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

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ADVISORY BOARD ON RADIATION AND
WORKER HEALTH

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SUBCOMMITTEE ON PROCEDURES REVIEW

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MONDAY
MAY 16, 2016

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The Subcommittee convened telephonically, at 11:00 a.m., Wanda I. Munn, Chair, presiding.

PRESENT:

WANDA I. MUNN, Chair
JOSIE BEACH, Member
PAUL L. ZIEMER, Member

ALSO PRESENT:

TED KATZ, Designated Federal Official
BOB BARTON, SC&A
HANS BEHLING, SC&A
KATHY BEHLING, SC&A
LIZ BRACKETT, ORAU Team
RON BUCHANAN, SC&A
DOUG FARVER, SC&A
ROSE GOGLIOTTI, SC&A
STU HINNEFELD, DCAS
JENNY LIN, HHS
JOYCE LIPSZTEIN, SC&A
LORI MARION-MOSS, DCAS
JOHN MAURO, SC&A
DAN MCKEEL
JIM NETON, DCAS
MUTTY SHARFI, ORAU Team
MATT SMITH, ORAU Team
ELYSE THOMAS, ORAU Team

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(11:00 a.m.)

WELCOME AND ROLL CALL

MR. KATZ: Let me begin with first matter of the agenda for the Board meeting for this teleconference. Subcommittee conferences is on the NIOSH website under the Board section, scheduled meetings, today's date.

If someone wants to follow along with the agenda, they can follow along with it there. I don't know if we'll --- we may have some deviations in the agenda. We always do. But that's a basic plan.

Next thing, about roll call, so we have all three of our Board Members, which means we have a quorum, which is great. And let me just note, take care of it for everybody, myself. Wait, Josie, we have you on the line, right.

MEMBER BEACH: Yes, you do.

MR. KATZ: Yes. Okay. So conflict of interest, if there are, and I don't know that there are any, but if there were any Hanford items today,

for those, Wanda and Josie, would recuse themselves.

And if there were any X-10 or LANL in the late years' items, Dr. Ziemer, Paul would recuse himself from those. I don't believe there are, but just in case. So let's be aware of those. And let's do roll call for everyone else. So let's go to the NIOSH/ORAU team.

(Roll Call)

MR. KATZ: And, Wanda, it's your agenda.

(Off the record comments about telephonic interference)

CHAIR MUNN: Let me assure you, that wasn't Wanda.

MR. KATZ: No, no. I know. I don't know. It came of first when Joyce --- but I don't know that it was Joyce's phone or just coincidence.

CHAIR MUNN: Well, we'll just have to say for the moment, Joyce, she's going to have to bite the bullet. We think it might be that phone. But for the time being, we're good to go.

And our first item on our agenda, I assume everyone has the agenda. If not, please say so. Because I do intend to follow it unless we have requests to change, which I have had none, and have had no additions since this agenda was put together for our February meeting.

So although some things have changed since them, and I trust that everybody has received the note from Kathy Behling indicating the items that were specifically placed on the O: drive for us to --

MEMBER BEACH: Wanda, sorry for cutting in, but you're fading a little bit.

CHAIR MUNN: I hope it's not my phone. I hope it's just me.

MR. KATZ: Yes. I think it's just you, Wanda.

CHAIR MUNN: Well, that seems to be the story of my life. She's fading fast. But we'll try to do better. I'm assuming that we all received ---

MEMBER ZIEMER: Wanda, could I also

interrupt just very briefly?

CHAIR MUNN: Yes ---

MEMBER ZIEMER: In terms of the documents that were put online, I just want you to know that I currently don't have access to the NIOSH website.

I've been working with ITSO for the past week trying to get this laptop back up. There's some problem with the Citrix entry gateway that is being updated or has been updated. And I've not been able to get it updated on my computer. So I can't get into the website on my NIOSH laptop. So I don't have access to those documents.

CHAIR MUNN: Thank you for letting us know. I'm know that Kathy stays on top of this pretty well. And my guess is that when we come to address those, they'll probably, although you won't be able to see the screen, they'll be --- we'll describe it for you, I trust. Let's hope. We'll try to keep that in mind, Paul. Thank you for letting me know.

MEMBER ZIEMER: I don't know if I can

get the online screen on the regular web. If I have the address, if Ted or if you or Zaida can send me the login information, maybe I can get the regular web.

MR. KATZ: No, you can't, Paul.

MEMBER ZIEMER: I can't? Okay.

MR. KATZ: That's all in the Intranet. And if you go to that ---

MEMBER ZIEMER: Okay, got you. Okay.

MR. KATZ: Yes.

MEMBER ZIEMER: Good enough.

CHAIR MUNN: Yes. But --

MR. KATZ: I'm sorry about that, Paul.

CHAIR MUNN: We'll try to do the best we can. We'll try to be sensitive to the fact that ---

MEMBER ZIEMER: Yes. I'll just operate in the dark here.

CHAIR MUNN: Yes, well, okay. But we'll do the best we can. And good luck with that ---

MEMBER ZIEMER: Okay.

REVIEW BRS STATUS

CHAIR MUNN: That's a tough one. If anyone else has had any trouble with it, please let me know. Otherwise, I'm assuming that most everyone's had an opportunity to take a look at that.

If not, then we'll move --- I think that what we need to do next is move directly to the first item of business, which is reviewing the BRS status. To the best of my knowledge, it's up to date. If that's not the case, please let me know.

I note that we're up with the agenda on the screen here, so I'm assuming that we're going to have full access to all of the updates to the BRS which have occurred in the interim since our last meeting.

If that's not true, then will someone who is charged routinely with keeping it at least let us know where we have holes still remaining that are expected? And otherwise we'll just address these one at a time as we come along. Did anyone have any specific updates for BRS that we're not going to likely see today?

MS. K. BEHLING: Wanda, this is Kathy Behling. I was just going to ask a question with regard to who -- is it Lori Marion-Moss that updates the BRS with new PERs, and OTIBs, and that type of thing? I was attempting to add PER-55 to the BRS. And I was not able to do it. I wasn't sure who is responsible for updating.

CHAIR MUNN: I'm assuming you're still doing that, Lori, right?

(No audible response)

CHAIR MUNN: Lori?

MR. HINNEFELD: Yes. Lori does that. I'll get to her. I'll get that word to her.

CHAIR MUNN: Oh, okay. She was with us just a minute ago.

MS. K. BEHLING: So in other words, I should just be sending a note to Lori when I need something updated into the BRS. Is that correct?

MR. HINNEFELD: Yes. As I understand it, this is the BRS that, or this the PER that was reviewed. And it needs to appear on the, and be assigned to the Subcommittee so you can actually

enter the findings. Isn't that where we're at?

MS. K. BEHLING: Correct, yes.

MR. HINNEFELD: Okay. Yes. I'll get with Lori. Because I noticed that when we were prepping for the meeting, that there are a couple that --- one that was on there that didn't have findings in it. And there was one that didn't even appear on the BRS.

MS. K. BEHLING: Okay. Thank you.

MR. KATZ: Yes, Kathy, from here forward just always email Lori, and you can copy me too so I can follow-up if I need to. But that'll work.

MR. HINNEFELD: And copy me as well on that.

MR. KATZ: Yes.

MR. HINNEFELD: If you would.

MS. K. BEHLING: Okay.

CHAIR MUNN: Yes, Wanda likes to know when that happens, okay, so that I can have a copy of the memo to remind me when we get to agenda time.

MR. KATZ: Yes. And, Wanda, it may be

gratifying. It's not really this Subcommittee's business, except that was the pioneer here. But the other Work Groups are now, with SC&A's help, getting online with using the BRS. So that's a good thing too. So we've done that for quite a number of Work Groups now, so they'll be following the BRS model for issue resolution.

CHAIR MUNN: I'm delighted to hear that. We've done an awful lot of work on this Subcommittee to try to get it to that point. So it is gratifying to know that it's underway and actually beginning to spread the way we had hoped it would. That's good. I hope everyone else has as a salubrious ---

MS. MARION-MOSS: Excuse me, Wanda.

CHAIR MUNN: Yes?

MS. MARION-MOSS: This is Lori. I was disconnected somehow.

CHAIR MUNN: Oh, we do that sometimes, you know.

MS. MARION-MOSS: The last I heard, I believe Kathy was asking a question about updating

a PER to the BRS.

CHAIR MUNN: Yes, 55.

MS. MARION-MOSS: Okay. I can get that done.

CHAIR MUNN: She said she had tried to get it on, and wasn't able to do it.

MS. MARION-MOSS: Okay. I'll load that document here shortly.

CHAIR MUNN: Thank you. Any other comments about the BRS?

(No audible response)

Y-12 ACTIVE ISSUES

CHAIR MUNN: If not, then let's move directly to the couple of things that we had discussed at our last meeting that have not been completed.

OTIB-0013 – ASSIGN OTIB-0044

The next item I have on the agenda is two active issues outstanding from Y-12, OTIB-13 with an assignment for review and OTIB-29, another assignment for review. Has anyone had any new

information with respect to that? Or are we ready to assign those?

MS. K. BEHLING: I believe that Ron Buchanan is on the line and can speak to OTIB-13.

CHAIR MUNN: Okay, Ron?

DR. BUCHANAN: Yes, this is Ron Buchanan with SC&A. These are very old OTIBs we reviewed about, I think, about seven or eight years ago. And our findings at that time, we had five findings. One of them had previously been closed, Number 4.

However, OTIB-13 has been superseded by OTIB-44 for workers and OTIB-64 for co-worker model. And so the concerns with OTIB-13 for Y-12 external dose was related to scaling factors, a group of workers they used to create some co-worker dose, and the use of scaling factors in the work. But it all had to do mainly with scaling factors.

And the new OTIB 44 and 64 do not use scaling factors. And so essentially all of these findings are a moot question at this time. Because OTIB-44 and 64 superseded OTIB-13 and do not use

the scaling factors, which we had the concern with, and the same way with the workbook.

CHAIR MUNN: Okay.

DR. BUCHANAN: So we recommend, you know, I guess, closing them. Because they're not related to what they're using today.

CHAIR MUNN: Anyone have any problem with that?

MEMBER BEACH: I don't, Wanda.

MEMBER ZIEMER: No, let's close them.

CHAIR MUNN: All right, very good. Thanks, will do. And 0013 has been superseded, and the Board agrees with the recommendation of SC&A that it be closed.

MS. K. BEHLING: And, Wanda, would you like for me to do that offline?

CHAIR MUNN: If you would please, Kathy, that'll be fine.

MS. K. BEHLING: Okay.

CHAIR MUNN: I don't think there's any reason for us to try to do it real time here unless someone else feels that's appropriate. As long as

it gets done, and you notify me so that I can verify it on my list, that'll be great.

MS. K. BEHLING: Will do.

OTIB-0029 ASSIGN TBD

CHAIR MUNN: We have a similar situation with OTIB-29, I believe. Ron, are you doing that one as well?

DR. BUCHANAN: No.

DR. LIPSZTEIN: Hi.

CHAIR MUNN: That's Joyce.

DR. LIPSZTEIN: I did. That's Joyce Lipsztein.

CHAIR MUNN: Oh, good. Hi, Joyce. Would you like to bring us up to date and make a recommendation?

DR. LIPSZTEIN: Yes. As well, OTIB-29 was transferred to the TBD-45. And I've been -- Finding Number 1 was already closed.

Finding Number 2, I think SC&A accepts NIOSH arguments for Finding Number 2, that the database is considered official of records for the site. And it's used to supply claimant results.

So we recommend it should be closed.

For Finding Number 3 attachment, we had some problems with situations where the 95th percentiles of the co-worker distribution should be applied.

And now in the TBD-14, there is some situations that described where the 95th percentile is more appropriate. So SC&A recommends this finding to be closed also.

And then Finding Number 4, we had some problems, because some routine urine samples were collected after a minimum of 48 hours absence from work hours. And we had asked NIOSH to demonstrate the impact of this 48 hours absence from work.

In one of the answers, NIOSH said that 40 percent of the samples were not collected on Monday mornings. But this was not demonstrated. So we recommend that this finding of the 48 hours absence from work hours should be further analyzed by NIOSH.

And Finding Number 5, which would be the inclusion of solubility Type F, this was done. So

we recommend that this finding should be closed.

So the only one that remains open should be Finding Number 4, the problem of collecting urine sample is a minimum of 48 hours absence from the work.

CHAIR MUNN: We're going to close all except Item 4.

MR. KATZ: Well, Wanda, this is Ted. Can I just recommend that you go through each of these though so that we have a clear understanding of the whys for closing those?

CHAIR MUNN: Oh, yes. You didn't feel that Joyce was ---

MR. KATZ: Well, Joyce explained. But the Subcommittee didn't take up these at all. Some of them, it seems like a perfunctory discussion, but I'm not sure that all of them were ---

CHAIR MUNN: Well, straightforward. I did have a question myself with respect to the -- was it Number 3 that had the 95th percentile?

MR. KATZ: Well, Finding 2, I mean, Joyce just said that they accept NIOSH arguments.

But that's not, there's nothing on the record as to what the arguments were that they're accepting, and the why, and wherefore.

CHAIR MUNN: No. I guess we went past the document on the screen pretty quickly. I had assumed that we had a response from NIOSH, but nothing on the ---

MR. KATZ: Well, I mean, the Subcommittee hasn't said anything.

CHAIR MUNN: Yes. Then ---

DR. LIPSZTEIN: Okay. Do you want me to go through each one of them?

CHAIR MUNN: Yes, I think, except for Number 4. That's clearly remaining open. And it's going back, you're asking for additional information from NIOSH. That's clear enough. But the other three, yes please.

DR. LIPSZTEIN: Okay. So Finding Number ---

MR. KATZ: Two.

DR. LIPSZTEIN: Two. The first problem with it is that the ORISE CER database of

uranium records for IPSUM 12 from 1950 through 1988 was used without questioning the accuracy of these records.

So there were some problems with these records that were pointed out in OTIB-29. And then we had some questions about if the CER database should be considered. Because there were -- 20 percent of the results were labeled as do not use. And a lot of results were zero.

So this would give a bias to the database. And then when it was transferred to TBD for TM-5, NIOSH put that the -- explain how was the derivation of each formula that was applied and also said that the PER is the official database for it.

And so we analyzed it again. And with all those discussions that we had, we came out to accepting the database for the calculation of intake doses for unmonitored workers. Is that okay now?

MR. KATZ: Thanks, Joyce, yes. I mean, and then it's just for the Subcommittee to

concur or ask questions?

CHAIR MUNN: Any questions?

MEMBER ZIEMER: This is Ziemer. I'm okay on that one.

MEMBER BEACH: Yes, this is Josie. I'm okay on that one, as well.

CHAIR MUNN: I was trying to follow that screen as we were going along, because I don't remember that clearly. But, fine. All right, very good. The recommendation of the contractor to close this issue has been accepted by the Board. And we'll move on to the next. Was it Number 3, in this ---

DR. LIPSZTEIN: Number 3. Number 3, yes. When the co-worker data was calculated, we said that, well, NIOSH used the 50th percentile for the intake rates. And we considered that some of the workers could be exposed to higher levels of contamination which was one of the characteristics of Y-12.

So there was no explanation why there was the choice of the 50th percentile. Then what

NIOSH did is that it specified that the 50th percentile would not be used all the way through, that there were some sites and locations.

So this was a new addition that for some sites, and locations, and job types, certain workers would be assigned to the 95th percentile.

So this was incorporated into the TBD. And so now there is an Attachment B on the internal dosimeter co-worker data for Y-12, in the TBD-45, where it's considered that there are situations where the 95th percentile of the co-worker distribution should be more accurate than the 50th percentile. So our recommendations were followed. So we thought that this finding should be closed.

CHAIR MUNN: All right. Let's say, when we do our response, that SC&A's recommendations for observed deficiencies have been covered by the issuance of new documents. And therefore, SC&A has recommended this item be closed. The Committee agrees. The item is closed unless there's any discussion.

Does anyone else have any comments to make about that?

MEMBER ZIEMER: No, I agree. That's consistent with other uses, yes.

CHAIR MUNN: Okay.

MEMBER BEACH: And I agree as well. Thanks, Wanda.

CHAIR MUNN: Thanks, Josie. Very good. On that, did we have one other, other than Item 4 which is open expecting a request, a response from NIOSH?

DR. LIPSZTEIN: It's Finding 5.

CHAIR MUNN: It's five, not four.

DR. LIPSZTEIN: Yes.

CHAIR MUNN: But five is the other one that we were going to close, right?

DR. LIPSZTEIN: Yes.

CHAIR MUNN: Yes, okay. And ---

DR. LIPSZTEIN: Yes.

CHAIR MUNN: Go ahead.

DR. LIPSZTEIN: At first, NIOSH only considered uranium compounds of solubility Types

M and S without considering Type F compounds. But for many cancer sites, SC&A thought that Type F should be used also.

So within the new document in Attachment B, NIOSH now includes solubility Type F, and recommends selection of this material type when it's more favorable to claimants.

So SC&A recommends this finding to be closed. Because Type F is now incorporated into the document when it's more claimant favorable for the ---

CHAIR MUNN: All right. Any comments about that? It seems to me this is exactly the same response that we would have given to Item 2. And therefore, we could use the same wording. Does anyone have any discussion or concern with that finding?

(No audible response)

CHAIR MUNN: If not, then we'll ---

MEMBER ZIEMER: No concerns.

CHAIR MUNN: No concern, we'll ---

MEMBER BEACH: No. It seems pretty

straightforward to me.

CHAIR MUNN: -- follow the recommendation of the contractor and close the item. I believe that cleans up OTIB-29 for us, with the exception of the outstanding Finding 4. Am I correct?

DR. LIPSZTEIN: Yes.

CHAIR MUNN: Good. Very good. Any other questions or comments with respect to that Y-12 issue?

MR. KATZ: So what is the path forward for Finding 4? I know NIOSH is going to respond. Do we have a sense of when?

DR. NETON: This is Jim. I need to look at this a little closer. Joyce, you said something about the fact that we said 40 percent of the samples were not collected on Monday.

DR. LIPSZTEIN: Yes. But you said, but never put it on the document or ---

DR. NETON: Yes. I have a note here that we responded on January 20th, 2009. Is that the response that you're talking about?

DR. LIPSZTEIN: Yes.

DR. NETON: Okay. I can't find that right now. But we can clear that up. I think we should be able to do that fairly quickly, I would think.

OTIB-0026

CHAIR MUNN: So we'll carry it on the next agenda. Can we move on to OTIB-26? SC&A is going to talk to us about dosimetry at what, K-25, isn't it?

DR. BUCHANAN: Yes. This is Ron Buchanan with SC&A. And this was the OTIB-26. And it's the co-worker issue for K-25. And it was Finding 1 was closed previously. And Finding 2 is in progress. And Finding 3 was closed previously. So we'll look at Finding 2 which was in progress.

And, Kathy, if you could pull up that attachment, that PDF file, I think, that shows the graph. That should be attached to that. And what this consisted of was that K-25 went to -- they were badging just the most exposed people, radiation workers, up until about '75, 1980, in that area.

And then they went to badging everyone.

And so the question came up was how do we know, of course, the old question, how do we know that the most exposed were being monitored previously to everybody being monitored.

And so NIOSH had used a maximum likelihood analysis to show that previously, in 2008, about eight years ago, and the Board had requested that SC&A look at that in a little more detail.

And so we show, on the screen there, what I did is I went back, and I took the yearly doses. Now, we did not have access to the individual dosimetry, but we looked at the yearly doses both before and after the switching in dosimetry.

And can you pull that up just a little bit, up the page just a little bit? There, okay, whoa. Back a little bit. I just wanted to see the years there. Okay, that's fine. Thank you.

Okay. And so I plotted the yearly average dose, as they were recorded, to be used for

coworker doses. And you can see there that, in about '75, they switched to monitoring everyone. So the average dose went down.

And so looked at the 50th percentile. Now, we sent -- the data we had was in OTIB-26, Table 2, Page 9, which lists the gamma 95th and 50th percentile for each year.

And so what I did, I tried to determine some information out of this. So I went back and then plotted it, and looked at it. And the 50th percentile, you can see, is based right around 800 millirem a year, pretty close, from '46 forward until about '75. And then it drops lower. However, it stays very much the same in those years.

And then the 95th percentile stays within, plus or minus, about 20 percent of around one rem per year. And then it drops down in the '75 period.

And so I looked at this data, and essentially it looked as if there was no years where we've seen a lot of spikes in the years that just the select, the workers were monitored. And there

was fairly consistent results during those years.

And so, in our opinion, it looks like that, you know, there would probably not be a large chance for outliers of individuals that are being exposed that weren't monitored. And those that were monitored, it was fairly steady exposure rates.

And so that's where we're at at this point. We have a little text there, a paragraph explaining our findings. So at this point, we were asked to go back and look at this a little further by the Subcommittee. And this is what we had come up with.

Again, the only thing we can do is go back and look at the --- we don't have access to the individual data. But I don't know I that would really tell us the people that weren't monitored who were exposed. And so we, at this point, have arrived at this point and feel that there's probably not a likelihood that there was people exposed that weren't monitored, to a great extent. And so that's where we're at.

MEMBER ZIEMER: Ron, I wonder if you'd mind reading your statement for us?

DR. BUCHANAN: Okay. I will. "SC&A analyzed the co-worker data in OTIB-26 to evaluate whether the dose data reported during the period when most of the employees' dosimeters were processed and recorded, beginning around 1975 to '80, was significantly different from that of the earlier period, around 1945 to 1975, when only select employees were monitored and the results recorded.

"The following Exhibit A summarizes the results of the data as it appears in Table 2 of OTIB-26. The monitoring results for the latter period beginning around 1975 to '80 show a marked decrease in co-worker dose for both 50th percentile and 95th percentile values.

"This indicates, during the previous monitoring period, 1945 to 1975, workers with above average potential for exposure were monitored and their dosimeters processed and recorded.

"During most of the early period, 1947

to 1975, the 50th percentile values were closely centered around 0.8 rem per year. And the 95th percentile fluctuated around 1 rem per year within approximately plus or minus 20 percent.

"This would indicate it is unlikely that there are significant outliers for workers that were not monitored during some years for the period 1947 to 1975.

"Therefore, the co-worker data recommended in Table 2 of OTIB-26 would provide for reasonable and likely claimant favorable external doses. It should be noted, however, that SC&A does not have access to and could not locate the detailed co-worker data used by NIOSH to generate Exhibit A, above, and Table 2 of OTIB-26."

MEMBER ZIEMER: Thank you.

DR. BUCHANAN: Okay.

CHAIR MUNN: Certainly a stark difference obvious from the graph. It's nicely presented.

MEMBER BEACH: I guess, this is Josie, my question would be how important would it be to

have a look at that co-worker, the source of the co-worker data that NIOSH used.

DR. BUCHANAN: Well, on one hand, it would show us the individual rather than the cumulative. And so we could maybe look for, if there was large, you know, outliers, because this is obviously an average, to see about that.

Now, the other thing is that's really not going to tell us if people weren't monitored that were exposed. And so it would kind of verify what we see here.

MEMBER BEACH: Right.

DR. BUCHANAN: And, you know, we could do that if you'd like for us to, if NIOSH can provide us with that individual exposure data.

MEMBER BEACH: Yes. I don't necessarily think it was needed. I just wanted to know what your thoughts were on it. Thank you.

CHAIR MUNN: I can't imagine we'd get any meaningful new information from that kind of examination. But from my perspective, what we have is adequate. Paul?

MEMBER ZIEMER: Yes. Well, the difficulty, of course, is that it doesn't really answer the question of were there workers monitored, not monitored but should have been.

But I think we're operating on a policy basis here that, in advance, a determination is made as to whether workers should be monitored based on whatever criterion were used at that time.

I think what would happen in practice is that if an individual, through the interview process, was identified that had somehow been involved in operations and could show they weren't monitored, I think you would end up assigning them the doses of the monitored group anyway, would you not? Maybe Jim could answer that.

DR. NETON: Well, that's true. I mean, any unmonitored worker is either going to be assigned a 50th percentile or the 95th percentile. What the conclusion demonstrates in environmental would be applicable.

But I'd also say that it looks like the distribution's pretty tight if you look at the, I

think, I can't see on the screen what the 95th percentile versus the 50th was, but they seem to be pretty close. So they weren't, like, enormously large variations is the doses between the upper tail and the 50th percentile.

MEMBER ZIEMER: Right. But I don't see it as an issue. I'm comfortable with closing it as recommended by SC&A.

CHAIR MUNN: Can't your list just say that the Committee has, the Subcommittee has considered the information presented by the contractor, accepts their recommendation to close this item. And we'll move on if there's no further question about OTIB-26. Thank you, Ron.

DR. BUCHANAN: Okay, thank you.

OTIB-0032

CHAIR MUNN: We'll go on to OTIB-32, Savannah River, I believe.

MS. K. BEHLING: Yes. This is Kathy Behling. And I'll take this one. Actually, OTIB-32 is the Savannah River external co-worker model that we reviewed.

And I went back to the transcripts. And during the discussion of this finding, and I think it's Number 2 here, yes, Finding Number 2, we actually got sidetracked to some extent. And there was a great deal of discussion about --- the finding had to do with -- we actually had, in our initial procedure, a table that identified certain review objectives.

And we were questioning the review objective that had to do with the clarity of the document and whether it was sufficiently prescriptive in order to minimize, you know, subjective decisions. That was the gist of the initial finding.

And the reason that it remained open or in progress is because the Subcommittee was --- NIOSH, first of all, questioned the finding. Because they said all of our documents -- it's a dynamic system. There has to be room for professional judgement. There are going to be changes. One document's going to impact another document.

And then this led the Subcommittee to recommend that SC&A go back and review our protocols for actually reviewing technical guidance documents. So we got sidetracked.

And our mission was that we were going to go back into the procedure, our initial procedure that, in fact, I just put that out under the O: drive on the Procedures Subcommittee section this morning under the SC&A documents. Our original procedure was written back in 2004.

And quite honestly, if you go through that, you'll see at the end our table and our review object is in the criteria we used to use. We really are not following, to the letter, that protocol anymore. We look at each --- we actually focus on each review and the elements associated with that review. And I think that has become the accepted approach that we've been using, except the approach by the Subcommittee.

So I'm really not sure if this finding can't be closed. Because I don't know that there's a lot of meaning in going back to a protocol that

we're really not even following anymore.

CHAIR MUNN: You're right. When we get sidetracked from the original goal it ---

MEMBER ZIEMER: But what you're saying is that, if you were to review that now under your present protocols, you would not have had this finding. Is that what I'm understanding?

MS. K. BEHLING: Well ---

MEMBER ZIEMER: Or what?

MS. K. BEHLING: No. I'm not saying that we would not have necessarily had this finding but the fact that we were questioning the clarity and the fact that procedure wasn't prescriptive enough.

I know in the transcripts Stu was questioning saying, you know, this is a review objective that maybe should be, we should rethink that as a review objective. Because we do need to look.

And, yes, perhaps you're correct. I don't know that we would have that as a finding today. But the reason that this particular

finding stayed open was not because we didn't give in to the fact that, okay, we understand. And we do feel there's enough clarity now or that there is enough other documents. And the people that are using these documents are familiar enough that we don't have to be as prescriptive as we initially thought.

But what kept this particular finding in progress is because you would ask us to go back into that protocol and make changes or at least suggest changes.

And what I'm saying is that we're really not even using that protocol anymore. We are doing these documents, we're looking at each PER or OTIB individually. And we look specifically at all of the elements associated with that document. And we don't follow that, we don't generate that table anymore.

CHAIR MUNN: So essentially, I think, what I think I'm hearing is that we can say that the protocol that raised the question is essentially outdated and not being used at this

time. So the original finding, which is very, very old, no longer applies. Is that roughly a correct statement?

MS. K. BEHLING: Then we can essentially say something to that effect, I think, and say the Subcommittee has considered the recommendation of the contractor and agrees that this finding can be closed.

MEMBER ZIEMER: That sounds good.

CHAIR MUNN: Paul, Josie?

MEMBER BEACH: That sounds good to me also.

OTIB-0014

CHAIR MUNN: Okay. Finding 2 of OTIB-32 has been closed. That brings us to OTIB-14, needed to be assigned to review it close it. What this is ---

DR. LIPSZTEIN: This is Joyce.

CHAIR MUNN: Yes, Joyce.

DR. LIPSZTEIN: I reviewed the TIB-14, and I don't think it should be closed.

CHAIR MUNN: All right.

DR. LIPSZTEIN: First of all, there is a little bit of confusion, which is just --- and I'll diminish that is confusion, because there isn't information that TIB-14 was cancelled. And it was incorporated into the TBD-11-5.

And on one of NIOSH sites, if you go to Rocky Flats, TIB-14 has been cancelled. But if you go by the number, TIB-14 on the same NIOSH site, it doesn't inform that the document was cancelled.

So this is just something that you could do it very fast, just say that TIB-14 was cancelled on the TIB list.

The second thing is that on Finding Number 1 --- May I proceed? Hello?

CHAIR MUNN: Hello, yes.

DR. LIPSZTEIN: Yes, okay. Now, going to finding, we said that, on Finding 1, that the document was not complete.

Now, the data from TIB-14 is the data covering 1989 to 2005 period. In TBD-11-5, the data on Attachment D, when the intakes for uranium are calculated for the period of '89 to 2005, which

was covered by TIB-14, this data was not transferred to the TBD.

So as it is now on Attachment D, Attachment D is still referencing TIB-14 and using that data to calculate intake. But it didn't transfer the data. So you cannot see, on the TBD, the data from TIB-14. And it referenced TIB-14 as TIB-14 still exists. Do you understand what I'm trying to say?

CHAIR MUNN: I think so. I think what I'm hearing is that the attachment to the, the addendum to the current document does not appropriately transfer the actual information from ---

DR. LIPSZTEIN: Yes.

CHAIR MUNN: -- 2014 that needs to be included in that document in order for us to be able to close TIB-14 and not have it on the books anymore.

DR. LIPSZTEIN: Yes.

CHAIR MUNN: Okay. So what we need to do is to make sure that the new, the addition to

the new document doesn't just reference TIB-14, that it doesn't reference it at all, but transfers the appropriate information and incorporates it in the attachment, right?

DR. LIPSZTEIN: Right.

CHAIR MUNN: Okay. So what we ---

DR. LIPSZTEIN: Now, Finding Number 2 ---

MEMBER ZIEMER: Well, excuse me. Can we just hear from NIOSH on that OTIB?

DR. NETON: This is Jim. Joyce, I'm a little confused. I just went out on our website. And it clearly indicates that TIB-14 has been cancelled. So I'm not even going to ---

(Simultaneous speaking)

DR. LIPSZTEIN: Jim, that's one, you look at Rocky Flats. But then when you look at the TIBs numbers ---

DR. NETON: Yes, I did. And it's not in the list ---

(Simultaneous speaking)

DR. NETON: I'm sorry.

DR. LIPSZTEIN: I just looked at it --

DR. NETON: Well, I just looked at it just now.

DR. LIPSZTEIN: -- five minutes ago.

DR. NETON: Well, I looked at it. There was no TIB-14 listed. Are you looking now at the DCAS TIBs or the ORAU TIBs? Because this is a DCAS TIB, an OCAS TIB.

DR. LIPSZTEIN: I ---

DR. NETON: If you go to the control bar ---

DR. LIPSZTEIN: No, no, no, no. No, no. It's exactly what you are ---

DR. NETON: No. I'm under Technical Information Bulletin, and there is no TIB-14 listed under Technical Information Bulletins. And if you go back and look at historical revisions on that same thing, and you go to TIBs ---

DR. LIPSZTEIN: No.

DR. NETON: TIB-14 is listed there.

DR. LIPSZTEIN: I just looked at it, Technical Information Bulletin TIBs. It's in

front of me. But it's in front of me.

DR. NETON: No. I'm looking right now ---

DR. LIPSZTEIN: Me too.

DR. NETON: Okay. Well, I'm looking at the cancelled ones. And it clearly says it was cancelled under the historical revisions.

DR. LIPSZTEIN: Now go to, if you go to NIOSH radiation dose reconstruction programs, Technical Information Bulletin ---

DR. NETON: Yes, yes, yes.

DR. LIPSZTEIN: -- numerical listing. So you press on TIB-14, it will come.

DR. NETON: Well, I'm looking on our K: drive. Okay, that's an issue with the website, I think, versus what's on our ---

DR. LIPSZTEIN: Okay, on this.

DR. NETON: Yes.

DR. LIPSZTEIN: And the most important problem is that the information there was not transferred to the new TBD.

DR. NETON: Yes. And that's a

separate issue. But what I'm saying right how is if you try to go out to our K: drive and use TIB-14, it's not there. I mean, it's listed ---

DR. LIPSZTEIN: Oh, okay, but --

DR. NETON: -- but you could not use it. The website may have an inappropriate listing. And that's something we need to check.

DR. LIPSZTEIN: Yes.

DR. NETON: Anyway, okay. I just want to make sure that we're on the same page here.

DR. LIPSZTEIN: Okay.

DR. NETON: Okay, fine.

CHAIR MUNN: And who has the action to check the listing, Jim?

DR. NETON: Well, our listing is fine. We'll look at the website listing and make sure that that's corrected. Because sometimes those don't coordinate maybe as well as they should. So we'll take a look at that.

MS. K. BEHLING: Yes. This is Kathy Behling. And Joyce is correct. On the website, there's a CDC website and a NIOSH, it does still

show the OTIB-14.

DR. NETON: Right. And see, but if I go out to our site, and I go, it's not there. And if I go to historical revisions ---

MS. K. BEHLING: Right.

DR. NETON: -- by TIBs, it's says TIB-14, what's it say here? It said it was cancelled, basically, or not in use.

MS. K. BEHLING: Yes. Okay.

DR. NETON: Okay. We'll look at that. Okay.

CHAIR MUNN: What's the designation of the TBD we're looking at?

DR. NETON: It's TIB-14.

CHAIR MUNN: TIB-14.

DR. NETON: Yes. I guess, from a dose reconstruction perspective, it's okay that what we're doing internally. But the world is seeing outside of NIOSH, outside of DCAS, is misleading for sure.

CHAIR MUNN: Okay, something else. And if I -- if what I understood to begin with is

that the new TBD references OTIB-14 but does not correctly -- it incorporates the information. But instead of incorporating the information in the new OTIB, I mean, in the new TBD, it references TBD-14.

DR. LIPSZTEIN: Yes.

CHAIR MUNN: That leaves you kind of out in left field with the referencing being to a now closed TIB.

DR. LIPSZTEIN: Yes. And all the information to be transferred there.

CHAIR MUNN: You follow what I'm saying, Jim?

DR. NETON: Yes, yes. Yes, that part I understand. I'm obviously confused about which document had indicated it having been cancelled, that's all.

CHAIR MUNN: Okay, so I'm saying NIOSH has the action then to check this out and make sure that the information that was previously referenced in OTIB-14 is incorporated into the new TBD and that our electronic records show that, okay?

DR. NETON: Yes.

CHAIR MUNN: We're going to leave it in progress right now, I believe, unless other people have stronger feelings one way or the other. And we'll come back to this next time, right? Action, NIOSH. Thank you.

DR. LIPSZTEIN: Now --

CHAIR MUNN: Yes, go ahead.

DR. LIPSZTEIN: For Finding Number 2, again, SC&A found that use of a model based on the 50th percentile of the excretion rate would misrepresent the high exposure experienced by unmonitored subcontractors at the Rocky Flats.

And now on the new TBD, the 95th percentile was used in the derivation of intakes for '89 to 2005. So we think this finding should be closed.

CHAIR MUNN: Okay. Any discussion, any concern? We will ---

MEMBER ZIEMER: Are we talking about, in essence, closing the finding on TIB-14 or is it applied to the new TIB? I mean, 14 doesn't, it

isn't in operation anymore.

DR. LIPSZTEIN: Oh, no.

MEMBER ZIEMER: So what is the finding applying to?

DR. LIPSZTEIN: What was transferred to the TBD.

MEMBER ZIEMER: The finding still carries over, is what you're saying. Is that right?

DR. LIPSZTEIN: No. We looked at TBD-11-5 to see if our suggestion of using the 95th percentile was followed. And it was.

MEMBER ZIEMER: Well, yes. So what we would be doing is closing it on the new one, is what you're saying.

DR. LIPSZTEIN: Yes, yes.

MEMBER ZIEMER: Because I just want to make sure that that's what the action would reflect.

MR. KATZ: Right. Paul, I mean, closing it on the basis of having issued the new one, so it's as if this were in abeyance until the

new document came out.

MEMBER ZIEMER: Got you.

MR. KATZ: Yes.

MEMBER ZIEMER: Okay.

CHAIR MUNN: And it's out, right?

MR. KATZ: Right.

CHAIR MUNN: Yes. And therefore, the subcontractor is, I mean, our contractor is telling us that the action from Finding 2 has been appropriately transferred to the superseding TBD, I mean TIB. And we followed their recommendation to close. Okay.

DR. LIPSZTEIN: Now ---

CHAIR MUNN: Go ahead.

DR. LIPSZTEIN: Finding Number 3, Finding Number 3 was that there was no, that NIOSH did not address in vivo counting results. And there was no information on americium lung data for calculating potential unmonitored worker doses to the lung.

So now I'm going to talk about what was transferred and is on TBD-11-5 that should have the

information from TIB-14, okay.

There is now an --- now, in Attachment D of TBD-11-5, there is no mention of americium lung count in data for use in the intake rates for plutonium for 1989 to 2005.

In the same document, in Attachment B, it was shown that germanium detectors were used from '85 to '95 period and even that the detector software and hardware were upgraded in the period of '95 to 2005.

So we think that if lung counting is not being used to calculate intake rate for plutonium at that time where the installation had germanium detectors, then either the lung counting should be incorporated or there should be a discussion on why the lung counting results were not used to calculate plutonium intakes.

CHAIR MUNN: So we need that information in the attachment to TIB-115?

DR. LIPSZTEIN: Yes, 115. I just used the information on americium lung counting to calculate intake rates of plutonium during '89 to

2005 or present an argument why they were not used when, at that time, there were germanium detectors at the place where americium measurements were done.

CHAIR MUNN: Okay. So we need a response from NIOSH to your concern, right?

DR. LIPSZTEIN: Yes.

CHAIR MUNN: Jim, any thoughts, any comments?

DR. NETON: Let me just make other stuff, see if I understand this. You're asking why we don't, we have to explain why we don't have an americium lung counting coworker model, why we don't use that.

CHAIR MUNN: For that period, I think.

DR. LIPSZTEIN: Yes.

CHAIR MUNN: When the germanium detectors were actually in.

DR. NETON: Yes. I'm sure there's a good reason for it. But we'll have to get back to you on it. I haven't thought about this for a while.

CHAIR MUNN: Okay.

MS. K. BEHLING: Wanda, this is Kathy Behling. This is currently in progress. And I assume we will just continue to keep it in progress.

CHAIR MUNN: It appears to me that that's the appropriate designation right now. Any thoughts from other Board Members?

MEMBER ZIEMER: No. That seems appropriate.

CHAIR MUNN: Okay. So it will just say the issue was reported to the Subcommittee. NIOSH will respond. And we'll not change the status and move on.

Does that cover the entire TIB now, Joyce?

DR. LIPSZTEIN: Yes.

CHAIR MUNN: Those are all of your problems?

DR. LIPSZTEIN: Yes.

CHAIR MUNN: I think we have a situation where Number 1 is going to be looked at to see that the appropriate information has been

transferred to the appropriate documentation to make sure that we're squared away on our electronic databases appropriately.

We've closed Number 2, and Number 3 will have a response from NIOSH but continue in the same category. Any comment from anyone else?

(No response.)

If not, then thank you, Joyce, appreciate it. We're moving on to ---

DR. LIPSZTEIN: To me again.

OTIB-0039

CHAIR MUNN: Oh, you lucky thing. All right. Joyce, TIB-39, coworker data at Hanford. And so your Chair and one of our Board Members won't be able to make much of a comment about this. Paul, would you, are you able to follow that and essentially chair us through that, OTIB-39?

(No response.)

CHAIR MUNN: Go ahead, Joyce.

DR. LIPSZTEIN: Okay. OTIB-39, which is Hanford, was cancelled. And the information was incorporated into TBD-65, Revision 6, in 2015,

in Attachment C.

The first finding is closed because we accept reasoning that, because we were comparing the documents from TIB-39 with recommendations from TIB-002, and NIOSH said that, and it's clear that TIB-2 was a very early document and pre-dates all of coworker studies in many Site Profiles. And so, barring no more subjective decisions from dose reconstruction for Type S plutonium, so I think that, we think that this finding should be closed. And then ---

CHAIR MUNN: Paul, can you ask for any comments or questions with respect to this particular finding?

MR. KATZ: Right. Well, Paul would be the only one to have questions.

CHAIR MUNN: Yes --

MEMBER ZIEMER: No comments.

MR. KATZ: So should that be closed?

MEMBER ZIEMER: Yes.

DR. LIPSZTEIN: Then on Finding Number 2, on Page 39, SC&A has asked NIOSH why it has not

considered Type Super S plutonium for intake estimation.

And the information from TIB-39 was transferred to TBD-65. And on TBD-65, it is noted that plutonium at Hanford would have existed as absorption types M, S and the highly insoluble form Super S.

And also there are some mentions that Type Super S was present in several buildings, same activities. That's all information on TBD-65. But this information was not incorporated into the coworker model, Type Super S. So we recommend that this should be done. So this finding should remain open.

DR. NETON: Joyce, this is Jim. I have a question. I don't know how you would develop your coworker model for Super S. As you know, it relies on using the bioassay data and making certain assumptions.

I don't think it's possible to do what you're saying. I could see using one of the excretion values that we have in the existing

coworker models and assuming it's an S, maybe, and converting it. But I don't see how we would do what you're suggesting.

MS. BRACKETT: This is Liz Brackett. If I understand the question, OTIB-49, which is Super S, has a section that gives ---

DR. LIPSZTEIN: Yes.

MS. BRACKETT: -- directions on how to apply Super S to coworker intake.

DR. NETON: Right. That's what I was thinking.

MS. BRACKETT: So they need to take the values. They start with the S values that are in the coworker OTIB and then would apply the corrections to that for the specific case.

DR. LIPSZTEIN: Exactly.

DR. NETON: So, in fact, we're doing what you were suggesting. It's just not, it's in 49. I mean, we're always, you know, if Super S is considered to be existing in a site, we'll always use that as an option.

DR. LIPSZTEIN: Yes. But it's not in

this one.

DR. NETON: Well, you can't really develop a Super S coworker model. You have to interpret the data, like Liz said, from the existing coworker data and then apply the Type S, Super S correction values for an approach --

DR. LIPSZTEIN: Yes, right.

DR. NETON: Yes. So I think we're okay on this one. I don't see that anything ---

MEMBER ZIEMER: That's done on a case by case basis, right?

DR. NETON: Correct. I mean, if Super S is a possible solubility class, it will be dealt with at a site, such as Hanford. But we'll use the existing coworker excretion values and apply the TIB-49 approach.

DR. LIPSZTEIN: Yes, right.

DR. NETON: So I would suggest that this is closed.

DR. LIPSZTEIN: No, but it's not there. It's not on the TBD-65. It should say what should be done on the coworker.

MS. BRACKETT: But that's the purpose of OTIB-49; it tells them what to do. That's how it's done for all of the sites.

DR. LIPSZTEIN: Yes, but it's not, you know, there's not a word about Super S on the coworker model on TBD-65.

DR. NETON: Well, there is no Super S coworker model. That's correct. You can't develop a Super S coworker model.

DR. LIPSZTEIN: Yes, but the intakes should be applied.

DR. NETON: Well, they are. That's in TIB-49.

DR. LIPSZTEIN: Yes, but then it should refer to TIB-49. But something has to be said on the coworker for Hanford, for ---

MEMBER ZIEMER: So it sounds like Joyce is just saying that there perhaps needs to be something in this document that gives a heads up on what to do if you find that it's a Super S individual.

And I think Liz was saying that that

practice -- well, let me ask it a different way. Do other documents where you would have this situation specifically call attention to the Super S issue?

DR. NETON: To my knowledge, not in the coworker model itself, no, not in the coworker model.

MEMBER ZIEMER: Yes.

DR. NETON: I think, I would suggest that, you know, we're trying to fix something that's not broken. And, you know, if SC&A can identify cases where this has slipped through the cracks because of inconsistent or incomplete guidance, I'd be happy to do that.

But I don't know that we're going to fix anything by doing this. I think we're doing it very consistently across these Super S sites.

DR. LIPSZTEIN: If you have an unmonitored worker at Hanford, and you go to the TBD-65, there is no information of what to do with unmonitored workers that could be exposed to Super S plutonium, who have intake rates for S and M but

not to Super S.

DR. NETON: Well, we don't have that at any of the other sites that have Super S either. I mean, like Liz said, it's in TIB-49. I'm assuming the Hanford site acknowledges that Super S exists, or the Hanford TBD. And if it does ---

DR. LIPSZTEIN: It's acknowledged that Super S exists but it doesn't say what to do with the unmonitored worker.

DR. NETON: Well, right, but we always apply all the possible solubility classes to determine the most claimant-favorable dose. That's just the standard practice we've adopted since Day 1. If Super S is among the solubility classes, it will be analyzed as such.

DR. LIPSZTEIN: So it should be said that on --

MR. KATZ: So, Joyce, this is Ted. So Jim is just trying to tell you this is already standard practice. It doesn't need to be referenced in a particular document, because it's not referenced in any of the particular documents,

the coworker models. In all cases, this is standard protocol, so it doesn't need to be there. So, I mean, I think that settles the matter.

DR. LIPSZTEIN: Okay.

MR. KATZ: Yes.

MEMBER ZIEMER: Yes. It's not an issue that it's not being done or it's going to be overlooked. If it's standard practice that's always applied, then I think we're taken care of.

Are you okay, Joyce, the rest of SC&A? Stiver, are you okay on that?

DR. LIPSZTEIN: Okay.

MR. STIVER: My only concern is that, you know, the dose reconstructor needs to be aware that, you know, TIB-49 might apply. And I don't know. It sounds to me like it's part of their basic training, even though it may not actually be referenced or called out in the Technical Basis Document.

But as long as, you know, the reconstructors know it, and they know to use that protocol where it's appropriate, then I guess it

doesn't really need to be in the TBD. That's kind of what I'm getting from it.

MS. K. BEHLING: This is Kathy Behling. I believe that OTIB-49 actually discusses the Hanford site. I'm not sure if -- there used to be a list of sites that should be considered for the Type Super S. But I'm sure that TIB-49 actually calls out Hanford.

MS. BRACKETT: Yes, because that was used for developing some of the factors in there. So it is definitely mentioned. And the Hanford TBD does mention that Super S is applicable. It may not be specifically in the coworker appendix, but in the main body, it does talk about Super S needing to be considered.

DR. LIPSZTEIN: Yes. It's not mentioned only on the part of unmonitored worker.

MEMBER ZIEMER: Well, I think we have reached the point where we have agreed that this issue is covered by the process. So, Ted, I need some advice, we can close it on that basis, right?

MR. KATZ: Yes. Paul, I think this is

fine to close. I mean, I think it was right for Joyce to raise the issue, to understand this. But it certainly, it's covered in standard procedure. So we don't have to worry about dose reconstructors not addressing it. I mean, this whole --- the solubility is such a fundamental part of standard practice.

MEMBER ZIEMER: Yes. Well, from my point of view it can be closed. This is one of those ones that it's very awkward to have a Subcommittee where one person makes the decision because of the conflict of interest.

MR. KATZ: Right. No, I understand that.

MEMBER ZIEMER: This may be an issue that we need to think about for not only this Subcommittee but others where, well, maybe if they knew what occurred in this, because it's one of those groups that covers multiple sites rather than one site.

MR. KATZ: Right. Well, we're also going to add, I mean, we're going to add a Member

to this Subcommittee too, because it's difficult to have just your quorum as a membership.

MEMBER ZIEMER: Right.

MR. KATZ: Yes.

MEMBER ZIEMER: Okay, let's move on. Are there any other findings that we need to address on this one?

DR. LIPSZTEIN: Yes. Finding Number 3 was, again, the problem of collecting Monday morning samples.

There was an answer from NIOSH in 2009 saying that the majority of the samples were not collected on Monday. But on the TBD-65, on Page 39, it states that Monday morning only samples were collected after the early '80s.

So if, in reality, as NIOSH answered, the majority of the samples were not collected on Monday, then this statement on the TBD should be changed. Or if this was not true, then Monday morning samples should be analyzed.

But I think NIOSH response was correct, that the majority of the samples were not collected

on Monday, although the TBD says that Monday morning only samples were collected after the early '80s.

MEMBER ZIEMER: Jim, can you respond to that? Can we clarify that?

DR. NETON: Yes. I think this seems to be a pretty straightforward fix. I mean, we can add some language to that effect. It shouldn't be a problem.

MEMBER ZIEMER: Okay. So then if it's agreeable, Joyce, we'll just make that change. This will be in abeyance until it occurs. And we'll put it in that category. And, Ted, that would take care of that, would it not?

MR. KATZ: That would.

MEMBER ZIEMER: Yes. Okay.

DR. LIPSZTEIN: Okay. Then Finding Numbers 4, 5, 6, 7 and 8, they refer to information to be incorporated for intake calculation of strontium-90, Pm-147, zinc-65, sodium-24 and cesium-137. All the information that was required is on TBD-65 now. So we think that those findings

should be closed: 4, 5, 6, 7 and 8.

MEMBER ZIEMER: So just repeat your last statement, I ---

DR. LIPSZTEIN: Our information related to those nuclides on Findings 4, 5, 6 and 7 which relate to strontium, zinc, sodium and cesium. They are now in the new TBD. So we recommend that they all should be closed.

MEMBER ZIEMER: And that makes sense to me as well. So I agree, we can close that or those. Thanks. Okay, any others?

MS. K. BEHLING: I believe that's the last finding, those are the last findings, Paul.

MEMBER ZIEMER: Say it again.

MS. K. BEHLING: That was the last of the findings.

MEMBER ZIEMER: Yes.

MS. K. BEHLING: You know, up to eight, yes. So if you are in agreement, we can move on to 50?

MEMBER ZIEMER: Yes, and bring the others back, right?

MR. KATZ: Right, right. Hopefully, they haven't gone far.

MEMBER BEACH: No. Still here.

CHAIR MUNN: Still here. So clarify for me, is all of OTIB-39 now closed, or did we have one that was ---

MR. KATZ: We have one in abeyance.

CHAIR MUNN: Which is number ---

MR. KATZ: That's Finding Number 3.

CHAIR MUNN: Number 3, yes. Still in abeyance. Very good. That we'll carry for next time?

MR. KATZ: Right. Well, I don't know how quickly the sort of language, it depends on when a document is updated. It usually doesn't happen that quickly, because it usually gets tied in with other updates.

CHAIR MUNN: That's true. Well, at least we'll bring it up and ask about the possible timing. And I know that it's been a short time for you folks. I have a commitment I have to take care of. So if you can bear with me, if I say this is

a good time to break for lunch.

MR. KATZ: Yes. Before you do that, Wanda, could I just ask Jim or Stu, just in these cases where we're waiting for an update to show the finding for a new document, is there some way you can have a tickler system so that we don't need to, on the agenda, you know, meeting after meeting, but we can just raise it when it's ready to be closed.

MR. HINNEFELD: Yes. Actually our tickler system on that is mainly Laurie who keeps track of changes that are made as they reflect on items that are in abeyance.

MR. KATZ: Okay.

MR. HINNEFELD: We just have to get those on the, you know, in the abeyance portion of the conversation.

MR. KATZ: Okay, thanks. I just think it's, to hold something on an agenda when really nothing's going to ---

MR. HINNEFELD: Yes. We kind of have, on the agenda, a period of time when we get to it where we can bring up, you know, these are things

that have changed that were in abeyance, that we've made the modification and we think they can ---

MR. KATZ: Right.

MR. HINNEFELD: -- can be done. And I suggest we just move it as one of the items in there.

MR. KATZ: Yes. Okay.

CHAIR MUNN: Otherwise though, the only time we can see them is when we review the entire BRS for abeyance and open items.

MR. KATZ: Right. Okay. So thanks for your forbearance, Wanda. And yes, I think we can then go into recess until, what time do you want to rejoin?

CHAIR MUNN: I'll be back at 1:30 Eastern.

MR. KATZ: Okay. Thank you, everybody. And we'll see you back at 1:30.

(Whereupon, the above-entitled matter went off the record at 12:22 p.m. and resumed at 1:31 p.m.)

OTIB-0050

CHAIR MUNN: Next item on our agenda is

OTIB-50. It's a TBD review status. SC&A? Is that you, Kathy?

DR. BUCHANAN: This is Ron Buchanan with SC&A, and I'm working on OTIB-50.

CHAIR MUNN: Good.

DR. BUCHANAN: And a little background on this since these are, it's been a while since we looked. The OTIB-50 was a Rocky Flats neutron dose guidance, I think around 2005. So it's been a while since we reviewed it.

Now, this was supplemented. Well, it was cancelled actually. And the information incorporated into the Rocky Flats TBD 11-6 of 2010. And so what we did was, we went back to see if the material that we were concerned about in OTIB-50 was correctly resolved in the new TBD-6 for Rocky Flats.

And we had find -- we had four items here. And Number 3 had previously been closed. So we just have three to discuss today: Number 1, 2 and 4. So Number 1 was confusing in the directions on what neutron dose to use.

So, Rocky Flats had a lot of different terminology in neutron dose. It had the NDRP document, which had different neutron doses in it. And so, our concern was how that was worded.

And when it was transferred over to the new TBD-6, we reviewed that. And we find on Page 249 of the new TBD that it was correctly defined. And we agree with that. And so, we had no problems with that.

We did find that in NIOSH's response in 2008, they did use, we think, the wrong terminology. It doesn't really affect the TBD or dose reconstruction, but they said, that non-effective neutron dose is no longer used.

According to the TBD, this is not correct that the non-effective original dose and the NDRP dose should be used and the other two not used. That's just a clarification point on their response in October 9th of 2008.

So, we have no further issues with that. We felt it's been clarified and revised TBD for Finding Number 1.

MR. KATZ: So you recommend closure?

DR. BUCHANAN: Yes.

CHAIR MUNN: Any discussion?

MEMBER BEACH: No. This is Josie. Seems pretty straightforward to me, too.

CHAIR MUNN: No additional issues, Paul?

MEMBER ZIEMER: No.

CHAIR MUNN: We can close it then?

MEMBER ZIEMER: Yes.

CHAIR MUNN: Thank you much. Next item up?

DR. BUCHANAN: Okay. Finding Number 2 was the last paragraph in Section 3. OTIB-50 discussed distributions in errors, values. And we find that this would have been difficult to implement in the way it was stated in OTIB-50. This is rather vague.

But we find in the TBD Revision 6 of the Rocky Flats, on Page 49 does provide clarification, and we agree with that clarification. We just had one comment on this. We recommend that it be

closed.

However, we do find in the revised TBD of 2010, they do use a reference to the old IT-001 on Page 49. They should be using the reference to the new IT-001 Revision 3.

And so, you know, when you revise TBD-6 again for Rocky Flats, on Page 49, you need to look at that reference to IT-001 and update it. So we recommend it be closed.

CHAIR MUNN: And do we -- I'm not seeing words in the actual record.

MS. K. BEHLING: This is Kathy. I believe that we want to change your response, Ron, from in abeyance to closed when I update the BRS. Is that correct?

DR. BUCHANAN: Yes.

CHAIR MUNN: Okay. For this finding and Finding Number 1, I believe you had inadvertently put in to be changed to in abeyance, rather than to be changed to closed.

DR. BUCHANAN: Oh, okay. Well, my, didn't I write in there SC&A recommends the item

be closed?

MEMBER BEACH: That's what I'm reading --

MS. K. BEHLING: Oh, I'm sorry.

MEMBER BEACH: -- under Number 2.

DR. BUCHANAN: On one and two, I have a printout here that shows SC&A recommends items be closed.

MS. K. BEHLING: I'm sorry. I didn't scroll down far enough. My apologies.

CHAIR MUNN: No. That's quite all right. Thank you. Very good. Unless there's any comment to the contrary, we --

MEMBER ZIEMER: No. And the other change will, it's going to carry forward though, that's for a future revision, not for this one, right?

DR. BUCHANAN: Correct. It has nothing to do with --

MEMBER ZIEMER: Yes.

DR. BUCHANAN: -- our findings.

MEMBER ZIEMER: Yes. So this one

should be closed, right.

CHAIR MUNN: Josie.

MEMBER BEACH: I agree with that too, Wanda. Sorry.

CHAIR MUNN: Okay. We've reviewed it, agreed with SC&A's recommendations, closed.

DR. BUCHANAN: Okay. And Number 3 had already been closed in the past. So we won't go into that. Number 4 was instructions on use of the worker's N over P ratio for unmonitored workers.

And the original in TBD-50 they recommended using a .42 ratio for all the unmonitored workers, and we questioned that. And NIOSH did come up with a more elaborate N over P table.

And we find that in the revised TBD-6 on Page 50 that they did include the revised table. We had reviewed that, and found that it was appropriate. And it's being used in numerous DRs today. And so we suggest closing that.

CHAIR MUNN: Fine with me. Paul?

MEMBER ZIEMER: Yes. All right.

Yes, I'm in agreement.

MEMBER BEACH: And I am, as well.

CHAIR MUNN: Very good.

DR. BUCHANAN: Okay. That's all the findings for OTIB-50.

CHAIR MUNN: Same response. And with OTIB-50 we just have, what, one outstanding? Or are we done with OTIB-50?

DR. BUCHANAN: I think we're done. I think there wasn't any more.

CHAIR MUNN: Okay.

MEMBER BEACH: They're all closed.

MEMBER ZIEMER: Three was already closed, I think.

CHAIR MUNN: Oh, yes. Yes. We had done that earlier, I remember. All right. Very good. And we can take that off our list. I'm rather relieved to see TBD-50 disappearing from our list. OTIB-60?

OTIB-0060

MS. K. BEHLING: Okay. And this is Doug Farver. Are you on the line?

MR. FARVER: Yes. I'm here, Kathy. Okay, OTIB-60. This is another document that was reviewed a little while ago. And I believe there's a few things that are still open that we can discuss here.

So, the first finding, I believe has to do with IMBA documentation.

MR. KATZ: Doug, can you just headline this? What does this OTIB deal with?

MR. FARVER: Okay. Internal dosimetry.

MR. KATZ: Thank you.

MR. FARVER: I'm sorry.

MR. KATZ: No, that's good. Thanks.

MR. FARVER: And Finding 1, the guide references NIOSH and ORAU documents but should be revised to include IMBA documentation reference.

This was agreed upon a long time ago. And was just in abeyance until the new revision was issued. And it's in the new revision. And we suggest closing this item, since it is contained in the new revision.

MEMBER BEACH: And I'm assuming you looked at the new revision and --

MR. FARVER: Yes.

MEMBER BEACH: Okay. Perfect.

CHAIR MUNN: Paul?

MEMBER ZIEMER: Close, yes.

CHAIR MUNN: All right. Very good. Subcommittee agrees with the recommendation. The finding is closed.

MR. FARVER: Finding Number 2. Okay. This is pretty wordy. But what the gist of this is, is that there was terminology used in the document that's very subjective, and could be interpreted differently by different people.

That's pretty much what the objections 1.5 and 4.1 are that we reviewed it to. And there was, at the last meeting there was some issue about they wanted clarification on a ten percent number, and it was mentioned in a finding.

Well, after going back and reviewing the transcript from the previous meeting, it was pretty much discussed, and rightly so, that the

problem was just in the general wording of the document, not the specific number.

So I made some suggestions, and I don't know if you can bring up the assessed file, for changing the wording a little bit to using terms that are already defined in the document.

For example, instead of using a better fit, reasonable fit or satisfactory fit, we change it to the ones that are already in the document like overestimate, underestimate, best estimate. Just to make the wording consistent, because those terms already are defined in the document.

CHAIR MUNN: Okay.

MR. FARVER: Okay.

CHAIR MUNN: Okay.

MR. FARVER: And that's pretty much why I just have some edits there under that Word document that NIOSH might want to take a look at, and see if they agree with that. That might be a better way to resolve the subjective wording.

CHAIR MUNN: So we carry that particular finding? Then it's a three, right?

MR. FARVER: Three.

MR. KATZ: Do you want to hear back from NIOSH?

MR. FARVER: If they have a chance to take a look at it, that would be fine.

DR. NETON: This is Jim. I looked at this a while ago, and I really don't remember. We'd have to go back and look at it. So I would recommend we just hold that open for now.

CHAIR MUNN: We will.

DR. NETON: Unless someone else from NIOSH has got more insight into this than I do.

MS. BRACKETT: Well, Jim, if you don't mind, I could speak.

DR. NETON: Sure.

MS. BRACKETT: I took a look at it and I think the wording sounds fine. It makes sense.

MEMBER BEACH: The suggested wording?

MS. BRACKETT: Yes.

MEMBER BEACH: Oh, yes.

CHAIR MUNN: Any thoughts to the contrary? Can we accept that as acceptance from

NIOSH?

DR. NETON: Yes. I think that's fine. And maybe just label this in abeyance, maybe.

CHAIR MUNN: Then it goes to abeyance. And we won't require anything from NIOSH. All right.

MR. FARVER: Okay. On to Finding 3.

CHAIR MUNN: Oh, I thought that was three.

MR. FARVER: No, that was two.

CHAIR MUNN: That's two, okay. Thanks for correcting me.

MR. FARVER: I believe the last status of this, we're waiting for some ICRP changes, so that it could be incorporated into the document. And I believe that is, the status is still unchanged on that. So it's still in progress.

MS. BRACKETT: This is Liz Brackett again. I don't know what ICRP change we were waiting for. But that, the cited document, the ICRP was a draft.

And the ICRP decided several years ago

they were not going to issue that document because they had a lot of comments that were unfavorable. And they decided just to not go ahead with it. So, I don't believe that that document will ever be published.

MR. FARVER: Okay.

DR. LIPSZTEIN: Which document is this?

CHAIR MUNN: An ICRP from 2006.

MS. BRACKETT: Recommendations on assessing bioassay. What was it called? It was a, like a supplementary. I forget the word they used for it, but more of a guidance document than a technical.

DR. LIPSZTEIN: Yes. I think what happened is just ICRP just issued a new document from occupational intakes of radiation. And it's OIRCs. And all the bioassay are going to be on the complementation of the Cs. So the first C is just a general one. And it was already published last year, 2015. And the other ones are going to be published this year and next year. Then they will

have the bioassay on each document.

DR. NETON: Joyce, are you talking about ICRP-130?

DR. LIPSZTEIN: Yes.

MS. BRACKETT: Yes. It was not part of that. This was something separate. It was not one of those. Like I said, I can't remember what they called these. This is a particular --

DR. LIPSZTEIN: Yes, yes. I know. Because it wasn't on that group. It was related to bioassay. There was a bioassay group. And then they decided that it was going to be part of each of the OIRCs, which are going to be published now. So this wasn't published. You were right.

MR. KATZ: This is Ted. Can I just ask to back up a bit? Why is there a finding on an ICRP that's not published? Because, I mean, the program is not supposed to be operating on unpublished ICRPs. And it, in fact, takes a while to even start up with them once they are published.

MR. FARVER: I understand. And that was part of the NIOSH response back in October of

2008, to which we replied that we accept it and recommend closure. And for some reason it was not closed, because NIOSH was providing comments to the ICRP committee.

MR. KATZ: Okay.

MR. FARVER: And they said that the ICRP is in progress but has not published. The Work Group changed the status to in progress.

MR. KATZ: Okay. Well it, so it sounds like it should have just been closed way back when.

MR. FARVER: If it's never been published, and no intention of, then just, that's fine.

MR. KATZ: Yes. Even if there was intention to publish it, it's still not something the program can be held to.

MR. FARVER: No, no, no. The, only if it was published already.

MR. KATZ: Right, right. And even then, there's a startup time.

MR. FARVER: Right.

MR. KATZ: But, okay. Okay. So --

MEMBER BEACH: So, this is Josie. Was there a reference to it in the document OTIB-60? Is that why it became an issue?

CHAIR MUNN: No.

MEMBER BEACH: Because of the reference?

MR. FARVER: No, no. There's a --

MEMBER BEACH: Okay.

MR. FARVER: -- reference in our review.

MEMBER BEACH: Okay.

MR. FARVER: And during the discussion it was determined that they'll follow it when it comes out.

MEMBER BEACH: Okay. That makes sense.

MR. FARVER: And it was going to come out but it never did.

MEMBER BEACH: Okay.

MR. HINNEFELD: This is Stu Hinnefeld. A little of the history here is, one of the Subcommittee Members at the time, Mark, asked to

see the comments, sort of offhand. And the comments are not project comments, you know.

NIOSH didn't make the comments. Contractors to NIOSH made the comments, but not during their work on the project. So they're not even project comments. So I really think this should just be closed, and that whole issue of the comments should go away.

CHAIR MUNN: Yes, I agree. What I feel needs to happen, though, is I think we need the appropriate words here in this closure to that effect. Oh, I need to comment that --

MR. HINNEFELD: If you would like I will send some proposed words to Kathy offline, and copy the Subcommittee Members so they can make suggestions.

CHAIR MUNN: If you would, please, Stu, that would be ideal.

MR. HINNEFELD: Okay.

CHAIR MUNN: All right. Good. We'll look forward to that. And for the time being we'll leave it sitting the way it is. When we get Stu's

comments and SC&A's agreement to that, we'll incorporate them into the BRS. And at that time, if they are acceptable, I will ask the Board Members if they concur that it can now be closed.

MR. KATZ: Well no. You can't close offline.

CHAIR MUNN: No.

MR. KATZ: But I think you can close now and agree to the wording offline.

MEMBER ZIEMER: Right. That was a question I was just going to ask. I don't think we can take the action. I think we could distribute them, and then close it at the next meeting.

MR. KATZ: Yes. If you agree in concept that future ICRP changes are not fair game, then I think you can close it now, and agree to the exact wording afterwards.

MEMBER ZIEMER: Well, was there an issue on the way things were already being done?

CHAIR MUNN: I don't think so. I think that the issue was very easy. Mark wanted to see

the comments.

MR. HINNEFELD: Yes. The issue was this draft ICRP document apparently said that bioassay is log-normally distributed and our document says it's normally distributed. And so, that gave rise, I believe, to the finding.

We pointed out that that ICRP document was never issued. And everybody was good, and it was recommended to be closed. SC&A recommended it be closed, but Mark asked to see the comment. So it wasn't closed for that reason.

MEMBER ZIEMER: Okay. I think we should just close it.

MEMBER BEACH: I agree.

CHAIR MUNN: I'll accept that. As I said to begin with, we need words in here explaining that.

MR. HINNEFELD: But, Wanda, you can close it and agree to the words --

CHAIR MUNN: Offline.

MR. HINNEFELD: -- offline, right?

CHAIR MUNN: That's fine. That's

fine. Yes. Everybody happy with we can close it? I'm certainly happy with it. Just wanted to make sure that the right words got there. And we'll expect those from Stu. So I agree it's closed. Both Paul and Josie agree it's closed.

MEMBER BEACH: Yes.

CHAIR MUNN: We will record it as closed. And I will be responsible for seeing that Stu gets back to me with some words that we can have Kathy insert at a later date. Next?

MR. FARVER: Okay. Next one is Finding 4. The OTIB would benefit from explanations of certain terms, like fitting bioassay results and assignment of missed and unmonitored dose and so forth.

And it was discussed in previous meetings, and agreed upon that those would be helpful. And it was in abeyance waiting until the OTIB was revised. The OTIB has been revised. And therefore, we recommend closing this finding.

CHAIR MUNN: No problem here. Any problem from any Board Member?

MEMBER BEACH: No.

MEMBER ZIEMER: No. No problem.

CHAIR MUNN: Any discussion from any party? If not --

MEMBER ZIEMER: No.

CHAIR MUNN: Yes?

MEMBER ZIEMER: No.

CHAIR MUNN: Somebody? Then it's closed.

MEMBER ZIEMER: No discussion here.

CHAIR MUNN: Excellent. Four is closed. Next?

MR. FARVER: Next is five. There was some discussion about the guidance on the uniform relative air, how it could benefit from additional information.

And throughout the different meetings and responses, it was agreed that they would revise the OTIB and incorporate some more information for the dose reconstructors during training sessions and group meetings and so forth. And they did so in the revised document.

And they also include a bunch of OTIBs, like 11 OTIBs relating to internal dosimetry guidance documents, which is very helpful also. So I believe we can close this one also.

CHAIR MUNN: Any objection?

MEMBER BEACH: Part of that was --

MEMBER ZIEMER: No objection.

MEMBER BEACH: -- whether the modeling -- oh. Part of that was whether the modeling was claimant-favorable. And you found that the new wording and modeling is claimant-favorable?

MR. FARVER: Well --

MEMBER BEACH: Is that correct, Doug?

MR. FARVER: And apparently it has been changed a little bit through the discussions, that they were going to add more guidance to their instructions.

So that it, the dose reconstructors understood that it may not be claimant-favorable. And to, you know, to be trained to see that and recognize that, and deal with it.

MEMBER BEACH: Okay. And you feel

like it meets that objective now?

MR. FARVER: Yes.

MEMBER BEACH: I just want to be, I wanted to be sure. Thank you.

CHAIR MUNN: Finding 6.

MR. FARVER: Finding 6. I'm trying to find the status on that. Is that one closed already?

CHAIR MUNN: It says so.

MR. FARVER: Okay.

CHAIR MUNN: At least it's recommended.

MEMBER BEACH: Well, it says addressed in findings.

MS. K. BEHLING: It's currently addressed in finding, yes.

MR. FARVER: So it goes back to Finding 3, I believe, which --

MEMBER BEACH: Yes.

CHAIR MUNN: Which we just closed.

MR. FARVER: Yes, yes. Okay. So that can be closed also. I didn't think there was any

action on that one.

MR. KATZ: Doug, is it a duplicate? I'm not understanding.

MR. FARVER: It looks like it's all part of just incorporating more guidance into the document.

CHAIR MUNN: I guess if we read the finding itself, it would be helpful. That should clear up the question. So Finding 6.

MR. FARVER: Okay. I can read it for you. It's very brief. Error Distribution Section 5.2.5.3 of the guidance states individual bioassay results are assumed to be normally distributed. This may not be true in all cases. But I think this goes back to the whole discussion, is this normal or log normal, and so forth, which I thought was Finding 3.

CHAIR MUNN: Yes.

MR. FARVER: Yes.

CHAIR MUNN: The one we just closed. We're waiting for Stu's words.

MR. FARVER: Yes.

CHAIR MUNN: Yes. I'm certainly in favor of closing it. Any, Paul?

MEMBER ZIEMER: I agree with closing it.

CHAIR MUNN: Josie?

MEMBER BEACH: Yes. I agree also.

CHAIR MUNN: This one is closed. Next, Number 7.

MR. FARVER: Seven is closed, I believe.

CHAIR MUNN: Let's see. It's already closed?

MR. FARVER: It's already closed, yes.

CHAIR MUNN: Okay.

MR. FARVER: And that's the last one for OTIB-60.

PROC-0042 – OTIB-0064 STATUS

CHAIR MUNN: Yay. So, we have only two and three that we have anything outstanding on, and three itself is closed. All right. Very good. Next up, PROC-42 and the OTIB-64 status. NIOSH?

MR. SMITH: This is Matthew Smith with

ORAU Team. As I jumped through the BRS just on my own, I did not see any open active findings on Procedure 42, and I didn't see any findings at all on OTIB-64.

The issue with these two publications is very similar to what Ron Buchanan went over earlier in the session regarding OTIB-13 and OTIBs 44 and 64.

Procedure 42 was a document that implemented the technical guidance given in OTIB-13. And again, this was an early coworker methodology for Y-12. It was specific to Y-12, where again, as Ron mentioned earlier, we were using a scaling factor to adjust coworker dose data.

With the publication of OTIB-64, that retired both Procedure 42 and OTIB-13. So, the recommendation would be to, I'm not sure what we would close, because I don't know what was open or active, but.

CHAIR MUNN: Thank you, Matt.

MR. SMITH: If there was any issue with

Procedure 42, those issues would go away due to its retirement, because of the publication of OTIB-64.

CHAIR MUNN: Since I have not checked those documents personally myself, and our past findings on them, if it's all right with the rest of the Subcommittee, I will take it upon myself to offline check those, and see if I, like Matt, don't find anything outstanding on them, and will get back to you at our next meeting as to whether or not I've found something that I thought was following up. I'll also check the, it's been a while since I read the minutes of our previous meeting. Yes.

MEMBER BEACH: Look, they're all in abeyance. They look straightforward. But I agree that you should probably take a look if you haven't.

CHAIR MUNN: Yes, I will. I have not. And, but I'll check the minutes to see what we said last time because frankly I don't remember.

But whatever we expressed as a concern last time, I'll see if it's worthy of our attention

again. I'll have -- either have it on the agenda or send you a note to the effect that I've taken a look at it, and like Matt, couldn't find anything.

MR. KATZ: Right. But if they're in abeyance then they do need closure.

CHAIR MUNN: Yes.

MEMBER BEACH: So pretty much, Wanda, all of them say PROC-042 has been cancelled, then the current guidance used to evaluate and assess internal, external, excuse me, coworker data at Y-12 is prescribed in OTIB-064. I believe they all say that.

CHAIR MUNN: Yes. I'll double check to make sure that there's nothing in either document.

MS. K. BEHLING: And, this is Kathy Behling. So, are you, am I understanding that -- we have not been tasked to review OTIB-64 yet. So, are you suggesting, Wanda, that you will go in and look and ensure that our, these in-abeyance findings have been properly addressed in OTIB-64, or?

CHAIR MUNN: No. I won't do that.

MS. K. BEHLING: Okay.

CHAIR MUNN: What I'll do is try to identify what we've outlined as a problem in our past discussions.

MS. K. BEHLING: Okay.

CHAIR MUNN: And so I'll report that back. So, thanks.

MEMBER BEACH: So, I'm hearing, you're going to carry this on the next agenda then?

CHAIR MUNN: Yes. I'll carry it on the next agenda because I don't feel comfortable personally in closing it, or making any statement about it until I've spent more time than I have this past week.

MEMBER BEACH: So it's not appropriate to task SC&A to review 64 at this time?

CHAIR MUNN: I would -- I think that's a separate question.

MEMBER BEACH: Oh, okay, yes. And it's on their list of --

CHAIR MUNN: Yes. Yes, we'll --

MEMBER BEACH: Okay.

CHAIR MUNN: We'll address that when we get to it, if we're actually going to discuss this at length.

MR. KATZ: Well, this is Ted. I mean, if it's to review 64 to the extent to be sure that the findings on PROC-42 were addressed, I think you can go ahead and do that.

CHAIR MUNN: Oh, yes.

MR. KATZ: As opposed to reviewing 64 across the board for everything, which would be a tasking by the Board. But --

CHAIR MUNN: Yes.

MR. KATZ: -- if you're just wanting to follow-up on these findings, and SC&A hasn't looked at how they were resolved, I'm not sure why that didn't happen. Because that's just part of the task, to see --

CHAIR MUNN: Yes.

MR. KATZ: -- how they were handled in the follow-up document. But certainly that's already tasked, in effect.

CHAIR MUNN: Yes, yes.

MR. KATZ: Because that's what you do.

CHAIR MUNN: That's what I was thinking. I didn't see that as being a special tasking by our --

MR. KATZ: So, Kathy, is there some reason for this, that these aren't followed up on?

MS. K. BEHLING: No. I guess I sort of held back because I wasn't sure if we needed to actually be tasked with reviewing OTIB-64. That was my fault that I didn't, that we didn't follow through with that. I didn't know, I was going to wait until this meeting to ensure that we should go forward.

MR. KATZ: I see. Well, no, I mean, like I said, I mean, when you have a finding that's open until you, that's in abeyance, awaiting the next document, we always do that. We go to the next document and see if that abeyance matter --

MS. K. BEHLING: Okay.

MR. KATZ: -- was resolved as agreed upon in the discussions.

MS. K. BEHLING: Okay. Understood that we have the follow-up action to --

MR. KATZ: Thank you.

CHAIR MUNN: Yes. That will be great. Because the recommendation that we have on our list anyhow is for representative claims, some to suggest for, not this kind of thing. So, okay.

MR. KATZ: So, and, Kathy, when you do that then, I mean, if there's a whole large other matters that are addressed that haven't been looked at by SC&A, then you can report that as well at that time, so that the Procedures Subcommittee could make a recommendation to the Board about reviewing the rest of that.

MS. K. BEHLING: Okay.

DR. NETON: Yes, Kathy, this is Jim. I think that's what you're going to find. Because OTIB-64, I think, has a very different methodology than was, that was used in the Procedure 44.

MS. K. BEHLING: Okay.

DR. NETON: It's not like just fixing, you know, the things that were found. I mean,

there were, I think it's a whole different approach. It's more of our standard coworker model approach.

CHAIR MUNN: Okay.

DR. NETON: Whereas PROC-44 had a bunch of different stuff in it.

MR. KATZ: Okay. Well, if you think that's an appropriate procedure to get reviewed, then I think the Subcommittee can make that recommendation at our August Board Meeting.

CHAIR MUNN: Well, we have it in front of us as part of our recommendations with, at least as far as --

MR. KATZ: Yes.

CHAIR MUNN: We can do it now or then.

MR. KATZ: Well, you can, I mean, you can, the Board doesn't meet until -- well, the Board has a teleconference. But it's not set up to deal with these taskings.

CHAIR MUNN: True.

MR. KATZ: So, it would be August when the Board would task it, right?

CHAIR MUNN: Yes.

MR. KATZ: Yes.

CHAIR MUNN: It seems to me.

MS. K. BEHLING: And one other item. This is Kathy again. I should have mentioned this back on our very first item, and maybe Ron Buchanan can help me out here.

The OTIB-13, I believe, did we say that a lot of our findings were transferred over to OTIB-44? And, I don't know that we have reviewed OTIB-44 in light of 13, or am I wrong there? Ron, can you --

DR. BUCHANAN: I believe that we did 44. I'd have to go back and look at that. Forty-four has replaced, then, 64 for coworkers. OTIB-44, Section 7.4 and 7.5, I have here a note on Number 3.

I say that -- yes, I quote several sections in 7. And this has been years, remember, since we've done this. That Section 7.5, OTIB-44 has been addressed, this issue from OTIB-13 and 7.

Yes, I think that we have, I have at

least looked in OTIB-44 to see if what they said was carried over or addressed from our question in OTIB-13.

Now whether we were tasked to do a complete review of OTIB-44, I don't know. But I did look at it in light of our questions from OTIB-13. But we would have to check to see if the Board tasked us with a complete review of 44. And I'm sure they have it with 64.

MR. KATZ: Right, right. Well, so what I was saying applies here, too. When you look at that, if you see that there are stretches of guidance that address approaches that you guys haven't looked at before, then you can make that recommendation to the Subcommittee, or to the Board in August, explaining what it is that hadn't been reviewed before that's a new approach, and then the Board can take it up.

MS. K. BEHLING: Okay. And I'm, as you may have seen if you're looking at the screen, I did go back through the OTIBs. And I didn't see OTIB-44 identified on the BRS system. So, Ron,

maybe you can look into that a little further for us.

DR. BUCHANAN: Okay.

MS. K. BEHLING: Thank you.

CHAIR MUNN: You know, that's, it's a mystery.

MR. SMITH: Well, this is Matt Smith again with ORAU Team. I'll just -- I'll reiterate again that the method in OTIB-13, which has been expounded on in Procedure 42, is a methodology for coworker -- external coworker dose that's no longer used.

CHAIR MUNN: Yes.

MR. SMITH: OTIB-64 implements what's written up in OTIB-20. And I know we've discussed OTIB-20 a lot.

CHAIR MUNN: Yes.

MR. SMITH: And the coworker studies that stem from that, we've discussed those a lot as well. And that is what OTIB-64 is.

MR. KATZ: Okay. Well, that may resolve it then. And it may not need reviewing.

But SC&A anyway can follow-up --

DR. BUCHANAN: Right.

MR. KATZ: -- and keep in mind what Matt explains.

MS. K. BEHLING: Okay.

MR. KATZ: And let us know. Thanks.

CHAIR MUNN: Good. Anything else to address on that item? Alright. We're moving on then to RPRT-44. Looks like everybody should have a hand in this.

DR. LIPSZTEIN: Should I start?

CHAIR MUNN: Sure. As far as I'm concerned. Unless your team has something, thoughts on this.

MS. K. BEHLING: Joyce.

DR. LIPSZTEIN: Okay.

MS. K. BEHLING: You start it, Joyce.

RPRT-0044

DR. LIPSZTEIN: Okay. The, that was not real apparent with this report, is that there is a newer document from NIOSH that was issued in 2014. So it's let me say that the -- this report

is for analysis of bioassay data, with a significant fraction of less than results.

And the methods for analyzing data sets that are dominated by sensitive results are presented in this report. And the statistical methods that are proposed are based on sound statistical methodology. And the material was very well presented.

The application of this data is the -- all the findings by SC&A referred to the application of this model. At the same time, in 2014, a newer document for coworker dataset was presented. And that's RPRT-53, Revision 2, analysis of stratified coworker datasets, that was issued in 2014.

And this document was complemented by a NIOSH White Paper, that draft criteria there for the evaluation and use of coworker datasets in 2015. And Jim Neton was the author of that document.

So, many of the questions and the findings that we had on this document 44, they are

answered satisfactorily in the newer document.

So, what SC&A proposed we commence is that NIOSH should review this document 44 as a standalone document, after document 53 was published.

So, if you want, I can go finding by finding. But even Tom Labone has answered that some of those questions are already answered in the new document.

CHAIR MUNN: So, how to proceed? Jim --

MEMBER ZIEMER: Which new document is the --

DR. LIPSZTEIN: Is RPRT --

DR. NETON: It's RPRT-53.

DR. LIPSZTEIN: Yes.

CHAIR MUNN: RPRT, document 52.

MEMBER ZIEMER: Which was it?

MEMBER BEACH: It's 0058, Rev 2.

MEMBER ZIEMER: 0058 Rev 2?

DR. NETON: Well, no, 53.

MEMBER ZIEMER: 53?

DR. LIPSZTEIN: 53, Rev 2, yes. 2014.

MEMBER ZIEMER: Oh, yes.

DR. LIPSZTEIN: And that, plus a White Paper by Jim Neton on draft criteria for evaluation and use of coworker datasets. One is a complementation of the other.

So, because all the questions we had was with the example that was done, that was presented on 44 about the representativeness of the datasets for workers, in all workers, job sites, time, patterns, and, like for example, in many datasets you would have just one year was very, or just one set of data that would have high results. And all the others would be less than.

Or samples, workers that were sampled less frequently, and others that had a higher percentage of data. And then the data would be used for all workers, without separating it.

And all those patterns they are result in this new document, 53. So, I think that, you know, this particular document should be reviewed, taking into consideration that this new document

was published. And this other document has been discussed extensively. And it's very good.

CHAIR MUNN: Okay. So --

DR. NETON: Yes. This is Jim. This is sort of held up in these coworker model issues that we've been dealing with. And Joyce is right, you know, the stratified data set RPRT-53 answered a lot of questions.

And then the imp guide went ahead and addressed the representativeness, and all those other factors that are brought up in RPRT-44. It really didn't have, the findings on RPRT-44 had less to do with how we analyze the bioassay data versus, you know, did we have a representative set of bioassay data to start with. And that's sort of what's balled up in 53 and the imp guide, the coworker imp guide.

MEMBER ZIEMER: Is 44 officially off the record, or officially, you know, sort of --

CHAIR MUNN: Superseded?

MEMBER ZIEMER: -- not used anymore?

CHAIR MUNN: Yes. Superseded.

MEMBER ZIEMER: So, we're just left with closing it out. Is that what you're saying?

DR. LIPSZTEIN: The statistical analysis in 44, it's okay. It's the method in 04, when you have very few data with high results, and a lot of datas with less than results. The statistical part is very good. It's okay.

MEMBER ZIEMER: Yes. Well, I'm just asking --

DR. LIPSZTEIN: The problem is the implementation that we -- it doesn't carry out to 53. I think both have to be. But all the implementation of it should be reviewed in place of 53.

MEMBER ZIEMER: Got you.

DR. LIPSZTEIN: Of the new document.

DR. NETON: Yes. The findings against RPRT-44 really had nothing to do with the statistical methodology --

MEMBER ZIEMER: Right.

DR. NETON: -- that was put forth.

MEMBER ZIEMER: Got you.

DR. NETON: It had to do with can you really use, how do you know that you're using on a really representative dataset. And that brings in all the coworker issues.

MR. KATZ: But what's left on the table then, Jim, since there is RPRT-53, plus your supplemental, your White Paper?

DR. NETON: Well, I think it was, yes, only that. But I think Joyce is right in the sense that we should probably do a cross walk against those findings, and demonstrate where they were addressed in 53 and the imp guide. Maybe that's the -- I don't know how many findings there were. I haven't looked at this in a while. But there are findings that are relevant more to the imp guide in RPRT-53 now. Because that was written specifically to address those types of issues. And there's nothing absolutely wrong with RPRT-44, at least technically.

CHAIR MUNN: Yes.

MEMBER ZIEMER: Yes. So in essence though all we would need to do would be to close

the 44 issues, and make a statement pertaining to whatever, however that comes out in the cross walk then.

DR. NETON: Yes. I think so.

DR. LIPSZTEIN: I think one, there is an example there of the implementation of the statistical matters, should say that this statistical matters should be implemented together with the instructions on the new document, something like that. Or should be --

DR. NETON: Well, I think --

DR. LIPSZTEIN: -- used together with 53, or something like that.

DR. NETON: I would agree with that. I think some statement to the effect that this statistical method should be applied in accordance with the representativeness defined in those other document, or something to that effect. That's what would really need to be done.

CHAIR MUNN: So we, do we not need a statement from NIOSH to get -- is NIOSH going to do that comparison for us, and give us words that

tell us that that comparison has been made, and that the two documents combined together meet the requirements of both the agency and the contractor? So that we can agree to that.

DR. NETON: Yes. I think so. I'm trying to see how many findings were here on 43. I know, I don't have that.

CHAIR MUNN: Well, we have at least 16 showing up here.

DR. NETON: Fifteen?

CHAIR MUNN: Sixteen showing.

DR. NETON: Sixteen findings.

CHAIR MUNN: I'm not sure what the status is.

DR. NETON: Yes.

DR. LIPSZTEIN: But the ones that were not closed were four findings.

DR. NETON: Oh really? There's just four?

DR. LIPSZTEIN: Yes.

DR. NETON: Okay. Yes. We could, we can, I think that's manageable. Sometimes when

you get --

DR. LIPSZTEIN: And --

DR. NETON: Yes.

DR. LIPSZTEIN: And some, one of the findings, even Tom Labone has said, oh, this is already on 53.

DR. NETON: Yes. You know, because we brought in this time-weighted OPOS and all kinds of stuff since --

DR. LIPSZTEIN: Yes, right.

DR. NETON: And, yes. We can, I think it would be good for us to go through and look at these four remaining findings. And just sort of cross-walk them somehow.

And keep in mind though that the IMP guide is still a draft document to begin with, I mean, so it might be a little difficult to do that, but we can try.

CHAIR MUNN: Okay. We'll carry it with that expectation, and hope to have an opportunity to do that before too long. Okay. Is there anything else to be said, or to worry about

with respect to RPRTs 44 and 53? Or shall we move on? Move on to PERs? Because we have a gaggle of them. Shall we start with 57? Assignment of review cases.

MR. KATZ: That's Bob Anigstein.

CHAIR MUNN: Okay. Are you with us, Bob?

MR. KATZ: Is Bob on the phone?

CHAIR MUNN: I thought I heard him earlier.

MR. KATZ: No. He was this morning. Kathy is, or John Stiver. Maybe we need to circle back to this and hunt down Bob.

MS. K. BEHLING: Yes. If someone can contact --

MR. STIVER: The only problem I'm seeing is work phone is not working. So let me call him on his cell.

MS. K. BEHLING: I was going to say, his phone, he was having difficulty with his phone.

MR. KATZ: Oh, got it.

MR. STIVER: Yes. Let me see if I can

raise him, and get him on the line.

MR. KATZ: Yes. We can just circle back to this one.

CHAIR MUNN: All right. PER-3, open item status for NIOSH.

PER 003

MS. K. BEHLING: PER-3 is, that's mine, I believe. Hold on one second. Let me see if I can pull that up. Okay, yes. And actually, Findings Number 1 and 2 are closed. And Finding Number 3 was in abeyance.

And the issue with Finding 3 is that we initially had suggested that the TBD should have a reference to the IREP user's guide. And NIOSH responded by questioning the relevance of making this change.

And as we've been talking, these are all very old findings. And at this point we agree that there's really no impact on, you know, making that kind of a change. And so, we feel that, we're recommending that we close this finding.

CHAIR MUNN: All right. Do we have

words saying that in our response here in the BRS? Can we scroll down to any later responses to that finding? Yes. There we are. Any comments from the Board?

MEMBER ZIEMER: Well, it doesn't seem to impact anything. So I think we should close it.

CHAIR MUNN: Josie?

MEMBER BEACH: I agree with that also, Wanda.

CHAIR MUNN: All right. The Subcommittee accepts the recommendation of SC&A. It's closed.

MS. K. BEHLING: Okay. And if we move on then to Finding Number 4, which is open. This finding had to do with -- Type S solubility was identified as the most claimant-favorable.

However, we identified that if there were organs associated with the extra thoracic ET1, the Type S would not necessarily be the most favorable.

And NIOSH responded by saying there were no cases involving the ET1. And so, with that

being the case, we feel we can close this. We just wanted to be sure.

We didn't have a complete list of, not all the PERs identify all of the cases that were reviewed. So if NIOSH has convinced us that ET1 was not part of any of the cases, then we can close this.

CHAIR MUNN: Okay. Any comments from the Board?

MEMBER ZIEMER: No comments. Close.

CHAIR MUNN: It's not then the same wording for Finding 4. Okay. All right. I think that's all we have on PER-3. Great. That one can come off our list. Next is PER-5.

PER 005

MS. K. BEHLING: Can I assume that Bob Anigstein did not join us yet?

CHAIR MUNN: I haven't heard anything.

MS. K. BEHLING: Okay.

MR. STIVER: Bob was logging in when I called him. So he should either be on or almost on.

CHAIR MUNN: Okay. How many findings do we have on five?

MS. K. BEHLING: Just one.

CHAIR MUNN: Oh, if there's only one then let's go ahead and do that, and give Bob a chance to get there.

MS. GOGLIOTTI: Okay. That would be me.

CHAIR MUNN: Great.

MS. GOGLIOTTI: And this has to do with the Hanford external dose.

CHAIR MUNN: And so I'm not saying anything. Paul.

MS. GOGLIOTTI: Wanted to give you a fair warning.

CHAIR MUNN: Thanks.

MS. GOGLIOTTI: PER-5 essentially addressed NIOSH's incorrectly using a biased dose correction factor for Hanford workers. And when we reviewed it, we had the single finding, that we were concerned that they potentially were not casting a big enough net when they were looking at

impacted claims.

We were concerned that by limiting the potential claims impacted to only claims that used the best estimate workbook, that perhaps they weren't potentially capturing all claims. We weren't sure. But we wanted to make sure that all claims were captured.

And so, NIOSH did a very in-depth search of all the rest of the claims. And they did provide us with several attachments here, that go into detail on exactly how they did that assessment.

And when they did the assessment, they did not find any other impacted claims. And we reviewed that and were entirely satisfied with their response. And we would recommend closure.

MEMBER ZIEMER: I'm the only one involved in this, right?

CHAIR MUNN: Right.

MR. KATZ: That's correct, Paul.

MEMBER ZIEMER: Right. Well, I'm certainly in agreement with closing that. Because that was pretty convincing anyway. So I recommend

closing.

MR. KATZ: Right. You do close, actually.

MEMBER ZIEMER: I'm in favor of it. Never say I. Okay.

MR. KATZ: It is closed.

MEMBER ZIEMER: It's an overwhelming vote.

MR. KATZ: It is.

CHAIR MUNN: I like those. PER-5 has just come off our list. Next we have PER-8, which is the IREP lung cancer response.

PER 008

MS. K. BEHLING: Okay, yes. This is Kathy. PER-8, I think the reason this was carried onto this agenda is that last time I made mention that we might want to look at some cases.

And I know, I believe Jim Neton said that there -- it really wasn't necessary. This is just the fact that the IREP lung model now uses two risk models: the NIOSH and the NIH model. And so, NIOSH went back and looked at like, I think around

920 claims, and just re-ran those claims using the newer IREP lung model.

And so, I assume, based on our discussions last time that the Board, or the Subcommittee does not necessarily recommend that we re-run those for any of the cases under the Sub-task 4 review.

It would simply be taking the IREP runs and re-running them, and that's what they have done. And didn't really know if it was a necessary step that we needed to take.

CHAIR MUNN: Yes. That would seem unnecessary to me. Other Board Members?

MEMBER ZIEMER: Well, what are we recommending here?

MS. K. BEHLING: Well, I'm recommending that we don't follow through and do Sub-task 4. I don't believe that that would be necessary.

CHAIR MUNN: So that would essentially close the --

MS. K. BEHLING: Yes.

CHAIR MUNN: -- PER?

DR. NETON: I'm sorry, this is Jim. Which finding was that? I'm only seeing Number 1 on this.

MR. KATZ: Well, it's not a finding, Jim. It's --

DR. NETON: Oh.

MR. KATZ: It's a task that they do. Whenever we have a PER which has any kind of complicated --

DR. NETON: Yes, yes.

MR. KATZ: -- implementation, we want SC&A to check some cases. But in this --

DR. NETON: Right. I got it.

MR. KATZ: -- the implementation's simple and mechanical.

DR. NETON: Okay.

CHAIR MUNN: I recommend closing. Any of the other Board Members?

MEMBER ZIEMER: I agree.

MEMBER BEACH: I would agree with that as well.

CHAIR MUNN: All right. PER-8 question is closed as being unnecessary for our review. PER-11 status.

PER 011

MR. KATZ: And so, that would mean that PER-8 is closed as a whole then, right?

CHAIR MUNN: That's correct.

MR. KATZ: Right. Okay.

MS. MARION-MOSS: Excuse me, this is Lori. Wanda --

CHAIR MUNN: Yes.

MS. MARION-MOSS: Would there be a notation made in there that there's no longer a need to perform Sub-task 4 --

CHAIR MUNN: I hope it's --

MS. MARION-MOSS: -- of the PER?

CHAIR MUNN: Yes. Early on, we had agreed that instead of doing these things real time, while we had them on the screen --

MS. MARION-MOSS: Right.

CHAIR MUNN: -- Kathy would provide words for us, and would submit them to us to review.

MS. MARION-MOSS: Oh.

CHAIR MUNN: So that she could fill these in offline.

MS. MARION-MOSS: Okay. Thank you.

CHAIR MUNN: You bet. Thank you, Lori. It's good to hear you. PER-11.

MS. K. BEHLING: Okay. PER-11, Findings 1 and 2 are closed. Finding Number 3 is in abeyance. And this is still in abeyance because PER, NIOSH is indicating that OTIB-54 needs to have a PER written for it.

However, I was just questioning if we want to go ahead and select cases for Sub-task 4. Because I don't know if that -- because the PER for OTIB-54 will be looked at separately. So I'm questioning whether we want to go ahead and select cases for Sub-task 4.

MS. MARION-MOSS: Excuse me, Kathy. That's PER, OTIB-52, not 54.

MS. K. BEHLING: Oh, OTIB-52. Okay.

MS. MARION-MOSS: Construction trade workers.

MS. K. BEHLING: Okay. I'm sorry. I'll make that change.

CHAIR MUNN: Yes, our old friend 52.

DR. ANIGSTEIN: Excuse me. This is Bob Anigstein.

CHAIR MUNN: Oh, there's Bob.

DR. ANIGSTEIN: Did we skip over PER-57?

CHAIR MUNN: Yes, yes.

MR. KATZ: We're waiting for you, Bob.

CHAIR MUNN: Yes. Because we were waiting for you.

DR. ANIGSTEIN: Oh. It was, I thought it was 2:30 p.m. So I was having some phone problems.

MR. KATZ: No, it --

DR. ANIGSTEIN: But anyway, we're coming back to it.

MR. KATZ: Great, Bob. We'll come back to you after we done with --

DR. ANIGSTEIN: Very good.

CHAIR MUNN: Yes. This item --

MR. KATZ: Thanks.

DR. ANIGSTEIN: Sorry about that.

CHAIR MUNN: -- then back to you. Quite all right. Now, where were we with the question on PER-11? We were looking at three. And what was the question, Kathy?

MS. K. BEHLING: The question is, shall we go ahead and select some cases for, under the Sub-task 4 for this PER, even though we have this one item in abeyance?

MR. KATZ: So, Kathy, if the PER isn't, if it's in the -- I don't understand. How do you select cases if the PER isn't out for one of the findings?

MS. K. BEHLING: What I'm saying is that we will select cases for PER-11.

MR. KATZ: Ah.

MS. K. BEHLING: And what I'm saying, this one finding is in abeyance awaiting a PER for OTIB-52.

MR. KATZ: Oh, I see.

MS. K. BEHLING: Yes. And so, I'm

asking if we can go ahead and assign a few cases for PER-11, which is the K-25 TBD.

MR. KATZ: Okay. And did you make recommendations for what criteria for selection? Because that's how --

MS. K. BEHLING: Yes.

MR. KATZ: -- we'll go forward with that.

MS. K. BEHLING: Yes. In that write-up there were two criteria. The first criteria was coworkers that were claims prior to May 21st of 2005, and we're suggesting maybe one or two cases from that criteria.

And then the second criteria was between the time periods when OTIB-26 was issued and OTIB-52 was issued, which would be a timeframe of May 21st, 2005 to August 31st of 2006, maybe one or two cases from those two time periods.

MR. KATZ: So, and then does this make sense to NIOSH, that this, these cases be assigned? That this is necessary?

MEMBER ZIEMER: And there's no impact

on the in-abeyance finding on running these two, these several cases?

MS. K. BEHLING: I don't --

CHAIR MUNN: Well, yes, yes. Well, we have, yes, it's about what constitutes a CTW, I think.

MR. HINNEFELD: I don't know that we have any particular position to take on whether a claim should be reviewed here. I think since there is a finding about what constitutes a construction trade worker is in abeyance, it might be worthwhile to avoid construction trade workers in these PER-11 selections. Or is that all about construction trade workers?

MS. K. BEHLING: It's all about --

MEMBER ZIEMER: Well, that's sort of the question though, is you're going to -- is that what we want to do? I'm not sure that we necessarily want to do that.

Or, I guess I'm wanting to hear whether or not that's going to be critical in you're cutting out a group that you might otherwise have selected,

or not. I don't know. Kathy, what was your thinking on that?

MS. K. BEHLING: Well, you know, Rose, I'm going to ask you. I know this is one that you had done. And I am kind of, I hate to put you on the spot here. But do you have any comment on that? Should we wait to do this or am I catching you off guard?

MS. GOGLIOTTI: You're catching me a little off guard. But the PER for OTIB-52 has to do with, they were not selecting all the construction trade workers. They were misinterpreting the guidance there.

And so, we pretty much know what they should have been doing. It just wasn't being correctly executed. So, I don't think that should hold up our process.

CHAIR MUNN: Okay. So essentially, reading one of the previous comments there, with respect to whether or not PER-14 criteria are -- I guess I'm getting into a do-loop in my thinking here. And NIOSH didn't, did NIOSH respond to your

concern a couple of years ago about that?

MS. K. BEHLING: Yes. I needed to scroll down here a little bit further maybe, this little -- perhaps --

CHAIR MUNN: This is in abeyance, because of the second of the, the Rev 2 of the OTIB. PER, they're going to address it, it says.

MEMBER ZIEMER: But I don't think we actually need to eliminate them from consideration. Because we know how we'll handle them, right?

MS. GOGLIOTTI: Correct. They were simply not applying construction trade workers --

MEMBER ZIEMER: Right.

MS. GOGLIOTTI: -- up front.

MEMBER ZIEMER: So the issue of saying, let's not, I'm not saying you should or shouldn't. But in your criteria you're not considering whether or not they're trade workers. If they happen to be, that's okay, isn't it?

MS. GOGLIOTTI: I believe they have to be construction trade workers for this to even

apply. Am I misinterpreting --

MEMBER ZIEMER: Oh, they all will be?

MS. GOGLIOTTI: Yes.

MEMBER ZIEMER: Oh. Well, I -- but it still doesn't matter. We know how they're going to be handled, right? In abeyance means we've basically solved it. We're just waiting to see if it turns up in the later document.

CHAIR MUNN: We're just waiting to see whether the other document covers it or not, I think.

MEMBER ZIEMER: Yes. But we know how to handle it. I think we're okay in going ahead with Kathy's criterion.

CHAIR MUNN: I think so too. But there's nothing that can keep us from keeping this in abeyance. But is the PER for Rev 2 of OTIB-52 out?

MS. K. BEHLING: No, it is not.

CHAIR MUNN: So if it's not, then we essentially need to keep this, continue to keep this in abeyance until we can actually --

MEMBER ZIEMER: Yes. But as far as selecting the cases, we can go ahead and do that, can't we?

CHAIR MUNN: Sure, sure.

MEMBER ZIEMER: Yes, yes.

CHAIR MUNN: I don't see any reason why not. Okay. Well, if the cases that we select are intended to include construction trade workers, then wouldn't we have to wait to see that the PER that addresses that is complete and out before we select the cases? Am I thinking incorrectly?

MR. HINNEFELD: This is Stu. I think what OTIB-52 will do is add some additional people to be considered construction trade workers that had not been considered construction trade workers beforehand.

CHAIR MUNN: Right.

MR. HINNEFELD: So, but at the time that PER-11 was written there were already a number of people identified as construction trade workers.

CHAIR MUNN: Right.

MR. HINNEFELD: And so, you could select from that population of claims that we looked at under PER-11, because they would have already been considered construction trade workers at the time.

MR. KATZ: Right. Because, Wanda, the purpose of selecting these cases is to see that PER-11 was implemented correctly.

CHAIR MUNN: Yes.

MR. KATZ: And that's already out, done.

MEMBER ZIEMER: Right.

MR. KATZ: The cases have already been selected and processed. So now SC&A is just looking to see that that implementation was done correctly.

MEMBER ZIEMER: And they're just sampling from a couple of time periods, is how they're --

MR. KATZ: Right.

MEMBER ZIEMER: -- looking at it. Not, what I'm saying is, it seems to me that that

makes sense. And I would say, yes, and we go ahead.

MR. KATZ: Right. So the, all the Subcommittee needs to do is to concur with the criteria that have been recommended by SC&A. And then NIOSH will pull cases for that, and send them, refer them to SC&A.

CHAIR MUNN: Yes. Yes. That seems the logical way to proceed to me.

MR. KATZ: Very good.

CHAIR MUNN: Anybody else?

MR. KATZ: So NIOSH will follow up on that with the cases for SC&A. And then they'll do that.

CHAIR MUNN: Good.

MR. HINNEFELD: Yes. Just so we make sure we get the criteria correctly, Kathy, could you email us those time periods that you said?

MS. K. BEHLING: Yes. I will do that. And I'm sorry --

MR. HINNEFELD: Okay.

MS. K. BEHLING: -- for all the confusion here.

CHAIR MUNN: No. It's quite --

MR. KATZ: No. It's quite fine, Kathy.

CHAIR MUNN: Because you're going to be loaded, especially from June, are bearing the burden of putting these words together so that it makes sense when we look at it again in the BRS, on top of everything else. But, then we can consider those closed, that closed?

MR. KATZ: It's just an assignment of cases. It's not closing any findings.

CHAIR MUNN: Exactly.

MR. KATZ: Yes.

CHAIR MUNN: But we, well, okay. So we're --

MR. KATZ: That's all we're doing here is assigning the cases.

CHAIR MUNN: All right. Okay. Okay.

MR. KATZ: So that's, it's sort of a nice lead in to Bob's, because that's also --

CHAIR MUNN: It is.

MR. KATZ: -- just a matter of

assigning cases.

CHAIR MUNN: Okay. And are you ready now, Bob?

DR. ANIGSTEIN: Yes, I am.

CHAIR MUNN: Okay.

DR. ANIGSTEIN: And as a matter of fact I have, let me go see if I can get this loaded up. I would like to present, make a presentation on Live Meeting. Okay. I should be --

MS. K. BEHLING: Okay. I'm good. There you go. I'm going to share with you. I'm sorry.

DR. ANIGSTEIN: Does everybody see my PDF file?

CHAIR MUNN: I do.

DR. ANIGSTEIN: Good. Let me make this -- okay. It was last-minute problems I was having with my internet. Just one reason I was late.

CHAIR MUNN: Well, you might as well join the group.

DR. ANIGSTEIN: Getting back on.

Pardon?

CHAIR MUNN: You might as well join the club.

PER 0057

DR. ANIGSTEIN: All right. My case was very simple. It was just pushing a button on my modem to reset it, and fix it. Anyway. Okay. So, as everyone I'm sure knows, PER-57 -- here's your PER-57. I'll just do it very quickly. Is that there has been a revision. Okay, there was actually a very early PER, back in 2007 for four cases for General Steel Industry, GSI.

And those four cases were done under TBD-6000. And they were then redone when the GSI Appendix B, it was Appendix BB to TBD-6000, Rev 1, Rev 0, which came out in 2007. And those cases were redone.

But then my understanding is that three of those cases turned out to be not GSI workers. So, I'm not quite sure what the status of that PER was. But that's probably, you know, a moot question right now.

So, PER-57 was -- then there was a Rev 1 to Appendix BB that came out in 2014, I believe, in summer of 2014. And that -- is Dave Allen on the line?

MR. HINNEFELD: I don't think Dave's on.

DR. ANIGSTEIN: Yes. Okay. I was going to say he would -- I was going to invite him to correct me if I got any of the details wrong. You guys want to know.

Anyway the Rev 1 came out. And then SC&A had a response to Rev 1. And there was, I think two meetings of the TBD-6000 Work Group following that discussing it. And then in the end, NIOSH decided that even though there was Rev 2 will probably be -- there probably will be a Rev 2.

Nevertheless, to speed the process, we decided to choose the PER-57 so as to review all of the GSI cases that had ever been studied, wherever there had been DRs performed, to see if they needed to be, if the PoC changed. And apparently there was about 100 cases where the PoC

changed.

So the, where we are now is that the, we were asked, or we were recommending that we be assigned to review -- Tasks 1, 2, and 3 -- Sub-tasks don't need to be done because they've already been taken care of. And Task 4, the review of the cases, is all that's left.

So the sample cases that I'm suggesting that we look at is, first of all, it will change by -- you have doses from, you have an entire variety of doses at GSI.

You have external photon dose, both from the betatron, scattered radiation from the betatron, and from radiography sources that were using radionuclides, primarily radium-226 that was in use at GSI during the beginning of the covered period, starts in late 1952.

And if I remember correctly the source of the radium sources were used through 1962. And we have called that, it's been generally adopted, the radium era. This is the time where the primary, the main source of external exposures is

radium.

However, the same radiographers that were doing radium, that were using radium, and we know of one person who I've spoken -- I've interviewed, who was doing both.

Part of the time during his shift he will be doing it using radium, part of the time using the betatrons. He would be shuffling in and out of the betatron building to, and the special structure they had for the radium.

Then in addition, those worker who were -- then later, starting with 1963 through June 30th, 1966, which is the end of the radium era, at the end of the covered period, the primary external exposure was from the betatron.

And we postulated that there could be a worker just outside the betatron room, called the layout man, that would be marking up the -- as soon as the casting is radiographed they send it out of the betatron building on a flatcar.

And it gets this layout man, who's not a specific job category, he actually alternates

with the betatron operators. Looks at the casting, has the films that have just been, that developed in front of him.

And he lays the film beneath the casting, matches them against the casting, and marks where there are defects on the film. And then those defects then get repaired and the casting goes back for a second confirmation radiograph to make sure they have been fixed.

And sometimes it takes more than one iteration to get the two, repair all the defects. And that person, this layout man, could be -- operators are safe. They're sitting behind a -- Hold it a minute until I mute this phone.

Hello. Yes, I'm sorry. I had the other phone line ringing. So, sorry about that. So, this person would be, would get, be actually in line of the betatron beam, even though it's at a distance.

But there is a geometry where he could actually be getting exposed to the periphery of the beam. And so, he will be getting a reasonably high

exposure. And then, so that's both photon, external photon exposures from the radium.

And then later from -- and they're comparable on an annual basis -- and later from the scattered radiation through this layout man. Then the betatron operator is shielded. So he gets very little direct exposure. He's behind a ten-foot thick wall filled with concrete and sand.

However, he will get some neutrons. Some neutrons penetrate the sand. So there is some neutron dose that the betatron operator will get during the betatron exposures.

Next, the betatron operator is handling uranium, slices of uranium ingots that were -- we used those as an example. But we know there were other shapes also that he has to set up and orient and take about four shots.

And so he's getting beta exposures now, electron exposures to the skin while he's handling the uranium slices. And particularly after they've been radiographed there are some short-lived -- uranium-237, uranium-239 --

short-lived radioisotopes that get created during the betatron radiography.

And these are beta emitters. So after it's been exposed, there's an additional dose from the metal for anyone in contact with it --

MEMBER ZIEMER: Could I interrupt just a second?

DR. ANIGSTEIN: Sure.

MEMBER ZIEMER: Yes. Wanda, if it's agreeable, I think this Subcommittee's pretty familiar with all of the different exposures at --

DR. ANIGSTEIN: Oh, okay.

MEMBER ZIEMER: -- General Steel. And I'm wondering if we need this much detail on --

(Simultaneous speaking)

MEMBER ZIEMER: -- rather than going directly to the recommended groups or --

DR. ANIGSTEIN: Sure.

MEMBER ZIEMER: -- or --

DR. ANIGSTEIN: Okay. I will --

MEMBER ZIEMER: I'm asking the Chair to give us a --

CHAIR MUNN: Yes. I think Paul is absolutely correct. I think we've all been very familiar and have worked with the information for quite awhile. So, yes.

DR. ANIGSTEIN: I'm sorry, Wanda, I have difficulty hearing you.

CHAIR MUNN: Oh, I'm sorry. I said, yes, I think the Members of our Subcommittee here are very familiar --

DR. ANIGSTEIN: I guess, now that I think about it, yes, you are. Because -- I'm sorry. Forgive me. I guess the same personnel as the --

CHAIR MUNN: Yes. As the big Board, yes.

DR. ANIGSTEIN: I'm sorry.

CHAIR MUNN: That's quite all right.

DR. ANIGSTEIN: I wasn't, I didn't have my head on right.

CHAIR MUNN: It's just --

DR. ANIGSTEIN: Okay. I will, I'll cut to the chase.

CHAIR MUNN: Just --

DR. ANIGSTEIN: I will definitely cut to the chase then.

CHAIR MUNN: Yes.

DR. ANIGSTEIN: So the categories that then I would like to have, the case action, is the three different, I mean, many cancer sites. But lung, metabolic organs and skin would have different dose pathways and consequently it would be useful if we could have one of each. Because the lung will get the inhalation of radium/uranium dust. Metabolic organs will also get uranium. And the skin, of course, will be primarily beta exposures.

Then there are the two job categories. Like, you know, if they have assigned the job categories appropriately. And there's administrative personnel, which was agreed in the Rev 1 of the TBD, that they will get a lesser dose. They will get something like 500 something millirem per year, just casual exposure when they happen to be walking through the plant. But most of the time

they're in a separate building away from the radiation sources.

And then you have, the second category of course is the plant personnel. And depending on which era we're talking about the radiographers would get the highest exposure during, external exposure certainly, during the radium era. And the layout man would get the highest exposure during the betatron era. I mean, betatron was used the whole time, but that's when betatron is the primary source of exposure.

And then the time periods would be, the first time period October 1952, December '62, this we call the radium era. And we have a lot of radium/uranium radiography going through that period. And there would be the skin doses from uranium handling.

Then the second period, when the new betatron was installed at the very end of, towards the end of 1963. And then you have the possibility of the layout man. So, that's another exposure scenario that would now have taken place earlier.

And then finally, the residual period, which is from July 1st, '66 to December 31st, '93. And that would be exposures related to the residual uranium contamination.

And so, here is a recommended selection of perhaps as many as five to six cases. We'd like to see an operator, betatron, radiographer I should really say because he could be a betatron operator, he could be using radium, or probably interchangeably.

We'd like to see a lung case from that period. And another, and also a skin case of hands and forearms because those would be the limiting, the highest exposures of skin.

Then during the second period, it will be interesting to look at a non-respiratory metabolic organ because that would be, again, from the uranium dust.

I would like to see one case from a uranium worker, which could be from oxide blue, because it could be -- we don't need two. Either a lung cancer or a non-respiratory metabolic organ.

Either one would be okay.

And then finally, during the residual period, it could again be the same choices, a lung cancer or a non-respiratory metabolic organ.

So, I would say that the two blue cases are really one case, one or the other. And the two orange cases are also one case. So we're talking about one, two, three, four, five, would be ideal and probably sufficient.

MR. KATZ: And keep in mind, Bob, that you can have cases that actually cover more than one of these scenarios because they would be reconstructing dose if it's a full dose reconstruction on all of the radiation exposures.

DR. ANIGSTEIN: All right. All right. I mean --

MR. KATZ: That's just something --

DR. ANIGSTEIN: Assuming that you're talking --

MR. KATZ: -- that they do when they dig into the cases.

DR. ANIGSTEIN: You're saying if they

have multiple cancers?

MR. KATZ: Yes. Multiple cancers and cover multiple periods.

DR. ANIGSTEIN: Okay.

MR. KATZ: Yes.

DR. ANIGSTEIN: Okay. I'll -- I can accept that, yes.

MEMBER ZIEMER: I have one question. So you're talking about at least one or two betatron periods and one or two radium periods? Also --

DR. ANIGSTEIN: No. That's, we're talking about two periods. Two periods during the operation, yes.

MEMBER ZIEMER: Yes.

DR. ANIGSTEIN: Yes. Then there is the --

MEMBER ZIEMER: Plus the residual period.

DR. ANIGSTEIN: And during the operational period --

MEMBER ZIEMER: Right.

DR. ANIGSTEIN: During the first

operational period the betatron -- there is the old betatron that is used --

MEMBER ZIEMER: Yes, yes. I know --

DR. ANIGSTEIN: And the radium is being used.

MEMBER ZIEMER: I want to get to my question, though.

DR. ANIGSTEIN: Okay.

MEMBER ZIEMER: The question, we had theoretically three job categories, which included the, quote, administrative jobs. And at the time we talked about that I actually had personal doubts whether there would actually be anyone in that category. Because it seemed pretty likely that virtually everybody at one time or another got into the, what we would call the working area of the plant.

I wonder, and maybe Jim Neton would know it, whether actually anybody, any people that fell into that category of administrators, or administrative?

DR. NETON: This is Jim. I don't know,

Dr. Ziemer. I haven't looked that closely.

MEMBER ZIEMER: I mean, you, I thought you were intimating, Bob, that you were going to try to identify someone in that category. Was that correct?

DR. ANIGSTEIN: Only if my -- no. Excuse me. No. Only if NIOSH has identified someone.

MEMBER ZIEMER: Yes. If they had.

DR. ANIGSTEIN: If they've identified someone as an administrative worker and assigned a dose to an administrative worker, I will be very interested in seeing, so we could sort of, you know, confirm that we agree with that categorization --

MEMBER ZIEMER: Yes.

DR. ANIGSTEIN: -- and with the method. Because it's a different --

MEMBER ZIEMER: And probably --

DR. ANIGSTEIN: -- dose --

MEMBER ZIEMER: -- determine that it was --

DR. ANIGSTEIN: -- specific scenario.

MEMBER ZIEMER: Yes.

DR. ANIGSTEIN: Obviously if there are no such people then --

MEMBER ZIEMER: Then it's a moot point. Yes. Okay. I just wanted to raise that. But --

DR. ANIGSTEIN: And they will most likely, and they will probably be more likely, because it is lower, to be in the less than 50 percent PoC. So they would fall into the --

MEMBER ZIEMER: Exactly.

DR. ANIGSTEIN: -- category that we were -- the ones that are, you know, compensated, obviously we don't look at.

MEMBER ZIEMER: Right, right. So that may not even show up in your --

DR. ANIGSTEIN: No, no. It would show up on the non-compensated, which is the one that we need to review.

MEMBER ZIEMER: Right.

DR. ANIGSTEIN: Right. Now, if there aren't any, then the question is moot.

MEMBER ZIEMER: Right.

DR. ANIGSTEIN: At the time this was discussed, it was considered to be a real possibility --

MEMBER ZIEMER: Right.

DR. ANIGSTEIN: -- that there could be some clerical workers or --

MR. KATZ: Right. So long as the Subcommittee agrees on Bob's criteria, his construct, then NIOSH can go ahead and search the cases to meet the criteria.

MR. HINNEFELD: Yes, this is Stu. Bob, can you share the page you're showing here, so we can work from that? I don't think it's in BRS anywhere, right?

CHAIR MUNN: I don't think so.

MR. KATZ: Yes. But Bob will share that for sure.

MR. HINNEFELD: Yes. Send that to us and you, I guess. And then we'll, so we can just work from this table.

MR. KATZ: So, the Subcommittee just needs to express their concurrence with the

criteria.

CHAIR MUNN: The criteria sound reasonable enough to me. Paul?

MEMBER ZIEMER: Yes. We've got three types of cancers, three types of job categories, three time periods.

CHAIR MUNN: Correct. All overlapping.

MEMBER BEACH: So, my question would be, if one of, if you do not find an administrative person, would you add another category or another operator or would you just eliminate that?

DR. ANIGSTEIN: No. I would be happy with four. If there are no administrative --

MEMBER BEACH: You'd be happy? Okay.

DR. ANIGSTEIN: I would be happy with four.

CHAIR MUNN: That should be adequate. Any further discussion? If not, we can indicate that Dr. Anigstein's recommendation --

DR. ANIGSTEIN: For my information, when, about how long would it take NIOSH to sift

through those cases to --

CHAIR MUNN: I don't know whether Jim or Stu heard that.

DR. ANIGSTEIN: Jim?

MR. HINNEFELD: Yes, I'm sorry. I was on mute. I don't know exactly how long it will take. But what we'll do is we'll sort the cases into categories that can allow selection. And hopefully can provide efficient selection of cases that may need more than one, may check more than one of the boxes here in the table.

So then, in terms of, I mean, we can choose the exact cases if you want. Or we can show you which cases fit into the categories.

DR. ANIGSTEIN: Well, I would be perfectly happy to sift through. If you can --

MR. KATZ: Well, no. I mean, the process is for NIOSH to select the cases and send them over.

MR. HINNEFELD: Okay. We can select the cases.

MR. KATZ: Yes.

CHAIR MUNN: Good.

DR. ANIGSTEIN: Okay. I mean, are we talking about a period of weeks, months?

MR. HINNEFELD: I think it will be, I think it would be weeks.

MR. KATZ: Yes, I think so. But I think in general, unless there's something, a complication, Bob, it takes a number of weeks to, just because this has to be assigned among other work, and so on.

MR. HINNEFELD: It has to be fit into other stuff our folks are doing in our computer area. They're on the query. And so, I'm thinking weeks. But I don't think it would be a whole lot of weeks.

MR. KATZ: Right.

MEMBER ZIEMER: One other question, if I could ask NIOSH. Are there still some cases that are under consideration for, under the PER? I was trying to interpret what was depicted in Dr. McKeel's memo about some cases that appeared maybe are still under consideration. Or did I

misunderstand that?

MR. HINNEFELD: Well, there's a lot of information in that memo. Of the 100 cases which we identified as PoCs changing in, for PER-57, we got, ultimately I think we got 91 of them back.

The ones we didn't get back were either DOL has not found a survivor, you know, of the original claimant --

MEMBER ZIEMER: Yes.

MR. HINNEFELD: -- that, you know, haven't found a survivor. Or they've determined, when looking back at the case, that they, that this person actually didn't work at General Steel at all. They were probably Grant City Steel.

MEMBER ZIEMER: Yes. I understood that. I was just really asking, is NIOSH done with the cases? Well, it's the 91 then, or whatever it is.

MR. HINNEFELD: No, no.

MEMBER ZIEMER: Are you folks --

MR. HINNEFELD: To what I, adding to what I just said, some of the 91 that we got back,

I think DOL then later determined did not have covered employment, did not work there.

And so we found out after we had reworked the dose reconstruction that there were some that did not have covered employment. There, as I, by our tally we just got one out like either Friday or this morning.

But by our tally that was the last one of the PER-57 cases that we had in front of us to work on. We have one, what I would call a new claim, which is a very high number that has come in since PER that we're working on. That's just the first time, you know, the first dose reconstruction.

MEMBER ZIEMER: So is it, so it's not part of the PER group there?

MR. HINNEFELD: No. That's not part of the PER group. So it's --

MEMBER ZIEMER: So, you're able to sort it, the complete group that you've handled? That's all I was asking.

MR. HINNEFELD: Yes. And --

MEMBER ZIEMER: Yes.

MR. HINNEFELD: And I know that in the Department of Labor as one of their messages to Dr. McKeel, they said there were 15 new claimants in that population of 100. And I've asked them about that.

What they meant by that was that the original claimant has passed away. And they have found the qualified survivor, which they've been calling --

MEMBER ZIEMER: Oh. They call it a new claimant.

MR. HINNEFELD: They call it a new claimant. It's the same old, it's a case that we evaluated. And it was a particular energy employee that we evaluated under PER-57.

MEMBER ZIEMER: Got you.

MR. HINNEFELD: But by the time the PER came through that, the original claimant had died. And they had found new claimants, survivor claimants to satisfy. And they called those new claimants. But those were not new cases.

MEMBER ZIEMER: Got you. Okay. Thank you.

CHAIR MUNN: Have we had adequate discussion, and resolved the issues that we, that had developed with respect to PER-57?

MR. KATZ: Yes, Wanda, that takes care of 57. We've got 58 squared away.

CHAIR MUNN: If so, yes. If so, thank you very much, Bob. We appreciate it.

DR. ANIGSTEIN: You're welcome.

CHAIR MUNN: And you'll be hearing from NIOSH.

MR. KATZ: Yes. Thank you, Bob.

PER 029

CHAIR MUNN: Next on our list is PER-29.

DR. BUCHANAN: Yes. This is Ron Buchanan of SC&A. And I have PER-29. Now, this is the Hanford TBD changes. So I guess we're back to Paul now.

CHAIR MUNN: All right. Thank you, Paul.

DR. BUCHANAN: And this consisted of, PER-29 is a change to the Hanford TBD, to go back and look at cases NIOSH issued. And we had questioned, we had 12 issues that are --

And we have, the first one is the skin dose. And the problem there was, we asked, well, what about the skin dose? Was not included in, the new method of doing skin dose wasn't included in PER-29.

And several places in this findings relate to this. I guess it was a placeholder. They mention it in their original TBD. That was in effect with PER-29, which is in 2007. PER-29 was issued in 2007.

So, the 2006 older Hanford TBD refers to airborne particles and hot particles to the skin. But the way we understand it now, NIOSH's response was that was a placeholder. They did not do it before, in 2007.

It wasn't until 2010 that they came out with a procedure to implement the hot particles. And so, Procedure 29 would not be covering the hot

particles that were just mentioned in the original TBD.

And so, with that explanation we consider, you know, it can be closed. Because it really wasn't applicable when PER-29 was issued.

The other part of that Number 1 finding was an error in Revision 0 of the TBD, where it states 130, 240 rad per hour. And then in the later edition it states, it's a value.

And so, NIOSH came back and explained that was a typo in Revision 1. But it was corrected in Revision 2. However it was a rate, not a total annual dose. And so it wouldn't impact the dose.

It was a text error in the original one that didn't impact the dose. And it was corrected in the Revision 1. And we checked that out and it's true. And so, we recommend closure on Finding Number 1. Hello?

MR. KATZ: So, Paul, maybe you're on mute.

MEMBER ZIEMER: Sorry, I was on mute. Didn't realize it. So, it sounded like you had

two. The skin dose procedure, was that Finding 1?

DR. BUCHANAN: Yes. That was skin dose.

MEMBER ZIEMER: And then the textual error was Finding 2?

DR. BUCHANAN: No. That was incorporated into --

MEMBER ZIEMER: Oh, that was part of one?

DR. BUCHANAN: Yes, that was part of one.

MEMBER ZIEMER: Okay. So, yes. I agree. Let's close Item 1.

DR. BUCHANAN: Okay.

DR. BUCHANAN: So, that brings us to Finding 2. Now, I'm going to cover Finding 2, 3, 4, and 5, because they all have the same answer. Originally when we looked at PER-29 they was, and TBD, the revised TBD, that it was issued for, we could not find an attachment that it refers to in the original TBD.

Because, we couldn't compare them,

because we couldn't find them. And they weren't in the original TBD. And so, what we found out was NIOSH had these, and they could use them. But we couldn't find them to compare.

And so, then later on we found out that they had been posted on the NIOSH website as a separate document. So we found the attachments that was originally should have been issued with the TBD originally, and compared those to the revised TBD, so that we could see if, you know, PER-29 was correct.

And we went through those. And these were thousands of pages of tables almost, or hundreds of pages of tables. And so, I compared, just a spot checking, I compared the minimum and maximum. And I did not see that there was a discrepancy between the attachments, and so, that we found later on.

And so, we seen that there was no problem with it once we was able to recover the original attachments. And so, Findings 2, 3, 4, and 5, and they're just tables of numbers for source

terms, atmospheric dispersion factors, argon-41 immersion, and intakes for TBD-4, these all reflect, relate to TBD-4.

And so, we found that they did match. And so we recommend closure on Findings 2, 3, 4, and 5, because the appendix, or the attachments are now available.

MEMBER ZIEMER: Good. We will close 2, 3, 4, and 5.

DR. BUCHANAN: Okay. And now, Finding 6. And again, 6, 7, and 8 are similar, in that what it was, kind of like 1, they mentioned something in the original TBD. And then there was placeholders for this.

And so, this is changes in internal dose in TBD-5. And the way I understand NIOSH's explanation is, they retained, they say they mention it.

And then, when something comes in to work that dose reconstruction, they set that case aside if it falls in a certain area that they don't have the effective information for. And then they

go back and rework it when they get this information in.

And so, that, so the cases, the claims are held until that information becomes available, and they fill that in. Then when that information becomes available they work those claims, and determine the PoC.

And so, this is what Finding 6 was, changes in internal doses in TBD-7. Seven was new information on the MDAs in TBD-5. And eight was MDAs for non-routine uranium bioassays in TBD-5.

And so, and some of them include tables which were not in the document. But they were included in Revision 1. And so, if this is true, NIOSH does hold these cases until they come up with this information that's in the revised TBD, then the rework.

Then, we have no issue with this, and we recommend that Findings 6, 7, and 8 be closed. Because this information was presented later, the cases held, and then reworked.

MEMBER ZIEMER: Very good. And can we

confirm then -- Those will be subject to future PERs. Is that correct, Jim? I'm not hearing anybody.

MR. HINNEFELD: What was the question again, Paul?

MEMBER ZIEMER: Well, it sounds like in those cases that where there were placeholders that the actual new procedures haven't come into play yet. But there will be a future PER that will handle those.

Ron indicated that those cases were, would be set aside, or they're held back for future PER work, or future recalculation. Am I understanding it correctly?

MR. HINNEFELD: Well, there certainly will be a future PER for Hanford.

MEMBER ZIEMER: Yes.

MR. HINNEFELD: Because the discussion --

MEMBER ZIEMER: Right.

MR. HINNEFELD: -- is going on there now.

MEMBER ZIEMER: Right, right. Well, there were two sets here. The one was, the first group were the, what was it Ron?

DR. BUCHANAN: Well, the --

MEMBER ZIEMER: For those tables that will, that were in the original document, but not in the revision.

DR. BUCHANAN: Yes. Well, I don't think there's a PER issue. The question is that when there's a placeholder in the TBD, when the technical information isn't available, then the cases that fall in that group are set aside until that information becomes available. And then they're worked with the new information, like the new information on MDA values and such.

And so, the question is that NIOSH goes back, and as soon as that information becomes available, then they work those cases that have been set aside.

MEMBER ZIEMER: Yes. I was trying to understand whether that becomes part of the same PER once the information is there. Or is that a

new PER?

MR. HINNEFELD: Well, in the situation where Ron's talking about, I don't think that constitutes a requirement for a PER. I mean, as far as I know those cases, you know, those situations are non-historical.

And we're now doing the cases from Hanford, even though we know that we're going to have to do a PER and take another look at them. But, I believe the days of holding claims because we didn't have a technical approach, I think we've resolved all those, and those move forward.

So, when we made a resolution and said, okay, now we have enough information that we can now do these claims we've been holding, that didn't require us to go back and look at any claims that had previously performed, because --

MEMBER ZIEMER: Right. But you're not -- holding claims now.

MR. HINNEFELD: We are not holding claims now, no.

MEMBER ZIEMER: Yes. See, so I'm

trying to resolve in my mind, what is the impact of closing this, Ron, or Stu, Findings 6, 7, and 8, on the internal dose? You had a placeholder. Here Ron is saying those claims are being held until we get that information. But I think you're saying, no, we're not holding claims. So, help me resolve this in my mind.

DR. BUCHANAN: Okay. This was awhile back. Okay, this was, when I did this evaluation they were holding claims then. And I said, okay, if you're going to rework the claims when the information comes available, that's fine, you know. And so, if NIOSH has, states that they went back and picked up those claims, and reworked them, well then, I recommend closure. You know, there's nothing really more that we can say about it. We just wanted to point out that those changes did take place. And NIOSH says, yes, we held those claims until that information became available --

MEMBER ZIEMER: So the ones you're talking about may have already been reworked then?

DR. BUCHANAN: Yes, right. By this

point they've been reworked.

MEMBER ZIEMER: Got you. Okay then, then it's kind of a moot point. But we'll close 6, 7, and 8 as well. Okay?

DR. BUCHANAN: Okay. And then, and, Kathy, I just wanted to make a note, on Number 8 the heading should be MDAs for non-routine uranium bioassays.

MS. K. BEHLING: Yes. Okay.

DR. BUCHANAN: It says, non-uranium. It should be non-routine uranium. Okay?

MS. K. BEHLING: We'll make that change.

DR. BUCHANAN: Okay. Just wanted to clarify. Okay. And now, so that brings it to Finding 9. And that was a reference to Attachment D.

They used a reference, again, they talked about Attachment D in the original TBD. And it wasn't included in the Revision 1 of TBD-5. And the way NIOSH explained it, that was an error in the original TBD.

It should not have said anything about Attachment D, because it wasn't there. And also, it wasn't in the revision. And it, well, it shouldn't have been in the revision. It was corrected, that text was removed from the revised TBD.

And so, we agree. We just wanted to make sure there wasn't something out there we was missing, that was forgotten when they went to the revised TBD. And there wasn't. That text shouldn't have been in the original one. And so, we agree. And that was, we recommend closure on that.

MEMBER ZIEMER: Okay. Nine is closed.

DR. BUCHANAN: Okay. Okay. And then we have ten. It's changes in uranium specific activity in TBD-5. Table 5.2.5-1 of Revision 1 was different than those in Revision 2.

And what NIOSH explained, and if this, obviously when you looked at the details, is that they took a very long list in the original TBD. And they condensed it, and just gave the highest

specific activities.

So the dose reconstructor would use those, rather than selecting from a variety that he could have selected from in the original one, table, which is pretty lengthy. And so it ends up being claimant favorable, reasonable. And so, we recommend that that be closed.

MEMBER ZIEMER: Agreed. We'll close it.

DR. BUCHANAN: Okay. Now, Finding Number 11 is, we found that in the revised TBD that they doubled the plutonium americium impurity levels, which could increase the dose in the 0.4 microcuries per gram to 0.8.

And so, the latest response we have on that is that NIOSH would consider that and get back to us. And so, that's where we're at on that. So that's in NIOSH's court. That and 12 also.

MEMBER ZIEMER: Is there anything more recent, Jim, on that one?

DR. NETON: Well, I don't think so at this point.

MEMBER ZIEMER: So we leave that in process then.

DR. NETON: Right.

MEMBER ZIEMER: Okay.

DR. BUCHANAN: Okay. And the same thing applies to 12. It's a change in the reporting level increase to TBD-5. And the latest I have on that is NIOSH is going to evaluate that on December 15th 2015, and get back with us.

MEMBER ZIEMER: And it's still in process? Kathy?

DR. NETON: Yes, I believe so.

MEMBER ZIEMER: Okay.

MS. MARION-MOSS: Paul, what we're saying is that we're going to address this issue in the next PER.

MEMBER ZIEMER: Yes. I'm trying to decide how we handle this in the documentation here. Is it considered, I mean, when you say you're going to address it, that doesn't put it in abeyance, because we don't have the answer yet, do we?

How do we handle these? I think this is procedural. Maybe, Madam Chairman, you can tell me procedurally what do we do on this? Isn't this still in process then, or not?

MR. KATZ: Yes, I can tell you, Paul. Yes, this would still be in progress, because you don't know what the solution is.

CHAIR MUNN: Yes.

MEMBER ZIEMER: Yes. Okay. So 11 and 12 will remain in progress then.

MS. K. BEHLING: Yes. They're currently showing as open. So I will change them to in progress.

CHAIR MUNN: Right. Yes.

DR. BUCHANAN: Okay. That includes all 12 findings on PER-29.

CHAIR MUNN: That's great. Thank you very much, Paul.

MEMBER ZIEMER: Well, I had a lot of findings there, I'll tell you, single handedly.

MR. KATZ: Yes. You're getting a lot of work done, Paul. Well done.

CHAIR MUNN: Yes. Especially in view of the fact he doesn't even have a screen to work from. And, yes, that's tough when you can't get to the BRS and you're doing it. But you're doing a good job. Thank you.

I have a question for all of the participants here. We're getting very close to our wrap up time. And we're not nearly through our list yet. And we're past due, I think, for at least a short break. Questions from you, for you. Are all of you good to go for an additional half hour, or not?

MR. HINNEFELD: Well, Wanda, this is Stu. I'm not hearing you. I'm only hearing about every third word.

CHAIR MUNN: Oh, all right. I'm asking if folks are going to be available to continue after 4:00 p.m. your time, until 4:30 p.m.

MR. KATZ: This is, Wanda, this is Ted. And I'm not available after 4:00 p.m. I have a migraine coming on. And it's getting worse.

And so I'd, if people can forebear, I

would be glad if we could just plow through and get as much done as we can get done today. And then end by 4:00 p.m. All right. Let's do one or two others and --

MR. KATZ: If someone needs a break, by all means then say so, and we'll break for the ten to go the, you know, bathroom break, or whatever. But otherwise --

CHAIR MUNN: Anybody want to, anybody can't stick with us, then keep plowing through? Okay. And the case --

MEMBER ZIEMER: I will need to take a short break.

MR. KATZ: Okay. Well, then let's go ahead. Let's do that then. I don't want to put, make other people uncomfortable with that.

CHAIR MUNN: Let's take ten. And be back in ten flat, okay?

MEMBER ZIEMER: Okay.

CHAIR MUNN: Thanks much.

(Whereupon, the above-entitled matter went off the record at 3:24 p.m. and resumed at 3:35

p.m.)

PER 0031

CHAIR MUNN: Let's take up immediately with PER-31. It's a carryover and NIOSH has the action.

MR. HINNEFELD: Okay, this is Stu. That's the PER of the Y-12 internal and the question was about are the in vivo results for thorium interpretable and we don't have an answer on that yet.

We may be looking to seeing if we have an air sampling solution because I'm not so sure we're going to get an in vivo sampling, or an in vivo monitoring solution for that, thorium in vivo results that reported in milligrams.

PER 0042

CHAIR MUNN: Okay. So that being the case we'll continue to carry that over. PER-42 status?

DR. BUCHANAN: Yes. This is Ron Buchanan.

Okay, PER-42 was the Linde Ceramic Plant and this was just an wording issue and in the original TBD, it was a TBD change, and PER-42 was issued on that and we questioned the difference in the wording on what would be assigned to some workers and different rates of intake.

In the old TBD they had some wording on Page 75 which didn't match the tables that the DR was using and they corrected this wording on Page 74 of the revised TBD, and so it matches the intakes that the workers should be receiving.

And so we agree that that was corrected and recommended it should be closed.

CHAIR MUNN: Any comments? Paul?

MEMBER ZIEMER: Sounds straightforward to me.

CHAIR MUNN: Josie?

MEMBER BEACH: No comments here.

CHAIR MUNN: Okay. Standard wording on that one then, Kathy.

MS. K. BEHLING: Okay.

PER 0045

CHAIR MUNN: We'll move on to PER-45.

MS. K. BEHLING: Okay. PER-45 is Aliquippa Forge and I'm going to start this off by explaining when we, Hans and I looked at this and when we looked at NIOSH's -- we're starting with Number 1 here, which was in abeyance, and when we looked at NIOSH's response to the finding we, their initial response, we came to the conclusion that they were not going to make the changes that Hans had recommended.

However, and so, therefore, I put in a statement here that I'm going to have to correct because earlier today we did go back and confirm that the changes have been made to the Aliquippa Forge TBD and they have all been made correctly.

Hans will go through those in a little more detail, but they had agreed in Finding 5 to use 8.49 dpm per cubic meter as their starting point for the residual period and because of that that changed all of the, many of the findings.

And so, yes, I'm going to let Hans go into details, but I am going to change our response

for this finding and I apologize for that.

CHAIR MUNN: Okay. No, that's quite all right. This is the time to do it.

DR. H. BEHLING: Okay. If I can just kind of quickly summarize the issues that we had discussed at one of the earlier Subcommittee meetings and when I reviewed the responses to the eight findings that we had identified with regard to PER-45 I realized that they were, in essence, all tied together.

And when NIOSH accepted the fact that they were going to revise, and the most important thing to this whole change was NIOSH's concession for Finding Number 5 where initially they had derived an air concentration for 1950, which was an artificial construction of an air concentration that was based on faulty assumption, they came up with an air concentration for 1950 of 0.211 dpm per cubic meter.

And I pointed out that that was not likely to be the one that they should use, in fact, I pointed out the value of 8.94 dpm per cubic meter

in air. That was 42 fold higher than the one they had initially used.

And the reason why this is important is that for all the years in between 1950 and 1992 that particular value was used for an extrapolation purpose for air and for internal and external.

And as the result of that they came up with values that were considerably lower because they started out with a 42 fold lower air concentration and extrapolated through 1950 and 1992 using that information.

Important there was obviously the use of a source term depletion factor which, as I said, the air concentration was changed 42 fold higher for the 1950 and as a result of also a change in the final 1992 air concentration where NIOSH accepted a resuspension value that was tenfold higher from ten to the minus six to ten to the minus five.

They also revised in 1992 air concentration, so the air concentration was changed from 0.035 dpm per cubic meter to 0.35,

which is tenfold higher.

So using these two values, from 1992 that have changed tenfold higher, to 1950, which is 42 higher, they determined, they, obviously, extrapolate a depletion factor, and this new depletion factor changed from 1.15 times ten to the minus four dpm -- Oh, per day, I'm sorry -- to 2.08 times ten to the minus four per day as the depletion.

That changed every single value in Table 5.1 and, as I said, all of the Findings related to those issues, the internal and the external, which were obviously not changed because of these three changes, the starting air concentration in 1950, this air concentration in 1992, and the depletion, source term depletion value that was changed in essence because of those two values and all but Finding Number 4 were dependent on those changes.

Finding Number 4 was an air concentration that I identified as being the highest one and NIOSH looked at that air

concentration that was very much higher than the 8.94 with the 180 dpm, but it was associated with a highly select area of the plant involving sweeping and I accepted the fact that that was episodic and I conceded that particular Finding because it was not something that one could reasonably conclude would expose people for a long term period, so as a result of everything that has changed we looked at the revisions.

We feel that every single Finding, other than Finding Number 4, which we conceded as being perhaps not important, that was closed and has been satisfied and I would recommend that we close all of the Findings out, other than 4 that has already been resolved.

CHAIR MUNN: Well, I'll remind the Board Members that Kathy has said she has some wording to change here, but with respect to the closeout of the items itself I am certainly in favor of doing that.

Does anyone have any discussion or any question that needs to be asked?

MEMBER ZIEMER: I have no questions. Thank you, Hans, for that summary. I concur and we should close.

CHAIR MUNN: Josie?

MEMBER BEACH: Yes, Wanda, I agree with that also.

PER 0047

CHAIR MUNN: Alright, very good. We'll look forward to Kathy's change in the wording both here and to the wording with respect to closure and we'll move on to PER-47. Thank you much, Hans, and thank you also, Kathy, appreciate it. 47?

MS. K. BEHLING: I believe we're waiting for NIOSH.

MR. HINNEFELD: Yes, Lori, can you handle that one?

MS. MARION-MOSS: That one is the one -- is that Grand Junction?

MR. HINNEFELD: That's Grand Junction.

MS. MARION-MOSS: Yes, okay. If you don't mind there is a little confusion on SC&A's response to our response. Kathy, can you

elaborate on your response? We were a little confused about your response.

MS. K. BEHLING: This is just Finding --

MR. HINNEFELD: Which Finding?

MS. MARION-MOSS: Pardon me?

MS. K. BEHLING: Which Finding?

MS. MARION-MOSS: Three.

DR. H. BEHLING: Okay, yes, Finding 3. Let me just refresh everyone's memory here. That was basically an issue here where in the report the raw data for 569 air samples are stated as being available for doing dose reconstruction at the discretion of the dose reconstructor and they did not reference -- in the initial statement, they did not reference where those 569 air samples were actually located and how to use them.

And, of course, NIOSH's response identified the source for those 569 air samples in a total of -- let me see, I think it was 15 documents, and what I really concluded was yes, they may be available, but is it reasonable to ask

a dose reconstructor to actually sit down and wade through 15 different documents to assess how those air samples might apply to a particular individual who's dose reconstruction is being targeted here.

And I believe that that, in essence, would be an unfair expectation on the part of the dose reconstructor to go through 15 different documents to identify air concentration and then for himself determine how that might apply to that individual.

Again, I want to raise the issue of consistency here. If you have multiple people who are going to be doing this will they use the same air concentration to establish how they might apply.

Are these general air samples? Are they breathing some samples? What will be used for an individual when there is no reference to that individual in context with that air concentration in terms of his job description, in terms of his whereabouts, the timeframes, et cetera, et cetera?

It's a complex issue that I would not

expect a dose reconstructor to do. So it's either NIOSH creates a table that would perhaps be useable for that particular dataset where they simply if they need it as an option for a dose reconstructor to use.

MR. HINNEFELD: Okay.

DR. NETON: Stu, I think I got a little bit of intelligence on this.

MR. HINNEFELD: It's starting to come back to me a little bit. Go ahead, Jim.

DR. NETON: Yes. I think Hans -- I reviewed this a long time ago when we were preparing for the last meeting and, unfortunately, I didn't have time to revisit this.

But my recollection is that the template that we do have in there has a table. It doesn't talk about this, you know, looking at the 15 SRDB references.

It's almost like you were looking at a draft table or something because clearly the table that I looked at, the document, the draft, the template that I looked at a few months ago did

exactly what you said.

It provided a table with estimates to be used and it seemed okay to me. I'm not sure exactly what happened here.

MR. HINNEFELD: Yes, Jim, here's what happened on this.

DR. NETON: Yes?

MR. HINNEFELD: This is a case review, right, a Finding from a case review?

DR. NETON: Yes.

MR. HINNEFELD: Yes. What happened is in this particular claim the employee didn't have employment during the period that these air samples applied to, but that phrase, that statement, was left in there about having all these statements in the D&D period, but the table was taken out of the dose reconstruction.

That part of the template wasn't used in the dose reconstruction because they didn't have employment during that period, so it led to a confusing, you know, depiction, and to be honest, regardless of whether they had employment during

this period or not, since this statement was in the dose reconstruction it would have been a lot more clear if the table had been in the dose reconstruction report.

This got to -- and, you know, this goes to an area of the use of the templates and actually I think it was a little surprising to some of us that the template wasn't used in its entirety and that pieces of it were taken out for certain claims.

So I think we have some work on our side to do to deal with that particular issue and it may reflect on our answers in these, in this claim, in this Finding.

DR. H. BEHLING: Yes, you know, I think that goes back to some of the comments we made with regard to the template is that we only encountered them when we actually do a dose reconstruction that makes use of the template and in this case it was an incomplete template and that, obviously, brought up an issue that I would have not brought up had I had access to a complete template.

MR. HINNEFELD: Right.

DR. H. BEHLING: And we have always made the comment that perhaps these templates should be identified as an independent document other than identifying them only through a DR that is ultimately also inclusive of that template.

MR. HINNEFELD: Right.

DR. H. BEHLING: Yes. I understand the issue now. I wasn't aware that this was, this part of the template was deleted on behalf of this individual and, therefore, I did not have access to a table that would have given me reasons not to even make that an issue.

MR. HINNEFELD: Yes, right. With this we have to some internal discussions on dealing with it ourselves.

MS. K. BEHLING: Yes. In fact, when we started looking at this PER I went out on the NIOSH website looking for the template.

This was I think one of the first ones that we had actually dealt with and I couldn't find it and I ended up talking with David Allen who pointed me to two of the cases.

He is the one that provided us with the case numbers as to here is the old template, here is the new template. So that's how that transpired.

MR. HINNEFELD: Right.

MS. K. BEHLING: And I -- while we are talking about templates, and I don't want to get sidetracked here, and perhaps I didn't listen in to the full Board meeting last time, has there been any additional discussion on SC&A perhaps looking at these templates?

And it seems to me that this would be, I don't know -- this Subcommittee would be the group that might want to tackle those if we are going to be tasked with looking at them.

MR. HINNEFELD: Yes, we've started some internal discussions on our side, but we don't have a resolution at this point.

CHAIR MUNN: Okay. So it looks to me as though Finding 3 is going to be a carryover.

MR. HINNEFELD: Yes.

CHAIR MUNN: Okay. We're moving on to

Finding 4.

DR. H. BEHLING: Oh, Finding 4. That was an error, or an issue that I identified with regard to Table 3 in the template and that is the absence of a value that, let me see -- I have to refresh my memory. My apologies.

This relates to radium-226 and thorium-230 and the issue was that NIOSH had some thorium activity fraction cited in the Table 3 of the provided template and I gathered that NIOSH has accepted that and --

MR. HINNEFELD: This is Stu again. Hans, I'm not following you very much, I'm just hearing pieces of words.

DR. H. BEHLING: Okay, I may have to -- can you hear me now, Stu?

MS. MARION-MOSS: Wanda?

CHAIR MUNN: Yes?

MR. HINNEFELD: Yes, now I can hear you.

MS. MARION-MOSS: This is Lori. We discussed Finding 4 and we indicated that we agreed

with the Finding that we would make a change to the template during the next revision, so that Finding is in abeyance.

CHAIR MUNN: So it's only in abeyance and we won't continue to cover it.

MS. MARION-MOSS: Correct, right.

CHAIR MUNN: Then we -- an additional discussion doesn't appear to be necessary then, Hans. Thank you so much.

DR. H. BEHLING: Okay.

CHAIR MUNN: We'll see what happens with abeyance.

DR. H. BEHLING: Okay.

CHAIR MUNN: And unless there is some comment or other concerns with PER-47 we'll move on to PER-53, a review status from SC&A.

PER 0053

DR. H. BEHLING: Okay, 53 is Allied Chemical. Let me just quickly get my mind straight here.

I think I can start out by saying that we used Rev 1 of the Allied Chemical Corporation

Technical Basis Document and there were obviously some issues that related to the presence of non-uranium radioisotopes, thorium-230, radium-226, radon-222, et cetera, and there were also issues related to neutron exposures from the alpha neutron reaction to the UF-4 and UF-6, uranium tetrafluoride and uranium hexafluoride.

And, also, for the residual period after 1976 when Allied Chemical resumed ore processing, but they provided the uranium tetrafluoride through gaseous diffusion plants used by commercial fuel fabrication facilities that were not covered by EEOICPA.

And yet, however, there was a need for dose reconstruction during that residual period from residual contamination that had been part of the issue that we had prior to '76 under EEOICPA for dose reconstruction.

Secondly, there were, in that interim there were changes made to OTIB-70 and the most important change there was the depletion factor from 1 percent per day to 0.0067 per day.

And these changes were essentially incorporated in the Rev 2 of the Allied Chemical TBD that was issued on May 5 in the year 2014, and as a result of those changes to the TBD the PER-53 was issued and when we were asked to review the PER-53 we reviewed all of the various components that we were asked to do, Subtask 1, 2, 3, and 4.

And as a result of our review we had no findings for Subtask 1, 2, and Subtask 3, only Subtask 4 where we needed to select a representative dose construction to verify that these changes had been incorporated.

We identified that the potential exists for a single dose reconstruction to satisfy that need provided that single dose reconstruction covers the operational period --

(Telephonic interference)

-- and the residual period.

On the other hand, we note that a dose construction --

(Telephonic interference)

-- that covers both periods then we

would have to have two different independent dose reconstructions, one that was principally for first period of operation, the second one post the operational period where only the residual contamination would come into play.

And, as a result, that is the only issue that we believe to be discussed at this point is the selection and identification of either one or two dose reconstructions that would, of course, satisfy Subtask 4.

CHAIR MUNN: And so this is a decision NIOSH will have to make based on if the pool --

(Simultaneous speaking)

DR. H. BEHLING: -- that usually it also incorporates the Subcommittee I take it.

MR. HINNEFELD: Oh, so it also incorporates the what?

MS. K. BEHLING: The Subcommittee.

DR. H. BEHLING: The Subcommittee.

MS. K. BEHLING: In other words you are in agreement that we should go ahead with just a case, Wanda, I assume.

MR. HINNEFELD: Oh, okay.

(Simultaneous speaking)

CHAIR MUNN: Yes, I think so. That sounds obvious to me.

MS. K. BEHLING: Okay.

CHAIR MUNN: Any comment from the Board?

MEMBER ZIEMER: No, that's -- I agree.

MEMBER BEACH: No comment and I also agree.

CHAIR MUNN: Oh, that's very good. Then the only action here is for NIOSH to, based on the pool they have, make the decision whether they need one or two and convey that information to SC&A, correct?

DR. H. BEHLING: Yes.

CHAIR MUNN: I think we'll make a note on the BRS to indicate that and we can go on to PER-55, and we have three minutes.

DR. MAURO: You got it.

CHAIR MUNN: Okay.

PER-0055

DR. NETON: Okay, this John. Hi, everybody. PER-55 was issued by NIOSH on September 12, 2014, and it was the PER that was designed to revisit all the cases that might need to be revisited because of all of the changes that were made to TBD-6000, which you all know is the uranium machining and handling TBD.

And there is a -- and it was issued, it was Rev 1 that was issued, and all of the -- that Rev captured all of the issues that were discussed over the period of years with Paul's group, TBD-6000, all of which were resolved.

So from the perspective and -- but there is a little nuance here that I'll get to in a minute. So from a technical perspective there is really nothing to discuss.

All of the issues were discussed, resolved, documented, and on the record related to TBD-6000, which was a protracted process. The TBD-6000, keep in mind, only applies to cases where TBD-6000 the parent documents were used.

It does not apply to the appendices,

like GSI, Appendix BB. So what NIOSH did was go and capture all of the cases that might have been affected by all of the changes that were made to TBD-6000 and called them down and identified, I believe, about 30 cases that needed to be revisited.

And so our process was, one, to take a look technically, are there any open issues that we need to talk about, and that's the first thing I'd like to bring to the attention.

There are two things that I don't consider to be major issues, but I do want to put them on the table. One is TBD-6000 currently is silent regarding OTIB-70, which you know deals with the residual period.

I called Jim up while I was working on this to ask by the way when you revisited the cases that were in play, because of the revision of the TBD-6000, did you factor in the changes made to OTIB-70, because there really isn't anything said, any words, language, in Revision 1 of TBD-6000.

And Jim indicated absolutely, yes, and

that at some future time they will simply have to put some language in, but they did in fact, when they revisited, certainly factored in any changes that occurred to OTIB-70.

So that's just by way of a matter that at some future time it's probably a good idea just to put some language in there, that was one observation.

The second one, from a technical perspective, has to do with the Putzier effect, the famous Putzier effect. NIOSH did an excellent job in describing the effect starting on Page 20 of TBD-6000. And on Page 22, and here is my question, and I guess it's to David or Jim, is the statement is made that the Harris and Kingsley, which is the underpinning to TBD-6000, values that are used as default values, as you know in the back of TBD-6000 there are these look-up tables where you look up the dose rates beta, the dose rates gamma, as a function of job category and as a function of year, and there is some language in TBD-6000 that says that, yes, we did take the Putzier effect into

account by multiplying the beta dose by a factor of ten.

In other words, recognizing that this could be a problem and, you know, the circumstances under which that's a problem are complex, all of which have been discussed and all of which have been agreed upon.

But my question now really to NIOSH that maybe we could resolve real quickly is when a person is doing a dose reconstruction for external exposure that might be handling metal and where you are concerned about his beta exposure to the skin, do the look-up tables in the back of TBD-6000 where it gives millirad per year or millirad per hour -- I don't have it in front of me -- do those values reflect an increase to account for the Putzier effect or is that something that the dose reconstructor has to make a judgment himself on whether or not to make any adjustments to the default exposure rates that are currently in TBD-6000?

DR. NETON: John, I don't think they

do. I'd have to verify that, but my gut feeling is that those reflect, you know, freshly made metal, not reprocessed metal, which is in the situation where the Putzier effect would come into play.

DR. MAURO: No, no, and --

DR. NETON: These metals --

DR. MAURO: -- I agree with you and in the writeup, in your writeup in TBD-6000 starts on Page 20, there is an excellent description of all of that, but it does conclude with a statement that's why I raise this.

I'll read it, it's on Page 22, it's one sentence.

DR. NETON: Yes.

DR. MAURO: Film badge readings at various sites indicate those sites engaged in remelting exhibit the highest ratio of whole body beta dose to whole body gamma dose. The ratio for those sites can approach ten. Therefore, a ratio of ten is used in this document to account for this effect.

Now that statement basically is telling me that the look-up tables that you have in the back have taken that into consideration, and if the answer to that -- and I just wanted to confirm that if that in fact is the case, we're done. If there is some ambiguity regarding whether in fact that's the case then it may be worth looking into that a little further.

DR. NETON: Yes, I think we're going to have to look into it because I really can't tell right now.

DR. MAURO: Okay. So it sounds like we may need to leave that particular matter open until we can nail it closed. So that's the one TBD-6000 issue that was left in a little bit of an ambiguity and we may need to resolve.

DR. NETON: Could you read that statement one more time then, John?

DR. MAURO: Sure, I'll read it one more time. It's on Page 22 of TBD-6000.

DR. NETON: Okay.

DR. MAURO: Film badge readings at

various sites indicate those sites engaged in remelting exhibit the highest ratio of whole body beta dose to whole body gamma dose. The ratio for those sites can approach ten. Therefore, a ratio of ten is used in this document to account for this effect.

And I was, you know -- and, that's great, but I just wanted to confirm then, does that mean that the look-up tables in the back that you use --

DR. NETON: Yes, yes. I can't tell from that statement, but I'd be surprised if they include it because the remelting is kind of an exception compared to --

DR. MAURO: And I agree with that.

DR. NETON: Yes.

DR. MAURO: That there are only very specific circumstances where that might be a problem, but there may very well be AWE sites where that was the case and they could be done.

DR. NETON: Oh, yes, yes.

DR. MAURO: And that's my only concern,

is --

DR. NETON: Yes, we can get back with that answer pretty quickly, but, unfortunately, I can't off the top of my head confirm one way or the other.

DR. MAURO: Okay. So if it's acceptable to the Subcommittee, I think that is something that probably should stay in progress until we can close that down.

CHAIR MUNN: All right. But I have, if I am following your presentation adequately, John, I believe that you found the first issue all right and that the only outstanding thing in your mind is the question about the Putzier effect?

DR. MAURO: Yes.

CHAIR MUNN: All right, and that tables. NIOSH will -- That's what I will expect to maintain on our agenda and everything else from our perspective is clear on PER-55, correct?

DR. MAURO: Right. The only thing you have to do with that OTIB-70 where everything is fine but there is no language in TBD-6000 in its

current form to let the reader, the dose reconstructor, know please use OTIB-70 when you are doing the residual period.

So it's just -- in fact, when the PER was done and they revisited those cases, they didn't, I spoke to Jim and they did in fact factor in OTIB-70 in their re-analysis.

But the language itself is not there in the TBD itself, TBD-6000, so it's just a matter of getting that language in at some convenient point in the future.

CHAIR MUNN: So, actually, we are still in abeyance on that one.

DR. MAURO: Okay.

CHAIR MUNN: Okay, very good.

DR. MAURO: The last point I want to make, and I guess it's a preliminary thought, is this was a very difficult job for NIOSH to do.

They had to identify all of the cases where TBD-6000 was at play, not a simple matter, and we -- I'd just like to say that Amy, who is on the line right now, actually checked to see if they

missed anything and the description of what we did to check is very complex.

I'm not going to go over it here, but just to let you know that if you do read our report you will see that we believe that NIOSH didn't miss anything, that is when they went back and captured what needed to be revisited they in fact did revisit everything that needed to be revisited.

So we find favorably with regard to the scope of the cases that they looked at. As far as getting into the details on how we did that, that could take some time, but it's all written up in our report that you have before you.

CHAIR MUNN: Good, yes, for which we thank you, yes.

DR. MAURO: Finally, I'm almost done, we recommend three cases be reviewed, that the Subcommittee working with NIOSH identified three cases.

We'd like to look at the one case where there was a reversal where a person was compensated, we would like to at another case where

the dose went down, and we'd like to look at a third case that did in fact use OTIB-70.

If those three cases could be identified, we think -- and we would like to review those and close out this process.

CHAIR MUNN: Did or did not use OTIB-70?

DR. MAURO: Did. A case where OTIB-70 was in fact used. This would confirm the statement that, yes, it was done, even though there is no language in TBD-6000 to that effect.

CHAIR MUNN: NIOSH, can you accommodate that request?

DR. NETON: Yes, I think so.

CHAIR MUNN: Okay, very good.

DR. MAURO: I'm done.

CHAIR MUNN: Good.

MS. MARION-MOSS: I have a follow-up question to PER-55, Wanda, real quick.

CHAIR MUNN: Okay.

MS. MARION-MOSS: So there were Findings for PER-55, am I correct?

DR. MAURO: There were basically two, which are more like questions. One is this OTIB-70 business, which really is a matter of, you know, getting the language in there at some time when it is convenient, so that's really not an issue.

The other one has to do with the Putzier effect, which also is an assumption, you know. The TBD-6000 does say that it does accommodate the Putzier effect, but it's not apparent of that in fact is accomplished, because there are a bunch of look-up tables in the back of TBD-6000 and it's not clear how the dose reconstructor would take the Putzier effect into account if in fact it needs to be taken into account.

You know, if circumstances existed at a given facility where it becomes clear that, yes, maybe we should have taken the Putzier effect into account, so, yes, that is an issue, a finding that I think is important that needs to be cleared up.

MS. MARION-MOSS: So SC&A will be updating the BRS with these findings, is that correct?

MS. K. BEHLING: Yes.

MS. MARION-MOSS: Okay, thanks.

CHAIR MUNN: All right.

MR. HINNEFELD: This is Stu. I just want to make sure I am clear on those criteria that John listed for case selection.

One was a case whose compensation changed to not compensated, is that right?

CHAIR MUNN: Yes, reversed.

MR. HINNEFELD: And the second one was a dose, or the dose in the DR went down from the original?

DR. MAURO: Yes.

CHAIR MUNN: Yes.

MR. HINNEFELD: And the third was that the claim used TIB-70 in the rework?

DR. MAURO: Yes.

CHAIR MUNN: Correct.

MR. HINNEFELD: Okay, all right.

CHAIR MUNN: That's what I have. Very good. And thank you, John, for that 16-minute, 3-minute presentation. Any other comments with

respect to PER-55?

(No response.)

ADMINISTRATIVE DETAIL – ROUTINE NOTE OF ABEYANCE ITEMS READY FOR CLOSING

CHAIR MUNN: All right, let's quickly go to administrative detail. Lori, with respect to the first item, routine note of abeyance items ready for closing, can we postpone that until next time, unless there is something pressing we need to hear?

MS. MARION-MOSS: No. We can hold that over.

ADMINISTRATIVE DETAIL –STATUS OF CASE SELECTION RECOMMENDATIONS

CHAIR MUNN: Okay, I'm going to carry those over. And the status of the case selection recommendations have been given to us. I am sure everybody has had a chance to look at those.

Do we want to move through that very quickly? There were nine of them, three of them were just Subtask 4 issues. Are there any questions that anybody has rather than go through

them one at a time, since I am assuming that, Paul, both you and Josie have had an opportunity to read these, correct?

MEMBER BEACH: Yes.

CHAIR MUNN: Do you have any suggestions, any comments?

MEMBER ZIEMER: I don't think I've seen them. What are we looking at?

CHAIR MUNN: Oh. Well, back in February, Kathy sent us that original list and it was recently resent to us so that we could see that list of nine.

MEMBER ZIEMER: Okay, all right. Is that the email from Kathy?

CHAIR MUNN: Yes.

MEMBER ZIEMER: Oh. Oh, yes, hang on. I just want to pull that up, but --

MEMBER BEACH: It was February 23rd, Paul, if that helps.

MEMBER ZIEMER: February 23rd.

CHAIR MUNN: Well there was a more recent dispersion of those sheets.

MEMBER BEACH: Oh, that's right, there was.

(Simultaneous speaking.)

CHAIR MUNN: -- but it was very quickly.

MEMBER BEACH: Same one.

MEMBER ZIEMER: Yes, I am looking at it now I think. Wait.

CHAIR MUNN: Good.

MEMBER ZIEMER: What was the date on the recent one?

CHAIR MUNN: Oh, the recent email?

MEMBER ZIEMER: Yes.

CHAIR MUNN: Oh, gosh, I'll have to look at my old stuff to see.

MEMBER BEACH: I'm trying to think, too. It may have been last week one day.

CHAIR MUNN: Yes.

MS. K. BEHLING: It was PA-cleared and we sent it out and I also put it on the O: drive for everyone --

MR. KATZ: Right, it was last week.

CHAIR MUNN: Yes.

MR. KATZ: Last week, and I actually then followed it up with an email. But so --

MR. HINNEFELD: Yes, it's May 4th.

MR. KATZ: Yes. So for each one of these where we are assigning cases for Task 4, I think you also, you have to get the Subcommittee's concurrence, but you also need to make sure they make sense to NIOSH so that they can do selection.

CHAIR MUNN: Yes.

MR. KATZ: Okay.

CHAIR MUNN: Yes, that's why I would like to first address the six others that were recommended, whether --

MR. KATZ: Well, you can't --

CHAIR MUNN: Well let's just go through them one at a time. The first recommendation was PER --

MR. HINNEFELD: Ted, are you okay?

MR. KATZ: I'll hang in there, go ahead.

CHAIR MUNN: Nevada Test Site, PER-46,

SC&A recommends that it be reviewed, numerous modifications that affected all exposure pathways and the number of cases impacted by these changes.

MR. HINNEFELD: Our only comment is there is an NTS Work Group that's dealing with, you know, the issues having to do with dose reconstruction.

I mean they have looked at these and they are continuing to look at the dose reconstruction approaches, so do you need a full review, the one, two, and three review, or do you just want case selection on this?

CHAIR MUNN: This was not one that, just expected case -- well, let's ask SC&A.

MS. K. BEHLING: Well, I felt, and since it did impact all of the various pathways that we should do a full review on this.

MR. HINNEFELD: Well, I mean there is an NTS Work Group that's doing that as well, that's evaluating the dose reconstruction approaches.

MS. K. BEHLING: Okay. Okay, so this PER incorporates SC&A's comments accordingly, you

know, in accordance with that, that Work Group. Is that correct?

MR. HINNEFELD: Well, yes, I mean this one and --

MS. K. BEHLING: Okay.

MR. HINNEFELD: Yes, and then that there will be, probably there could be another PER for the comments we are working on now, but what I am saying is that there is a group, there is a Subcommittee, or a Work Group, that is evaluating the technical quality of the dose reconstruction approach, which is essentially one, two, and three --

MS. K. BEHLING: Okay.

MR. HINNEFELD: -- looking at one, two and three in review.

MS. K. BEHLING: Okay, all right. With that in mind then, yes, I agree, maybe just Subtask 4 for this.

MR. KATZ: Can I just raise a question though? If the Work Group is looking at those methods and there may be a PER to supersede this

PER, then it's less important. If that PER ends up superseding this PER then it's not worth spending more money on reviewing even the cases on this PER.

CHAIR MUNN: Can we continue this for consideration following the Work Group's completion of the task that they are undertaking?

MEMBER BEACH: I think that's a good suggestion, Wanda.

CHAIR MUNN: Okay. Postpone till the Work Group has completed its review of their methodology, okay.

All right then let's go on to PER-54, Carborundum. I have an SEC and NIOSH has evaluated it. It proposed to revise the DR methodology, which has been reviewed by SC&A but not yet completed with the Board.

MEMBER BEACH: Wanda, can I just interject, there is a Work Group for this as well.

CHAIR MUNN: Yes.

MR. HINNEFELD: Right, yes.

MEMBER BEACH: Is it the same situation

as NTS?

CHAIR MUNN: I believe it's similar, yes.

MS. K. BEHLING: This is Kathy. Sorry to interrupt, but is Bob Anigstein still on the line? Perhaps not. And is John Mauro still on the line? Because the two of them looked at this and insisted that I put that on the list and that this gets reviewed.

I think it has to do with the template and --

MEMBER BEACH: It does, it does.

MS. K. BEHLING: Okay.

MEMBER BEACH: This was one that I was recommending. I just didn't want to recommend it and then have someone say, because I know there is a Work Group for it.

MS. K. BEHLING: Yes. In fact I mentioned that to Bob Anigstein and he said we still need to look at this and I, quite honestly at this point in time I forget all of his justifications, but --

MEMBER BEACH: Well, this is the one, Kathy, that brought up the template issue most recently, I believe.

MS. K. BEHLING: Okay. Okay, your call.

CHAIR MUNN: So, Paul, do you have any feelings about this?

MEMBER ZIEMER: No, I don't. Actually, I'm kind of lost here. Where is Carborundum on the agenda? What are you looking at?

MR. HINNEFELD: We're looking at the memo that Kathy sent. I don't know if you got it.

(Simultaneous speaking)

MEMBER ZIEMER: Oh, okay. And I can't get to that memo because I can't get to my, in my NIOSH email because I can't get on the NIOSH website.

MR. HINNEFELD: Yes.

CHAIR MUNN: Oh.

MEMBER ZIEMER: But I don't have that document, so --

MR. KATZ: I think this one is going to have to wait.

CHAIR MUNN: Yes.

MR. HINNEFELD: I think there is, like there is an SEC, you know, Evaluation Report due or done and then the review of the Evaluation Report.

There is a Work Group that's looking at the dose reconstruction approach. It would seem like that group would look at it.

CHAIR MUNN: Well, let's put this as a carryover till next time. And if SC&A and NIOSH want to have some exchanges in the meantime about the wisdom of when this needs to be done, if it needs to be done by SC&A, that would be helpful, I think.

MR. KATZ: Yes, that would great.

CHAIR MUNN: Let's do a carryover. Let's move over to PER-59, Norton, recommending review since the DR methodology hasn't been used, and if used in the templates, hasn't been previously evaluated.

MR. KATZ: Can I, again -- well, okay,

if you are just making recommendations here, but, you know, where we haven't evaluated a TBD, I mean that -- yes. I mean that's fine to make a recommendation; it's the Board that will deciding whether they want that reviewed anyway.

CHAIR MUNN: Right.

MEMBER BEACH: I think it said there was no TBD for this one, right?

MR. KATZ: Right, but it's the same thing if it's the template.

CHAIR MUNN: It's the template, yes.

MEMBER BEACH: Oh, got you.

CHAIR MUNN: So shall we -- let's, I would recommend that we recommend this to the Board.

MR. KATZ: Yes. So which site is it, sorry?

CHAIR MUNN: This is Norton.

MR. KATZ: Norton, thanks.

CHAIR MUNN: PER-59. And the next case then we will look at very quickly is Subtask 4 for Blockson. Can we ask for criteria?

MS. K. BEHLING: I can provide criteria, yes.

CHAIR MUNN: Okay. Can we ask that those be provided for NIOSH --

MS. K. BEHLING: Yes.

CHAIR MUNN: -- and if those criteria can be provided, is there any objection to the recommendation?

MS. K. BEHLING: None here.

CHAIR MUNN: All right.

MR. KATZ: Has NIOSH looked at the criteria?

MEMBER ZIEMER: I am okay with it, so go ahead.

CHAIR MUNN: No, no, but that's what we have to have before we can actually recommend it.

MR. HINNEFELD: Oh, the criteria on the book in a table.

CHAIR MUNN: Does the Board have to approve that?

MR. KATZ: No, the Board doesn't have to approve Task 4, it's just that NIOSH has to agree

that those criteria make sense.

CHAIR MUNN: Okay. Then we'll have to hold them over and ask for criteria to be presented to NIOSH.

MR. HINNEFELD: Yes, there are no criteria on here are there?

CHAIR MUNN: No, I don't see them.

MR. KATZ: So SC&A if you will provide criteria NIOSH can review that and then this --

MR. HINNEFELD: Should we select or is it premature?

MR. KATZ: I mean I think if it's okay with the Subcommittee just conceptually then, yes, go ahead and actually select if it all makes sense.

If it doesn't make sense then it will be on the agenda for the next Procedures meeting.

MR. HINNEFELD: Okay.

CHAIR MUNN: Exactly. Sounds fine to me. Any questions or --

MS. K. BEHLING: So I will provide criteria to NIOSH and to the Subcommittee, is that correct?

MR. KATZ: Yes, thank you, Kathy.

MS. K. BEHLING: Okay, very good.

CHAIR MUNN: Thanks. Next is PER-61, Bridgeport Brass. That is recommended that the PER be reviewed since the only review of these facilities has been performed under an expanded review of a DR audit performed in May 2008. That's Bridgeport Brass. I would recommend it.

MEMBER BEACH: I agree, Wanda.

CHAIR MUNN: Paul?

MEMBER ZIEMER: Well, sure.

CHAIR MUNN: All right. PER-63, Aluminum Company of America, Pennsylvania. Forty-four cases in this we identified, 35 cases reevaluated. SC&A recommends the PER be reviewed since the Board has not previously evaluated the Alcoa PN DR methodology.

If the methodology hasn't been reviewed, I would recommend it. Anyone else?

MEMBER ZIEMER: Agree.

MEMBER BEACH: I agree.

CHAIR MUNN: All right. Moving on to

PER-64, that's Subtask 4 only out of 56 cases that were reevaluated.

I don't see criteria, but it says here SC&A will provide criteria, identify the relevant cases and perform a review.

Can we ask that they provide the case selection criteria now and move on from there? If NIOSH agrees then we have the same situation that we had in an earlier case, I do believe.

MR. KATZ: Right.

CHAIR MUNN: Does the Subcommittee agree?

MEMBER ZIEMER: Agree.

MEMBER BEACH: I do.

CHAIR MUNN: Okay, very good. And so, Kathy, you will be providing SC&A -- you're going to provide the case selection criteria and if NIOSH agrees, they'll let you know and you can go forward.

MS. K. BEHLING: Yes.

CHAIR MUNN: SC&A, the last one is -- oh, the next one is PER-65, Anaconda, recommended the PER be reviewed since the Board hasn't

previously evaluated that methodology.

That's essentially the same one as the preceding case that we had with Aluminum Company of America. I would recommend it for the same reasons.

MEMBER ZIEMER: Agree.

MEMBER BEACH: I have a different appendix, so, yes, definitely.

CHAIR MUNN: Okay. And one last one is also Subtask 4 for Huntington, PER-66, and SC&A, again, offers to provide selection criteria.

Again, the same situation. It seems appropriate to me to do Huntington, 59 cases originally identified.

MEMBER BEACH: I agree, Wanda.

MEMBER ZIEMER: Agreed.

CHAIR MUNN: All right. That is that we have technical guidance documents that have not been assigned, the 600 TKBS, and for our Nuclear Metals, Inc., and TKBS-25, an exposure matrix for Linde.

I am not sure -- our revision to

Appendix CD is based on revisions to TBD-6000.

MS. K. BEHLING: Yes, this is Kathy. In this particular case, Ted usually informs John Stiver and I that there has been an update and I just compiled this table because I didn't, quite honestly I wasn't sure that this was supposed to be done in this, for the Subcommittee or where these would be picked up.

CHAIR MUNN: Yes, and I'm not sure about these three and the technical document on the next page, TBD-64, coworker external dosimetry data. I'm not sure about those.

Ted, do you have a suggestion on how to proceed with these or is that normally something that's done administratively?

MR. KATZ: I don't know.

CHAIR MUNN: Yes.

MR. KATZ: Frankly, my head is cracking and I can't --

CHAIR MUNN: Okay, yes, I can understand that, I can ask you --

MEMBER BEACH: Hold these over for the

--

CHAIR MUNN: Yes, I believe we can hold them over. Kathy, is there any problem with that?

MS. K. BEHLING: No, not at all.

NEED FOR NEW TASKING – PROC-0006

CHAIR MUNN: Okay. Hold over then, we'll do that. Very quickly, the last case, I had PROC-0006 on there, what's that about, Kathy? It needs --

(Simultaneous speaking)

MS. K. BEHLING: I'm not sure. I put a question mark alongside of that and I think that was just -- I went back to the transcripts from the last meeting and I just think that might have been a typo on --

CHAIR MUNN: Yes, I think it must have been.

MS. K. BEHLING: Okay.

NEXT MEETING

CHAIR MUNN: I think that was covered by what we've already done. This leaves only the

next meeting.

MR. KATZ: Yes, we can do that online.

CHAIR MUNN: All right.

MR. KATZ: Offline, whatever.

CHAIR MUNN: If we can do that offline then I suggest that we do that. Does anyone have any objection?

(No response.)

MR. KATZ: Yes, and my only thought about that is it seems like you guys cleared the table of an awful lot and until -- we'll need more work for a meeting.

CHAIR MUNN: Yes. I would like to get some better feel other than just the fast notes I have made as to how much time is going to be needed for the next group of activities and what we are looking at in the way of new PERs and things of that sort.

MR. KATZ: Yes.

CHAIR MUNN: So if it's amenable with all the others I would like very much to call this meeting to a close. Does anyone have any problem

or something we must address today?

MEMBER BEACH: No, I agree with adjourning.

CHAIR MUNN: If not, this meeting is adjourned and, Ted, go take care of yourself.

MR. KATZ: All right, thank you, everybody.

MEMBER ZIEMER: Bye-bye.

(Whereupon, the above-entitled matter went off the record at 4:28 p.m.)