, which would include it all, all the intakes, or air sampling, which would include it all, or things like that. So, I don't see it arising in a TBD.

MR. FARVER: Okay. Because I remember mainly it was an AWE issue.

MR. HINNEFELD: Yes, I think it is, yes.

MR. STIVER: Yes, you would be forced to use a source term resuspension in order to derive an intake.

MR. HINNEFELD: I don't see how that would --

MR. FARVER: And I don't remember it coming up in any of the DOE facility DRs that we looked at.

MR. HINNEFELD: Right.

MR. STIVER: Well, TIB-70 is specific to the AWE.

MR. HINNEFELD: Well, it is specific to residual contamination --

MR. STIVER: Yes, residual, which is --

MR. HINNEFELD: -- which is specific to AWEs.

MR. STIVER: Okay.

MR. KATZ: Just to put a coda on this, Mark was asking on the side where this stood with Procedures. Procedures, as you know from the last Board meeting, is starting to report out on its closeouts on procedures, and it has started to report out on TIB-54, I think it was.

MEMBER MUNN: Fifty-two.

MR. KATZ: Fifty-two at the last Board meeting. It is going to report out again on that more fully at the next Board meeting and probably some others. And this one may be one, 70. So, the Board will get to hear and understand the closeout of that procedure by the Subcommittee.

MEMBER CLAWSON: Just specific to this one, because Bridgeport Brass is kind of the interesting one, especially where you have a facility going to DOE versus AWE, I just wonder about people being able -- between the two or --

MR. HINNEFELD: Well, they were in different states.

MEMBER CLAWSON: Oh, okay.

MR. HINNEFELD: So, normally, we know which one they were at.

MEMBER CLAWSON: Okay.

MEMBER MUNN: This particular finding is on Harshaw, is it not?

MR. HINNEFELD: No, this is Bridgeport Brass.

MEMBER CLAWSON: Bridgeport Brass.

MEMBER MUNN: Oh, Bridgeport Brass.

CHAIR GRIFFON: It might come up on Harshaw, too.

MEMBER MUNN: So, we are deciding 5(a)?

CHAIR GRIFFON: 5(a), yes.

MEMBER MUNN: Okay.

DR. MAURO: One of the things I would like to suggest is, in light of the fact that there is a new version of the Bridgeport Brass that I only became aware of now, as a result of participating in this, the fact is even though the big ones we closed out without that -- in other words, we still have, of course, this issue we are talking about, 10 to the minus 6, but what we really have here is we managed to convince ourselves that really most of the issues that we originally raised

we are okay with, you know, without the benefit of looking at the latest version of the Bridgeport Brass.

So, I hope the degree to which the Subcommittee feels it might be worth having a look at it, which I don't think would be a very complicated process, just to read it and see how it dealt with these various issues, I would probably do on my own time anyway, you know. I am interested in seeing what it looks like. But it might be worthwhile just closing this loop by saying, yes, we took a look at the new one and there are no surprises; everything looks like it is in order, or there may be a couple of places where we want to mop things up.

CHAIR GRIFFON: Yes. No, I think that makes sense. I think most of it is going to be consistent with what you have already, with what we have closed out. So, I don't think it will be a big deal. But I think it is worthwhile, yes.

MEMBER CLAWSON: Well, especially where you have got a new Site Profile that has been reviewed.

MR. STIVER: Another way we might possibly do that would be to, you know, in the next set of dose reconstruction reviews, pick one from Bridgeport, just a recent case, if there any available at this time. So, you can kind of do a follow-up kind of in relation to the original mini-Profile review.

CHAIR GRIFFON: Yes, I don't know if we have -- yes.

MR. HINNEFELD: Well, in this case, we are writing a revision to the Site Profile to resolve findings.

CHAIR GRIFFON: Right, out of this case. So, yes.

MR. HINNEFELD: The way we do it in the other procedures is, when we revise a technical document, there is a review of the revision to see if the findings were, in fact, addressed by the revision. It seems like that

is what we are doing here. Our revision is just sort of this is our latest response and, then, asking, look, did we, in fact, treat the finding in that revision?

I don't see this as any particular big deal at all. I would be surprised if we have any Bridgeport Brass site cases that were done in accordance with the new TBD because it is just coming out.

MR. STIVER: Yes, we would have to wait for a year anyway.

MEMBER CLAWSON: I don't think you will get any more -- well, all of Bridgeport Brass I think have already been filed, or whatever. I don't think that we --

MR. STIVER: Okay.

MEMBER CLAWSON: But SC&A still has to review this to make sure that --

MR. STIVER: Yes, we are just going to follow up.

CHAIR GRIFFON: Yes. Okay.

MR. FARVER: It will also take

care of 149.1 because we will go back and be reviewing the TBD, and we should be able to answer 149.1.

MR. HINNEFELD: And I just checked and I was correct in that designation business. The one in Michigan has been de-listed as an AWE and will be listed as a DOE facility. So, the whole residual question goes away for Michigan.

DR. MAURO: Oh, I didn't hear you. Did you say Bridgeport is being designated as a DOE facility? So, the residual period goes away?

MR. HINNEFELD: For one. Only the Michigan part.

DR. MAURO: Only the Michigan? I forget which one that is. Adrian?

MR. CALHOUN: Adrian.

DR. MAURO: Adrian?

MR. CALHOUN: Adrian's is Connecticut I believe.

MR. HINNEFELD: No, it is Adrian,

Michigan, and it is Havens Lab in Connecticut.

MR. CALHOUN: Right.

DR. MAURO: Oh, okay.

MR. HINNEFELD: Adrian is the one in Michigan. That is the one that is becoming a DOE facility.

MEMBER CLAWSON: Yes, and I misunderstood you. I thought it was a building in the next one. Okay. Thank you.

CHAIR GRIFFON: Which one is this case from or this, what we are doing now? I thought it said Adrian.

MR. FARVER: I thought it was an Adrian.

DR. MAURO: There is a Havens Lab and the Adrian Lab. I don't know which one is Michigan and which one is Connecticut off the top of my head.

MR. HINNEFELD: Well, Adrian is in Michigan. I just don't know where this case --

MR. STIVER: We just don't know

whether Case 149 was from Adrian or --

MR. CALHOUN: Oh, oh, I will figure that one out.

MS. BEHLING: This is Kathy.

It is from Adrian.

CHAIR GRIFFON: So, explain that, Stu. Since this one is Adrian, and it is a DOE facility, you don't think this resuspension question is in --

MR. HINNEFELD: Well, it won't be pertinent to this claim. But the fact of the matter is the TBD --

CHAIR GRIFFON: Right.

MR. HINNEFELD: -- the Bridgeport Brass TBD should describe how we will do residual contamination at the Havens Laboratory --

CHAIR GRIFFON: Right.

MR. HINNEFELD: -- in accordance with TIB-70. It should say which of the TIB-70 things are we going to use at Havens Laboratory in Connecticut.

CHAIR GRIFFON: Okay.

MR. HINNEFELD: That is what it should say. Now I am going out on a limb here. I haven't read it.

CHAIR GRIFFON: The TBD is covering both facilities?

MR. HINNEFELD: I am pretty sure it did.

CHAIR GRIFFON: Okay. Okay. I wasn't sure on that.

MR. STIVER: Yes, it is kind of an overarching, generalized mini-review of the Site Profile.

CHAIR GRIFFON: All right.

MR. CALHOUN: And if the Adrian facility, if what is currently listed as the AWE period now remains the operational period --

MR. HINNEFELD: The DOE operational period.

MR. CALHOUN: -- the DOE operational period, yes, there is only this

person, instead of getting covered employment through '85-ish, will only have a year and a half covered.

MR. HINNEFELD: Yes. The impact really on this case, I mean, it is pretty clear we are concerned on this case. But the question remains, for finishing out these attachment findings, it all depends on the Site Profile. Does it address those findings?

MR. CALHOUN: Yes, is it still applicable to Havens?

CHAIR GRIFFON: And I will save my comments on TIB-70 for the Board meeting. I can't wait to hear the presentation.

MEMBER CLAWSON: Do we need a task to review that or --

MR. STIVER: Do we need a formal tasking or just kind of a follow-on?

CHAIR GRIFFON: No, just continue to work, right? Yes.

MR. STIVER: Okay. So, John, feel free to follow on that as soon as you would

like.

MR. KATZ: Right. Read it when it is out.

DR. MAURO: Okay. I will be glad to.

MR. KATZ: Thank you, John.

MR. HINNEFELD: We can provide it or at least let people know when it is available on the website.

DR. MAURO: Oh, so it is not out on the web yet?

MR. HINNEFELD: No. DOE is reviewing it for public release.

DR. MAURO: Okay.

MR. HINNEFELD: It is all approved and everything. DOE is reviewing it for public release. When they say okay, then it will be there.

CHAIR GRIFFON: All right, Doug or John, Attachment 2.

MR. STIVER: Attachment 2 is Harshaw.

MR. CALHOUN: And I don't have any good news on that one. I need to do better and promise a response by next time.

I think that what we need to do is reevaluate all the data and justify whether we need a 95th percentile or not. There is a move afoot to change some of the AWE TBDs, or whatever the methodology, to include a 95th percentile, but I can't answer this off the top of my head. I didn't start it early enough to give you a good answer.

MEMBER MUNN: You are far, far away from your microphone.

MR. CALHOUN: I think I am just speaking quieter than I usually do.

MEMBER MUNN: Oh, okay.

MR. CALHOUN: Basically, I said I'm sorry.

(Laughter.)

But, yes, I don't have a good, detailed response for that one yet. I know it has been dragging on forever, and I can't

claim ignorance too many more meetings.

CHAIR GRIFFON: Wanda, this one is third apology now.

MR. CALHOUN: That is okay. I will send her a private one.

(Laughter.)

CHAIR GRIFFON: Alright.

DR. MAURO: So, at this time, am I correct that at this time there is no action item for SC&A on Harshaw?

MR. KATZ: That is correct.

CHAIR GRIFFON: Is this for all Harshaw, Grady?

MR. CALHOUN: Yes.

CHAIR GRIFFON: Basically, we can skip over this?

MR. CALHOUN: Yes.

MR. FARVER: Yes, there's a few that have been closed, as we go down through.

CHAIR GRIFFON: But they are not highlighted anymore, right?

MR. FARVER: Right.

CHAIR GRIFFON: So, that is fine. Okay.

MR. FARVER: If you look at Finding 3 under Attachment 2, there is a little note that says Mark Griffon needs additional time to consider approach.

CHAIR GRIFFON: When was that, in 2010?

(Laughter.)

MR. FARVER: Yes.

MEMBER MUNN: Last week.

CHAIR GRIFFON: Yes. Well, would this constitute additional time, two years?

MEMBER MUNN: One would probably think so.

CHAIR GRIFFON: Three years? That was on my birthday. I get a little break on that one, I think.

(Laughter.)

MEMBER MUNN: And the same break in 2011.

CHAIR GRIFFON: I know I had a

stomach hurt at this meeting or in an incident with the Chemical Safety Board.

(Laughter.)

Alright. I will look at that while NIOSH looks at the rest of it. So, I will say I'm sorry I didn't do that, either.

MR. CALHOUN: We are a sorry lot.

CHAIR GRIFFON: Yes, yes.

(Laughter.)

Going on to Huntington then.

MR. FARVER: Yes, Attachment 3 is Huntington Pilot Plant.

John, are you --

DR. MAURO: Oh, yes, I am here. I could help with that.

MR. FARVER: Okay. Good.

DR. MAURO: Just to help conceptually, it is a facility that receives -- you know these diffusion barriers that are used at the gaseous diffusion plants? These are nickel barriers that the diffusion occurs through. They would send all these barriers

over to Huntington Pilot Plant, where they would clean them up; in other words, chemically remove the nickel from these barriers. And they would always have lots of uranium entrained in there.

They would do the chemical process where you would separate the uranium, which had various levels of enrichment, and that would go in one place, and the clean nickel would go somewhere else.

It turns out in the process, you generate airborne radioactivity that consists of nickel mixed with various levels of enriched uranium. And you also generate these birdcages where the uranium that was separated from the nickel is sitting in a geometry that is safe from a criticality perspective, but it raises the potential for external exposure. So, that is the picture. I suppose it is good to have a little visual in your head.

Now what happened here is we had a number of comments. And in preparing for this

meeting, I looked at that. NIOSH has issued a revision to the Site Profile for Huntington. I could tell you what the comments are, but before we get into that and what our concerns were, apparently, there is a revision out there. I went online to read it over the weekend. A note comes up that it is not available because it has not yet been screened for 508 compliance. So, I was not able to physically download it and read it.

I think maybe a lot of the concerns I had that are raised here may have been addressed, maybe not, but I don't have it. And now, is it correct that that document is still not available for me to review or SC&A to review?

MR. HINNEFELD: We can make it available to review.

DR. MAURO: Yes, that would be great, yes.

And I think that there are a couple of issues. I mean, once we review it,

maybe we could revisit this issue again. If you would like to go over what the issues are, I could certainly do that, and why we have expressed certain concerns. Some are more important than others. Or do you just want to wait until we have a chance to look at this new version?

MR. KATZ: It makes sense to wait.

CHAIR GRIFFON: Yes, why don't we just wait, yes?

MR. KATZ: 508 compliance is just a posting issue, John. So, there is no problem making it available.

DR. MAURO: Yes. No, I understand that, yes. Yes. Sometimes when I go onsite and I see I can't actually find a document because I am not looking in the right place. I looked in a few places and I couldn't find it, but you say that that actually is not up there yet, but you could make it available to me?

MS. ROLFES: He is right. I looked and it is not up there.

MR. SIEBERT: This is Scott.

It appears to be there that I can see.

DR. MAURO: Oh, okay.

MS. ROLFES: I asked about it last week.

DR. MAURO: I went online the way I normally go and then tried a couple of other ways. I kept getting that message, the 508 compliant message.

CHAIR GRIFFON: Well, we will figure it out. And either way, we will get access to the document and, then, we will discuss it later, right? We will hold it, yes.

MR. KATZ: Right.

DR. MAURO: Then, we can revisit it.

MR. KATZ: Next meeting.

CHAIR GRIFFON: Okay. So, are we on to the ninth set?

Doug, can I ask, did you do the

same thing with the ninth set that you did with the eighth? Did you add in responses?

MR. FARVER: I did not.

CHAIR GRIFFON: Okay. So, we could work from this.

MR. FARVER: Because we had some malfunctions with the operating equipment.

CHAIR GRIFFON: Okay. We can work from the copy of that.

MR. FARVER: Yes, and my handwritten notes. We are back to paper copies.

MR. STIVER: The most reliable form available.

MEMBER CLAWSON: Maybe this is the wrong time, and tell me if it is. I know that Stu said we wouldn't have the database, but could we kind of figure out -- I just wanted kind of an update of it. Because just looking at this, it is kind of hard to go through. I was kind of a little bit excited for the database. I was wondering, could we have just

an update on that? I was just wondering where we were at on it?

CHAIR GRIFFON: And we had the meeting, right?

MR. HINNEFELD: Well, we have had the design meeting.

CHAIR GRIFFON: You sent around some notes on the --

MR. HINNEFELD: Yes. The notes that we captured about things to be done were I think just recently sent around for everybody's review.

I don't have really an update. I mean, we came out of that meeting saying, look, there are other things that our TST is working on, and there won't be anything for this meeting. So, we didn't try to make any progress for this meeting.

CHAIR GRIFFON: We can muddle through with our matrices for the meantime, yes.

MEMBER CLAWSON: Well, yes, I was

just kind of wondering where we were at, if the ball was rolling on it or what.

MR. KATZ: Yes, the ball is rolling. It was a good meeting. We got a lot worked out in terms of what we think is needed as a starting point.

MR. HINNEFELD: I believe we want to go starting with the sixth set, is that what we decided?

CHAIR GRIFFON: Right. Skip the first five, right. Yes.

MR. HINNEFELD: Okay. So, there will be a significant data entry, a significant and complicated data entry, because of the way the matrices are formed, to get things in in sequence.

MEMBER CLAWSON: Okay.

MR. HINNEFELD: So, it is going to be a fairly significant, complicated data entry process to get these things in.

MEMBER MUNN: It is not going to be a trivial effort.

MR. KATZ: Right.

MR. HINNEFELD: So, we will work on it, but I didn't expect I would give any report today.

MEMBER CLAWSON: No, and I apologize, I was just kind of wondering where --

MR. HINNEFELD: It is a decent design. I mean, we have got a pretty good design.

MR. KATZ: No, that is fine. It is a good question, yes.

MR. STIVER: I guess the question is one of implementation, about when do you expect to start getting IT people working on developing the modules and doing all that, the data transfer?

MR. HINNEFELD: Yes, it didn't come with a report. I tried to set that expectation at the beginning.

MEMBER CLAWSON: And, Wanda, are you listening for this one?

MEMBER MUNN: I am.

MEMBER CLAWSON: I was just going to make a comment about how your process has made it easier for me to go through and find information. And I guess that is why I was just kind of looking at this, because it has made it easier for somebody like myself to be able to follow through where the process was.

I didn't mean to put Stu in a bad situation because I know he didn't come with a report. I am just curious.

MEMBER MUNN: I am going to send you a gold star.

MEMBER CLAWSON: Okay. I will put it on my forehead.

(Laughter.)

MR. HINNEFELD: I will tell you that this last week Dave Sundin and I met with our TST team lead to talk about the items that we are working on, you know, the list this long. So, it has got to fit into the list somewhere.

CHAIR GRIFFON: Well, in the meantime, after this meeting, I will generate the eighth and ninth, and whatever we get; I will generate the newest single version, so we can all work from one. That is part of the problem, is that we have complicating matters here, is that we get multiple versions.

MR. FARVER: And that is why I just try to update the NIOSH one, just to keep it all in the same --

CHAIR GRIFFON: So, I will try to have a master copy with this meeting date.

MR. HINNEFELD: Okay.

CHAIR GRIFFON: Then, I will see how far --

MR. HINNEFELD: For downstream when we start loading six and seven, we need a defined matrix for six and seven.

CHAIR GRIFFON: Right, right. Yes.

MR. HINNEFELD: For usability, we might make this a two-tiered. We might start

entering things we are working on now.

CHAIR GRIFFON: Right.

MR. HINNEFELD: So, that it is useful. And make the sixth and seventh set and eighth set, you know, kind of make that a side issue or a second string. So, that would make it useful if we don't wait until we get all those.

CHAIR GRIFFON: Right. Otherwise, you will always be catching up.

MR. HINNEFELD: Yes, we will never catch up. It will be hard to catch up.

MEMBER CLAWSON: Thank you. I appreciate that.

CHAIR GRIFFON: Alright. So, in the meantime, moving on to my beloved matrices, the ninth set, working from the one that Beth sent around.

Doug, did you come down to the first one that is open? Is the first one open, 179.1?

MR. FARVER: 179.1 is open.

DR. MAURO: Doug, if you want me to help out --

MR. FARVER: Please, because I don't have anything, John. I'm squirming.

(Laughter.)

DR. MAURO: Yes. That was one of mine. All these AWEs, they are sort of the thing I do.

The first one, No. 1, in the original DR review where they talked about external exposures, there really was very little information available for us to make a judgment whether the numbers that they used were reasonable.

I think the answer they gave us here in green answers it. As far as I am concerned, I am okay with it. You know, I would recommend close it, Item No. 1.

CHAIR GRIFFON: And the answer is that they didn't start dumping material there?

CHAIR GRIFFON: Yes, and see, the information that was provided -- there is no

Site Profile --

CHAIR GRIFFON: Right.

DR. MAURO: -- for Ashland Oil. So, all the information I had was based on what was in the DR report, whatever other sources I could find. And I was having a little trouble confirming the external exposure rates that were employed, this 57 micro-r per hour.

But they provided information -- there was this survey done in '58 -- information regarding when the dumping occurred, the conservative assumptions regarding the number of hours of exposure, and taken together, it seems to be a reasonable answer. So, I know I am comfortable with that.

The actual detailed data, it might be useful to have that available. Are there any other sources of data that we should have access to? Your answer is good for me, but, you know, it would be good to have the SRDB

numbers, and so forth, where all this comes from.

CHAIR GRIFFON: John, can you tell me a little story? I mean, what did Ashland Oil do? I know you like to tell stories.

DR. MAURO: Oh, it was a dumping site --

CHAIR GRIFFON: And it is before lunch.

DR. MAURO: -- for residue that came from Linde, I believe. Wait, I might be --

CHAIR GRIFFON: A dumping site for residue that came from Linde?

DR. MAURO: Give me a second. Some of these start to blur together.

CHAIR GRIFFON: Alright.

DR. MAURO: Give me a second. I have the actual Site Profile review in front of me in hard copy, and that will help me get myself oriented.

I read these before the meeting

began, just to get myself a little oriented. Let's see. Ah, okay.

I'm correct. It turns out that this was a facility that was simply a storage location where they dumped large quantities of residue from the Linde facility at the Ashland Oil site in the time period from 1947 to '75. So, you had this pile of stuff, of residue.

CHAIR GRIFFON: '47 to '75?

DR. MAURO: Yes, I am looking, I am actually reading from my summary of the background information.

Ashland Oil was in existence.

CHAIR GRIFFON: Yes.

DR. MAURO: When this dumping occurred, when the actual dump occurred might have been --

CHAIR GRIFFON: Fifty-seven, right.

DR. MAURO: Yes, it ended early. Even though the site has been there until '75, the actual Linde production activities ended

in 1949, as we know actually from Linde. Right.

And about 8,000 tons of uranium tailings and residues are spread over two-thirds of the 10-acre site, the site we are talking about. No residues were added after 1948. Okay. So, it was in the late 1940s when they piled up all this stuff at the site.

And then, okay, it wasn't until a fellow named Weinstein in 1958 gave some reports, some surveys were done. Radiological surveys were conducted in 1957. And the numbers we are looking at are a result of the measurements that were made at that time. I believe that is correct.

CHAIR GRIFFON: Okay. So, this stuff was buried at this site at Ashland?

DR. MAURO: No, it actually wasn't.

CHAIR GRIFFON: Or it was a mound?

DR. MAURO: That was one of the questions I had, whether there was a soil

cover.

CHAIR GRIFFON: Yes.

DR. MAURO: And I don't think there was.

CHAIR GRIFFON: So, it was just piled up or whatever?

DR. MAURO: Yes, yes.

CHAIR GRIFFON: Okay.

DR. MAURO: And then they provide this information in the answer, that this is what the survey revealed. I wish I could say that I recently looked into the Site Research Database to look at the survey and data, et cetera, et cetera, but I did not.

What we have in front of us is the answer that we are looking at. That came in in February 2013. And I am taking it at face value, you know, and have not checked the source documents behind which those numbers came.

MEMBER CLAWSON: But this is an AWE?

DR. MAURO: This is an AWE facility.

MR. STIVER: Hey, John, this is Stiver.

A minute ago, you said that, based on that review you are looking at, they started dumping residues at Ashland in '47?

DR. MAURO: Yes. I am actually reading from the hard copy of the DR review I prepared back in 2008. I tried to refresh my memory over the weekend to get up to speed.

Yes, it looked like the dumping occurred up through -- the last dump -- what did I say? -- is 1948. No residues were added after '48.

And that was about the time when the activities at Linde ended. All this was, was a dumping ground for residue from Linde.

MR. STIVER: The reason I am asking was the response in green indicates here that Ashland didn't start dumping material until 1957. So, the 1958 survey is

reasonably representative of the early exposures.

But you are telling me, based on this review, that, no, that is not true; in fact, they started 10 years earlier.

DR. MAURO: Yes, you caught me. You're right.

MR. STIVER: So, I guess that is kind of still up in the air then?

DR. MAURO: Yes, I agree. So, there is a little bit of, yes, maybe we are not okay with this. A little homework may be due. I just didn't dig that deeply into it.

MR. STIVER: Yes, and it has been four years since --

DR. MAURO: Yes. I would have done it, but I tell you I didn't really jump on this thing until late last week. I'm not sure when all this came out.

MR. STIVER: It came out late last week.

DR. MAURO: Oh, okay.

MR. STIVER: You didn't have a lot of lead time.

CHAIR GRIFFON: So, I think a little more follow-up maybe is needed on that one.

DR. MAURO: Yes, a little homework here.

CHAIR GRIFFON: All right.

MEMBER CLAWSON: Well, this will fall under SC&A follow-up, correct?

CHAIR GRIFFON: Yes.

DR. MAURO: Okay.

MR. FARVER: And you may see that a lot with some of these AWE cases here.

MR. STIVER: Yes, I think, as we revisit these.

MR. FARVER: We just haven't had time to look at the responses and dig into them.

CHAIR GRIFFON: Okay. Moving ahead.

MEMBER CLAWSON: Could I just ask

one question? Where is this Ashland Oil, where was it dumped at?

MR. STIVER: Geographically where?

MEMBER CLAWSON: Yes, geographically where? Because I see Niles, Ohio and Western Reserve Refinery. Is it in Ohio that this was done?

MR. STIVER: It's upstate New York, isn't it?

DR. MAURO: It is probably close to Linde.

MEMBER CLAWSON: Tonawanda.

DR. MAURO: Tonawanda.

MEMBER CLAWSON: New York. Okay.

DR. MAURO: Yes, it says in New York, in the Tonawanda area near Linde.

MEMBER CLAWSON: Okay. I see that now. Okay.

CHAIR GRIFFON: Okay. 179.3 looks like the same question, I think, to me, anyway.

MR. FARVER: Pretty much all the

179s are where you have to look at.

DR. MAURO: On No. 3 --

CHAIR GRIFFON: Yes.

DR. MAURO: -- I do have a concern with that one. It turns out I took a look at it. It was after the data and our review.

We had a concern, the original concern was that the dust-loading, .3 picocuries per meter cubed may not be the best number. We went back to the original report by Weinstein.

What he did is a dust-loading in milligrams per cubic meter that was measured at the site and, also, measurements made in the material that was on the site. What fraction of it was uranium, and the rest was other material.

Using those two numbers, we came up with a concentration of airborne uranium that was about four times higher than the numbers that were done in this dose reconstruction.

So, one of our findings, which still stands, is that now we are coming up with numbers four times higher, for the reasons I just gave. So, unlike the other one in which I was ready to say I think we are okay with, which we are not, this one, I am still concerned that maybe they underestimated the internal doses by, at least the airborne dust-loadings, by about a factor of four.

There were other aspects, by the way, to this calculation, the assumptions regarding occupancy times, that sort of thing, which are conservative. So, there are many factors. But if you just look at the concentration of the dust in the air, what we found reported in the literature: it looks like the numbers that were used by NIOSH in the DR could be low by a factor of four.

CHAIR GRIFFON: And if I may, John, I think the question on the dumping versus the survey timing still stands for this one, too.

DR. MAURO: I agree.

CHAIR GRIFFON: Yes, yes.

DR. MAURO: I agree.

CHAIR GRIFFON: So, you have both factors.

CHAIR GRIFFON: Okay.

MR. STIVER: So, an additional error or an additional issue.

CHAIR GRIFFON: All right. So, I guess there is a question on the number, right --

DR. MAURO: Yes.

CHAIR GRIFFON: -- that NIOSH came up with? So, NIOSH might want to re-look at that, and you can also check on the survey stuff, the timing of the dumping versus the survey, SC&A.

DR. MAURO: Yes.

CHAIR GRIFFON: Okay. 179.4, this looks like some comments in the CATI report.

DR. MAURO: Yes. My little note that I put down here when I read this answer,

I put down okay. In other words, after reading this, what I think we have here is there was some incompatibility, at least in my mind, between how the location of this worker was represented compared to where he lived and said he lived in his CATI. And there is an explanation provided here, February 2013, that points out that, no, everything is okay.

In my mind, I guess the reality is I don't even know if it makes a difference. So, I think, you know, the fact that we had a finding of what appeared at the time we did the review an incompatibility between what the person said his location was in his CATI compared to where he was assumed to be in the DR, and that is why the comment is here.

But the response that we are looking at says, no, everything is okay. And I don't know if this really would affect anything anyway. You know, regarding the assumptions you would make in the model, it wouldn't change, notwithstanding this location

question.

CHAIR GRIFFON: I think that is correct. That is correct, right?

MR. CALHOUN: Yes, if DOL says he was there, he was there.

CHAIR GRIFFON: He was there, yes.

MR. CALHOUN: Yes.

CHAIR GRIFFON: And he is going to get the site doses.

DR. MAURO: He is going to get the dose anyway.

CHAIR GRIFFON: Yes. Right. Okay. So, that is closed.

DR. MAURO: Good, good.

CHAIR GRIFFON: Alright. And then, 180.1. Yes, go ahead.

MR. FARVER: The finding is, it has to do with the employment period and job location, basically, which are identified. It is the Bridgeport Brass case, Havens Lab. And we haven't discussed this for quite a while. So, this response is even rather old.

But the worker claimed that he worked at Havens Lab from '42 through '80. However, the Site Profile states that operations ended in '62, and operations were transferred to the Seymour Specialty and Wire facility.

So, our inquiry is related to whether the worker might have been transferred to Seymour and experienced exposures at that location that were not accounted for in the DR.

MR. CALHOUN: I think that is kind of a similar thing --

CHAIR GRIFFON: Yes.

MR. CALHOUN: -- as we just discussed. Unless Labor puts him there, he is not there. We have to go by the verified employment.

CHAIR GRIFFON: Haven't we referred some to Labor just to check on it in the past?

MR. CALHOUN: Yes.

CHAIR GRIFFON: I mean, is that one that we --

MR. CALHOUN: I don't recall having done that.

CHAIR GRIFFON: We can't really do much about this.

MR. CALHOUN: Correct.

CHAIR GRIFFON: Yes.

MR. CALHOUN: But, you know, we did have a relatively successful story. I can't remember the details, but I think somebody ended up getting comped out of the deal.

MEMBER CLAWSON: Yes.

CHAIR GRIFFON: Yes. Right.

MEMBER CLAWSON: Yes.

CHAIR GRIFFON: And that came out of the Subcommittee.

MR. CALHOUN: It did, yes.

CHAIR GRIFFON: Yes.

MR. CALHOUN: Because we forwarded it to Denise.

MR. KATZ: Denise brought the folk to DOL, and they sorted it out.

MR. CALHOUN: Yes, right.

MR. KATZ: And the person was comped; that's true.

MR. CALHOUN: And in that case, we had actually referred it to DOL at least on two different occasions.

MR. KATZ: Right.

MR. CALHOUN: We said, are you sure, and they said yes. That is all we can do. I don't know if we have done that on this one.

MR. FARVER: And the reason we bring it up is because there is information that is inconsistent with what is in the DR. So, we just bring it to your attention.

CHAIR GRIFFON: I don't think we can do much with it from a DR standpoint here, but I think it might be worthwhile forwarding to DOL and requesting that they look into it, just like they did the other one.

MEMBER CLAWSON: Well, the company was sold, or?

MR. FARVER: Operations were transferred to another Bridgeport Brass facility called Seymour Specialty and Wire.

MR. CALHOUN: Which is an AWE.

CHAIR GRIFFON: Which is an AWE.

MR. FARVER: Which is an AWE, right.

CHAIR GRIFFON: So, the person could get more, yes.

MR. STIVER: It would certainly be worth checking up on.

CHAIR GRIFFON: Yes.

MR. CALHOUN: I am looking here. It looks like we might have done that.

MEMBER MUNN: She did.

CHAIR GRIFFON: Oh, you did? You did?

MR. CALHOUN: Hold on a second. Let's look.

MS. ROLFES: DOL sent it to you

because Kim questioned it.

MR. CALHOUN: Yes, one of our PHAs, we are reviewing the claim to make sure that we have correct location. Not specified locations as Havens or Adrian. We didn't ask about Seymour, it doesn't look like.

And then, let's see. They came back and verified that, no, it was Havens. Location is Havens.

CHAIR GRIFFON: This is a little different question in 2005.

MR. STIVER: Yes, the question was, was it Havens or Adrian? And it is Havens.

MR. CALHOUN: What is the specific information that makes you think it was --

MR. FARVER: The worker -- let's see --

MR. CALHOUN: Was that the CATI or something?

MR. FARVER: I believe it is the CATI, and the time period is from '42 to 1980,

and the location is given as Bridgeport Brass. I am not sure how specific that is. But, apparently, the Havens Lab ended in '62. So, how could he have employment up through '80?

MR. CALHOUN: Unless he went to Seymour.

MR. FARVER: But operations were transferred to Seymour. But if he doesn't list Seymour in his work history, are they going to check Seymour?

MR. CALHOUN: Well, it looks like the CATI was all done by a survivor.

MEMBER KOTELCHUCK: Seymour is in Tonawanda or Buffalo?

MR. HINNEFELD: Well, this is a different one.

MR. FARVER: This is a different one. This is Bridgeport.

MR. HINNEFELD: Bridgeport Brass, yes.

MR. FARVER: And I don't know where it is. And I am not sure if it is in

the CATI report or -- what is it? -- the E3.

MR. CALHOUN: Yes, I'm looking now, but you guys can go ahead.

CHAIR GRIFFON: It is not quite as strong of evidence as we had in the last case, frankly, but yes.

MEMBER CLAWSON: Well, if operations went on, if it went from Bridgeport Brass to Seymour, are we classifying Seymour and Bridgeport Brass as the same?

MR. CALHOUN: No. No, it is different facilities.

MR. FARVER: The thing is, if you don't check their records, are you going to find them?

MEMBER CLAWSON: Right. I understand what you are saying now.

MR. CALHOUN: Yes, I am looking at the initial DOL application, and they don't mention Seymour in the application.

MR. FARVER: No. Do they mention a time period up through 1980?

CHAIR GRIFFON: Right.

DR. MAURO: Would I be correct -- this is John -- if he did go to Seymour and work there, and that was not picked up as part of his dose reconstruction, that would be a problem. You would have to revisit that because that would be dose you missed.

MR. CALHOUN: Only if Labor says that he worked there.

DR. MAURO: Okay.

CHAIR GRIFFON: That is the key. Yes, Labor is --

MR. KATZ: It is an issue between the claimant and Labor to pursue if there was employment elsewhere.

MR. CALHOUN: Seymour has covered period of '62 to '64, and then, it is a residual from '65 to '91, and then, DOE, '92 to '93 remediation.

MR. HINNEFELD: Well, does Havens Laboratory have a residual?

MR. CALHOUN: Let's look. I think

yes, off the top of my head, but let's verify.

MR. HINNEFELD: It is going to be Bridgeport Brass then.

MR. STIVER: Well, they did contract work through '64, but it doesn't say how long the facility was open after that. So, it still at work there.

MR. CALHOUN: It is just that Seymour is an AKA as Bridgeport Brass.

MR. STIVER: Yes.

MR. CALHOUN: Okay. They are an AWE 51-52, and there is no residual period after '62.

MR. HINNEFELD: After '62, there is no residual for Havens Laboratory. So, that kind of lends credence to the argument that he may have moved to the Seymour Specialty and Wire facility. Even though the contract ended in '64, there was a residual period that might have passed through his employment. He may have continued to work there, but not on DOE work.

CHAIR GRIFFON: It sounds like something before he was released.

MR. FARVER: Yes, it could have been he may not have even known he was working on DOE-related activities.

CHAIR GRIFFON: Yes, I think it is worth following up on.

MR. HINNEFELD: Yes, we ought to send this to --

MR. CALHOUN: Now you think that, ultimately, it is something from CATI, right? Is that what you are saying?

MR. FARVER: I don't know without looking further into it.

MR. HINNEFELD: He probably didn't only describe it in his CATI; he gave his employment years on his application.

MR. FARVER: He probably just gave the employment period.

MR. CALHOUN: I looked that up, but it only gives -- I have got to find it again -- it only gives Bridgeport Brass. But

if it was known as Bridgeport Brass --

MR. HINNEFELD: But does it give any year? Does it give the years he worked?

MR. CALHOUN: It probably does now.

MR. FARVER: Yes, I think the years were not consistent with the Bridgeport Brass time period.

MR. CALHOUN: This is the initial case, and keep in mind that this is done by a survivor.

MR. HINNEFELD: Yes.

MR. CALHOUN: Okay. The covered period that is provided here is, oh gosh, '42 to '80.

MR. HINNEFELD: That is from the DOE summary you are looking at now?

MR. CALHOUN: No, that was DOL's --

MR. HINNEFELD: DOL's summary?

MR. CALHOUN: -- covered period. The application that they put in was '42 to

'80, Bridgeport Brass Company, Bridgeport, Connecticut.

MR. HINNEFELD: Okay. So, they sent applications for Bridgeport Brass in Bridgeport, Connecticut, and Seymour Specialty and Wire I assume is in Connecticut.

MR. STIVER: I assume they would move it, so it is a really close-by facility, Seymour, Connecticut, yes.

MR. HINNEFELD: So, the question to DOL should be the person said they worked at Bridgeport Brass, although they shut down, but there was this other facility that was known as Bridgeport Brass that operated through 1980. Could his employment have switched to Seymour Specialty?

MR. CALHOUN: Yes, I can send that really quick to our PHAs.

CHAIR GRIFFON: Okay. Alright. So, a referral, and I think we are kind of done with this.

MR. HINNEFELD: We are kind of

done unless there was a change in employment.

CHAIR GRIFFON: Yes, we are done with it.

MR. KATZ: Closed?

CHAIR GRIFFON: Yes, closed and referral to DOL.

MEMBER CLAWSON: Well, yes, for this one, but I guess I am looking at a little bit of the broader picture that we are getting from this. Do we have other claimants that maybe fell into this? Because this operation period, the operations were transferred to Seymour, do we --

CHAIR GRIFFON: Oh, the question in Bridgeport Brass, I mean, yes. Yes.

MEMBER CLAWSON: Do we have lots of other claimants that would have fallen under this same process that may not even have called out Seymour --

CHAIR GRIFFON: Right. Good question.

MEMBER CLAWSON: -- because they

worked for Bridgeport Brass?

MR. HINNEFELD: Well, that is searchable.

CHAIR GRIFFON: Yes.

MR. HINNEFELD: Beth, Grady is busy writing, so you are going to have to take notes on this one. Beth, Grady is busy writing, so --

MS. ROLFES: I heard.

MR. HINNEFELD: Okay. So, what we will need to do is search for Bridgeport Brass cases that are described as being at Havens Lab past 1962, because any of those, then, would be suspect. Since Havens closed in '62 with no residual period, it sounds like they were done. They emptied the place. And so, those people may have, in fact, switched to Seymour Specialty --

MR. CALHOUN: Did they close the place or is it just no rad?

MR. HINNEFELD: Well, regardless, there would be a residual period, Grady, if

they --

MR. CALHOUN: It depends on why they closed it.

MR. HINNEFELD: Well, we would have to look at the termination report.

MR. CALHOUN: Yes, because they may have existed until then. But that is just a question. I will look at that.

MR. HINNEFELD: Okay. Check it out.

CHAIR GRIFFON: Yes, yes.

MR. HINNEFELD: Right. Right, they could have continued to exist, but our residual report says there is no potential for contamination --

MR. CALHOUN: Right.

MR. HINNEFELD: -- in which case they would not have --

CHAIR GRIFFON: -- cleaned it up to zero.

MR. HINNEFELD: Well, if they did a good cleanup and had a survey, we are going

to say it is not contaminated. If they did have a cleanup and had a survey, we are going to say -- actually, if they have a survey --

MR. CALHOUN: If they had a survey.

MR. HINNEFELD: -- with the results going off or if they did a good cleanup -- it is either/or; it is not both.

MEMBER CLAWSON: Well, Seymour, we have got information on it. It is a covered facility, isn't it?

MR. STIVER: Yes. I am looking at it right now.

MEMBER CLAWSON: So, I was just wondering how we --

MR. STIVER: It is a TBD-6000 appendix.

MEMBER CLAWSON: You know, there may be some people --

DR. MAURO: I don't remember doing a Site Profile review on Seymour. We might have, but I am looking at my list here of the

different AWEs.

MR. HINNEFELD: I don't think there is --

DR. MAURO: There isn't one? Oh, okay.

MR. STIVER: John, it is Appendix C/D to TBD-6000.

DR. MAURO: Oh, so it is TBD-6000?

MR. STIVER: Yes.

DR. MAURO: But I have got to say I don't remember looking at it.

MR. STIVER: I don't remember doing one.

MR. HINNEFELD: It may have been written after you guys made your review. That appendix could have been.

MEMBER MUNN: But just looking at what is on it, it doesn't look like there is an awful lot of information about Havens, Seymour. It looks like Seymour had a very limited time covered. There's ample requisition forms from August of '52 through

March of '64. That is floor smears, urinalysis, air samples. But a contamination survey at the facility after operations had ceased occurred on October 7, 1964. So, it doesn't look as though Seymour actually was doing anything other than '64.

DR. MAURO: You know what would be interesting, too? I know, Kathy, you keep a database of this. Have we ever reviewed a case from Seymour?

I don't know if Kathy is still on the line.

MS. BEHLING: Yes, I am on the line here.

Somehow that rings a bell with me. Also, looking down my list, I don't see that that was the sole site, but I am wondering if it was along with some other. Let me just scan quickly here.

DR. MAURO: I mean, the name is familiar, but I don't remember -- I don't think we ever reviewed the exposure matrix.

And the fact that the name is familiar might be because I reviewed a case.

MR. STIVER: Regarding that thread we were talking about, how long was the Haven's Lab operational? Basically, it says here in the appendix or the TBD-6000 that, after decontamination in '62, the site was closed down, converted into a school.

MEMBER CLAWSON: Boy, they must have got it to zero then. But I guess my thing on here is I think we have got some loose threads on this because it sounds like to me that, basically, the workforce, the whole workforce that was working on this may have been transferred.

CHAIR GRIFFON: That is a good question. So, they are going to follow up on that.

MEMBER CLAWSON: Okay.

CHAIR GRIFFON: I think we will leave it at that. Let NIOSH pull this thread and see what they get.

John, how about 180.2? This is a similar issue that we discussed.

DR. MAURO: Yes, well, we talked about that. That was that factor of two because of correlated --

CHAIR GRIFFON: Right.

DR. MAURO: As long as everybody is happy that we have dealt with that in the Site Profile, then this issue could be closed.

CHAIR GRIFFON: And we are still going to get the full report, right? That is what we asked for before.

DR. MAURO: Yes.

CHAIR GRIFFON: Yes, yes.

DR. MAURO: I mean, if you want to leave the decision on that --

CHAIR GRIFFON: Your full report, right.

DR. MAURO: -- we could do that, or whatever.

CHAIR GRIFFON: We are leaving it open for now until we see your --

DR. MAURO: Sure.

CHAIR GRIFFON: I mean, you have provided it before. We just haven't looked at it in a while.

MEMBER CLAWSON: So, we are going to put that down, awaiting SC&A's report?

CHAIR GRIFFON: Yes. Yes.

MEMBER CLAWSON: The full report?

CHAIR GRIFFON: Or the Subcommittee is going to look at the full report, right.

Okay. Let's see, is there another quick one we can tackle before lunch?

MR. HINNEFELD: We could do 181 and 182.

(Laughter.)

CHAIR GRIFFON: Yes, done. A comedian.

(Laughter.)

How about 183.5? Dare I try to go into this?

MR. STIVER: Modeled intake versus

ingestion.

MR. FARVER: I don't have anything unless John does.

DR. MAURO: Oh, this is very simple. Notice the comment. You are talking about 183.5?

CHAIR GRIFFON: Yes.

DR. MAURO: Yes. Yes, we are referring to, apparently, the 1 percent per day. Do you remember in the old days one of the ways you would model the rate of decline of residual activity is one percent a day? That is all gone.

I believe, Stu, you folks I know you might be doing a PER to revisit that 1 percent per day. But now you are using .00067 per day as being the way to deal with the residual period, the rate of decline.

Now I know that that part of the dose usually isn't very important.

CHAIR GRIFFON: Right, right.

DR. MAURO: But that is what the

issue is here. You know, the concern we raised here had to do with that.

MR. HINNEFELD: What site are we talking about? Do we know?

DR. MAURO: Yes. I have it here. That is Herring Hall.

MR. CALHOUN: Herring Hall/Marvin Safe.

DR. MAURO: I have 183 is called Herring Hall.

MR. CALHOUN: It is a comp case.

MR. STIVER: This is already a comp case.

MR. CALHOUN: Yes.

MR. SIEBERT: This is Marvin Safe, that is correct.

MR. STIVER: Yes.

CHAIR GRIFFON: It was compensated, yes.

MR. CALHOUN: Yes, it is a comp case.

MR. STIVER: And the issue itself

is already, it is counted in the TIB-70 revision.

CHAIR GRIFFON: Okay.

MR. STIVER: So, it is not like it is common to other cases.

CHAIR GRIFFON: Right. So, this is covered in the TIB-70 revision. So, we can close it for this case, I think, right?

MR. STIVER: Yes.

CHAIR GRIFFON: Yes.

DR. MAURO: Yes, and it had to be compensated as -- you know, the dose may go up marginally if you go to that.

CHAIR GRIFFON: Yes, and we couched that issue elsewhere, yes, the TIB-70 revision. Okay.

MR. KATZ: Closed?

CHAIR GRIFFON: So, closed for this.

184.1.

DR. MAURO: That is Hooker.

CHAIR GRIFFON: Oh, 6001 closed

this out for us.

MR. CALHOUN: Thank you, 6001.

CHAIR GRIFFON: Yes.

DR. MAURO: Well, 6001 is gone, right?

MR. HINNEFELD: Well, the uranium refining --

CHAIR GRIFFON: Yes.

DR. MAURO: Now there are independent, standalone --

CHAIR GRIFFON: Right.

DR. MAURO: -- Site Profiles for each of the ones that used to be under it.

CHAIR GRIFFON: That is right.

DR. MAURO: But 6001 really does not physically exist anymore.

CHAIR GRIFFON: Yes, yes. Nonetheless, was this issue, I mean it seems like it was discussed there.

MEMBER CLAWSON: And that Work Group went away.

MEMBER MUNN: That is a PER, yes.

DR. MAURO: Hooker, I have to say I didn't get this far. Hooker would be one that I normally would look at and try to put to bed for you, folks. And this issue that we are looking at, I would need a little time to look at this.

CHAIR GRIFFON: How about this? We break for lunch and you --

DR. MAURO: And I will take a look at it, sure.

CHAIR GRIFFON: -- take a look at it?

(Laughter.)

DR. MAURO: No, it usually doesn't take long.

CHAIR GRIFFON: No. I mean, if you can, really, if you can look at it and it is quick, you know --

DR. MAURO: Yes.

MR. CALHOUN: Otherwise, we will just hold it. I am just teasing a little bit.

DR. MAURO: No, no, that is true.

CHAIR GRIFFON: Yes, if it is something simple, you know, okay.

DR. MAURO: Yes.

CHAIR GRIFFON: And I don't know if anybody was on the 6001 Work Group. Wanda, are you on that Work Group?

MEMBER MUNN: I was not, no. I was on 6000, not 6001.

CHAIR GRIFFON: Yes. I am not sure what was done there.

MR. CALHOUN: Hey, John, didn't Bill work --

DR. MAURO: I am going to call Bill during the lunch break.

CHAIR GRIFFON: Okay. Alright.

DR. MAURO: I am going to try to get him into this because he is the expert on this facility.

MR. KATZ: Yes, he knows that. Great.

CHAIR GRIFFON: So, John has got his assignment, and I think we should break

for lunch until 1:00. How does that sound?

MEMBER MUNN: Good.

MR. KATZ: Thanks, everybody.

CHAIR GRIFFON: Thanks. We made some progress.

(Whereupon, the above-entitled matter went off the record for lunch at 11:55 a.m. and resumed at 1:04 p.m.)

A-F-T-E-R-N-O-O-N S-E-S-S-I-O-N

MR. KATZ: Good afternoon, Dose Reconstruction Subcommittee. We are getting back going after lunch.

Let me just check on the line and see, do we have our Board Members, Ms. Munn and Dr. Richardson?

MEMBER RICHARDSON: This is David Richardson.

MR. KATZ: Hi, David.

Wanda, do we have you, too?

(No response.)

Not at the moment.

CHAIR GRIFFON: I think we will start. I am sure Wanda will come on in a second.

MR. KATZ: Sure. You have a quorum.

CHAIR GRIFFON: Yes, we have a quorum.

MEMBER MUNN: And I'm here.

CHAIR GRIFFON: And Wanda's here.

Great.

So, the first item, I think, if John has done his homework, maybe we can hear from 183.5.

DR. MAURO: Yes, I will make it quick.

CHAIR GRIFFON: Okay.

DR. MAURO: I did speak to Bill Thurber. What we have here is, when we reviewed the Hooker case, this case, it was at a time when it was a subset of TBD-6001. And the comment that we had here was that the duration of exposure, a person's experience, we thought was too short, for a variety of reasons.

Now it turns out that in the interim between when we made this comment, we could see the green provided here which indicates that, well, there is now a standalone Hooker Chemical Company Site Profile that has been issued that SC&A has not reviewed.

And coincidentally, I think it was Thursday or Friday, because of the PER discussions that, Wanda, will be held tomorrow -- and you will hear more about this -- you know, the review of the PER -- stay with me; this is an interesting bridge between the differing Work Groups and the Procedures Subcommittee, the DR, and the Work Groups, an interesting blending issue and has some importance.

In any event, Bill actually did read through very recently the new version of Hooker from the perspective of, well, has it changed to such a large extent that we really need to -- we can't pull a PER review? And he read it and he went over it, and he sent the memo in. And John will talk about this tomorrow.

But the bottom line is, with regard to this one issue -- this is a call you guys have to make -- this business of 5 percent of the time, Bill, when he read the

new Site Profile for Hooker felt that NIOSH provided a good rationale for why the 5 percent was a good number. And in his opinion, we could close this issue.

However, the interesting part of this is this is really part of a larger Site Profile that has never been reviewed, this revision. There are lots and lots of issues that are in play. In theory, one could ask yourself the question, well, should we be closing out this issue if, in fact, the Site Profile within which this issue has been addressed has never been reviewed? And this raises questions like the cross-cutting across the DR, the Procedures, and the AWE Work Group.

Do you see what I am getting at? I hope I didn't confuse things. But it is an interesting dilemma.

We believe we can close this issue out, based on Bill's review of the answer as provided in the latest version of the Hooker

Site Profile. So, from a technical perspective, that would be our recommendation.

But, at the same time, the circumstance you are in is that, well, really, that particular Site Profile has never been reviewed. And so, it becomes a question of, should we move forward with that, even though it really is something that should be looked at by the AWE Subcommittee, the AWE Work Group?

MR. KATZ: Right, that is the TBD-6000 Work Group. So, it doesn't sound like much of a dilemma for this Subcommittee at all.

DR. MAURO: Well, you could close it out, but it would be closing it out in advance of, let's say, Dr. Anderson saying it is okay.

MR. KATZ: It is not Dr. Anderson, is it?

DR. MAURO: Oh, I'm not sure --

MR. KATZ: No, no, you're right.

No, you're right. You're right, it is Dr. Anderson.

DR. MAURO: Am I correct? Okay.

MR. KATZ: Yes. But it doesn't sound like it is a dilemma for the Subcommittee, which is just considering the case, not --

CHAIR GRIFFON: Well, I mean, it is a little odd because weren't we doing these as mini-Site Profile reviews?

MR. STIVER: Yes. So, this really is kind of an individual case.

MR. KATZ: Well, Hooker is not. Hooker has a Work Group --

CHAIR GRIFFON: Hooker has, yes.

MR. KATZ: -- that is charged with the TBDs and SECs.

CHAIR GRIFFON: Okay. Yes, yes, yes.

DR. MAURO: You see, the issue is the answer that we received from NIOSH here, basically, could have been just an answer

directly to the question and said, okay, we believe the 5 percent is good for the following reasons. And Bill could have looked at it and said, yes, we agree, and it would have been very well clean. It would be clean.

But the answer that is provided here is that, well, we have a whole new TBD. And if you look at it, you will see in it there is an answer to this question that we believe takes care of the problem. So, you see the issue it raises.

CHAIR GRIFFON: Yes, I mean, I think we could -- and that is the importance of linking these things.

DR. MAURO: Yes.

CHAIR GRIFFON: I mean, we could say at least that we came to this decision, and for your information, you might want to consider what the Subcommittee did. We don't want to go over the same turf again, right?

And SC&A is probably going to be assisting that Work Group as well. So, I

think you would have the same opinion, right?

MR. KATZ: Right, and that Work Group dealt with a lot of TBD issues in dealing with the Hooker SEC.

CHAIR GRIFFON: Yes.

MR. KATZ: So, I don't know how much the new TBD already reflects discussions that occurred on the SEC issues for Hooker --

CHAIR GRIFFON: Right.

MR. KATZ: -- but I imagine there is significant overlap because they went into it in considerable detail.

DR. MAURO: See, this would be one of those interesting Site Profile issues that are not an SEC.

MR. KATZ: No.

DR. MAURO: It has to do with, did they use the right time length?

MR. KATZ: No, I understand. I understand, John. So, I understand there may be issues that the Work Group hasn't addressed, right, that are strictly sort of

TBD issues.

DR. MAURO: Yes.

MR. KATZ: Absolutely. And the thing I think to do here is to simply raise with that Work Group, are you going to be looking at the TBD? I think that would take care of it --

CHAIR GRIFFON: Right, right.

MR. KATZ: -- because they have other --

CHAIR GRIFFON: Yes.

MR. KATZ: -- things they need to do.

CHAIR GRIFFON: Right.

MR. KATZ: And then, it doesn't sit on your plate, Mark, here.

CHAIR GRIFFON: Yes, yes.

MEMBER KOTELCHUCK: Which is to say it is just being transferred to the AWE group.

MR. KATZ: In effect. In effect.

CHAIR GRIFFON: Now tell me where,

John, tell me where this 5 percent reference is. You keep saying the 5 percent.

DR. MAURO: Yes, well, in --

CHAIR GRIFFON: In our matrix, show me where.

DR. MAURO: Oh, in 184-1.

CHAIR GRIFFON: Okay.

DR. MAURO: In the comments, right there, right next to it, you will see the 5 percent is in there. In other words, it basically assumes one day per month.

In modeling -- I will tell you the story. It is simple.

CHAIR GRIFFON: Wait. 184.1?

DR. MAURO: 184, page 7, the bottom of page 7.

CHAIR GRIFFON: Oh, 5 percent, I got it. Okay.

DR. MAURO: You got it.

What we are saying is this.

CHAIR GRIFFON: In the initial finding, okay.

DR. MAURO: All this magnesium, this material that you generate, the magnesium fluoride that is produced when you do reduction, you know, you are making uranium, you have got some slag, what happens is they sent tons of this stuff over to Hooker and they used this hydrochloric acid to digest it and separate out whatever residual uranium was present there.

And embedded in that process is assumptions regarding, well, how long was the worker actually directly involved in handling this material, inhaling the material? And in the TBD, they use, I believe, one day a month or 5 percent of the time on that. I think that was the number.

And we were critical of that. We explained at some length why we thought that was a little bit short, for a variety of reasons.

However, it turns out, recently, we had a chance to look at that new version of

the TBD, and in it is the rationale and justification for that, which Bill just told me it seems to be a pretty good argument. And so, in his opinion, this issue, SC&A would recommend closing the issue on that basis.

But I wanted to bring up this other matter because it goes toward the overall new version of this TBD.

CHAIR GRIFFON: Okay. And so, then, in the green we have this issue was brought up, discussed, and resolved in the 6001 Work Group. Is that --

DR. MAURO: No. This is --

CHAIR GRIFFON: That is what you are saying; there is a new TBD since then?

DR. MAURO: Yes.

CHAIR GRIFFON: Okay.

DR. MAURO: There is a new TBD that has come out that we haven't reviewed formally as part of the TBD-6000 -- I'm sorry -- as part of the TBD-6001, the new AWE Work Group. We have not been asked to review it.

But we did review it sort of. It turns out that one of the questions that came up is, under Wanda's Subcommittee, there is a PER that has been identified for review, which is basically a PER dealing with the fact that Hooker Chemical has a PER that the Subcommittee, the Procedures Subcommittee, would like us to review.

But we come back and say, well, hold the presses. You know, this is a whole new TBD. Shouldn't that be reviewed first by the AWE Work Group?

I don't know if you are following this.

MR. KATZ: No, we understand this, John.

CHAIR GRIFFON: Yes, yes, yes.

MR. KATZ: But the comment --

DR. MAURO: There are these linkages --

MR. KATZ: Right.

DR. MAURO: -- that I think are

important. And all I am doing is alerting to you that we have three separate operations going that are linked: the work you are doing right now with the particular case --

MR. KATZ: Yes.

DR. MAURO: -- Wanda's Subcommittee on Procedures, and Dr. Anderson's Work Group dealing with Hooker.

MR. KATZ: Right, we understand, John.

DR. MAURO: Okay.

MR. KATZ: The only reason Mark is a little bit questioning this is because it says specifically this issue was brought up and discussed and resolved in the TBD-6001 Work Group. And that sort of relates to what I was saying. The TBD-6001 Work Group, when they dealt with the SEC, they dealt with a number of issues that may, you know, they deal with more than what ends up being strictly SEC issues.

CHAIR GRIFFON: Right.

MR. KATZ: Some end up being TBD issues. So, maybe they did; maybe they didn't. But I think the way to just sort of put a period on this is I will send an email to Dr. Anderson for that Work Group -- I will copy you, Mark -- just saying, raising the issue of considering looking at the new TBD and seeing what issues have not been addressed that need to be put to bed, that weren't covered by the SEC discussions. And that will take care of it, John.

DR. MAURO: Good.

MR. KATZ: And then, if they need to task you, they will task you.

DR. MAURO: No, I just wanted to put it in --

MR. KATZ: Right.

DR. MAURO: -- because I think it --

CHAIR GRIFFON: No, that is okay. It is confusing. Alright.

MEMBER MUNN: It was appropriate

for you to put in. It is good for everybody to be aware that those went up here, and that that is very real.

CHAIR GRIFFON: So, it is closed from our standpoint. We will refer to, or Ted will send an email referring it.

MR. KATZ: Right, right.

CHAIR GRIFFON: Okay. So, are we on to 185.1?

DR. MAURO: Well, 185 is Huntington --

CHAIR GRIFFON: Yes.

DR. MAURO: -- Pilot Plant, the whole string of them. Should we wait until we have reviewed the new Huntington? Or do you want to talk about them now, our issues related to the Huntington new -- we have a whole list of issues --

CHAIR GRIFFON: Yes.

DR. MAURO: -- related to this, and the birdcages, and all --

CHAIR GRIFFON: Yes, we said

refer, we said --

MR. STIVER: Yes, I think this should be grouped with the --

CHAIR GRIFFON: Attachment 3, right, was it? Yes. Okay. I forgot. Yes, that came up before.

DR. MAURO: Yes.

CHAIR GRIFFON: So, we will wait and defer that until you review the new one.

DR. MAURO: Yes.

CHAIR GRIFFON: Okay.

MR. KATZ: So, the next meeting?

CHAIR GRIFFON: Yes.

Most of all these cases are yours, huh, John?

DR. MAURO: I am a busy guy.

(Laughter.)

CHAIR GRIFFON: I thought you were retired.

DR. MAURO: Yes, no way.

CHAIR GRIFFON: No way.

Alright. Let's see, I guess there

is nothing on these. What is 187.1? Why do we have Vitro Manufacturing in there? I am not sure why that is in there.

MR. FARVER: Probably just so you know what site it is.

CHAIR GRIFFON: So, we know the site, yes.

MEMBER MUNN: I don't know that we have anything new. The last thing we had was in 2012, I think.

CHAIR GRIFFON: But in 187.1, we had no initial response, did we? Or did we?

MS. ROLFES: I just got that in from Dave.

CHAIR GRIFFON: Oh, okay.

MS. ROLFES: He said an 83.14 was an initiated and a Class was designated.

CHAIR GRIFFON: Oh, yes.

MS. ROLFES: A PER was done today. It wouldn't be done with the radium intakes because of that.

CHAIR GRIFFON: Okay. So,

Vitro --

MR. CALHOUN: The entire employment of this case is within the established SEC.

CHAIR GRIFFON: So, it was an SEC?

MR. CALHOUN: Yes.

CHAIR GRIFFON: Do these findings have any effect on non-SEC dose reconstruction? I mean, are we treating this sort of as a mini-review as well?

MEMBER MUNN: This is all employment verification stuff.

MR. FARVER: I don't have the case in front of me.

MR. CALHOUN: Well, the first two talk about unmonitored dose and internal dose.

CHAIR GRIFFON: Yes, yes.

MR. CALHOUN: So, those are going to be N/A because of the SEC.

MR. HINNEFELD: We added an SEC Class because we couldn't reconstruct it from the doses.

MR. CALHOUN: Right.

MR. HINNEFELD: And so, those components would not be reconstructed in it.

CHAIR GRIFFON: But unmonitored --

MR. HINNEFELD: If they were employed during the period of the SEC, they can't reconstruct the internal dose.

CHAIR GRIFFON: You did it based on internal, but the first one is unmonitored. Wouldn't that be external? I don't know.

MR. HINNEFELD: What's that?

CHAIR GRIFFON: The first one says potential unmonitored dose. I assume that is external.

MR. STIVER: That is an external dose.

MR. CALHOUN: Well, again, if it is unmonitored dose, if it is an SEC, a lot of times you are not going to have a coworker approach, internal or external.

CHAIR GRIFFON: So, they will just assign the people that have records, right?

MR. CALHOUN: Right.

CHAIR GRIFFON: Well, I thought in some cases you did try to do external?

MR. STIVER: We try to do partial reconstruction.

MEMBER CLAWSON: So, refresh my memory. The 83.14 was for internal dose only?

CHAIR GRIFFON: Okay. So, let's assume the first two are not applicable. So, they will go away, right? We are not going to worry about them. What about other ones, 187.3?

MR. CALHOUN: Talked about employment prior to '49.

CHAIR GRIFFON: Prior? Okay.

MR. CALHOUN: Verified employment is only '50. He is comped.

MEMBER MUNN: Was I mistaken when I said this was all record-of-employment issues?

MR. CALHOUN: The first two were not, Wanda.

MEMBER MUNN: They were not?

CHAIR GRIFFON: Yes, we are just walking down, Wanda, yes.

DR. MAURO: One is external. Two is internal. And then, the third one I believe has to do with --

CHAIR GRIFFON: His employment, yes.

DR. MAURO: -- employment.

MR. FARVER: And as I recall, there was something in, I believe it was the CATI report that said that he was employed beginning earlier, like 1940.

But I know we have been through this before because I have got this one --

MEMBER MUNN: Yes, they don't have anything prior to 1949.

MR. FARVER: Right. And I think what it comes down to is the action was DOL, to determine whether this issue was communicated to DOL. In other words, did anyone mention it and they did their response

here. So, I don't know that there is any more we can do on this.

CHAIR GRIFFON: Right. Plus the fact that the case is an 83.14, anyway, right? So, yes.

MR. FARVER: So, I would close that one.

CHAIR GRIFFON: Yes, I think it is closed, right.

MR. HINNEFELD: That means there was an SEC added that included this case.

CHAIR GRIFFON: Sorry, yes.

MR. HINNEFELD: Yes. Okay.

MEMBER MUNN: And the last statement there pretty much says we can't go any further than that, right?

CHAIR GRIFFON: Yes. Yes, we are up to 191.1, I guess.

MEMBER MUNN: Right.

DR. MAURO: Mark, this is John.

I am going to break. I think we have cleared all the AWE sites. The rest are

DOE. And I am going to, unless you would like me to stay on, I am going to break.

CHAIR GRIFFON: Okay. Thanks, John.

DR. MAURO: Okay. Bye-bye, everybody.

CHAIR GRIFFON: Alright.

MR. FARVER: I would like to keep this one open until I can go check this. This is where my computer went on me, and I couldn't go in and look at the files.

CHAIR GRIFFON: Is that true for the rest of the matrix or no?

MR. FARVER: Some of these we can close just by reading the responses.

CHAIR GRIFFON: Okay. So, 191, you think or --

MR. FARVER: 191.1.

CHAIR GRIFFON: Oh, just that particular one? Okay. Alright. So, next time. Okay.

191.2.

MR. FARVER: Electron dose assigned to incorrect cancer location. So, this one is agreed upon. They corrected it. Did not result in a change in compensability.

MR. CALHOUN: That is a comp case, it looks like.

CHAIR GRIFFON: It was compensated?

MR. CALHOUN: Yes.

CHAIR GRIFFON: So, it is a QA error, but --

MR. FARVER: It is a QA error.

CHAIR GRIFFON: But it is closed?

MR. FARVER: Closed.

CHAIR GRIFFON: Yes.

MR. CALHOUN: And Clarksville, Medina are now SECs, anyway, I believe.

MR. FARVER: Yes.

CHAIR GRIFFON: Oh, is that what this one is? Okay.

MR. FARVER: The next one has to do with converting neutron doses to organ

doses. And you can see in their response --

CHAIR GRIFFON: The same thing, right?

MR. FARVER: -- the same thing, closed.

CHAIR GRIFFON: Okay. So, it is QA? Okay.

Alright. What is our next one, 192, Observation 1? Oh, this is a skin dose, measuring skin dose question?

MR. FARVER: Skin dose at Fernald, I believe.

CHAIR GRIFFON: Okay. Was this referred? NIOSH is suggesting referring.

MR. FARVER: They are suggesting refer it.

CHAIR GRIFFON: It seems like it should be -- I don't know.

MEMBER MUNN: Looks not specific to me.

CHAIR GRIFFON: Yes, yes. You don't want it, Wanda?

MEMBER MUNN: You're right.

(Laughter.)

CHAIR GRIFFON: Alright, Bradley, that is yours.

MEMBER MUNN: It really does look clearly to me.

CHAIR GRIFFON: Yes, I think it makes sense that it should be brought to the Fernald Work Group. The thing is I don't think it is going to be -- it is not going to be a top-burner for Fernald.

MR. CALHOUN: This was also a comp case.

CHAIR GRIFFON: This was comp, too.

MEMBER CLAWSON: Which one is it?

MR. FARVER: 192, at the bottom of page 15.

CHAIR GRIFFON: Is this the question that has --

MR. FARVER: It was the question --

CHAIR GRIFFON: -- that has arisen before, that it is skin doses where --

MR. HINNEFELD: Skin doses where you may have had contamination on the skin.

CHAIR GRIFFON: Hot spot, yes, yes.

MR. STIVER: Localized exposure, a hot particle.

MR. HINNEFELD: Well, you don't really have hot particles in a uranium plant, but you can get contamination.

MR. STIVER: Yes, when you have localized, yes.

MR. FARVER: I believe it is about using the film dosimeter data to assess the skin dose. And I don't know the exact location, but --

MR. HINNEFELD: Okay. I think the critical question has always been, in a situation like a plant at Fernald where there is a chance for skin contamination to occur without a particular warning bell sounding,

for instance, are you, in fact, capturing what the dose might be to exposed surfaces? It comes up at the Oak Ridge plants as well, gaseous diffusion plants. So, that has come up in that context. We have had some discussions about this before, but I don't think we have got a resolution.

MEMBER CLAWSON: Okay. This ought to be referred to my group, though, because I think we are looking at this a little bit right now.

MR. STIVER: I don't think we have looked at the issue of film dosimeters and skin dose contamination at Fernald as a particular sub-issue. It might be something we want to look at.

MEMBER CLAWSON: Maybe we need to look at that.

MR. STIVER: Yes. You can certainly bring it over.

MR. KATZ: Well, it is not an SEC issue.

CHAIR GRIFFON: Yes, I don't think it is an SEC issue.

MR. STIVER: But you can still put it in a TBD.

MR. FARVER: I want to go back and look and find out exactly what the --

MR. STIVER: Right, let's check.

MR. HINNEFELD: We need to make sure that Mark, and I guess me -- I am our other Fernald person -- because I will forget it, make sure he is aware of this item, may in fact come up at the Fernald Work Group.

MR. CALHOUN: What is the exact issue? I'm sorry, I am trying to look through --

MR. KATZ: He has a problem with Fernald, but on the issue of dealing with skin doses, he is the one who --

MR. HINNEFELD: He has dealt with this, I believe, at Bethlehem Steel and perhaps at --

MR. KATZ: A number of places he

has dealt with this. It's always his standard assertion that this is really -- dealing with this on a case-by-case basis.

MR. HINNEFELD: Yes, there is not a standard approach to it.

MEMBER CLAWSON: But wouldn't Fernald be a little bit different case? I guess I am looking at it a little bit different because in like Bethlehem Steel, or something like that, where they have particulates, we really wouldn't have that at Fernald. They are trying to use film badge data for skin contamination.

MR. HINNEFELD: Well, no, they are using film badge data as the dose to the skin. The contention from SC&A is that, at a plant like Fernald and Bethlehem Steel, where you are using uranium, essentially bare uranium without containment, you are going to have uranium contamination around. It could be on people's skin, their exposed skin, in the workplace. It could be their hands. It may

be their forearms. And based on that, that is usually what's exposed.

And so, in a situation like that where contamination of the skin would not necessarily be unexpected and would not rise to the level of notice that you would have a recording of it each time it occurred, are you accounting for doses that may have occurred from that type of contamination appropriately if you only use film badge reading, which theoretically would read the skin from being close to the uranium, but may not read the dose that was because of some contaminated uranium rust or something, uranium particles that get on your neck or your forearm or something.

So, that is it, and it is the same here. It is the same in some of the gaseous diffusion plants. It is the same at Bethlehem Steel and maybe some other places as well. So, that is the question.

MR. SIEBERT: This is Scott.

I just want to point out that the Work Group should already know about this since the rest of the observation cases are concerned and taken directly from SC&A's review of the Fernald Site Profile. So, it should already be covered in the Site Profile.

CHAIR GRIFFON: Yes.

MR. STIVER: Yes. So, maybe it is not something that is unique to Fernald. It is really a global issue.

CHAIR GRIFFON: Alright, 194.4.

MR. FARVER: It looks like another one we suggest going over to the Fernald Work Group.

CHAIR GRIFFON: Yes, yes.

MR. FARVER: About thorium doses. "Failed to calculate internal doses associated with potential exposure to thorium."

CHAIR GRIFFON: Yes, I think that is something --

MR. STIVER: Thorium is something

that has been discussed --

CHAIR GRIFFON: Yes. Yes. So, that makes sense.

MR. STIVER: -- in a lot of detail.

CHAIR GRIFFON: I mean, I know that is on the list of actions, anyway, right?

MR. STIVER: Yes.

CHAIR GRIFFON: Yes.

MR. STIVER: It is ongoing.

MR. KATZ: Are you closing these with a reference to Fernald? Is that what you are doing?

CHAIR GRIFFON: Well, is that --

MR. CALHOUN: Well, in this case, it looks like we didn't include it because it is comped.

CHAIR GRIFFON: Oh, okay. So, the broad issue. So, in that case, definitely we should close it, then, and refer it, yes. If it is comped, I don't think we have to worry about it.

MR. CALHOUN: Yes. It was assigned uranium, neptunium, plutonium, and technetium internal dose; comp the case.

CHAIR GRIFFON: Okay.

MEMBER CLAWSON: But the Fernald Work Group is still looking at that, though.

MR. HINNEFELD: They're looking at thorium exposure.

MEMBER CLAWSON: Yes.

CHAIR GRIFFON: Yes. I mean, the broad issue is still being referred.

MEMBER CLAWSON: Right.

CHAIR GRIFFON: Right.

MEMBER CLAWSON: Yes.

CHAIR GRIFFON: But this is compensated, so there is no further --

MEMBER CLAWSON: Right, with this case.

CHAIR GRIFFON: Right.

MEMBER CLAWSON: Yes.

CHAIR GRIFFON: 195.1.

MR. FARVER: Okay. This has to do

with using the rotational geometry for certain cancers on the external doses. And this has been brought up before. And this is a compensated case.

MEMBER CLAWSON: But is this a bigger picture?

MR. FARVER: It is a recurring problem, yes.

CHAIR GRIFFON: Right.

MR. FARVER: And the way the -- gosh, where is this worded? This is in IG-001.

MR. STIVER: Yes, this is related to the PA or anything other than --

MR. FARVER: Yes. It is worded that, I believe you are supposed to justify either using or not using -- would we use rotational geometry or would we use isotropic geometry in the external doses? When you consider the dose correction factor, what geometry do you use?

There is a blurb in there that

says one may be more representative and more claimant-favorable.

MEMBER CLAWSON: So, this is a bigger picture than from what is on this for this --

MR. FARVER: For this case, yes.

MEMBER CLAWSON: -- for this case?

MR. FARVER: This comes up time and time again.

MEMBER CLAWSON: So would this be considered a QA problem or?

MR. FARVER: Well, I don't know if it is a QA problem. I think part of it is I haven't seen it done where they have used the rotation. And we do see it quite a bit where they do not use the rotational; they use the AP geometry or the isotropic.

MR. SIEBERT: They assume 100 percent AP?

MR. FARVER: I do not have this in front of me right now. So, I do not know, but I believe so.

MR. HINNEFELD: Doesn't this go back to the original issue with the geometry?

MR. STIVER: Yes, that is what I was thinking; it gets back to the IG --

MR. HINNEFELD: IG-1 has a set of different geometry dose conversion factors. And there has been criticism, particularly of the PA --

MR. STIVER: Yes, PA.

MR. HINNEFELD: -- as being incorrectly valid. But there is PA and there is AP rotational isotropic.

MR. STIVER: Yes.

MR. HINNEFELD: And in going through this, in almost all cases, AP yields a higher dose conversion factor for most organs.

MR. FARVER: For most.

MR. HINNEFELD: But not for leukemia. Isn't that what we are talking about? Maybe something else.

MR. FARVER: There's a few.

MR. HINNEFELD: There are two or

three.

MR. FARVER: I think lungs is one.

MR. HINNEFELD: Yes, yes. So, the remedy to get out from under this rather cumbersome DCF regimen, and the fact that you really cannot make very many good judgments about what someone's geometry was in the workplace -- you just don't know enough about their orientation -- why don't we just use AP because that is the highest one, except for those cases when it is not the highest one?

MR. FARVER: Right.

MR. HINNEFELD: And now, it sounds to me like the directions or the instructions are not terribly clear.

MR. FARVER: If someone can pull it up, the IG-01 and look at that little statement, I believe it says for those certain cancers you are supposed to use the higher one, like rotational, unless you justify using and saying it is not appropriate.

MR. HINNEFELD: Yes. And in this

particular case, it would seem like there is some confusion adopted by the dose reconstructor by saying, "Well, if I choose the highest one, it is like they were judging that to be an overestimate," which it is really not, which is really the instructions, "This is what you are to do," is use the highest one.

And so, they said that "This is a compensable case. I don't want to use an overestimate for a compensable case. And so, I'll use this lower one, and it is still compensable. And so, I use that."

It sounds to me like that is what went on here. And that, I think, is not the correct decision to make. The correct decision to make was the IG-1 says use whichever one gives you the highest dose, regardless of outcome. That is what it says, I believe.

So, I think there was a mistake in interpretation of that. So, it may have to do

with how clear the instructions are.

MR. FARVER: Right. And then, really, what I said here was we will accept it for this case because it is compensated, because I can understand that. But I believe there is a statement saying that, if you do not use the higher ones, you are supposed to justify why you didn't.

MR. HINNEFELD: Right.

MR. FARVER: And we do not say that, see that sentence anywhere.

MR. HINNEFELD: Yes.

MR. FARVER: We do see this come up quite a bit where they don't use the rotational, but we don't see any statement saying why.

MEMBER CLAWSON: Right. The statement is what was missing.

CHAIR GRIFFON: Okay, but it is closed. I think it is closed.

MS. BEHLING: Excuse me. This is Kathy Behling.

CHAIR GRIFFON: Yes?

MS. BEHLING: There was a table added. I am not sure if it is already in Rev. 2, but I know it is certainly in Rev. 3 of the IG-001, the internal -- guide. And it is Table 4.1(a), and that is exactly what you are talking about right now, the correction factors for rotational isotropic for bone and lung.

And since this was added, as Doug is saying, we see this occasionally or we have seen it routinely. I don't believe that there has ever been a PER associated with this change. And I am wondering if that shouldn't be the case, to go back and look at these certain types of cancer and see if these correction factors were applied.

CHAIR GRIFFON: That is a good point. And it is probably only a few cancers, right, like you said, that would use the rotation or should use the rotation.

We are thinking about it, Kathy.

MS. BEHLING: Okay.

MR. HINNEFELD: I am making a note. I am making a note. I am not sure I am smart enough to answer that today, but we are making a note to go back and figure out where we --

MEMBER KOTELCHUCK: Where is that discussed? What is the reference for that rotational versus AP?

MS. BEHLING: I am looking at --

MR. KATZ: IG-001.

MS. BEHLING: I am looking at page 39 of Revision 3 of IG-001, and it was dated November 21st, 2007. And I am not sure if it was introduced in Rev. 2 or not. I will try to go back and find that.

MR. KATZ: You don't need to because DCAS is going to go back and look at this anyway, Kathy.

MR. CALHOUN: Right. Yes, that should be picked up in the PER.

MS. BEHLING: Okay. Thank you.

MR. KATZ: So, maybe we could just hear what came up looking at this at the next meeting.

So, do you want to leave this open? Do you want it closed?

CHAIR GRIFFON: I think it is closed for that case.

MR. KATZ: Yes. Okay.

CHAIR GRIFFON: So, then, NIOSH is looking at the general issue.

MR. KATZ: Yes.

CHAIR GRIFFON: Yes, yes.

MR. KATZ: Okay.

CHAIR GRIFFON: 195.2.

MR. FARVER: The DR report said they are using the 95th percentile of the neutron-to-photon ratio, and what they actually used for the geometric mean. And NIOSH gives a good explanation of it.

Basically, all we can say is it should have been caught in the peer reviews. This is a QA issue. There is really nothing

further we can do.

CHAIR GRIFFON: Okay. So, it is closed but a QA, yes.

195.4.

MR. FARVER: 195.3.

CHAIR GRIFFON: Oh, I'm sorry.

MR. FARVER: Which I am going to defer until the next meeting because I want to look at those files that they mention.

CHAIR GRIFFON: I knew that. That's why I said --

(Laughter.)

Okay. 195.4.

MR. FARVER: Internal dose from cesium was not included. Basically, it looks like there was some whole-body counts that were slightly greater than the fallout levels listed in the TBD. And we thought they should have been calculated as an occupational dose. However, the case was compensated, and the dose from that was not needed.

MEMBER KOTELCHUCK: We are on

what, 195?

MR. FARVER: 195.4.

MEMBER KOTELCHUCK: Okay.

MR. FARVER: We also think the DR report should have said that the cesium was not necessary, like they put in sometimes saying it is already beyond the 50 percent and they don't really need it. But this does come up occasionally, the cesium levels again.

MEMBER CLAWSON: This is still Fernald, right?

MR. FARVER: It is probably Hanford.

MR. CALHOUN: It is multiple sites.

MR. FARVER: Okay.

CHAIR GRIFFON: When you say "comes up frequently" --

MR. FARVER: Well, occasionally.

CHAIR GRIFFON: Oh, occasionally?

MR. FARVER: This question about the cesium levels.

CHAIR GRIFFON: Okay.

MR. FARVER: And they describe some, let's see, "This is described in the TBD as a condition for classifying a cesium-137 intake as occupational, since the results only technically meet one of the two conditions for classifications, but don't meet any of the conditions for classification as occupational."

The correct classification is not plainly evident. And I think that is the key thing that we run into occasionally where the answer is not clear.

CHAIR GRIFFON: Right, right. I mean, this kind of thing does look like a Site Profile issue if it was one site. I think Grady said it was multiple sites.

MR. CALHOUN: It is.

MR. FARVER: It is, but I think the cesium levels are in the Hanford TBD.

CHAIR GRIFFON: In the Hanford part of it, yes.

MR. HINNEFELD: This sounds like Hanford.

CHAIR GRIFFON: Yes, it sounds like Hanford, yes. And I am sure this issue is on the Hanford Site Profile radar, right?

MR. HINNEFELD: Well, depending on the year that we are talking about. The SEC is up through, what, '82?

MR. FARVER: Yes, '82, isn't it? I think it is '82.

MR. HINNEFELD: Yes, depending on the year, if there is an SEC, it might be in recent years.

CHAIR GRIFFON: Yes. Well, I think it is closed for here.

MR. FARVER: I think so.

CHAIR GRIFFON: Yes.

MR. FARVER: I don't think we can go any further on this.

MEMBER CLAWSON: But would this be referred to the Hanford Work Group or --

MR. STIVER: Well isn't this a

situation where whenever you have a fission product dose determination, this type of a thing would apply, whether it is background from fallout or an elevated level of one of the components.

CHAIR GRIFFON: Yes.

MEMBER CLAWSON: But what Stu says is true; we have got an SEC in that area, but if they don't fall under the SEC, wouldn't this --

CHAIR GRIFFON: Yes, or how they are handling it beyond the SEC period.

MR. STIVER: Yes, yes. Past the SEC or for non-compensable cancers.

MEMBER CLAWSON: So, this really ought to be made to the Hanford Group.

CHAIR GRIFFON: Or the broad issue could be referred, yes. I just think they have it already, but, yes, we can do that.

MR. FARVER: And I don't know if the Hanford TBD, is that going under some modifications?

MR. HINNEFELD: Yes, it kind of goes stepwise as Classes are added.

MR. STIVER: So, the latest was 2010.

MR. HINNEFELD: I think we just did one.

MR. STIVER: Yes.

MR. HINNEFELD: We just did one.

MR. SIEBERT: Yes, Stu, the new one we just did only incorporated the SEC wording.

MR. HINNEFELD: Yes. So, it didn't address this.

MR. SIEBERT: There were no new changes.

CHAIR GRIFFON: Alright. So, going on? 196.1. There is a question of revising and distributing workbook tools without verifying them. If the calculations are correct, then, it is certainly of interest to us.

Maybe we can step back. Can you

describe this? What is this? What site is it?

MR. CALHOUN: That is Hanford.

MEMBER CLAWSON: It is Hanford?

CHAIR GRIFFON: Yes.

MR. CALHOUN: Do you have any more details on that one, Scott?

MR. SIEBERT: No. When we made that comment a year ago, it was we were looking at that issue. And that is part of what we discussed over the various presentations we have given over the last year.

CHAIR GRIFFON: Yes.

MR. SIEBERT: So, that is really what we were focusing on pointing out, that we are looking at the situation, doing QA/QC issues, and, you know, we have presented to you what we do with tools.

MR. FARVER: And I think our big concern here is that we see workbook errors. We see, whether it is a calculation that is

wrong, whether it is a divide by bias, or something that shouldn't be there, we are seeing that. Now, to us, that indicates there is a problem somewhere, if we are seeing errors in the workbook.

CHAIR GRIFFON: Right. And that's why we are raising these things in aggregate, too, where NIOSH has prepared a new QA program into effect.

MR. STIVER: Yes, we discussed this particular issue in relation to that.

CHAIR GRIFFON: Right.

MR. STIVER: Validation and verification of tools --

CHAIR GRIFFON: Right, right.

MR. STIVER: -- as they were generated.

MR. FARVER: That is what this one would fall under.

MR. STIVER: Yes.

CHAIR GRIFFON: So, for this particular one, I think it is closed. Is that

right?

MR. FARVER: Yes, because I am not sure we can do any more on it other than what we are doing.

CHAIR GRIFFON: Right.

Okay. 197.

MR. FARVER: 197.1. "NIOSH did not appear to use appropriate procedure for recorded neutron dose."

I think it was a good explanation of the modification factor that was used. And basically, after reading that and re-looking at the file, we agree with them and suggest we close this case.

MR. KATZ: You are withdrawing the comment, in other words?

MR. FARVER: Yes. Because what it was, was we didn't understand how they came up with that number.

MR. KATZ: Okay.

CHAIR GRIFFON: Right. So, yes.

Okay. Moving on.

MR. FARVER: The next one is 197.2. "NIOSH did not account for all missed shallow dose. Shallow dose was not calculated for '73, '78, '77, and '79." And that was done in error.

Their response is that OTIB-17 has been implemented and should take care of it. I mean, I understand it was a QA error. They didn't calculate the doses when they should have. And the only question is, how is this prevented from happening again?

I don't know if that will take care of it, implementing OTIB-17.

MR. SIEBERT: The answer is the new 2012 answer --

MR. FARVER: Right.

MR. SIEBERT: -- in which the application of OTIB-17 has been integrated into all the external tools. So, it is already in there, so this won't happen again.

This claim was done prior to that being implemented in the tools but after

OTIB-17 went live.

MR. FARVER: Okay.

MR. SIEBERT: So, we had to do it off to the side back then, but it has been implemented in all the tools since.

MR. FARVER: Okay. We will go ahead and close that one, in spite of that explanation.

CHAIR GRIFFON: Yes, I think it is closed.

MR. FARVER: Yes.

197.3. "NIOSH did not use the correct procedure for unmonitored photon dose." And it has to do with -- well, I am going to have to go back and look at -- they refer to OTIB-52.

MR. SIEBERT: This one is the factor of 1.4 being applied --

MR. FARVER: Right.

MR. SIEBERT: -- with the doses. And the question really became, when you looked at a year-by-year basis, you couldn't

back out the 1.4 factor when you looked at the coworker.

And our response to that is, basically, the fact that it is not a 1.4 against all the coworker, because coworker includes measured and missed dose. And the 1.4 factor only applies to the measured portion of it.

So, the overall factor, when you have measured and missed mixed together like you do in coworker studies, will fluctuate between 1.0 and 1.4, which is exactly what you see.

MR. FARVER: Okay.

MR. STIVER: Alright. That makes sense.

MR. FARVER: And is this contained in a workbook?

MR. SIEBERT: No, that information, how it is done is in OTIB-52. And then, it applies within the coworker studies that are done, either within the TBD

or the separate OTIB for those that have a separate OTIB.

MR. FARVER: Okay. I would still like to go back and look at this one.

MR. STIVER: Scott, this is John Stiver.

Just kind of a little sidebar here. This is applicable to something we will be talking about tomorrow, which is our case reviews or PER-14, which gets back to TIB-52. And the question being, are these workbooks that actually show how these measured and miscalculations that were applied for the different sites available? And if so, can we get them?

MR. SIEBERT: Are you asking the calculational workbooks that created the work that --

MR. STIVER: Either that or the tables and the input, so that our reviewer could actually see that, indeed, they were done correctly. Because just looking at the

tables in the individual Technical Basis Documents, it is not clear how those numbers were derived.

MR. CALHOUN: Is that what you guys mean about --

MR. STIVER: Yes, we had an email discussion.

MR. CALHOUN: Because, John, I got a G2K in on that --

MR. SIEBERT: Okay. That is what I --

MR. CALHOUN: -- just to find out what the extent of that would be, because it was more than just the workbooks. There was something about almost raw data that was --

MR. STIVER: Yes, I will have to go back and look at the email string.

MR. CALHOUN: I just want to make sure, you know, see how much it is going to impact here.

MR. STIVER: Alright. I don't want to take any more time here. We can talk

about it tomorrow.

MR. CALHOUN: Right, right. Okay.

MR. STIVER: But since we were on that point, I thought I would bring it up.

MR. CALHOUN: Yes.

CHAIR GRIFFON: Okay. So, we will leave that open, pending you guys further looking at it.

MR. STIVER: Okay.

CHAIR GRIFFON: 200.1.

MR. FARVER: 200.1. "The DR report did not evaluate the employee's urine bioassay result."

Oh, they did not evaluate the urine bioassay. Instead, they just used a hypothetical urine bio based on hypothetical urine bioassay measurements. And it was not explained or discussed in the DR report.

So, we basically said, "Why didn't you use the results that you had?" And I think what this basically comes down to is a QA issue, why it wasn't caught.

MR. CALHOUN: Is this Case No. 200?

MR. FARVER: 200.

MR. CALHOUN: Well, also, it is something that we wanted to look for back in 2006. You know, it was an overestimate. We knew it would be an overestimate. Now we tend not to overestimate as much. We are trying to get away from overestimating as much as we did.

MR. FARVER: But you wouldn't normally overestimate if you had the bioassay results, would you?

MR. CALHOUN: We have, yes. Sure. It is like assuming that somebody has 52 weeks of missed doses on their external badge without looking at their badges, and they may only have had quarterly badge exchanges.

MR. FARVER: Okay.

MR. CALHOUN: Yes, we have done it in the past. We are getting away from it, internally and the external.

Scott, I don't know if you have got any more on that.

MR. SIEBERT: No, I agree wholeheartedly.

MR. CALHOUN: Okay.

CHAIR GRIFFON: Is there any mores?

MR. FARVER: I don't know we can go any more on that.

CHAIR GRIFFON: Right.

MR. CALHOUN: And another point about that one is it was above 45. Just because it is above 45 now, that would push you into a best estimate territory, and that would go away. They wouldn't have any more.

MR. SIEBERT: What about these questions about were the data considered? The second concern that was raised about the peer review?

MR. FARVER: Those are questions that are on the peer review checklist form. So, I would think that, if someone looks at

those, they should clue them in. One of the questions, are all positive bioassays considered? Were all internal radionuclides considered?

MR. CALHOUN: Yes, I can't answer that now. I think Scott has got more on that. But it was six years ago. I think we have grown a lot since then.

MR. SIEBERT: Yes, I can tell you, the peer reviewer, if the urine samples, all the bioassay was below detection, just like Grady said, at that time, using a hypothetical overestimate to get an answer to the claimant in a more expeditious manner, that was not unusual. So, the peer reviewer wouldn't question that approach because that was a valid approach at the time.

MEMBER CLAWSON: This is when we were trying to push through a backlog of cases. So, we would overestimate? Okay.

CHAIR GRIFFON: I mean, it is a good QA question.

MR. FARVER: Yes.

CHAIR GRIFFON: I mean, I don't disagree with what Scott said, but if I am a peer reviewer and I have that question come up, all positive bioassay samples considered, I don't just check "yes," if they weren't, you know. I don't know. I mean, if that is on your list to do as a peer reviewer, I wouldn't just like dismiss it and say, "Yes, sure they were."

MR. STIVER: Has Form 41 also been updated to kind of coincide with the new approaches?

MR. CALHOUN: I don't know that. Scott would have to answer that one.

CHAIR GRIFFON: Yes. So, I don't know that we can do much more with this, but --

MR. FARVER: Oh, I don't think so.

CHAIR GRIFFON: But it is a QA, yes.

MR. FARVER: It is kind of a pet

peeve I have with that checklist form. You know, I think it is very good and very useful, if it is used.

MEMBER MUNN: Well, the question arises, of course, when you see something like this, how thorough a check do you anticipate that a peer reviewer is going to do?

MR. SIEBERT: Well, I do want to point out that the dose reconstruction report does clearly state that no samples were found that were above detection. So, when it comes to a peer reviewer looking at: were all positive bioassays entered?

CHAIR GRIFFON: Okay. Alright.

MR. SIEBERT: We would agree that they already looked at it and said there weren't any.

CHAIR GRIFFON: Okay. Good point.

MEMBER MUNN: Yes.

CHAIR GRIFFON: Yes.

MEMBER MUNN: And I wouldn't anticipate that a peer reviewer would go back

to all of the raw data to try to -- I don't know, but that doesn't seem reasonable.

CHAIR GRIFFON: I think I like Scott's answer on that anyway.

Okay. Let's move on to the next one.

MR. FARVER: 200.2. "The DR report does not properly address incidents identified in the CATI report."

And on the yellow SC&A response, we just give a little excerpt from the DR report. "Records of the telephone interviews, as well as the monitoring records provided were evaluated carefully by the dose reconstructor. No records of involvement in radiological incidents were contained within these records.

"But during the telephone interview with the employee's children, they identified an incident believed to have occurred in '52." And that comes up with a couple of different incidents with a couple of

different siblings.

MEMBER CLAWSON: Ted, what site is this on?

MR. FARVER: This looks like it is INEL.

MR. HINNEFELD: It is INEL.

MR. FARVER: This is the 1960.

MEMBER MUNN: This was SL-1.

MR. SIEBERT: This is Scott.

I mean, it was done in 2006. I mean, I hate going back to that answer, but I believe that was prior to the time where we specifically start calling out everything in the CATIs to clarify to the claimants that we were addressing their concerns. The dose reconstructor was really looking into actual incident information. So, once again, I agree wholeheartedly it would be wise to have more in the dose reconstruction report to address that.

MR. FARVER: Well, that is okay, except the first sentence says, "The records

of the telephone interview." Now, to me, that is the CATI, isn't it?

MEMBER MUNN: It is supposed to be.

MR. HINNEFELD: The issue here is that this was a deficiency in what we considered deficiencies that we have identified and fixed since this was done.

MR. FARVER: Probably. It is an early case.

CHAIR GRIFFON: When did you do the fix? It is hard to remember.

MR. HINNEFELD: Well, it was a number of years ago.

CHAIR GRIFFON: Yes.

MR. HINNEFELD: But it was because of these kinds of discussions.

CHAIR GRIFFON: Right. But I am just wondering because now we are into 2006. I think it was still after this?

MR. HINNEFELD: I think it was probably after this.

CHAIR GRIFFON: I can't remember.

MR. HINNEFELD: That is pretty early; 2006 is pretty early.

CHAIR GRIFFON: Yes.

MR. FARVER: There is nothing more we can do on this one.

CHAIR GRIFFON: No. Right. Yes.

MR. HINNEFELD: I believe we have fixed this.

CHAIR GRIFFON: I think it is fixed, yes. Okay.

MEMBER CLAWSON: Would it be too much to ask, how did we fix it, though? Was it --

MR. HINNEFELD: It was because of findings from this Subcommittee that we, NIOSH, sent instructions to ORAU that said, "You have to address each of the items in the CATI." And it might be, I mean, people will mention in the CATI, "Well, I was exposed to verillium," and things like that.

It doesn't matter. You have to

say that they said they were exposed to beryllium, which would not affect the dose reconstruction.

MR. FARVER: And I will say, the recent cases we looked at are much better.

MR. HINNEFELD: So, I think this is an issue that we agreed was an issue, and we have since fixed.

MR. STIVER: Yes, it was a snapshot in time six years ago.

MR. HINNEFELD: Yes.

MR. STIVER: Things have improved considerably since then.

CHAIR GRIFFON: Now there is still a question. I mean, on a case-by-case basis, there might still be a question where SC&A or we don't think they adequately addressed --

MR. HINNEFELD: Yes, I don't read every dose reconstruction. I don't know that they all --

CHAIR GRIFFON: Right.

MR. HINNEFELD: -- are what I

wonder consider adequate.

CHAIR GRIFFON: Right.

MR. HINNEFELD: But, yes, the instructions were, if it is mentioned in the CATI, you have to describe in the dose reconstruction how it was considered.

CHAIR GRIFFON: At least respond to it in their -- right.

MR. HINNEFELD: How it was considered or why it didn't happen.

CHAIR GRIFFON: Whether it is adequate, that might be up for debate. Right. Okay. Alright.

201.1.

MR. FARVER: Okay. "Reviewer questions whether all records were provided."

This is in vivo records.

MEMBER CLAWSON: This is a new case, correct?

MR. FARVER: Pardon?

MEMBER CLAWSON: This is not the INL anymore?

MR. FARVER: This is a different case, but I do not know what site it is.

MR. CALHOUN: It is INEL as well.

MR. FARVER: Another INL case.

MEMBER CLAWSON: Well, that's fine.

MR. FARVER: Okay. Apparently, the DOE records say there should be a 1974 whole-body count, but there are none. I don't know exactly. I do not have the case in front of me.

(Pause.)

Keep going. Wait a minute. Hang on.

MEMBER MUNN: You either have the records or you don't, right?

MR. FARVER: Well, you could have the records and not provide them.

It should have been before. Just keep going. Look for a file.

MEMBER MUNN: Certainly, it is not crystal-clear.

MR. FARVER: That is 201.

MEMBER MUNN: There might be another record somewhere, but how can one check to see if there is another record somewhere, other than what has already been done? How can you do anything about that?

MR. FARVER: Well, I don't know. You could ask them if they sent all the records.

MEMBER MUNN: Yes. On the other hand, if one of the record reports has a mistaken date on it, as has been implied here but not substantiated, then --

MR. FARVER: Well, we will try to substantiate it.

MEMBER MUNN: How do you do that?

MR. CALHOUN: The case was revised, it looks like, since you guys reviewed it. I am trying to figure out if anything changed.

MR. FARVER: Okay. This also comes back to the CATI report, apparently,

where the employee states that, after an incident, an in vivo measurement was taken. Apparently, it was a documented incident in March of '73.

Once again, this comes back to what the employee says, and there was no record. So, I don't know what you do.

CHAIR GRIFFON: And they are saying there was a record in '73, but you are saying it looks like it is '93?

MR. FARVER: I think it is '93 --

CHAIR GRIFFON: Yes.

MR. FARVER: -- just from the type of form it is.

CHAIR GRIFFON: Right.

MEMBER MUNN: You think it was '93 instead of '73?

MR. FARVER: Yes.

MEMBER MUNN: And there is no indication. There wasn't a high badge reading in '73.

MR. FARVER: Yes, there was --

MEMBER MUNN: But no indication of an in vivo count.

MR. FARVER: Other than the employee saying that he received an in vivo count.

CHAIR GRIFFON: Has NIOSH looked at this, this '73 versus '93 question?

MR. CALHOUN: Well, I can tell you that the revised DR that you guys -- that was done afterwards -- talks about '73 where it talks about external.

Stated in the interview Mr. So-and-So received approximately 1800 to 1900 millirem. This is captured in DOE records for March 1973, 1900 millirem.

CHAIR GRIFFON: External.

MR. CALHOUN: It talks about external, yes.

And I will see if we recorded a request of any other additional information.

MR. FARVER: But I think if you look in the CATI --

MR. CALHOUN: These are all skin cancers, too, by the way.

MR. FARVER: I think if you look in the CATI report, it will mention that he had an in vivo measurement.

MR. SIEBERT: Yes, in the CATI report he does mention an incident, actually, he says, in 1972, and he does say that the in vivo count was done. However, there is nothing in the record stating so.

MR. FARVER: Okay. And that is why we came up with our finding that we request and question whether all the records were provided.

MR. STIVER: It is going to matter how far you are going to go in trying to verify what is in the CATI.

MR. CALHOUN: Right.

MR. STIVER: I mean, if you don't find it in the records --

MR. CALHOUN: Right.

MR. STIVER: -- you do due

diligence to get that, what else can you go with?

MR. CALHOUN: Right.

CHAIR GRIFFON: Right.

MR. STIVER: You would have to make a comment, I guess, as Stu had mentioned earlier in the CATI.

MR. FARVER: Right. That is what you would expect, just to see the comment saying it was not found in the records.

MR. CALHOUN: Well, we captured the incident. You know, that is in there. But, as far as somebody saying that they were monitored in a certain year and they weren't, according to the records, maybe before or after that, I doubt that we would ever capture that. You know, that almost gets to the point of reproducing the CATI and the DR.

MEMBER MUNN: But surely the badge reading was incorporated into the DR.

MEMBER CLAWSON: Is this Idaho still?

MR. STIVER: Yes.

CHAIR GRIFFON: To me, I think that is as far as you can take it.

MR. FARVER: I don't think you can go anywhere on this.

CHAIR GRIFFON: Yes, yes, yes, I think it is closed. I think it is closed.

MR. STIVER: You have chased it down as far as you can.

CHAIR GRIFFON: Yes, yes.

MR. FARVER: I mean, you understand why we wrote it up the way we did. It was because there is a little discrepancy in the CATI with what was in the report.

CHAIR GRIFFON: Yes. Okay.

201.2.

MR. FARVER: 201.2. Really, this is a repeat of one that we identified during a review of the Site Profile for INEL about the accuracy of the shallow-dose measurements. So, it really is like the -- it is captured in our Site Profile review findings. It is not a

new issue.

CHAIR GRIFFON: Yes.

MEMBER MUNN: And it can't be taken any further, right?

MR. FARVER: Not by us.

MEMBER MUNN: Yes. It has been done. You've got it.

CHAIR GRIFFON: So, it has been referred to where? To the Site Profile Group?

MR. FARVER: Well, I don't know if it has been referred to them. It is contained in our Site Profile review.

CHAIR GRIFFON: It is in the Site Profile, right.

MEMBER CLAWSON: The Work Group will take care of it, right?

MR. FARVER: They should.

CHAIR GRIFFON: Does this have any bearing on this case? I mean, it was a skin dose case, right?

MR. CALHOUN: Yes.

CHAIR GRIFFON: A skin dose case.

Non-comp?

MR. CALHOUN: I think it is non-comp.

CHAIR GRIFFON: Yes.

MR. CALHOUN: 201, yes.

MR. FARVER: I mean, that site finding could have a bearing on many cases.

CHAIR GRIFFON: Yes, yes. Well, especially where this one is close.

MR. FARVER: Yes, but, I mean, that Site Profile issue can have --

CHAIR GRIFFON: Right.

MR. FARVER: -- an effect on a lot of cases.

CHAIR GRIFFON: So, I mean, my only question here is, how do we handle it if it is close and we are saying we are referring this issue to the Site Profile? You know, it is close. What is the percentage? What is it?

MR. CALHOUN: Forty-nine.

CHAIR GRIFFON: Forty-nine.

MR. STIVER: Forty-nine percent.

MR. CALHOUN: Well, wait a second. It was 49, the one you reviewed. I have to look. I don't know what it is now.

CHAIR GRIFFON: Oh. So, it may have gotten reassessed?

MR. CALHOUN: It may have gotten higher or lower.

CHAIR GRIFFON: Or lower, right.

MR. CALHOUN: It is comped, '52.

CHAIR GRIFFON: Okay. No further action, closed. Thank you. That makes it easy.

This 201, Observation 1, geometry.

Okay. So, yes, it is pretty self-explanatory. But did NIOSH look at this at all any further?

MR. CALHOUN: Is this Observation 1?

CHAIR GRIFFON: Yes.

MR. HINNEFELD: It seems to be tied to OTIB-13, and there are active

discussions about OTIB-13 going on now with Procedures Subcommittee meetings.

CHAIR GRIFFON: And its relevance to this site, though, I guess, right, to Idaho?

MEMBER MUNN: Yes. That is the question, I guess, is whether or not it is applicable to INEL.

CHAIR GRIFFON: Yes. I mean, maybe amongst other general questions that are out there.

MEMBER MUNN: This is another dosimetry, another geometry.

MR. HINNEFELD: Apparently, this is a dosimetry geometry observation.

CHAIR GRIFFON: Yes.

MR. HINNEFELD: I don't know what this person's special geometry was for this work, but --

MR. FARVER: Well, in general, OTIB-13 is just a way to correct from a chest-worn dosimeter to people's hands.

MEMBER MUNN: The hand.

MR. FARVER: So, you are multiplying by in this case 2.2 and saying, well, that is what the hand dose would be. And so, they have this OTIB-13 out there for this one site, Mallinckrodt.

Now is it applicable to INEL? Is it applicable to other sites?

CHAIR GRIFFON: To other sites, yes, that is --

MR. FARVER: Is there a general policy on how to apply these geometric correction factors?

MR. HINNEFELD: Yes.

MR. CALHOUN: Yes, there is an overall TIB that addresses that, isn't there, Scott? I am pretty sure. It might even be in the glovebox.

MR. HINNEFELD: I think it is the revision of this one.

MR. CALHOUN: Yes.

MR. STIVER: Yes, TIB-13 is going

to be the topic of discussion tomorrow. It is related to the glovebox scenario and the modeling that took place to drive this factor. And so, there is a little bit of discussion about what the appropriate factor should be.

I believe, without jumping too far ahead, that based on the latest analysis, that we are pretty close in agreement with NIOSH, based on whether what we were looking at was just a film badge correction or the adjustment for the incident radiation on the organ and, also, the film badge. And so, that was quite a contention there.

CHAIR GRIFFON: And it would be a program-wide document?

MR. STIVER: Well, it is related to TIB-13.

CHAIR GRIFFON: Yes. Yes.

MR. STIVER: To me, it is kind of more generic, but it depends. You know, the devil is always in the details of how you model that particular glovebox --

CHAIR GRIFFON: Yes.

MR. STIVER: -- what materials and things are listed.

MR. HINNEFELD: There is a glovebox TIB and, then, there is the special geometry TIBs. So, the lathing and the source on the floor and the source overhead. So, I think 13 is the special geometry. I think it was originally written for Mallinckrodt, but the revision changed it into just a general special program-wide. So, the fact that Mallinckrodt is in the title of this TIB kind of went away because it is generally --

CHAIR GRIFFON: So, I think we will refer it to Wanda's, to the Procedures, the question being the applicability broadly, you know.

MR. HINNEFELD: Yes, yes.

CHAIR GRIFFON: Okay.

MEMBER MUNN: Yes, there is so much commentary going on about --

CHAIR GRIFFON: You have already

got that one, right, Wanda?

MEMBER MUNN: Yes, we have got lots of geometry discussions going on.

CHAIR GRIFFON: You can tell me the closeout on Thursday or Wednesday.

MEMBER MUNN: Sure.

(Laughter.)

CHAIR GRIFFON: Okay.

MEMBER MUNN: Don't hold your breath on it.

(Laughter.)

CHAIR GRIFFON: Let's see, 202 --

MR. FARVER: 202.1. Improper accounting of recorded photon dose.

Apparently, for two years, 1961 and 1963, the doses were entered incorrectly. It is a QA problem, and I am not sure whether they were entered incorrectly into the workbook, I believe, but it is a QA problem. Otherwise, we can't do much about it.

CHAIR GRIFFON: Okay. Yes, just note it as a QA and close.

MR. STIVER: The same applies to .2.

MR. FARVER: .2 is a little different. They have got the internal intake in picocuries per year instead of picocuries per day. Now that is a little bit of a "oopsie".

(Laughter.)

CHAIR GRIFFON: Yes, a little bit.

MR. FARVER: You know, I think something like that should get caught.

CHAIR GRIFFON: Yes.

MR. FARVER: You are off by a factor of what, 365.

MEMBER RICHARDSON: So far, with the blind reviews that NIOSH has done, none of these types of issues have come up, is that correct? The quality issues that we continue to encounter with these older records?

MR. CALHOUN: No, we certainly find things that are not perfect. We are looking at more of the newer claims, though.

So, we don't see as many of them.

CHAIR GRIFFON: We will have to -- and, David, I think you were on earlier when they said online we have access to that database. So, it might be worth looking at that at some point in your leisure time.

And, I mean, I think at some point on this Committee we are going to get some sort of aggregate report out eventually, yes. But that is something to watch.

202.2, did we do? Yes, it is QA and close.

MR. FARVER: 205.

CHAIR GRIFFON: What are we up to, 205?

MR. FARVER: 205.1.

CHAIR GRIFFON: Yes.

MR. FARVER: "Missed dose was not assigned for the Medina facility."

Agreed, now that the TBD is available, missed dose would be assigned in lieu of environmental dose that was assigned

in Rev. 1 of the case.

Once again, it was just --

CHAIR GRIFFON: Would this have made any difference for this case?

MR. CALHOUN: It was comped already.

CHAIR GRIFFON: It was compensated, yes, yes. Alright.

MEMBER MUNN: It is essentially closed for it.

MR. FARVER: Yes, I would suggest closing it because I don't know how to fix it.

MEMBER MUNN: Yes.

MEMBER CLAWSON: I think when we did this, we didn't have Medina's TBD done.

MR. FARVER: Probably not.

MEMBER CLAWSON: Since then, we have, what, been in 83.14?

MEMBER MUNN: Yes.

MEMBER CLAWSON: Plus, we did a Site Profile CBD review of that, too.

MR. FARVER: Yes. I mean, it has

changed since then.

MEMBER CLAWSON: Right.

MR. FARVER: I don't know how we would fix it because it is already taken care of in the new documents.

MEMBER CLAWSON: Right.

MR. STIVER: It is a deficiency that has been corrected through changes to the TBDs and the application of an SEC.

CHAIR GRIFFON: Okay. So, it is closed here, right?

MR. SIEBERT: This is Scott.

I just want to point out that, when that TBD was released, there was a PER on the 65 claims that had been done previously that were non-comp, and that was covered under PER-27. So, that has been addressed.

CHAIR GRIFFON: Okay. Any more on that? Doug, any more on that?

MR. FARVER: On 205.1?

CHAIR GRIFFON: Yes.

MR. FARVER: No.

CHAIR GRIFFON: Okay. Moving on, 205.2.

MR. FARVER: Okay. I am trying to find the case.

MEMBER MUNN: And wasn't the response from last June adequate for us to close this?

MR. FARVER: Bear with me. I am trying to pull up the case report, so I can give you a little bit more information.

MEMBER MUNN: Well, after the DR, you had a decision. "This dose could have been fine based on the badge cycle," but the claim determination was compensable. In addition, it was on the PoC. So, things have changed, and it would be done differently now. But, in any case, it wouldn't change the outcome of the DR. Was that done?

The filing has achieved its purpose.

CHAIR GRIFFON: Give them a second to look, Wanda. They are looking at their

original report.

(Pause.)

Why don't we take a 10-minute break now. So, Doug can --

MR. FARVER: Oh, I have got it now.

CHAIR GRIFFON: Oh, you got it? Hold on. Alright. Alright. We got it. Here it is. Wait for it, Wanda.

MEMBER MUNN: I'm waiting.

MR. FARVER: Okay. You will like the outcome, Wanda, but we are going to get there first.

How this came about was the employees stated in the CATI report that they wore a badge every day, wore film badges all the time. This was at the Medina facility. Okay?

And in our finding, we note that, that that was in the CATI report. And also, the DOE records listed x-ray and gamma film badge results for the Medina facility,

although those results were zero. But they still had a list.

So, we thought that they should have had some assignment for the -- I believe it was for the Medina facility; yes -- more frequent than I guess what they did. Okay?

And what really got me was their initial response that said, "Well, workers often confuse a security badge with a dosimeter." And that is not true. I mean, the guy had worked there, I think, for 30 years, and they know the difference between security badges and dosimeters. So, I took offense to that statement to begin with.

But, as it turns out, you know, there is not much they could have done. They could have done it a little differently. It would not have affected the dose much. But the point is, he did put it in there in his CATI information, and I got the feeling it just wasn't taken seriously.

MEMBER CLAWSON: This person

worked at Medina and then transferred to Pantex, I believe.

MR. FARVER: I think it was other places.

MEMBER CLAWSON: Other places beyond, because Medina was not around for that long.

CHAIR GRIFFON: I mean, I found it interesting; I think the first NIOSH response sort of conceded that they should have done it. You know, the current procedures, they would have assigned more missed dose. But it is compensated anyway. I think we could have kind of closed it there, I mean except for that statement that you --

MR. FARVER: Yes.

CHAIR GRIFFON: Yes, yes. I agree with that point, but I think the idea, I think they are saying, also, in that first part, not the green response but the other part, that the TBD, that was issued after this case was completed, the 1-0 would have been assumed to

be a summary dose and more missed dose would have been assigned, is what they are saying, right?

MR. SIEBERT: Correct. And this would have fallen under that PER that we mentioned earlier --

CHAIR GRIFFON: Right.

MR. SIEBERT: -- if it was less than 50.

CHAIR GRIFFON: Right, right. So, notwithstanding that security badge versus dosimeter, I think there is not much more we can do.

MR. FARVER: Oh, no, no, no. I agree with closing it.

CHAIR GRIFFON: Yes. No, I think it is a good point. A good point, yes.

MEMBER MUNN: Well, and besides, it may have been worded improperly, but it may not be completely erroneous, either. I am sure that confusion has arisen and it probably should have said, "Some have...," instead of

"may".

CHAIR GRIFFON: Yes, yes, yes.

MEMBER MUNN: But that doesn't change the fact that that has very little bearing on what we actually are looking at here, which is, did potentially a missed dose get overlooked which would have changed the outcome?

The problem has been cared for in the revision that was issued. It is done.

MEMBER CLAWSON: It is done.

CHAIR GRIFFON: Yes, I think we are okay with that one.

MR. FARVER: I think we can close this one.

CHAIR GRIFFON: Alright.

MR. FARVER: Now we can break.

CHAIR GRIFFON: Well, wait a second. There is one more for that case. Why don't we do that?

MR. FARVER: Yes.

CHAIR GRIFFON: It is an

observation. And then, we can take a break. Maybe there are two more. Alright. Anyway, while we are thinking Medina, 205, Observation 4.

MEMBER MUNN: A month and a half of electrons.

MR. FARVER: I want time to check those numbers.

CHAIR GRIFFON: Okay. Okay.

MR. FARVER: I mean, it is really an observation; we don't really have to bother with it, but I just want to check those numbers.

CHAIR GRIFFON: Alright. For No. 4?

MR. FARVER: Yes.

CHAIR GRIFFON: And how about No. 5?

We will hold No. 4.

MR. FARVER: I don't know that there is much we can do with No. 5. Is that what we are going to talk about?

CHAIR GRIFFON: Yes. Yes.

MR. FARVER: It is really just pointing out that, you know, usually, they don't report millirem, less than a millirem.

CHAIR GRIFFON: Okay.

MR. FARVER: But it looks like in some instances they did. And mainly, it was just to bring it to their attention.

CHAIR GRIFFON: Yes, yes, yes.

MR. FARVER: Yes. So, it is kind of a "no, never mind," uh-hum.

CHAIR GRIFFON: Okay. So, there is no action on that, right?

MR. FARVER: No.

MEMBER CLAWSON: Was that case compensated?

CHAIR GRIFFON: Yes, yes.

MR. HINNEFELD: This is that same case we have been talking about.

CHAIR GRIFFON: Compensated, yes.

Alright.

MR. KATZ: The previous was an

observation, too.

CHAIR GRIFFON: Yes, yes.

MR. KATZ: I mean, do you really need any follow-up? I mean, those are notes to DCAS, in effect.

CHAIR GRIFFON: Yes. Well, sometimes, quite frankly, your observations have been as interesting, if not more, than the findings. So, I don't know.

MR. KATZ: Okay.

CHAIR GRIFFON: You know, it is all how they are being characterized, I think. Let's look at the substance rather than the category, I think. That is the way I have been handling it.

MR. KATZ: Okay.

CHAIR GRIFFON: Alright. Let's break. And I would say at least a healthy 10 minutes because I would love to go outside maybe and get some fresh air.

MEMBER MUNN: That is probably a good idea.

CHAIR GRIFFON: Yes. Wake up.

MEMBER MUNN: Oxygen may help.

CHAIR GRIFFON: So, at least until 10 of 3:00.

MEMBER MUNN: Okay. Bye.

CHAIR GRIFFON: Bye.

(Whereupon, the foregoing matter went off the record at 2:38 p.m. and went back on the record at 2:54 p.m.)

MR. KATZ: Okay. We are going to get started again, the Dose Reconstruction Subcommittee.

CHAIR GRIFFON: Yes. Okay. We are continuing with our work through the matrix, on Case No. 206 now, 206.1.

We are hoping we may be able to punch through a lot of this 9 set.

Go ahead, Doug; 206, I think is where we left off, right?

MR. FARVER: 206?

CHAIR GRIFFON: Yes.

MR. FARVER: Let me find the case

here.

MR. CALHOUN: And that is an NTS non-comp, by the way, just looking, to staff off.

MR. FARVER: And as I recall, this is where there were, I think, like thousands of other records that mentioned this person that were not requested at the time, just because there were so many.

And it was things like, I believe he participated in many of the test shots. So, it was information from different logbooks, but there was a lot of extra information. It was not requested because I guess they did not think it was necessary.

MEMBER KOTELCHUCK: Even though it was not compensated? It is one thing if they were compensated.

MR. FARVER: Yes, and under the initial NIOSH response, the decision was made not to request the other monitoring data unless the data was needed for resolution of

an ambiguous compensability decision.

MEMBER KOTELCHUCK: Forty-three percent might be viewed as ambiguous.

MR. FARVER: That is one way of looking at it. But I don't know how much it would have affected the doses. Of course, you don't know because you don't have the data.

MR. HINNEFELD: The information we did receive for some persons, external exposure records and their bioassay records. I believe they did bioassays. And then, we had assumption of medical x-rays.

So, the kinds of things that NTS has for all these shots are access log sign-in's.

MR. FARVER: I think it is like, yes, logbooks.

MR. HINNEFELD: Yes.

MR. FARVER: And some of them will have dose rates.

MR. HINNEFELD: There may, in fact, be some dose rate measurements.

MR. FARVER: Yes.

MR. HINNEFELD: And there may be some air-sampling results from a particular entry, because records are kept sort of like entry-levels, you know, per shot and, then, the entries for the shot.

And so, these are retrievable, but they are not readily retrievable. And so, DOE doesn't, as a matter of routine, provide these to us with our requests. They provide the individual's external exposure measurements, bioassay measurements, and medical, which we believe is sufficient to do the dose reconstruction.

The fact that, if you have got the person's film badge record, whether they signed into a shot re-entry 10 times that year or 15 or 20 times that year, it doesn't really matter if you have their exposure --

MEMBER KOTELCHUCK: That is certainly true. On the other hand, you have to be confident that those other data that you

didn't seek has nothing about dose, right?

MR. CALHOUN: Those records routinely have no dose readings.

MR. HINNEFELD: Individual dose readings. You don't have to have information --

MR. FARVER: No. It would be like a dose rate measurement or, like you said, an air-sampling result, or something like that, that would be contained in that type of information.

MEMBER CLAWSON: Some of these are a best estimate and best estimate approach and an IMBA calculation.

CHAIR GRIFFON: Can you tell me, just to step back in the decision-making process, what would you define as an ambiguous compensability decision? Would that be over --

MR. HINNEFELD: Well, it is -

CHAIR GRIFFON: Did you find that, in other words?

MR. HINNEFELD: -- not defined. It is not defined on a percent basis.

CHAIR GRIFFON: Yes. It would be more on a case-by-case --

MR. HINNEFELD: It would have to be a situation where, for some reason, the presence at a shot may cause you to make a different interpretation of what their badge reading was.

Perhaps a situation like this: a person has skin cancers and was in an area that was affected by what they called a blowout, where the buried explosion wasn't sufficiently contained and they have this huge, you know, debris and stuff that settled out on some people through the shots.

So, if a person was a member of that, you know, was present at that shot, then, theoretically, the presence there might give you -- I mean, there might be records associated with that -- in particular, with surveying decontamination of the affected

people -- that would be helpful to that.

MEMBER CLAWSON: Would this case be a total best estimate?

MR. HINNEFELD: Well, at 43 percent, there could be some overestimating approaches in there. I don't know whether there is or not.

MEMBER CLAWSON: Yes, I was just looking up above. Some of them were a best estimate and some was best estimate approach.

MR. CALHOUN: I am trying to look here. I clogged up my computer trying to download some dosimetry.

CHAIR GRIFFON: I mean, this is kind of in SC&A's court.

MR. FARVER: If it were me, I probably would have started requesting some of the records and looking at them, and at least determine whether they would be useful or not. You know, it looks like the employee's bioassay results started in '63, yet he was involved in, gosh, what's that, 20-or-so test

shots from '61 through '65. So, I mean, there is a long timeframe that there was no bioassay.

MEMBER CLAWSON: So, he would have been a part of Plowshare, all low shots.

MR. CALHOUN: Well, I imagine he is comped to the SEC.

MR. HINNEFELD: If he has the right cancer.

MR. CALHOUN: Leukemia.

MR. HINNEFELD: Oh, he is comped then.

MR. FARVER: Yes, he is comped.

CHAIR GRIFFON: So, he is comped anyway.

MR. HINNEFELD: Since this dose reconstruction was done, we added classes based on the internal exposures. So, that internal essentially goes away because we have determined that -- well, I think what we determined, if we have got bioassay data for a non-SEC case, we will agree with the person's

bioassay data. I think that is what the decision was, that we will do what we can, but we can't give them that person's bioassay data.

So, I mean, realistically, I just don't -- you know, if you have the dosimetry information and they badged everybody from some date forward -- I forget what the start date was.

MR. CALHOUN: They have external early, well, back in the sixties. I don't know when he started.

MR. HINNEFELD: At some date, they started the practice of badging everybody who got the mergers. So, you'll have his dosimetry, his dosimetry information, and the actual access. You know, how many times did he enter after the shot doesn't seem to us to be informative, particularly when you look at the degree of what you are asking DOE to do to provide these. I mean, it is expensive to get these things.

MR. FARVER: Right. And that is why I said I would probably use a graded-group approach and start looking at some of the earlier data and see if it is useful.

MR. HINNEFELD: Yes.

MR. CALHOUN: I think we actually have an idea of what they give us, because it is usually the same. When we ask for that additional data, it is going to be logbooks that go with --

CHAIR GRIFFON: For each shot, right, yes.

MR. FARVER: Yes, for shots, but some of that still has useful information, you know, if you have got dose rates and air-sample results.

MR. CALHOUN: I don't think dose rates in that area would trump dosimeter results for that individual --

MR. STIVER: Yes, if you didn't have --

MR. CALHOUN: -- because he is

monitored throughout his employment, I believe.

MR. STIVER: If you didn't have dose rate, if you didn't have dosimetry results, then you could back and --

MR. CALHOUN: Right.

MR. STIVER: -- and get the contours and the overlapping fallout fields, and get an idea of what the exposure could have been, given a certain exposure scenario.

MR. FARVER: I think if my dose rates were not consistent with my dosimeter results, I would raise some questions.

MR. STIVER: Well, I can tell you from experience that when you look at those contour maps that they drew after these shots, and they look very nice and smooth curves, and you think they did a really good job, but when you start overlaying ones taken in different time periods and back-extrapolating, and you have got all kinds of variations, huge uncertainties and a factor of 10 of 100, even

within a couple hundred yards from the shot on these contour lines. So those dose rates might be useful in kind of bounding the situation, but in trying to really determine an exposure rate or trying to correlate an exposure rate for a given period of time out in a fallout field to an integrating dosimeter reading that might span a couple of weeks, it would be a very difficult task.

That would be one of the reasons you guys ended up going to an SEC --

MR. HINNEFELD: That is our position.

MR. STIVER: -- is that you couldn't do it. You just couldn't tease out all those different components.

CHAIR GRIFFON: Okay. So, it is now an SEC.

MR. STIVER: Yes, it is an SEC.

CHAIR GRIFFON: There is no more to say on this one, yes. Yes.

MEMBER CLAWSON: But, also, too,

there were some shortcomings in the Site Profile which we are in the process of now -- NIOSH has made several corrections to it, and we are rechecking that as far as abilities, and so forth.

So, I think, myself, I think this is kind of taken care of in all of that.

CHAIR GRIFFON: Okay.

MR. KATZ: Closed.

CHAIR GRIFFON: What about the observation? It looks like this is something that is also being taken up in the TBD review.

MR. FARVER: It looks like the same stuff that has been in our TBD reviews.

CHAIR GRIFFON: Yes. So, I think that is no further action for us anyway, right?

MR. FARVER: That's correct.

MEMBER CLAWSON: That would probably go to the Nevada Test Site Group.

CHAIR GRIFFON: Yes. Alright.

MR. FARVER: 207.1.

CHAIR GRIFFON: Yes, I am looking at these. Sorry. I was looking at these other observations. I think they are all in the TBD, right? Observations 2, 3, 4, 5?

MR. FARVER: Yes.

CHAIR GRIFFON: So, I think they would all fall under the TBD. So, I think they are all closed for our purposes, right?

MR. FARVER: Correct. Yes, these are all things that are being changed in the TBD.

CHAIR GRIFFON: Okay.

MEMBER MUNN: Environmental resuspension --

MR. FARVER: Yes, resuspension --

CHAIR GRIFFON: Yes.

MR. FARVER: -- is no longer going to be an issue.

CHAIR GRIFFON: Okay. Go ahead, on to 207.1.

MR. FARVER: Oh, improper accounting of recorded proton dose. What this

comes down to is the employment period that was entered into the workbook was off by a year. So, there was a year that was not accounted for in, I believe it is external dose -- yes, photon dose. Okay?

And it is a compensated case. So, it wasn't needed, but that is not the reason it wasn't done. It was a mistake. They entered the wrong year. It falls under a QA mistake. When you read through all of that, that is just --

CHAIR GRIFFON: That it is compensated, yes.

MR. FARVER: And it is compensated.

CHAIR GRIFFON: So, it is a QA.

MR. FARVER: It is a QA. Close it.

CHAIR GRIFFON: Close it and move on, right. Okay. Point-2?

MR. FARVER: Point-2 says, "Recorded dose model has a missed dose."

Okay.

This has to do with the text that is in the DR. It is incorrect. It stated that the K-25 results were below detection. The text incorrectly states that the EE was monitored from '57 through '61 for uranium. Actually monitored from '52 through '61 and had positive results from '57 through '61.

It's an oopsie, it's an error in the text that should have been corrected during a peer review, a QA.

CHAIR GRIFFON: Yes. And close.

MR. FARVER: Closed.

CHAIR GRIFFON: Okay.

MR. CALHOUN: Solubility type.

MR. FARVER: 207.3.

CHAIR GRIFFON: Yes.

MR. FARVER: The most claimant-favorable solubility type was not selected by NIOSH. Uranium Type F was selected for the dose assessment. The statement in the DR report was incorrect in stating that it

yielded the highest dose to the stomach because that should have been Type S.

Once again, that is something that should have been caught when it was reviewed.

CHAIR GRIFFON: Alright. And closed.

MR. FARVER: Closed.

CHAIR GRIFFON: And QA. Okay.

MR. FARVER: 207.4. Now I am guessing this is an INEL case.

MR. CALHOUN: Hanford.

CHAIR GRIFFON: It sounds like Hanford.

MR. FARVER: Hanford? Because it looked very similar to 195.3, which I am going to look at. And they reference the same files that I said I wanted to look at.

MR. CALHOUN: And they indicate 25.

MR. FARVER: Yes.

MR. CALHOUN: So, it is a mixed.

MR. FARVER: It is a mixed one?

Okay. So, I am going to go ahead and look at these files.

CHAIR GRIFFON: Okay.

MR. FARVER: It falls in the same category as 195.3.

CHAIR GRIFFON: SC&A follow-up? Alright. This is good, Doug. You're moving.

MR. FARVER: Not bad for winging it, huh?

CHAIR GRIFFON: To 208.1.

That is not good for the record.

(Laughter.)

208.1.

MR. FARVER: Oh, I'm not really winging it. Come on.

CHAIR GRIFFON: No.

MR. FARVER: Improper accounting of recorded photon dose. The dose was incorrectly entered from the dose records for it looks like two years, 1945 and 1956. Once again, a QA error. And I believe this was a data entry error into the file that gets

uploaded into the workbook, or the tools.

CHAIR GRIFFON: Okay. And was 208 a compensated case or wasn't it?

MR. CALHOUN: Yes, X-10 comp.

CHAIR GRIFFON: It was also an X-10 comp? Okay. So, QA and closed, right?

MR. FARVER: 208.2. Improper assignment of the intakes.

CHAIR GRIFFON: There is agreement. NIOSH has agreement, right?

MR. FARVER: It was an error.

CHAIR GRIFFON: Right.

MR. FARVER: And I will give you an example. The strontium-90 intake was listed as, let's say, 16,000 DPM per day instead of 165,000 DPM per day. So, you are off by this much. So, there were some mix-ups there.

CHAIR GRIFFON: Yes. Alright. QA and closed.

MR. FARVER: Closed.

CHAIR GRIFFON: Point-3.

MR. FARVER: Okay. The improper assignment of the geometric standard deviation. It was assigned as 3 for all years when 7.9 should have been used for the time period of '53 through '55. It doesn't change the PoC.

CHAIR GRIFFON: Which?

MR. FARVER: 208.3, the bottom of page 49.

CHAIR GRIFFON: Thanks. It doesn't change the PoC or doesn't change the decision?

MR. FARVER: It doesn't change -- the PoC is not -- well, that is not impacted.

CHAIR GRIFFON: It said it changed the PoC. Alright. Anyway --

MR. FARVER: It's not impacted.

CHAIR GRIFFON: -- it is closed. It doesn't impact it, right?

MR. FARVER: It's closed.

CHAIR GRIFFON: Okay.

MR. FARVER: It's a QA concern.

Okay. Now we've got some observations.

CHAIR GRIFFON: Just for completeness, we should address these, if we can.

MR. FARVER: Okay. The first observation has to do with the number of zeroes for calculating missed dose. I think a lot of it has to do with just actually being able to read some of the site records. I mean, it is not hard to come up with different numbers. So, that was the first one.

And it's just pointing out that we just didn't agree with their numbers, but we also understand that the records are not the easiest to read.

CHAIR GRIFFON: But even though it doesn't affect this case, this sort of is a bigger deal for the broad set of cases, right?

MR. FARVER: We do run into this occasionally with the records that are hard to read.

CHAIR GRIFFON: Is that someone on

the phone or?

MEMBER CLAWSON: No, it is me. Sorry.

CHAIR GRIFFON: Oh. Go ahead, Doug. I'm sorry.

MR. FARVER: I say we do run into this occasionally on records that are difficult to read and they are not very legible.

CHAIR GRIFFON: Right.

MR. STIVER: So, it is a transcription error possibly?

MR. FARVER: Because we will go back and look at the records and try to count the zeroes, and I think a lot of what NIOSH does is their data is data entered. So, that person is interpreting the records, and then, those files are uploaded into the workbooks.

I don't know that there is that much you can do about that. I mean, you can see the difference was plus or minus 1 to plus or minus 4 zeroes.

CHAIR GRIFFON: I mean, do we know anything about, just thinking overall here, do we know anything about whether this happened -- is it certain sites that are more difficult to read or --

MR. FARVER: I think it is just age of records.

CHAIR GRIFFON: Yes. Yes, I was just wondering if -- no, it is not?

MR. FARVER: No, it is just the age of records.

CHAIR GRIFFON: The older, yes, the earlier years --

MR. FARVER: Records from the fifties are usually in pretty bad shape.

CHAIR GRIFFON: Yes, across the board, it is not necessarily one site?

MR. FARVER: Yes.

MR. HINNEFELD: There would be some of them where they were probably doing weekly exchanges, right?

CHAIR GRIFFON: Yes.

MR. FARVER: And the reason we didn't make this a finding was you can see, No. 1, it is hard to read and, No. 2, the differences are very low, you know, 1 to 4 zeroes.

CHAIR GRIFFON: Right, right. Yes, yes. Okay. Alright. So we'll just put no action.

Now we have Observation 2.

MR. FARVER: It is right here, if you want to read it.

MR. STIVER: Actually, I have it pulled up in the case file here. This was an issue of using different versions of the workbook, Annual Dosimetry Workbook, Version 4, versus Version 5, which is what we used for our audits.

There was basically a difference of a factor of about 2.5 times higher for the total alpha dose for '44 to 2000. And so, it was one of these issues of, you know, this changed pretty significantly, but --

CHAIR GRIFFON: Yes.

MR. STIVER: -- we weren't able to figure out why, what the basis was for the version change here.

MEMBER CLAWSON: Also how many of the other cases were underestimated using the same workbook.

MR. FARVER: See, we have seen this before where the version of the CADW program changes and you get different doses whether you are using different versions.

MR. SIEBERT: I would like to point out that is not the case here. The case here is that X-10, when you use the OTIB-18 tool for X-10 for the 1944-to-'47 timeframe, the TBD does clearly specify that only plutonium and uranium are to be included in that, everything else is to be excluded. And when that was run by SC&A, they did not exclude those things. That is why there is a difference.

MR. FARVER: Okay.

MR. STIVER: Right. Yes, Version 5 includes thorium isotopes and polonium-210.

MR. SIEBERT: Right. But it is not the fact that the version changed as much as the TBD informed you only to use two specific elements, and those are the only ones that were assigned and so would be assigned.

MR. STIVER: Oh, okay. The version change is a different finding then.

CHAIR GRIFFON: Yes, yes.

MR. STIVER: Yes. So, it is really just how it was implemented, whether proper nuclides were considered.

CHAIR GRIFFON: But, I mean, I think Scott's point is important really.

MR. STIVER: Oh, yes, absolutely.

CHAIR GRIFFON: I mean, that would withdraw your observation.

MR. STIVER: Yes, that is no longer a concern --

CHAIR GRIFFON: Yes.

MR. STIVER: -- after

understanding what was done and why.

CHAIR GRIFFON: Right.

MR. FARVER: And sometimes we will put like an observation in there because we don't really understand why it was done or --

CHAIR GRIFFON: Sure.

MR. FARVER: -- why it is so different.

CHAIR GRIFFON: Yes, because, I mean, this could have been a more serious thing.

MR. FARVER: Yes.

CHAIR GRIFFON: I think his explanation makes sense.

MR. FARVER: But it was one of these deals where we went through and came up with one number but it didn't match their number. And so we're just going to point that out, that it doesn't match, and you can tell us why.

CHAIR GRIFFON: And you are satisfied with that answer, right?

MR. FARVER: Well, yes.

CHAIR GRIFFON: Alright. So, no action.

MR. FARVER: No.

CHAIR GRIFFON: Okay. 211.1.

MR. FARVER: Yes, I can't find 211. It may be in the next set.

"The method to calculate the prostate dose underestimates the 30-to-250-keV dose. NIOSH agrees that the doses appear to be low, beyond the differences from the Monte Carlo calculations."

They are not really sure why. They suspect it is a cut-and-paste error. We don't believe it is a cut-and-paste error because it is the same IREP table that comes out of the EDCW 1.2 workbook. So, it is not like they had to paste anything.

And we consider it significant if it underestimates and it affects the PoC up to 3 percent.

MR. CALHOUN: You got any more on

that, Scott, since June?

MR. SIEBERT: Well, this is kind of like what we said before. We are looking at the full process. Specifically, the EDCW cited a specific historical tool that we no longer use. We are looking specifically at that issue and don't have -- you know, we haven't gotten a resolution as to whether it was a specific issue on that or not, but we are looking into it. We will likely be tying that into the PER for Savannah River when the TBD gets updated. But we are looking into it.

MEMBER KOTELCHUCK: The issues, the questions you are raising, aren't they addressed in the blind cases that are done? Not every single case, but there will be a number which are --

MR. STIVER: Our blind reviews or --

MEMBER KOTELCHUCK: Yes.

MR. STIVER: Yes, in theory, that kind of thing would come up.

MEMBER KOTELCHUCK: But we don't understand --

MR. STIVER: We have only done two at this point.

MEMBER KOTELCHUCK: No, I understand, but that is on our agenda?

MR. STIVER: Yes.

MEMBER KOTELCHUCK: I mean, the answer to your last question is how many cases were underestimated.

MR. FARVER: Well, we don't know. You know, if it is a workbook error, it could be many. If it is just an isolated, single error somehow, then it is probably just this case.

MR. CALHOUN: If it is a quality error, it is one thing --

CHAIR GRIFFON: And I think the importance is also looking back, how many -- does it warrant a PER, right, I guess, is what you are saying, looking backwards? I mean, your current blind is going forward.

MR. CALHOUN: We probably won't catch that because --

CHAIR GRIFFON: Right, right.

MR. CALHOUN: -- after that it was discontinued.

CHAIR GRIFFON: Right, right. So, looking back, do we need to address a broader problem?

MR. CALHOUN: Well, that is what Scott said.

CHAIR GRIFFON: Yes.

MR. CALHOUN: Unless the TBD is revised --

CHAIR GRIFFON: Right, right.

MR. CALHOUN: -- then, we will institute a PER, if one is necessary --

CHAIR GRIFFON: If one is necessary.

MR. CALHOUN: -- if the doses go up anywhere.

CHAIR GRIFFON: Right.

MR. FARVER: Because, for this

case, when it was done correctly, the PoC jumped up 3 percent.

CHAIR GRIFFON: Yes.

MR. FARVER: Now that could be significant on some other cases.

CHAIR GRIFFON: On some cases, right.

MR. CALHOUN: '48 or so, it could be an issue.

CHAIR GRIFFON: So, I put that in NIOSH's follow-up. NIOSH is going to follow up on that.

Then, you've got two observations here.

MR. FARVER: I think this looks like our standard --

CHAIR GRIFFON: This looks familiar, yes.

MR. FARVER: -- one from our Site Profile review. And so does the second observation, where we believe the two-element and multi-element TLD dosimeters may

underestimate doses.

And the second one has to do with the neutron/photon ratios used may underestimate neutron doses.

CHAIR GRIFFON: And these are both under the SRS Site Profile review, right?

MR. FARVER: Yes.

CHAIR GRIFFON: Yes. So, we will give them to that Workgroup, whoever they might be. Okay.

212.1.

MR. STIVER: This is a non-comp bladder case.

CHAIR GRIFFON: What site is this, 212?

MR. STIVER: This is Savannah River.

CHAIR GRIFFON: Savannah River again? Okay. So, last we heard, you were looking at this more, SC&A?

MR. FARVER: Yes, I am going to have to look at this. I don't think it is

going to get us anywhere because it looks like it is a case of checking off boxes on the CATI report.

CHAIR GRIFFON: Okay.

MR. FARVER: And they had more specific information on where the person worked. But I will take a look at it.

CHAIR GRIFFON: There is only one finding you have on this one, right?

MR. FARVER: Yes.

CHAIR GRIFFON: A couple of observations.

MR. CALHOUN: Didn't consider that they may have been exposed to uranium, plutonium, and iodide.

MR. FARVER: One finding and then the two observations from the same ones as the previous case.

CHAIR GRIFFON: What is the PoC on this one? Do you know?

MR. FARVER: I do not know.

MR. SIEBERT: Forty-three percent.

CHAIR GRIFFON: Forty-three percent. Alright. We will let you look at it. Next time, we will get a report on that, right?

MR. FARVER: Yes.

CHAIR GRIFFON: Okay. And then, the two observations are the same.

MR. FARVER: The two observations are the same.

CHAIR GRIFFON: So, they will go to the work group. Okay.

212.

MEMBER CLAWSON: By the way, that is you, Mark, just so that you know.

CHAIR GRIFFON: I know. I am aware of that.

(Laughter.)

CHAIR GRIFFON: Okay. 214.1. What site is this?

MS. ROLFES: Y-12.

CHAIR GRIFFON: Y-12?

MR. CALHOUN: Non-comp.

MR. FARVER: Incorrect uncertainty distribution entered. This would be for the X-ray doses.

CHAIR GRIFFON: So, the first one is just a QA finding.

MR. FARVER: It is just a QA finding.

CHAIR GRIFFON: There is no further action.

MR. FARVER: No further action.

CHAIR GRIFFON: Okay. That is closed.

MR. SIEBERT: And, Mark, just so you know, the rest of them in the 9th set are all Y-12, to save you a little trouble.

CHAIR GRIFFON: Oh, thank you.

MR. FARVER: And I know this will come as a surprise for 215.1. It is Y-12, and there is a question about neutron doses being assigned. You know, does the employee work where there are neutron doses?

CHAIR GRIFFON: Right.

MR. FARVER: This is our standard one.

CHAIR GRIFFON: Location really, right?

MR. FARVER: Yes.

CHAIR GRIFFON: Yes. I mean, where does this one stand?

MR. FARVER: Well, I have not had a chance to --

CHAIR GRIFFON: We do have a June 2012 --

MR. FARVER: -- evaluate the latest.

CHAIR GRIFFON: Okay.

MR. FARVER: So, I am going to pass that off to my buddy Ron. So, we are going to look at this one.

CHAIR GRIFFON: Okay. So, it's in your court.

MR. FARVER: Our court.

CHAIR GRIFFON: That is 215.1. SC&A will follow up.

And then there are some observations.

MR. FARVER: The first one just repeats some of what was identified in the Site Profile review: the lack of external monitoring data, inapplicable coworker data, and so forth.

CHAIR GRIFFON: Okay. I mean, I guess we can look at that. I wonder if we looked at that in the Y-12 SEC review.

MR. FARVER: In the where?

CHAIR GRIFFON: In the Y-12 SEC review. I wonder if we considered that question. It is a pretty broad question, lack of data.

MR. FARVER: Well, it is probably more specified in the --

CHAIR GRIFFON: Okay. Yes, yes.

MR. FARVER: -- Site Profile review that SC&A did.

CHAIR GRIFFON: I mean, there is no Y-12 Workgroup, is there?

MR. KATZ: No, there is not.

CHAIR GRIFFON: Initially, there was just one Workgroup that looked at Mallinckrodt, Y-12, and --

MR. KATZ: It wasn't a Workgroup. It was the Board.

CHAIR GRIFFON: Oh, it was the Board? Okay.

MR. KATZ: On Mallinckrodt?

CHAIR GRIFFON: Yes.

MR. KATZ: Mallinckrodt, the whole Board took on Mallinckrodt.

CHAIR GRIFFON: I remember we had a couple of meetings in NIOSH's offices, actually.

MR. KATZ: Okay, but that was --

CHAIR GRIFFON: Yes, I think it was this Subcommittee that kind of --

MR. KATZ: It might have been something like that, but --

CHAIR GRIFFON: Anyway.

MR. KATZ: That was before my --

CHAIR GRIFFON: Before your tenure, yes. They were actually having Workgroup meetings in NIOSH's offices at that point. Stu, were you --

MEMBER CLAWSON: That was the Larry Elliott time.

CHAIR GRIFFON: Yes, Larry Elliott was there.

MR. HINNEFELD: Larry would have been the Director.

CHAIR GRIFFON: Yes.

MR. HINNEFELD: Chances are I was around by the time Workgroups started meeting.

CHAIR GRIFFON: At any rate, something probably has to be done with the Y-12 findings that were non-SEC. You know, we had a whole matrix.

MR. KATZ: Who has that?

CHAIR GRIFFON: Probably -- SC&A certainly has it. Joe Fitzgerald I think was the point person.

MR. KATZ: Y-12, follow up with

Joe.

CHAIR GRIFFON: Yes.

MR. KATZ: That came out, Y-12 and Mallinckrodt were being dealt with together?

CHAIR GRIFFON: Yes, or one after the other, yes. Yes.

MR. HINNEFELD: I think they came up at the time of the addition of the Y-12 Class. When the Class was added, I believe there were still some Site Profile questions open.

CHAIR GRIFFON: Yes, yes.

MR. HINNEFELD: If that's what you are talking about.

CHAIR GRIFFON: Right. Like we put some aside.

MR. HINNEFELD: Yes.

MR. KATZ: Okay. So, let me follow up with Joe and get the matrix from him.

CHAIR GRIFFON: Yes, and the same

goes for Mallinckrodt, but it is not here. But the same goes for Mallinckrodt, I think, right?

MR. HINNEFELD: I don't recall and Mallinckrodt --

(Simultaneous speaking.)

CHAIR GRIFFON: There was no matrix with other issues, though?

MR. HINNEFELD: I don't recall any. I mean, we had a pretty -- there were certain years we decided that Mallinckrodt's data was not reliable. And so we didn't utilize that data. For other periods, a deficiency was the separated uranium progeny, you know, that you couldn't really -- you didn't have a good method for doing those, but there was a pretty robust set.

CHAIR GRIFFON: But didn't we always carve out that we could do external?

MR. HINNEFELD: Well, we have got a really complete set of external dosimetry from Mallinckrodt.

CHAIR GRIFFON: I may be wrong on that, yes.

MR. KATZ: John?

MR. STIVER: Yes?

MR. KATZ: For Y-12, would you please check with Joe and see about getting me a matrix on --

MR. STIVER: Yes. Okay.

CHAIR GRIFFON: I am not sure on Mallinckrodt.

MR. HINNEFELD: I'm not sure. I don't recall exactly. I do recall that on Y-12 there were Site Profile issues that were kind of put aside.

CHAIR GRIFFON: Alright. That's fine. So, what about Observation 2?

MR. FARVER: Observation 2. "NIOSH included acute doses with the chronic dose entry in the IREP tables."

Now, typically, all your internal doses in the IREP tables are chronic, I believe. But, in this case, some of them were

marked "acute". I don't think it makes any difference calculation-wise, IREP-wise, but --

MR. STIVER: The distribution might be different.

MR. SIEBERT: Wait a second. Let me take a look at that. I don't think that was necessarily the finding.

MR. STIVER: Entries 95 to 147 for prostates and 95 to 150.

MR. SIEBERT: Yes, the actual observation here seems to be saying, why are you combining acute intake doses with chronic intake doses?

MR. STIVER: Right.

MR. SIEBERT: And as Doug said at the beginning, all internal doses are applied as chronic doses because the dose is applied over time, whether it is an acute intake or a chronic intake. So, combining those two is no problem.

MR. STIVER: Yes. Okay. That makes sense. Intake is acute, the dose

accrual is chronic.

MR. SIEBERT: Right.

CHAIR GRIFFON: Right.

MR. SIEBERT: It's the difference between intake and the actual dose.

CHAIR GRIFFON: Dose, right.

MR. STIVER: Okay. That makes perfect sense.

CHAIR GRIFFON: Okay. So, I think that is withdrawn or no action. Okay.

To Observation 3.

MR. FARVER: Observation 3, really that explains it pretty good. Uranium lung burdens were less than the actual measured values in the calculations that were provided with the files. And then NIOSH provides their explanation.

So, we are asking, well, why didn't you consider the in vivo measurements to use for the lung burdens? You know, use the actual measurements instead of the projected lung burdens.

MR. STIVER: And their response, they are using the most limiting data, would be consistent with your approach.

MR. FARVER: Yes. Basically, they used the urinalysis. This provided a more realistic evaluation of the data, which it usually does.

CHAIR GRIFFON: Alright. So, that is no further action.

MR. FARVER: Now, Observation 4, 215.4, that is the difference in the CADW versions.

CHAIR GRIFFON: Okay. Yes.

MR. FARVER: And we see this with the different versions, things slightly change. So, this is just one of those, "Well, gee, we saw a change. Why is that?" And they give a good explanation.

MR. STIVER: Yes, the explanation is very detailed and direct to the point.

CHAIR GRIFFON: Yes. Well, the question, the doses are increased. Certain

organ doses increased. Does that warrant any look-back? Or it is not that significant, or what? You know, I see at the bottom --

MR. STIVER: Right.

CHAIR GRIFFON: -- of that response -- I mean, I don't know how big these doses are, either, but one says the dose is unchanged. Dose to kidneys and spleen increased.

MR. STIVER: Oh, there is decreased --

CHAIR GRIFFON: If they increased, what was the --

MR. STIVER: So, bone marrow and spleen --

CHAIR GRIFFON: Yes.

MR. STIVER: -- were the only two that would result in an increase. I guess, is that increase enough to justify a PER?

CHAIR GRIFFON: That is the question, yes, I'm asking.

MR. CALHOUN: Yes, any input on

that, Scott?

MR. SIEBERT: I don't off the top of my head.

CHAIR GRIFFON: I think we should close that question out.

MR. FARVER: I mean, when they change CADW versions, do they do a test on it to see what is changed, how much it's changed?

MR. CALHOUN: Potential impact?

MR. FARVER: This all goes back to V&V and checking out your workbooks.

CHAIR GRIFFON: Yes.

MR. SIEBERT: Okay. I have got it written down for us to check on that.

CHAIR GRIFFON: Okay. Yes.

MR. FARVER: Ready for 216.1?

CHAIR GRIFFON: Sure.

MR. FARVER: Okay. This is a finding you will see in many Y-12 cases. One of the things we look at on our checklist -- and it is Item A(2) -- is, is the data adequate for NIOSH to make a PoC

determination? You know, basically, we are looking at it to see is this scientifically-sound information that they can use.

And in this case, we say no. And for a lot of Y-12's we say no because they are pretty much limited for a certain time period that all they can do is medical doses. That is all they can assign.

And it is not their fault. I mean, that is just the way it is written, but we have got to say that is not adequate to make a PoC determination, if you are just looking at people's X-ray doses.

You know, there is a stipulation they can't use the internal data.

MR. STIVER: So, it is a limitation on how you can do a partial reconstruction.

MR. CALHOUN: It is the result of an SEC.

MR. STIVER: Yes, it is the result of an SEC. So, it is a conditional PoC.

Given this limited data, this is what we would have gotten.

MR. CALHOUN: Yes, the best we can do.

CHAIR GRIFFON: Okay. Yes. So there is nothing more than can be done, right?

MR. FARVER: Well, I don't know. I mean, is it appropriate that you just assign a PoC based on people's medical X-rays? Is that a scientifically-sound dose reconstruction?

MR. CALHOUN: Sure, if we don't have anything else. That is why we established the SEC.

CHAIR GRIFFON: This is a partial, yes.

MR. FARVER: The SEC says that you just can't do anything or the data is not adequate.

MR. HINNEFELD: I don't know what it says exactly, but --

MR. FARVER: But it is something

to that effect, that you are not allowed to even --

MR. HINNEFELD: Certain things are not feasible to reconstruct, and I don't know what they are in this case. So, certain things are not. If those are not, then what is the remainder is what we consider a scientifically credible dose reconstruction, or whatever term you use.

MR. FARVER: Partial dose reconstruction.

MR. HINNEFELD: What we can do within the confines of the program.

MR. STIVER: So, there is always going to be that issue of --

MR. FARVER: Always.

MR. STIVER: -- if there's a claim and it doesn't qualify for the SEC --

CHAIR GRIFFON: Policy for a while, yes. Yes.

MR. STIVER: Or they may get a lower dose as a result of that, if they don't

have a qualifying cancer. You know, it happens sometimes.

MR. FARVER: You can't bound in any way --

MR. CALHOUN: If we could bound it, it wouldn't be an SEC.

MR. FARVER: This is well-established --

MR. STIVER: Well, I understand that.

CHAIR GRIFFON: Yes.

MR. STIVER: And we also have this criteria that we are supposed to look at when we review these.

MR. KATZ: But you only apply it to the parts of the dose that can be reconstructed. You can't apply it to the parts of the dose that have been determined to be not reconstructable.

So, your question is, is the science valid for the doses that you can reconstruct, not is the science valid for

doses you can't.

MR. FARVER: No, it is, is the data adequate for NIOSH to make a PoC determination, an adequate PoC determination?

MR. KATZ: Yes, but the PoC determination is only made for the doses that could be reconstructed. So, that's the limitation.

MR. HINNEFELD: I would propose that that question has meaning only in the case where an SEC has not been added. Once an SEC has been added, there is a foregone conclusion that the data is not adequate to make a PoC determination.

MR. KATZ: It applies in a limited fashion still for the doses that can be reconstructed because, I mean, that still matters for that claimant. But it only matters --

MR. STIVER: You have to look at it within the framework of the SEC and the policy that is in place. If there is an SEC

and you have a guy with a prostate cancer, he is in that period, he doesn't qualify or doesn't qualify for the 250-day, you just have to look at a subset of what exposures are applicable, and then make a determination on that basis.

You can't look at, well, if you did include all these other things, this would have been a higher PoC. You can't even look at that. It is off the table at that point.

CHAIR GRIFFON: Right, it's a policy call.

MR. FARVER: I understand it is a policy call. I understand that part. It is a policy call, it's what it is.

CHAIR GRIFFON: Right.

MR. FARVER: But I can look at these and I can say that I don't think that the data was adequate or sufficient to make a PoC.

MR. KATZ: Again, it is for the doses that you are covering. So, from here

forward, that is how you handle it. It is appropriate for the doses you are covering. That's the question. You don't apply the question to the doses that aren't being covered.

That is just the way it is. I don't want to continue the discussion, but that is the way it is.

CHAIR GRIFFON: Right, right. Yes.

MR. KATZ: You apply to the doses that are eligible to be reconstructed, and that's it.

MR. STIVER: And if those doses are only medical doses, so be it, that is what we look at.

MR. KATZ: Right.

MR. FARVER: We may look at changing our criteria A(2) then.

MR. KATZ: Let's move on.

CHAIR GRIFFON: Yes, yes.

MR. FARVER: Okay. The same thing

for 17.1.

MR. STIVER: Maybe we don't need to change the criteria, just acknowledge that in this situation, a limited, partial reconstruction, we look at only these particular sources of exposure.

MEMBER CLAWSON: When we did these, did we have the SEC for Y-12?

CHAIR GRIFFON: Yes, I think they did, yes.

MR. FARVER: Otherwise, it wouldn't have a partial.

CHAIR GRIFFON: Like Ted said, let's move on, off of this.

MR. STIVER: Okay. Where are we now?

MR. FARVER: 218.1. This is another one where we believe the employee should have been assigned neutron doses.

CHAIR GRIFFON: Wait. Did we do 217.1?

MR. FARVER: 217.1 is the same as

216.1.

CHAIR GRIFFON: Oh, they are the same?

MR. FARVER: Yes.

CHAIR GRIFFON: Okay.

MR. STIVER: We are going to get to 218 here in just a second. Okay. We are on 218, Y-12 and K-25, prostate and skin. And let's see, anything further here?

MR. FARVER: You could read through the yellow section on our response. We have a general disagreement on how they interpret the Report 33. But in this case, based on the employee's department information, we concur with their response, but not because we would agree with how they interpret the Y-12 neutron report. This is another ongoing finding.

CHAIR GRIFFON: Yes.

MEMBER KOTELCHUCK: If we ever wanted, in some statistical testing in the future, if we ever wanted to go back and look

at PoCs that have been done, would we have any idea that this was a partial reconstruction? Well, you have the date, I guess. But the PoCs are not designated, like, partial reconstruction PoC? They are just what they are? So, they wouldn't be useful probably if there was any statistical --

MR. KATZ: You would want to leave those ones out, right, the partials out?

MEMBER KOTELCHUCK: That is what you would want to do.

MR. KATZ: Yes.

MEMBER KOTELCHUCK: Yes. Okay.

CHAIR GRIFFON: So, this, the broader issue, where is that captured? That is my only question here. I think it's closed for this case, 218.1, but is the broader -- you say that is an ongoing issue.

MR. STIVER: That is an ongoing one that we will report again.

CHAIR GRIFFON: But, for Y-12, I mean, I think --

MR. STIVER: For Y-12 --

CHAIR GRIFFON: But we don't know if we even have a matrix for Y-12.

MR. KATZ: Well, we are going to dig that up.

CHAIR GRIFFON: Okay.

MR. KATZ: Yes.

CHAIR GRIFFON: So, maybe just add that onto the question for Joe. If we find this Y-12 TBD matrix, this issue should be on it, right?

MR. KATZ: It should be on it or, anyway, it should be referred to the Workgroup that we established.

CHAIR GRIFFON: That we established, yes.

(Laughter.)

Yes, the future one. Okay. So, closed, but Workgroup issue.

MR. KATZ: Yes, refer issue to Workgroup.

CHAIR GRIFFON: For future

Workgroup.

MR. KATZ: Yes.

CHAIR GRIFFON: All right. 218.2.

MR. FARVER: Incorrect organ dose values used for 1976 and 1984. Agreed the organ doses that is used for the skin of the hand were entered wrong in the IREP sheet.

CHAIR GRIFFON: I understand your "however" part, but what do you mean steps should be taken?

MR. FARVER: Well --

CHAIR GRIFFON: I think we have taken those steps, right? Yes, they are taking some of them, I suppose.

MR. FARVER: It is my standard thing about --

CHAIR GRIFFON: Yes.

MR. FARVER: -- how you are going to prevent it in the future.

CHAIR GRIFFON: Right. Okay. So, it is QA and it's closed, I think, right?

MR. FARVER: Sure.

MEMBER CLAWSON: I think we have tried, and NIOSH, too -- these are kind of some old ones, aren't they?

MR. FARVER: Yes, these are still old ones.

MEMBER CLAWSON: Yes.

MR. STIVER: Go back to that previous one about Report 33. I mean, I was wondering how many revisions of Report 33 have taken place since this finding came out. You said that is still an ongoing issue.

MEMBER CLAWSON: It is. It has to do with how you interpret zeroes and blanks.

MR. STIVER: Right. But I wonder if that might have been addressed in a more recent version --

CHAIR GRIFFON: In a more recent version.

MR. STIVER: -- of Report 33. Let's take a look here.

CHAIR GRIFFON: You can follow up on that, yes.

MR. STIVER: Yes, I can follow up on it.

CHAIR GRIFFON: Okay. Where are we at? 218, Observation? Observation 1.

MR. FARVER: Observation 1 looks like a regurgitation of something that was in our review of the Site Profile about the lack of external monitoring data for the applicable site --

CHAIR GRIFFON: Right.

MR. FARVER: -- for coworker data.

CHAIR GRIFFON: Which we already brought up the Workgroup question, right?

MR. FARVER: Yes.

CHAIR GRIFFON: 218, Observation 2.

MR. FARVER: Two, another Site Profile issue about the beta dose to hands.

CHAIR GRIFFON: So, we are going to check these, whether they are --

MR. STIVER: Yes, these are being checked out.

CHAIR GRIFFON: Okay.

MR. FARVER: 218, 3. Similar on issues with the K-25 Site Profile about tech-99 beta dose, and the calibration of K-25.

CHAIR GRIFFON: Well, we do have a K-25 Workgroup, right?

MR. STIVER: Yes, we do. It is another Fitzgerald.

CHAIR GRIFFON: Yes.

MR. STIVER: And I believe there were three matrix items that were discussed at the last meeting. I can follow up on that.

CHAIR GRIFFON: Okay. 218, Observation 3, give to the K-25 Workgroup.

And Observation 4, let's look at it. So, this is a question of the tech-99 coworker data, right?

MR. STIVER: Yes.

CHAIR GRIFFON: Coworker model, coworker data, I would imagine.

Is TIB-19 a K-25-specific coworker

model or is it --

MR. FARVER: No, that is a general just how to handle coworker bioassay data.

CHAIR GRIFFON: Oh, yes, okay.

MR. FARVER: I don't really know.

CHAIR GRIFFON: Yes. I mean, if there is a question on this coworker model, I don't know if this is being examined by the --

MR. FARVER: Do you want us to look some more at this one and find out what it is?

CHAIR GRIFFON: Yes, yes, yes.

MR. STIVER: Okay. I will go ahead and take that as an action.

CHAIR GRIFFON: And it is the last one, right?

MR. STIVER: Yes.

CHAIR GRIFFON: I think we are going to be able to work later because David's plane is not going to --

MR. KATZ: Because no plane is leaving.

(Laughter.)

David is spending the night.

MEMBER KOTELCHUCK: If it's just snowing, if it stays a little cooler and just keeps snowing, it is not a problem. It is only when it turns to rain.

CHAIR GRIFFON: Yes.

MR. FARVER: Well, that is what it was supposed to do.

MEMBER KOTELCHUCK: Yes, that is what it was supposed to do, but this looks like it's doing the opposite, and it is two hours --

CHAIR GRIFFON: Okay. I propose we take a five-minute break, and then, we will figure out if we can go on to the other ones, the other sets.

I just want to get a sidebar and see what we think is ready. But let's take five, just a stretch break.

MR. KATZ: Okay. Take five, on the phone.

(Whereupon, the foregoing matter went off the record at 3:54 p.m. and went back on the record at 4:06 p.m.)

MR. KATZ: So, we're back, Dose Reconstruction Subcommittee.

David and Wanda, we were checking calendars during the break for the next meeting, because we have a lot of homework that has already been done on Sets 10 through 13, the Savannah River, Rocky Flats, Los Alamos. We are going to try to get to a little bit of that this afternoon, but there will be plenty left. And then we will try to add to that as well, but just to continue making progress here.

So, we are looking at fairly soon another meeting, and the dates we have as possibilities are March 25th, which is a Monday, or the 28th. So, can you let us know? Or can you check your calendars now and see if either of those work for you?

MEMBER MUNN: I will have to go

get my Board calendar. I don't have it on my desk.

MR. KATZ: Okay.

MEMBER MUNN: I will let you know as soon as I can.

MEMBER RICHARDSON: Either of those are okay for me.

MR. KATZ: Okay. Good.

MEMBER MUNN: I think they will be for me, too, but I need to check.

MEMBER RICHARDSON: Could you repeat the dates once more, March 25 --

MR. KATZ: Yes, March 25th, which is a Monday, or the 28th.

MEMBER RICHARDSON: All right.

MR. KATZ: And then we will have to check with Poston.

Okay. Well, we can carry on now. And then, Wanda, just let us know during this meeting if you have a problem with one of those days.

MEMBER MUNN: Yes. Okay.

CHAIR GRIFFON: Okay. So, in the meantime, we are pulling up -- I have a matrix or a document called "SC&A Responses 10 through 13, SRS Findings, August 6th, 2012". That is when I updated it last, and I am sure I circulated it.

(Simultaneous speaking)

MR. CALHOUN: I've just got June's. My says June 2012.

CHAIR GRIFFON: Do you have it easily that you can --

MR. KATZ: I can't get into the system with this computer.

CHAIR GRIFFON: Oh.

MEMBER MUNN: I can do the 25th or the 28th.

MR. KATZ: Okay. I think you wanted to say either works? Okay. Then, I think we are going to go with the 25th, right? Isn't that better for you, Mark, the 25th?

CHAIR GRIFFON: Yes. Yes, the Monday.

MR. KATZ: Okay. So plan on March 25th, then.

CHAIR GRIFFON: Alright. And if I send this to, let's see -- is there a way -- I don't have everybody on my list, Ted. Is there a way I can --

MR. KATZ: Just send it to Stu. Stu can forward it to Grady.

CHAIR GRIFFON: Okay.

MR. HINNEFELD: Yes, if you send it to me, I will forward it.

CHAIR GRIFFON: Stu can send it. Okay.

MR. KATZ: But everyone else should have gotten it because I would have sent it to everybody, unless you just updated your own and didn't send it to me.

CHAIR GRIFFON: I mean, I usually do this pretty --

MR. KATZ: Yes.

CHAIR GRIFFON: Yes.

MR. FARVER: I don't know that we

have received one, unless you sent one out recently.

MR. KATZ: I didn't send it recently. I send it right after I get it from Mark. So, it's not recently.

MR. FARVER: Okay. Did you send one for the Savannah River ones?

MR. KATZ: I sent out Mark's matrix after he sent it to me.

MR. FARVER: Right.

MR. KATZ: Whenever he sent it to me --

MR. FARVER: Did he send you one for Savannah River findings?

MEMBER KOTELCHUCK: Yes, he did, and he did it on August 7th.

CHAIR GRIFFON: It would have been right after the meeting.

MEMBER KOTELCHUCK: I have it on August 7th.

MR. KATZ: August 7th. Oh, if you have it, everyone else got it then.

MEMBER KOTELCHUCK: Yes.

MR. CALHOUN: The 7th.

MR. FARVER: I couldn't find it, but that doesn't mean I didn't get it.

MR. CALHOUN: January 7th?

MR. KATZ: August 7th.

CHAIR GRIFFON: The meeting was August 6th. So, it was sent out right after.

MR. STIVER: Okay. We've got the August 6th version. So, could you send me the August 7th version, please?

MEMBER KOTELCHUCK: You know what? I didn't have my government computer, and you just sent them to me at Hunter. That is what it is. So, he just sent me special a date late.

MR. KATZ: Yes, the same version, right.

CHAIR GRIFFON: Stu, I just sent it to you.

MR. HINNEFELD: Okay.

CHAIR GRIFFON: If anybody else

needs it, could you forward it to them? I don't know who.

(Simultaneous speaking.)

CHAIR GRIFFON: And once you have it, we are on page 13. I think we did some work up to that point. So, we are on Case No. 278.1, or Finding No. 278.1.

MR. KATZ: Mark, do you want to start at 8:30 next time or is nine o'clock better for you?

CHAIR GRIFFON: Better start at 9:00. I might catch a Monday morning flight again.

MEMBER MUNN: An epiphany. Welcome to my world.

(Laughter.)

MR. KATZ: One for Wanda.

MEMBER MUNN: Yes.

CHAIR GRIFFON: Wanda likes the 7:00 Eastern Time starts.

MR. FARVER: 278.1, here we are.

CHAIR GRIFFON: Yes.

MR. FARVER: Okay. Oh, Okay. "Improperly converted recorded photon dose to organ dose."

This is the max/min DCFs used in the EDCW workbook, which has already been addressed by the Subcommittee earlier and corrected.

CHAIR GRIFFON: So, it is a QA problem, but it has been corrected?

MR. FARVER: It is not even a QA problem. It was just a workbook thing where they were using -- gosh, what was that?

MR. SIEBERT: We are using the maximum of all geometry and the minimum of all geometry, if I remember correctly. And then, once we realized we should be using the maximum/minimum of AP, we changed it.

MR. FARVER: Right.

CHAIR GRIFFON: Oh, yes.

MR. FARVER: That's it.

CHAIR GRIFFON: Okay. So, I think that's closed.

MR. FARVER: Yes.

CHAIR GRIFFON: I mean, we can close it.

MR. FARVER: Yes. I mean, it was a workbook thing that got corrected in the workbook, I believe. Yes.

278.2 is the same issue for missed photon dose to organ dose. The same workbook, the same issue, the same correction. So we can close that one.

CHAIR GRIFFON: And for both of these, just refresh my memory, but it wouldn't impact older cases, right? Is there any evaluation to see the impact on previous cases?

MR. FARVER: That I don't know if it led to a PER or anything.

MR. SIEBERT: Yes, there was a PER involved.

MR. FARVER: Well, okay. So, that's a yes.

CHAIR GRIFFON: You don't happen

to know the PERs for those two?

MR. CALHOUN: I could probably -- 278, is that the case number?

CHAIR GRIFFON: Yes.

MR. FARVER: Yes.

MR. CALHOUN: Okay. Let me look. I might be able to see.

CHAIR GRIFFON: Okay. For 278.1 and .2, for those. All right. Go ahead on while he's looking for that.

MR. FARVER: Okay. Oh, 278.3. "Failed to properly account for all missed photon doses."

This was our standard Savannah River Site LOD-over-2 issue. It was a workbook that got corrected and has already been taken care of. So, we can close that one.

CHAIR GRIFFON: Okay. And I would have the same question, you know, that you are looking for PERs associated with this, if any.

MR. CALHOUN: It's not listed.

CHAIR GRIFFON: Yes.

MR. CALHOUN: What is the topic of the PER?

CHAIR GRIFFON: Well, the first two are --

MR. FARVER: Oh, gosh.

CHAIR GRIFFON: -- photon to organ dose.

MR. CALHOUN: I am going to have to look because I can't -- I don't think I can find that quickly. I will keep trying.

CHAIR GRIFFON: Alright. Fine.

MR. FARVER: And the second concern was the issue -- remember, if it's less than LOD over 2 you would treat it as a missed dose? Is that how it was, instead of putting the actual number in?

CHAIR GRIFFON: Yes.

MR. FARVER: Right? There was that concern.

CHAIR GRIFFON: Yes. Okay.

MR. FARVER: 278.4. "Failed to

address an incident reported in the CATI report."

"There was an inaccurate statement in the DR that no incidents were listed in the record. Should have stated that no incidents were considered, since the claim was already above 50 percent."

Fine. This is our same CATI one that we've talked about before, previously discussed. We suggest closing this finding.

CHAIR GRIFFON: Right. And, yes, this has been corrected, but it was a QA question earlier.

MR. FARVER: Yes.

CHAIR GRIFFON: Not even a QA really, I guess. But it has been corrected?

MR. FARVER: Right. This was back in a 2004 case or so.

CHAIR GRIFFON: Yes.

MR. FARVER: Ancient.

CHAIR GRIFFON: Okay.

MR. FARVER: Observation 1 with

278 is the same one from our Site Profile review about the two-element and multi-element film dosimeters may underestimate dose by 25 to 40 percent.

CHAIR GRIFFON: Did this go to the SRS Site Profile? I mean, I think, right?

MR. CALHOUN: This is an SRS TBD PER. It is PER-30. That is the driver here.

CHAIR GRIFFON: Yes, for those first ones we were talking about?

MR. CALHOUN: Yes.

CHAIR GRIFFON: Okay.

MR. CALHOUN: 2007.

CHAIR GRIFFON: All right.

MR. CALHOUN: December.

CHAIR GRIFFON: So, back to Observation 1, then, did we say this is a Site Profile --

MR. CALHOUN: It was a Site Profile one. It was identified in the Site Profile review.

CHAIR GRIFFON: And sent to the

Workgroup, right?

MR. CALHOUN: Yes.

CHAIR GRIFFON: Okay.

MR. FARVER: 278, Observation 2 just points out that the same findings we had, three findings we had for the photon doses above also apply to the neutron doses, but we didn't write them up as findings because they have already been corrected.

No. They have not been corrected at the time of the report, but we just didn't write them up again. These were standard ones that we were writing up every single time we did the Savannah River Site case.

CHAIR GRIFFON: Right.

MR. FARVER: We would write them up for photons. We would write them up for neutrons.

CHAIR GRIFFON: Right, right.

MR. FARVER: It got to the point where we were just writing up findings and we were already talking about these in

Subcommittee. So, by the time this case came around, we said, "Well, let's just not write up all these extra doses for neutrons. We'll just point out that the same ones would apply and they are going to get corrected the same way," which they did.

MEMBER CLAWSON: That's also why these are observations, isn't it?

MR. FARVER: Yes, we didn't make them findings just because we didn't want to keep going over this.

CHAIR GRIFFON: Okay.

MR. FARVER: Observation 3 has to do with another SRS TBD concern that was identified over the limited data that was used for the interpretation, and the interpretation of such data for defining location-specific neutron-to-photon ratios. Remember the neutron-to-photon ratios we talked about earlier for Savannah River? The same thing, but that's contained in the Site Profile review. So, that is a Workgroup issue.

CHAIR GRIFFON: Okay. So, to the Savannah River Workgroup. Okay.

And 279.1.

MR. FARVER: 279.1. "NIOSH did not account for all the missed tritium dose."

Okay. They assessed it based on all the results, assuming that everything was less than 1 microcurie per liter, but it was not the case. They should have actually used the data because some years the detection limit was above 1 microcurie per liter.

MEMBER CLAWSON: Is this an SRS?

MR. FARVER: SRS, yes. Anyway, I didn't close this one.

CHAIR GRIFFON: Which one was that? I'm sorry.

MR. FARVER: 279.1. Because, had we used the actual results, it would come up with a little lower dose.

CHAIR GRIFFON: Okay.

MR. FARVER: But that's not why they did it. They did it because it was a

mistake.

CHAIR GRIFFON: Right. So, it is a QA --

MR. FARVER: It is a QA issue.

CHAIR GRIFFON: -- finding, right, but closed, anyway?

MR. FARVER: Yes.

CHAIR GRIFFON: Alright.

MR. FARVER: 280.1. "NIOSH did not use the appropriate procedure for determining photon dose."

They give an explanation about -- it has to do with the energy range used. The DR applied a 30-to-250, 100 percent, and this differs from what is in the TBD, Table 5.3.4.1-1. That gives a different energy distribution.

CHAIR GRIFFON: Okay. So, this is a QA type of finding, but closed?

MR. SIEBERT: No, this is actually an overestimation finding. The dose reconstructors used 30-to-250 keV as an

overestimating assumption rather than using a split, which would lower the PFC. Now, I will agree, probably they should have stated in the Dose Reconstruction Report --

CHAIR GRIFFON: Oh, okay. Yes.

MR. SIEBERT: -- that they did.

MR. FARVER: If it is an overestimate, they should probably state that. Then, it differs from the one in the TBD.

MR. CALHOUN: And that is 2004, too.

CHAIR GRIFFON: Yes.

MR. FARVER: Yes, it has been a while.

CHAIR GRIFFON: Okay. I was just reading that you, in your response, said that it should have been caught during one of the peer reviews.

MR. FARVER: Well, it should have been caught, then if they are going to use an overestimate, they should say that.

CHAIR GRIFFON: Yes.

MR. FARVER: It was not the same one as in the TBD.

CHAIR GRIFFON: Right.

MEMBER RICHARDSON: So, how do you know in this case whether it is an error or whether this person -- I mean, that it happens to be an error versus it was just done wrong.

MR. FARVER: Let me ask Scott.

MR. SIEBERT: Well, that I can tell you because I know that we used that as an overestimated assumption quite frequently. So, the fact that it was run that way, there is no doubt in my mind that it was an overestimating assumption and just was not written up.

MEMBER RICHARDSON: As opposed to being just kind of force of habit and the person has gotten used to putting a value in and did it erroneously when they weren't even thinking that?

MR. SIEBERT: No, it is not an error. It is an overestimate. The error

comes from it was not explained in the Dose Reconstruction Report.

MR. FARVER: I think in this case it probably was an overestimate that they got used to using. I think sometimes it is difficult to tell if it is an estimating tool or if it is an error. But in this case I think it probably is just an overestimate tool that they just didn't explain.

MEMBER RICHARDSON: Is it documented in the table, the value that you had expected to be there was documented in a table?

MR. FARVER: No. No. The table expects a 50 percent split between 30 to 250 keV and greater than 250 keV photons. So, you are expecting two different distributions.

What they did is they assigned it all as 30 to 250 keV. They assigned 100 percent instead of splitting it. So, it was not what we expected to see when we go to the TBD and look at the table of energy

distributions. And that is why we wrote it up as a finding.

MR. SIEBERT: Right. And we agree that the dose reconstructors should have put that information in the dose reconstruction write-up.

CHAIR GRIFFON: Okay. I don't know how much more we can do with this one.

MEMBER CLAWSON: It was about eight-and-a-half years ago.

CHAIR GRIFFON: Yes.

MR. STIVER: I guess the issue is if you are going to deviate a given procedure just to say so somewhere in the report.

CHAIR GRIFFON: Well, it sounds like that was the norm for overestimating, right?

MR. HINNEFELD: Yes, it is. It is very common to use that.

MEMBER CLAWSON: This is one of the things where you came back to show your work of why you did what you did. Is that --

MR. FARVER: Yes. I mean, I don't mind him doing it as an overestimate. The thing is, it was different than what was in the TBD and there was no explanation.

CHAIR GRIFFON: Right, right.

MR. FARVER: And we will see that again in the next finding. 280.2 did not use the appropriate procedure for the assignment of shallow dose. Instead of assigning it to less-than-30 keV photons, they assigned it to 20 keV photons.

MEMBER KOTELCHUCK: No, I think you mean they listed it as less than 30 when it was, in fact, 17 from plutonium. And you were saying that they ought to accept it, get ahead of the game. You wanted them to say 20 keV instead of less than 30 because it's identified as a plutonium exposure, which is fine.

MR. SIEBERT: However, IREP only takes the binning of less-than-30 keV, 30 to 250 keV, and over 250 keV.

MEMBER KOTELCHUCK: Right.

MR. SIEBERT: So, that is why we used that binning process and --

MEMBER KOTELCHUCK: Sure.

CHAIR GRIFFON: But you didn't recommend closing here?

MR. FARVER: No.

CHAIR GRIFFON: I mean, you didn't come to agreement here?

MR. FARVER: No, because there is a table --

CHAIR GRIFFON: Right.

MR. STIVER: There is a table in the Dose Reconstruction Report. They should have labeled it 20 as opposed to less than 30.

MR. FARVER: Okay. I believe what happened is they used the dose conversion factor for 20 keV, and it was labeled less-than-30 keV. So, I am looking for a less-than-30-keV dose conversion factor. But the one they have there is different.

MR. STIVER: The one they have is

for 20.

MR. FARVER: But it is labeled less-than-30.

MR. STIVER: Right. So, it was a matter of just using the proper heading.

MR. FARVER: Because if you go back and look at what is suggested there on the far right, they suggest you go to the TBD and that guidance concerning the use of the 20-keV dose conversion factor for plutonium facilities, because that is not talked about in the TBD.

MEMBER KOTELCHUCK: Is this kind of an isolated incident or is this kind of a mistake?

MR. FARVER: It is something they pull out of Table 4.1(a) out of OCAS-IG-001.

MR. SIEBERT: There is no mistake. When we are using low-energy exposure and we determine it's from plutonium, we use the DCFs that are from OCAS-IG-001 which are specifically for low-energy photons from

plutonium versus the generic less-than-30-keV photon DCF.

MR. FARVER: I understand, but I'm not --

MR. SIEBERT: I just pointing out -- the question was asked, is this is error? -- and I am just pointing out that it is not an error.

MR. FARVER: No, it is not.

MR. SIEBERT: But what Doug is saying, and it should be clarified that it is not the normal less-than-30 keV --

MR. FARVER: Right.

MR. SIEBERT: -- although you need to mark it as less-than-30-keV in IREP because that is the only bin that is acceptable, and it seems obvious to me that 20 keV is less than 30 keV.

MR. FARVER: No, no, I think the confusion was, when we looked at the dose reconstruction and the table of parameters, there's your dose DCF for less-than-30 keV,

but it is not really the less-than-30 keV, it is the 20-keV dose conversion factor. Okay?

MR. STIVER: It is true, but Scott has a good point that in the IREP input there isn't --

MR. FARVER: Oh, I understand that, but I am just saying, when we are going to these DRs and looking up their parameters, we are looking for a less-than-30 keV dose conversion factor. Okay?

MR. STIVER: That is something that should be, well, it should be spelled in the Dose Reconstruction Report.

MR. FARVER: And really, I wasn't even aware of the IG-001 Table 4.1(a) until Scott pointed it out earlier, and we went and looked it up. And that's okay because that talks about lower-energy photons for plutonium facilities.

But that information, or neither a reference to that, is contained in the Savannah River document. So, you might put

some connection between the two, saying for plutonium facilities you may want to use the lower-energy DCFs of IG-001.

MR. SIEBERT: Yes, and I agree. I believe when we are updating the Savannah River TBD, we are going to be putting something of this sort in there. It was written before OCAS-IG-001 was updated. It's an old TBD.

MR. FARVER: Well, yes, it is. But, I mean, that was the suggestion. It was just to make a connection in the TBD between the two, so that it doesn't come up again. It's not that what you did was wrong.

CHAIR GRIFFON: Yes. So, we will close it out, and they will consider updating the TBD.

MR. FARVER: Sure. Right.

CHAIR GRIFFON: That's fine.

MEMBER CLAWSON: Will that go to the Workgroup? Savannah River?

CHAIR GRIFFON: Well, I think it

is just NIOSH will consider updating the TBD.

MR. FARVER: This is an implementation guide.

CHAIR GRIFFON: Yes.

280.3.

MR. FARVER: 280.3 did not appropriately account for all the missed tritium dose.

CHAIR GRIFFON: I don't think this is legal here. You referred us to a finding ahead.

MR. FARVER: Yes, I referred you on down the road, which probably just loops back.

(Laughter.)

CHAIR GRIFFON: And I am sure you said refer us to 280.3 on that one.

MR. FARVER: It's an endless loop that will keep us here for hours.

CHAIR GRIFFON: Yes.

MR. SIEBERT: This goes back to the Savannah River TBD, the values that were

put in place for tritium at the time were based on the reporting values for tritium, not necessarily the detection values for tritium.

Once we use the actual detection values that are in the case itself or the tritium values that you see, they're at 1 microcurie per liter versus the reporting level that may have been at 5 or 10 microcuries per liter, depending on the timeframe. And we agree that the Savannah River TBD is going to be updated to reflect that. And we do have this information in the DR guidance document for Savannah River, and have had it in there for quite a while.

MR. FARVER: Okay. So, all it comes down is --

CHAIR GRIFFON: Updating the TBD.

MR. FARVER: -- when you update the TBD, add the correction information, that's all.

MR. SIEBERT: Correct.

CHAIR GRIFFON: So that's closed,

and NIOSH will update the TBD.

MR. FARVER: And now we go back.

CHAIR GRIFFON: Alright.

MR. FARVER: 280, Observation 1.

DOE record for this case included program of PER, individual case Evaluation Report, and the guidelines in OCAS-PER-12. So, this DR may not be affected by the presence of Super S plutonium, although not for the reasons given by NIOSH in their PER report. They are looking into it.

CHAIR GRIFFON: Okay.

MR. FARVER: And I think it has to do with just a justification that was in the letter, the PER letters or the ICE letters. It didn't match up with what was really done.

CHAIR GRIFFON: Oh, okay. Okay.

MR. FARVER: Not that it would have changed anything. It just was not the same.

CHAIR GRIFFON: And this one isn't any more serious because the response is in

green. But I shouldn't take that as --

(Laughter.)

I am just kidding.

NIOSH's response is in like a green font on my computer.

MR. SIEBERT: No, I believe that is just text.

CHAIR GRIFFON: Okay. Alright. So, that is still NIOSH is going to follow up on that one.

And let's see. I'm going to propose that we knock it off there.

MR. FARVER: Okay.

CHAIR GRIFFON: Has everybody had enough? Grady has had enough.

MR. CALHOUN: Absolutely.

(Laughter.)

CHAIR GRIFFON: For those on the phone, I will send updates of the matrices soon because. Because if I don't do it soon, I won't do it.

MR. KATZ: Good. Send them to me,

and I will forward them on.

CHAIR GRIFFON: Right. We will get those out soon.

And we are on for March 25th, unless we hear otherwise.

MR. KATZ: Yes, and I am posting the note.

CHAIR GRIFFON: Yes. Okay.

MEMBER MUNN: The weather will improve by then.

MR. KATZ: Right. That will get the spring blizzard.

CHAIR GRIFFON: And with that, I think we are adjourned.

(Whereupon, at 4:39 p.m., the meeting in the above-entitled matter was adjourned.)