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 DOSE RECONSTRUCTION REVIEWS

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THURSDAY
SEPTEMBER 24, 2015

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

PRESENT:

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

ALSO PRESENT:

TED KATZ, Designated Federal Official
BOB BARTON, SC&A
KATHY BEHLING, SC&A
NICOLE BRIGGS, SC&A
RON BUCHANAN, SC&A
GRADY CALHOUN, DCAS
DOUGLAS FARVER, SC&A
ROSE GOGLIOTTI, SC&A
ED MAHER, ORAU
JOHN MAURO, SC&A
MUTTY SHARFI, ORAU
SCOTT SIEBERT, ORAU
MATTHEW SMITH, ORAU
JOHN STIVER, SC&A

T-A-B-L-E O-F C-O-N-T-E-N-T-S

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

(10:31 a.m.)

MR. KATZ: So let me, for Board Members, we have -- I'm going to deal with conflicts. It's easier for me to do than for you to recall yours. But we have all the Board Members. Dr. Kotelchuck's here, Richardson, Brad Clawson, Josie Beach, Wanda Munn, Dave Richardson, all on the line. So they're all present.

For conflicts, let me just run through them. Brad is conflicted on INL cases. Josie on Hanford and Wanda on Hanford. Dr. Poston, if he joins us, let me just cover his now, is conflicted for ORNL and I think we have a case from there today, BWXT, Sandia, LANL, ANL, that's ANL-West, Lawrence Livermore National Lab, and Y-12. So I can redo that if and when John joins us.

So let's move on to attendance for the NIOSH ORAU team.

MEMBER CLAWSON: Hey Ted, just one second while you're on conflicts. Because I'm a little bit confused on the INL because ANL-West was always separated from us but then it became us.

MR. KATZ: Right.

MEMBER CLAWSON: So what are we doing on that? Because we had a little thing here a while back about that. How do I, I guess I'm wondering how I treat that.

MR. KATZ: Well you treat that as being conflicted.

MEMBER CLAWSON: Okay.

MR. KATZ: There may be, I'll get back to you with details if there's a period for ANL when you're not. But for the time being, just treat that as a conflict, one big --

MEMBER CLAWSON: Okay. Well I'll just treat it that way then. I just wanted to make sure.

MR. KATZ: Okay. And I'll get back to you Brad, if there's a period for which you were not conflicted for ANL. Okay. So anyway, let's get back to then the NIOSH ORAU roll call.

(Roll Call.)

MR. KATZ: Very good. Welcome to all of you. Federal officials, contractors to the fed. This is Ted Katz. I'm the Designated Federal Officer for the Advisory Board. I'm not

expecting actually anyone from Office of General Counsel.

So do we have any, there's no public comment session or whatever, but do we have any members of the public who wish to register their attendance? No response Very good. And then let me just circle back around and see if John Poston, have you joined us? No response Okay then.

Let me just remind everyone, since we have quite a few people on this call, to mute your phones except when you are addressing the group. That will just improve the audio for everybody. And also, try not to use your speaker phone too much because it causes problems if people are, you get feedback from other people's lines. Dave, otherwise, it's your agenda.

CHAIRMAN KOTELCHUCK: Okay. Well folks, you all have the agenda. Let's start out with the first bullet on summarizing review results for the Secretary's Report. Rose, is it you who are going to present on the summary information from Sets 6-13?

MS. GOGLIOTTI: Yes, that's me.

CHAIRMAN KOTELCHUCK: Okay. Great.

MS. GOGLIOTTI: Al right.

CHAIRMAN KOTELCHUCK: And those were, if I may start out by saying, those were very nice and useful graphs and tables.

MS. GOGLIOTTI: Thank you. Now just a refresher for everyone, the 2009 Secretary Letter went out in May. And at the last meeting, we decided that this Secretary Letter would cover sets six through thirteen which is tabs 101 through 324. At that meeting we were also tasked to provide some statistics and the equivalent statistics that were in the last report.

Since then, I spoke with Dr. Kotelchuck and Ted and we did add some more figures to these. Okay. So our first table, and these are the same that are in the memo, I just put them in PowerPoint so they'd be easier for everyone to see. We did review 232 cases in this grouping.

Now two cases we did not review because of a PER issue. But the remaining cases, 193 were best estimates, so roughly 80 percent. And 32 were maximizing and seven were minimizing. And it is

significantly different than the last letter which did look at 76 percent over-estimating.

That might be worth mentioning why the Subcommittee has changed their selection approach. Okay. And Table 2 is our summary of overall case rank. And that reflects the cumulative impact of all case findings. From our Dose Reconstruction Reports, that's the last line of the Table 2 checklist and it takes into account the impact of all the findings.

Now typically, there's four options for us as a dose reconstructor when we select these low, medium, high, and under review. But since all of these have been resolved, we did go back and re-evaluate. So there are no more under review because all of these cases have been resolved, or nearly all of them have been resolved at this point. So those all have been reassigned.

Okay. And moving on to Table 3, here is our summary of findings and observations from this case set. And in total we had 670. And that represents all the findings, adding in all the observations for the King findings, removing out

the findings that became observations and those that were withdrawn.

And we did also reassess these. And you'll see that majority of them are low with some medium and a few high. We also had 206 observations. And observations actually began in the 8th set, so this is reflecting of the 6th and 7th set in our observations. Okay.

MR. KATZ: Rose, I just wonder if it would be helpful for the others if you just remind everyone what low, medium, and high are interpreted as.

MS. GOGLIOTTI: Yes. Low means that it has a low impact on the dose or a low significance in the case. Medium would be a medium impact on the case or a medium programmatic impact. And high would be a very significant, those would be several rem dose increases.

CHAIRMAN KOTELCHUCK: Right. And in general, these are for 232 cases so you were finding an average of roughly three findings per case and a little less than one observation per case.

MS. GOGLIOTTI: Yes. Well a little

more than one observation per case because it doesn't reflect the sixth and seventh sets.

CHAIRMAN KOTELCHUCK: Right.

MS. GOGLIOTTI: That is a change from the last letter which did have four findings per case and no observations, obviously.

MR. CALHOUN: Hi, this is Grady. Does this report address what we discussed earlier about the cases that we've decided really weren't findings. Has that been changed yet?

MS. GOGLIOTTI: We did review or remove four findings. But we did not respond to anything different.

MR. CALHOUN: Well, from the examples that I provided, I think, you know, at some point we need to at least discuss that. Because we actually -- every one of them that I provided was in the previous report as being a finding. I think we believe they were not.

So I don't know how you want to deal with that one but I just want to make sure that, please don't forget about it.

CHAIRMAN KOTELCHUCK: This is Dave. I

think that we need to have a discussion about that, certainly for all the Subcommittee Members as well as myself, who read the correspondence between you and Ted and Rose. But why don't we hold that and then come back to that as a substantive discussion afterward, after she presents her graphs and tables.

MR. CALHOUN: That works for me.

CHAIRMAN KOTELCHUCK: Okay.

MS. GOGLIOTTI: Okay. Sounds good. Moving on to Table 4. This is a summary of our finding classification system. We do classify all findings as A through F while we're going through the issues resolution process. So A is an issue of judgment of where the person worked.

B would be exposure scenarios, so they consider everything. Was there a correct external model, is C. Did they use the correct internal model assumptions, is D. E is a quality concern. And F is, did they not meet any of the other criteria. So that's the catchall.

The majority of them were external dose, which is not surprising. If we were to go

through and remove findings, these numbers would obviously change. Okay.

Figure 1 is a breakdown of all the employment sites for sets six through thirteen. And here you'll notice that the bars don't quite add up to the 232 cases. That's because if the EE happened to work at multiple work locations, that's reflected here. This table was provided in the last Secretary Letter. Okay?

And Figure 2, this is the figure that you requested, Dave, that compares the first one through five grouping with the current grouping of six through thirteen.

CHAIRMAN KOTELCHUCK: Right. Good.

MS. GOGLIOTTI: These are just, again, the same.

CHAIRMAN KOTELCHUCK: Right. And for folks from the Committee, you'll remember that the first report was 100 cases. So the number and the percents are the same. And I think later, you didn't bother putting the percent, you just put the number on those, for the blue bars for this one.

MS. GOGLIOTTI: Yes. And you asked me

to rework the way that I --

CHAIRMAN KOTELCHUCK: Right.

MS. GOGLIOTTI: -- display the information.

CHAIRMAN KOTELCHUCK: Right. And that's good. Also, this is of course -- did this include -- does this have all 332 cases? Or are there a few plants that are left out?

MS. GOGLIOTTI: This is all the cases, of course, minus the two that we did not review.

CHAIRMAN KOTELCHUCK: Right. Okay.

MS. GOGLIOTTI: So everything through the 13th set.

CHAIRMAN KOTELCHUCK: Okay. Good.

MR. CALHOUN: This is Grady again. This is just an observation on this graph. I think it would look much more favorable to us if you -- those bar graphs there appear to be keyed in on the number of findings. But I think percentages are much more relevant. I don't know. It's misleading when we've got so many more cases and you list the total number of findings rather than the percentage.

MS. GOGLIOTTI: And actually, maybe this next figure might help with this. This, instead of next to each other, I stacked them on top of each other. You can see here clearly that the first five sets don't represent as many cases as six through thirteen. But we can certainly change Figure 2 if that's what the Subcommittee desires.

MR. KATZ: I'm confused by what Grady just said because -- was the first graph findings numbers?

MS. GOGLIOTTI: No.

MR. KATZ: Oh.

MS. GOGLIOTTI: Those were cases.

MR. KATZ: Right. It's just cases, Grady.

MR. CALHOUN: What's the percent? I can't see it. I have nothing on my screen now.

CHAIRMAN KOTELCHUCK: Yes. Neither do I.

MR. KATZ: But the graph you were commenting on, Grady, just showed the number of cases for each site. It's not --

MR. CALHOUN: Although it's a percentage too though.

MR. KATZ: But not a findings, it's not the findings.

MR. CALHOUN: Okay. That was a just breakdown of percentages of the cases observed?

CHAIRMAN KOTELCHUCK: Yes.

MR. CALHOUN: Al right. My bad.

MR. KATZ: That's okay.

MS. GOGLIOTTI: Sorry, for some reason my screen stopped sharing that.

CHAIRMAN KOTELCHUCK: That's okay.

MS. GOGLIOTTI: Okay. And Figure 3 --

CHAIRMAN KOTELCHUCK: Figure 3 is, to me, a very powerful, important one because it really gives us a sense that we generally accomplished the one percent goal that we internally set for ourselves.

MS. GOGLIOTTI: Great, yes. I love this figure. I think it tells a great story. Here you'll see I stacked the first five with the remaining six through thirteen. And it's a comparison with the one percent selection rule.

These values were actually provided to us from NIOSH and they were provided with the date of August of 2010.

They are the values that were used by the Subcommittee to select the thirteenth set of cases. And the 13th set wasn't actually selected until early 2011. So there was about a six-month gap there. But they were the most current and we don't have a way of going back and getting statistics from the exact point that the 13th piece was selected.

And I will point out also, for this figure, every site that is included had at least three or more cases. And if one percent wasn't three or more cases, it ended up in the remaining bin here because I didn't want to lose those values. Okay?

And moving on to Figure 4. And this is the same as Figure 1 but adding in findings. So this is six through thirteen. So the blue lines, obviously, represent the cases that were reviewed and the red would be findings. So for instance, here we had 144 findings for 37 Savannah River

cases.

CHAIRMAN KOTELCHUCK: Rose, I'm not sure that this is a, this is less significant in my mind than the previous graph because I'm not sure we need to know the number of findings per plant. That suggests that there were lots of findings on Savannah River Site and Hanford.

But that could reflect some of the issues that Grady, I know, had raised about, are some of these lack of information from SC&A compared to what the ORAU people were doing? That it was not a miscommunication, but a different case.

I'm not sure this is a terribly important figure. The overall results which you gave in the table above, they certainly are important and shows that you're doing your job, SC&A is doing its job.

MEMBER RICHARDSON: I found it very useful.

CHAIRMAN KOTELCHUCK: Is that David?

MEMBER RICHARDSON: Yes.

CHAIRMAN KOTELCHUCK: Well good.

Okay. How so?

MEMBER RICHARDSON: Well it's getting to the fact that information or findings aren't uniform across the different sites. So whether it's expressed as numbers or a ratio --

CHAIRMAN KOTELCHUCK: You're saying it identifies problem sites? Analytical problems in different sites.

MS. GOGLIOTTI: Well, and none of these figures are set in stone. We can change figures, we can add figures, we can remove figures.

MEMBER RICHARDSON: Pardon?

MS. GOGLIOTTI: None of these figures are set in stone. If you want to include a figure or include additional --

CHAIRMAN KOTELCHUCK: Yes.

MS. GOGLIOTTI: -- include additional or remove --

CHAIRMAN KOTELCHUCK: Sure.

MR. STIVER: This is John Stiver, if I could jump in for just a second here. Regarding raised concern, I can certainly understand that. But as regards this particular graph, I mean, we

have the statistics -- and we'll talk about this a little bit later.

Rose was working on this last week and we kind of looked at all the findings and tried to determine which ones were, kind of fell into that bucket. So it would be a pretty simple matter of going back and adjusting those values. I think it's still important to show that, you know, certain sites, the ratio of findings to cases, I think that's some valuable information and something the Secretary would like to see.

CHAIRMAN KOTELCHUCK: Okay.

MS. BEHLING: Excuse me. This is also Kathy Behling. I believe that in this particular case, this Figure 4 would also be useful for the Dose Reconstruction Methods Work Group. I believe they requested this type of information. Now whether you want to include it with the Secretary's Letter or not, but I think they would benefit from seeing this.

CHAIRMAN KOTELCHUCK: Right. And look, whatever I say and like what David said just now is a significant point. Seems to me that I

didn't see it initially. But this is, after all, for all of us. This is a first take on the breakdown of the data. We're going to refine it and condense it into some more minimal number of tables and graphs. But this is the first crack and it's a very good one.

MEMBER BEACH: Yes, Dave, this is Josie. I want to chime in too. I found that the number of cases reviewed versus the findings reported for those cases was interesting and helpful for me in all of these graphs. So I think we should keep it.

CHAIRMAN KOTELCHUCK: Okay. Good.

MS. GOGLIOTTI: Okay. We've got a few more slides on this. I will move to the next one here. Okay. Figure 5 is our breakdown of cases with no findings and this is the figure that Ted requested. It's fairly self-explanatory. This is, again, sets six through thirteen with the total cases compared to cases that do not have any findings.

And here I did have to break these into cases, sites with one case and sites with two cases.

That's just because if I included every single site, we would need five pages of tables to show one bar or two bars. So they're not lost but they are just hidden here.

MR. CALHOUN: I can't see that, the legend there. Is the red total cases with findings, I'd imagine, or without?

MS. GOGLIOTTI: Without findings.

MR. CALHOUN: So that's -- okay. The red is total without. And is the blue total cases?

MS. GOGLIOTTI: Yes.

MR. CALHOUN: Okay. Al right. I just couldn't see that over there.

MS. GOGLIOTTI: Okay. And Figure 6 is a breakdown of tabs six through thirteen again, and this is by decade first employed. And here I listed the selection goals that were included in the last Secretary Letter. They don't quite align with what was done this time.

And so we can include those or not include those based on your desires here. And they do reflect somewhat similar to what was done in the original letter. Okay.

MEMBER MUNN: I would expect some changes over the period of time since the first report. You wouldn't expect the same percentage of decades to be what we saw.

MR. KATZ: I wonder, Wanda, you've been here for the long haul, if you could remind us. I honestly don't recall these goals being set this way. I'm just sort of curious how those goals were set in the first place.

MEMBER MUNN: Well, yes. I didn't chime in when there was the discussion going on about Figure 4. But, you know, originally it was our plan to try to look at about two percent of the cases. So when you look at the number of findings that we have, when you look at the number of cases that are being reviewed, the original goal was to try to aim for about two percent.

MR. KATZ: But, Wanda, I'm talking about these goals of the decades. Ten percent in the '40s, 25 percent in the '50s. I just have no recollection of that discussion. Do you?

MEMBER MUNN: No, I don't. As a matter of fact, I don't know why we would have done that

without a better metric on how many cases we were going to have. We didn't have that information.

MR. KATZ: John Mauro, maybe do you recall? Honestly this is just, this was a surprise to me to see these goals.

DR. MAURO: I had to take you off mute. Yes, I recall the meeting when all this was being constructed and Mark Griffon was very much involved, Paul. A strategy needed to be developed on the taxonomy of what we were going to pick.

There were a number, one of which was decades, of course there were sites, cancer types, PoCs. And there may have been other categories that established the basis of trying to shoot for those goals. And when the Board sat around the table, when there was, like, a set of maybe 60 or so cases that were going to be selected from for review, there would be information in front of each member of the Board regarding where we stood on each one of these characteristics, including decade.

So yes, this was something that was discussed quite a bit very early on in the program.

MEMBER MUNN: I recall the discussion

of sorts, but I think I didn't realize we were actually making that selection for a statistical purpose. But yes, we were, in the first place, we were dealing with the information that we had available to us. There's no way you could project what was going to happen over a decade.

MEMBER RICHARDSON: This is David Richardson. I remember that too. I think it was a meeting in Cincinnati in the basement. Or at least that was one, because we had a discussion about whether to do random sampling of, like, a two percent sample or stratified sampling.

John's right, I remember Mark Griffon proposing a number of factors that we would stratify on.

MS. BEHLING: Excuse me. This is Kathy Behling. I actually have, that I can send to everyone, a flow diagram from back in 2004 that lists these criteria and lists the percentage of the decade employed and the duration of employment and the fact that you wanted to do 2.5 percent. I actually have, I have a document that shows the

initial Board selection criteria.

MR. KATZ: Okay. Thanks, Kathy. I just raised the issue because I didn't recall it and I think it's helpful to have some background context on how these came about. I mean, when you look at these, you can sort of understand intuitively that the '50s and '60s were sort of a prime period, '70s, to be looking at in a concentrated way.

Maybe the '40s, the thought that was that there wouldn't be as many cases just because it was a long time ago. I don't know.

CHAIRMAN KOTELCHUCK: Can I chime in? I've only been here for the last several years or so, since 2012. And I don't remember using these selection goals. To the extent, though, that I was involved with selecting cases in six through thirteen, or really ten through thirteen, it seems to me that I generally wasn't able to use all of the selection criteria.

The one that seemed to me most significant and the one I know that I used when I

was doing my selections-- each person did their own--

was the years of employment. And I thought that was important. So I'm not sure in cases 101-334 that this was an operational selection goal. Whereas I'm certain, in terms of at least one person on this Subcommittee, that it was the years of employment that was, in a sense, determinative.

MR. KATZ: Yes. Dave, I think that's been my observation over these, what, eight years or whatever since I've been a DFO in watching selections, is that, I think you're on the mark in how generally the Board Members have been doing selections.

And I guess the only point I'd just make, I'm not even sure that the goals themselves, anymore, are that important. I think the figure that is important to show is the distribution. But I'm not sure the original goals really matter that much.

CHAIRMAN KOTELCHUCK: Yes, I agree.

At least this set of selection goals.

MR. KATZ: Exactly.

CHAIRMAN KOTELCHUCK: And this is only for cases 101-334.

MEMBER MUNN: And I have to re-emphasize, remember the body of data from which these goals were derived was minuscule compared to what we deal with 12 years later.

MR. KATZ: Right, Wanda.

MEMBER MUNN: And that's what these decisions were based on, the body of data that we had, the cases that we had filed already, you know, which was very small in 2004 by comparison to now.

CHAIRMAN KOTELCHUCK: My sense is that, and we haven't gone through all the pie charts, but that this set of selection goals listed on Figure 6, I would not put in. Because I don't think it characterizes, as we've noted, six through thirteen.

DR. MAURO: This is John Mauro again. Just to add an additional perspective, I recall that the judgments that were made collectively, you

know, where each Member of the Board would indicate, you know, I'd like to see a few more from Hanford. My recollection, there wasn't any like hard and fast quantitative criteria.

Now Kathy says they may have been written up. But when it was actually implemented, it really reflected judgments of each member of the Board whose sense was that, you know, we could use a few more at this site, we could use a few more that are in this range.

So it was almost like everyone came together to say, okay here's the set of 30, because it used to be a process where there would be about a set of 60 that NIOSH would provide that are available. And then the Board together would each make their own individual judgments on which ones they would like to see amongst the next set of 30 that SC&A would look at.

But I don't recall any process where we're saying, well, did we achieve a ten percent goal for this decade? I don't ever remember it discussed within that context.

MEMBER MUNN: I don't think it ever was, John.

MEMBER CLAWSON: This is Brad speaking. It never was, but what we were getting back to when we were making a lot of our selections in the earlier time, it ended up that we were getting a larger selection in the earlier years and that was bothering us.

If I remember right, it was bothering us that we want to be looking more to newer, the later years a little bit, too. And I think this is where that time frame came from. Because when we first got started into this, most everything that we had was in the earlier years.

And we wanted to see how we were progressing above and beyond that. This was just more of an informational, if I remember right, let us know kind of where we were at and what time frame that we were pulling from.

MS. GOGLIOTTI: I have a suggestion. I'm not sure if this would be relevant but we could potentially -- I'm sure NIOSH could provide

statistics on how cases actually are, for the percentage breakdown of employment site or decade first employed in this case. And we could compare those to that instead of the original selection goals. Maybe it would be more meaningful.

MEMBER MUNN: Probably would.

CHAIRMAN KOTELCHUCK: Yes. That might be interesting and helpful.

MR. CALHOUN: Giving me a task here. Are you looking for a breakdown of all the cases we have in house by decade? Or what are you looking for?

MS. GOGLIOTTI: Well, in this case it would be by decade first employed. But there are several other figures that would be different breakdowns also.

MR. CALHOUN: And this is all clients for in house, first employment by decade?

MR. KATZ: Right. And the assumption would be that the statistics wouldn't change that much. I mean, you've done a lot more, quite a few more dose reconstructions since this cohort. But

that would be the assumption, that this probably doesn't change that much now that we have this many cases under our belt. But maybe they would.

MR. CALHOUN: My gut is telling me that Figure 6 is going to be a lot different. I think more, I think less than 50 percent of our cases now have first employment in the '50s. But I'm just basing that number on the ones you selected to look at.

MEMBER MUNN: Yes, 101-334.

MR. CALHOUN: Yes. And I mean, I can look at that. You know, you've just got to think what the purpose is. I mean, it's no big deal. I think we can do this pretty easily.

CHAIRMAN KOTELCHUCK: Sure. It would --

MR. CALHOUN: Are we going to compare that to what we're looking at and change what we're doing?

CHAIRMAN KOTELCHUCK: Yes.

MR. CALHOUN: I doubt it because all anybody's interested in more is 45-52 percent PoCs.

CHAIRMAN KOTELCHUCK: Actually, I mean, what you're saying probably makes sense. It has to be. If this was started, if we started work in the early 2000s, a decade ago, then we were looking -- if people started employment in the '50s, they had been 50 years out from their first employment.

MEMBER MUNN: Exactly.

CHAIRMAN KOTELCHUCK: So of course, as we go on now, we're going to have a lot more, I suspect '60s, less '50s. It's a demographic issue.

MEMBER MUNN: Yes.

CHAIRMAN KOTELCHUCK: So I'm not even sure that that comparison -- since it's easy, it would be interesting to look at and see what we might deduce from it. But I'm not sure we're going to be, that there's too much useful that we're going to be able to deduce.

MEMBER MUNN: No, but I think it's accurate that there will be a significant shift.

CHAIRMAN KOTELCHUCK: Oh, there has to

be.

MEMBER MUNN: This is what I was trying to point out.

CHAIRMAN KOTELCHUCK: Yes.

MEMBER MUNN: Repeatedly going back and saying, remember, we were basing this on the data that we had at the time. And the clients that we had in 2004 don't bear any relationship to what we have now.

CHAIRMAN KOTELCHUCK: Right.

MEMBER MUNN: Except as a base, starting out.

CHAIRMAN KOTELCHUCK: Yes. Right. Because the life expectancy alone would cut off a number of potential claims.

MEMBER MUNN: Well, yes. One would anticipate at this juncture, a significant number of the original claimants --

CHAIRMAN KOTELCHUCK: I mean, it's clear that these selection goals were thought about and perfectly sensible in 2004.

MEMBER MUNN: Yes.

CHAIRMAN KOTELCHUCK: And useful. I don't think they represent selection goals now and they're not particularly used.

MEMBER MUNN: No.

CHAIRMAN KOTELCHUCK: Right. Anyhow, I think we had an interesting discussion and we have tasked Grady, we've tasked your folks there. So maybe we should just go on to Figure 7.

MS. GOGLIOTTI: Okay. Figure 7 is our breakdown we looked at the cases in sets six through thirteen by PoC. And here we have the selection goals again. I did do a tally here and it is, 49 percent were below 44.9 percent PoC.

CHAIRMAN KOTELCHUCK: Right. And these selection goals are certainly operable now as we select cases. They remain important.

MS. GOGLIOTTI: I would even suggest that maybe the 45 through 49 percent PoC have become more important over time. But again, these are six through thirteen, and we did end the thirteenth set in 2011.

CHAIRMAN KOTELCHUCK: Right. How

does this compare with the first hundred cases? Were the numbers about --

MS. GOGLIOTTI: I would have to go back and look.

CHAIRMAN KOTELCHUCK: Okay. It's not --

MS. GOGLIOTTI: I assume they're very similar but I would have to look. And I did provide a copy of the last Secretary Letter in the meeting files and that's in the historical documents folder. Okay. So that is Figure 7.

CHAIRMAN KOTELCHUCK: Okay.

MS. GOGLIOTTI: And Figure 8 is a breakdown by years of employment.

CHAIRMAN KOTELCHUCK: And these still inform, actually inform our choices of cases.

MS. BEHLING: Excuse me. This is Kathy Behling again. Just to go back to the previous figure and answer your question, David, in the first letter, the 45 to 49.9 percent PoC was only five percent of the cases.

CHAIRMAN KOTELCHUCK: Wow.

MR. KATZ: Yes. Remember, Dave, that those were efficiency cases back then.

CHAIRMAN KOTELCHUCK: That's right. That's right. Yes. Well, that's interesting and that will be significant to point out in the report.

MR. KATZ: Yes.

CHAIRMAN KOTELCHUCK: Okay. Thank you.

MS. GOGLIOTTI: Moving on to Figure 9, this is our breakdown of the IREP risk models that were used in each case. And here, I only included each unique cancer. So if the claimant happened to have five basal cell carcinomas, that only counts as one in the table because only one risk model was used.

CHAIRMAN KOTELCHUCK: Right.

MS. GOGLIOTTI: In this breakdown of cases, we did cover all but five of the risk models. And actually, you could say four because CLL wasn't added until after it was done.

CHAIRMAN KOTELCHUCK: Right.

MS. GOGLIOTTI: But not surprisingly,

the majority are prostate cancers and skin cancers.

CHAIRMAN KOTELCHUCK: Question, we did add CLL before we finished 13, right?

MS. GOGLIOTTI: It was added within the last two years, maybe.

CHAIRMAN KOTELCHUCK: Right.

MS. GOGLIOTTI: And so it was added before we finished talking about them but after the selection.

CHAIRMAN KOTELCHUCK: Right, right.

MS. GOGLIOTTI: So that could not have been included in this.

CHAIRMAN KOTELCHUCK: Right.

MEMBER RICHARDSON: Just for clarification, all male genitalia, that's the prostate?

MS. GOGLIOTTI: Yes. And that's the terminology that IREP uses.

MR. CALHOUN: I think you'd also get testes in there as well. If you had cancer of the testes, all male genitalia would be the model that you would use. Or even, like some kind of

connective tissue cancer to the penis would also be included in that. It's not just prostate, but the majority of it is.

MEMBER RICHARDSON: I hadn't realized that the risk model for the testes was the same as for the prostate. That's interesting.

MS. GOGLIOTTI: Okay. And Figure 10 is much the same, but I also included sets one through five. It seems to follow the same trend which is not surprising.

CHAIRMAN KOTELCHUCK: Comments by, further comments or thoughts by Subcommittee members?

MEMBER MUNN: My only comment is that Rose did a gangbusters job on this. I was really impressed when I saw the graphs.

MS. GOGLIOTTI: Thank you.

MEMBER MUNN: Those of us with simplistic minds really understand data when it's presented like this. So good job, thank you.

MEMBER RICHARDSON: Is there ever a breakdown of cases by sex or race?

MS. GOGLIOTTI: I certainly could do that. I would think it that it would be majority male.

CHAIRMAN KOTELCHUCK: Oh, absolutely.

MEMBER MUNN: No question about it. You've got 95 percent.

CHAIRMAN KOTELCHUCK: That's the question in my mind. First let's think of gender. What would be the appropriate -- I don't know that we want to run through every one of those tables and graphs. But maybe one or two would seem most important. Certainly types of cancer, right? That is, models.

MEMBER RICHARDSON: Well it's partly the models. But it's also, I think, just a reasonable thing to describe. Are we evaluating them? And I agree that the workforce in the past, with the exception of some plants like some of the gaseous diffusion plants, I think, where a lot of the labor force was female. Like K-25 maybe? Is that right?

CHAIRMAN KOTELCHUCK: Yes.

MEMBER RICHARDSON: And I think it would be worth our report of the evaluation considering, at least reporting the basic demographic composition of the people we're reviewing. Right now, it's just, you know, those facts are invisible.

CHAIRMAN KOTELCHUCK: Absolutely. I agree. I think the question only is, what should we present? And should we simply go over all of the basic tables that she's done for the subset of female claimants.

MEMBER MUNN: My personal take would be no. But I think it should be covered in the text. Certainly we need to comment on it, indicate that it is a consideration that we're aware of. But that, statistically -- if the statement can be made after you see the comparative numbers, if the statement can be made that it's not statistically significant, then it seems wise to. Certainly it needs to be addressed in text. But I question whether it's useful to accommodate it in each of these graphs.

CHAIRMAN KOTELCHUCK: Although you, you will recall a few moments ago that you said there's nothing like having a set of graphs and tables to help all of us understand the data. And I think that, in that spirit, I do think we ought to have some of this in tables and graphs.

MEMBER MUNN: For the moment, David, I had not thought about that specifically and it seems to me you've made a very important point. I would assume all the rest of us -- if anybody disagrees, please say so but that all of us would agree that we should analyze female and then we'll talk about it. We'll also talk about race.

But in terms of female, for myself I would just let the folks at SC&A see, go over, take the female cohort and then see what seemed to be useful tables and figures without prescribing it in advance that they must do all or this or that. I hadn't thought through which ones would be most useful.

MEMBER RICHARDSON: That sounds great. I was really just thinking about something like a

Table 5 as to how many men and how many women were among the cases.

CHAIRMAN KOTELCHUCK: Yes.

MEMBER RICHARDSON: You know, maybe a breakdown. I don't know if there's information on race, probably there is. But for some people --

MS. GOGLIOTTI: I don't know that there's race statistics but I'll have to go back and take a look.

MR. CALHOUN: This is Grady, and I don't think that we are going to have race unless it's a skin cancer. Because that's the only time that -- I'm pretty sure I'm right here but the only time we actually ask that question is for skin cancers.

CHAIRMAN KOTELCHUCK: Yes. And I can see policy reasons why we wouldn't want to ask people.

MR. KATZ: This is Ted. I mean the thing that I think would be most interesting along the lines of what David has proposed, I think is just seeing -- and again, I don't know if we can

get the denominator for this. But the comparison between the cases we've reviewed, male versus female, and the cases that there were to select from by site.

I think that would sort of, I don't know, that seems to be the most interesting question. Just that, how were we doing in selecting male versus female in these case selections? I mean, versus, I think what cancer they have and so, I'm not sure that really tells you anything.

Because this is the, you know, the review of cases. It's not about and there's no reason to expect that somehow the dose reconstructions are done better or worse for men than women.

CHAIRMAN KOTELCHUCK: Right. Grady, I have another task for you. This look at the gender would only be meaningful if we could get the percent of females who submitted claims. Or the number of females who submitted claims. Then we could look at what percentage of the females were

gotten and perhaps, what percentage were reviewed by us.

MR. CALHOUN: Total percentage men versus women in --

CHAIRMAN KOTELCHUCK: Claimants.

MEMBER MUNN: Yes. Just a pie chart showing percentage of male and females.

MR. KATZ: And would you want it by site or not, Dave?

CHAIRMAN KOTELCHUCK: I don't know because the numbers may be so small that I don't know -- there probably wouldn't be too many sites where you had a large cohort of females who that were claimants. Well, that might not be true.

MR. KATZ: I have no idea.

CHAIRMAN KOTELCHUCK: I don't know. I guess the answer, my answer to your question is I don't know. Let them take a look at it.

MR. KATZ: I guess all I'm saying is, I mean, maybe it's not so much interesting to the Secretary, but maybe to our own selection purposes down the road. If you know that at certain sites,

there's actually a substantial proportion of women and yet we're not getting them, you may want to target that way. And for that, it'd be nice to know the sites.

CHAIRMAN KOTELCHUCK: Yes. We certainly have selection goals for cases to be reviewed about making sure that we have female members.

MR. KATZ: Right. So if, for example, at one of the Oak Ridge sites there's a high proportion of women, you'd want to know that you're capturing it sort of proportionally in your reviews, too. And then you'd know also, for other sites where there are very few women, that that's not really the issue. The issue is there are very few women.

CHAIRMAN KOTELCHUCK: Right.

MR. KATZ: So I don't know. It seems to me like the site, if Grady can do it by site, that would be nice.

CHAIRMAN KOTELCHUCK: I expect, Grady, that you can analyze by site as well as by overall

number of claimants or percent of claimants pretty easily. Right?

MR. CALHOUN: Yes. We can do anything.

CHAIRMAN KOTELCHUCK: Well, but I mean you could even do it easily. So why not do it? And again, I would leave it to Rose and the SC&A folks to try to make the best sense out of it they could, what seemed to be the most useful, without prescribing it in advance.

MS. GOGLIOTTI: Dave, I am somewhat concerned that we won't have enough females to make a table even meaningful.

CHAIRMAN KOTELCHUCK: And I think that's quite possible. And that's why I say, that's why I don't want to give directions but just say, take a look. Certainly, we have to have a table. Right? And we certainly want to deal with it in the text as Wanda suggested. And let's see. Right? What seems to make most sense.

And with race, I think we've answered the question that we don't gather statistics by

race except for skin cancer. And therefore, is there anything meaningful about looking at skin cancers where we know race? I don't think so but what do others think?

MR. KATZ: It only has a bearing on the risk models so I wouldn't think so. This is Ted.

MEMBER MUNN: I wouldn't think so.

CHAIRMAN KOTELCHUCK: Yes.

MEMBER MUNN: And in any case, you're really getting down into the weeds. I can't imagine that that kind of minutiae -- we keep talking about what we want is the 30,000-foot view for the Secretary.

CHAIRMAN KOTELCHUCK: Right. Al right. So obviously we will address this in the text also. Because it's important to say that we didn't gather information on race. It's not relevant in a compensation case.

MEMBER RICHARDSON: I think I would take issue with the last part.

CHAIRMAN KOTELCHUCK: Really?

MEMBER RICHARDSON: I think there's

concern, there's been voiced perspectives about racial and gender differences in monitoring practices at these facilities. And racial and gender differences in the assignment of tasks and placement into jobs. So that work was structured by race and sex. And the completeness of monitoring is objectively -- differs by race and sex.

So it's something that, I mean, particularly for example women, I would be looking into in the future over the next decade. There's going to be more claims from women because there were more women employed as time progressed at these facilities and they moved into jobs that involved more work in radiologic controlled areas.

And as they transitioned into those jobs, they had periods of employment with gaps where they weren't monitored. So at some point, we need to think, I think, about how we're, ask the same sort of questions that we --

CHAIRMAN KOTELCHUCK: Right.

PARTICIPANT: -- have asked in the past

but taking those considerations into account.

CHAIRMAN KOTELCHUCK: Right. You make a good point. And perhaps we should think about whether we -- and implicit in that is for race, that we should be asking about race because the jobs and related monitoring are race-based in many cases, or race-skewed.

MR. KATZ: Well the program, Dave, is not going to be able to ask for information on race on that basis, just because we're interested. I mean, that's something that would have to be approved by OMB and so on. And that's just not going to happen, I don't think.

DR. MAURO: This is John Mauro. A thought came to me that, you know, when we look at these data, you're looking at it within the context, well you know, we looked at Bridgeport Brass and we looked at these many cases, et cetera, et cetera, and how different it was between the first report and the second.

The thought that came to me while we were discussing this is, isn't the real question,

have we captured the right cross-section given the, I think it's 40,000 or so cases that were adjudicated over the last ten years. In other words, I'm putting myself in the Secretary's shoes.

I'm saying to myself, okay listen, there were 40,000 cases where a decision was made and the Board reviewed one percent of those. To what degree did that one percent capture the proper cross-section of the demographics in terms of all these parameters that we're talking about?

We've been talking about the distribution in these pie charts, only from the perspective of, what did we do. But don't you think it would be of great interest to the Secretary to say, well, that distribution, whatever it is in terms of age or whatever, relative to what we're operating from, the population, namely the total demographics for all of the 40,000 cases or so that were done.

It seems that theme is not here. And I would think that is an important theme because it tells us whether or not we've got a good

cross-section. We know what the process is but we have no perspective on, is this the right cross-section? And the only way you know that is by comparing it to 40,000 that were done.

MEMBER RICHARDSON: Perhaps as a suggestion, we have a perception right now but we haven't confirmed whether information about sex and race are known for all claimants. I mean, they are known in epidemiologic studies of these populations. Are they or aren't they known within the compensation program?

MR. CALHOUN: I can tell you for sure that race is not known for non-skin cancer claims because we don't ask. And if it's somewhere in their documents, it wouldn't be something that was queryable to try to come up with a report.

CHAIRMAN KOTELCHUCK: Yes.

MEMBER RICHARDSON: Okay. Well that answers the question.

CHAIRMAN KOTELCHUCK: Yes, it does. I think, actually, as we think about whether we should think about the issue, about whether we

should keep data about race in any fashion is really a Board, and ultimately Secretarial and OMB matter.

We are looking over the past. Right? And the Board will determine advice to the Secretary for the future. So in a way, with the answer on race, we basically covered what we can cover in terms of the review. Right? Okay.

Well, and I think I was going to have a follow-up question on that first bullet in our agenda of, are there things we need to do that we haven't done? And we have already discussed that, right? And particularly now, with respect to gender.

The next bullet that we have -- and by the way, we've been going for about an hour. So let's keep going for a while before we take a coffee break or a comfort break unless I hear someone suggest otherwise, or someones. Okay. Not hearing that, let's talk about the report drafting plans. A while ago, on September 10th, Ted sent to me and some of the staff, a number of the staff, suggestions for the report structure which I found

useful. I don't think they were sent to our Subcommittee members so I sent them out this morning, half an hour before we got together.

But I think that might be a useful template to start the discussion. And thanks, Ted, for doing that. Did people see it? Or can we put it up possibly? Or folks can find it in their computers.

MS. GOGLIOTTI: What was the date of that email?

CHAIRMAN KOTELCHUCK: September 10th. There were a few September 10th letters. It's 7:00 p.m., September 10th. In a way, Ted, since you've been involved in this and I've never been involved in a report before, would you want to talk a little bit if that is appropriate?

MR. KATZ: Sure.

CHAIRMAN KOTELCHUCK: I would find that helpful, if you would.

MR. KATZ: Yes. I'll have to, let me just pull it up myself.

CHAIRMAN KOTELCHUCK: Okay.

MR. KATZ: Let me find it. I know you sent it out this morning so I just have to dig it out.

CHAIRMAN KOTELCHUCK: Right.

MR. KATZ: But all I did, just as context while I'm looking for it, I didn't even look at the first report to see exactly what that framework was. But I just thought about, typically, when you do a report to the Secretary of any sort, sort of, and then I just obviously had our content in mind.

But this is sort of a general structure one uses for that kind of audience. But I didn't look at what we did the first go-round. Someone may have that fresh in mind as a contrast, if that's much different.

CHAIRMAN KOTELCHUCK: Although I think we said that so much has changed in the second report, that I had the sense from the earlier discussion and from folks who were around for the earlier report, that this report is just many secretaries later and really doesn't need to be we

don't need to worry too much about the structure of the first report.

You do suggest that the introduction cover briefly the first report context, status, nature of cases reviewed, findings and presumably comparisons.

MR. KATZ: Yes.

CHAIRMAN KOTELCHUCK: Yes.

MR. KATZ: And just speaking to that -- I don't know why I can't find the darned email right now.

MS. GOGLIOTTI: I've got it pulled up on the Live Meeting here.

MR. KATZ: Okay. Good. Thank you.

CHAIRMAN KOTELCHUCK: Oh, thank you.

MR. KATZ: Good grief. I just think there's a lot of context that can be given that is important for understanding this report, given how different a place we are in the program's, sort of, development than we were with the first report. And, you know, given the very select, you know, the high degree of selectivity with which we sample

cases and all that, too.

So that's why -- so Executive Summary, that's just sort of a standard thing that you always want. You want a short version, a very short version for the very hurried reader that you tend to have as audiences as you go up the pole. So first report, context status of the DR at the time, nature of the cases reviewed, et cetera. That's what I'm getting at there.

Status of the DR program reviewed in the current report. Just again, just to sort of set them up for understanding the findings that they'll read. And then this C, relationship to concurrent Board review activities, reviews of SEC petitions, Site Profiles, and other DR methodology and data.

I don't know how that will turn out or whether you want to keep that at the end of the day. As you all know, we've had lots of discussion and Dr. Melius joined us for some discussions about, sort of, the constant concern that, in a sense, this activity is, you know, is much entangled with what the rest of the Board's review, which also very much

relates to dose reconstruction case quality and so on, the same task.

When you're reviewing an SEC petition, how that works out. Or a Site Profile which is the, you know, the machinery for doing a dose reconstruction. Or at least the guidance machinery. So those other, sort of, moving pieces of the Board's review work, you know, aren't directly captured in the case review, but they're certainly relevant to the issue of the quality of dose reconstruction and scientific, you know, standing of the dose reconstruction work. So I just think it, probably on the front end at least, it's worth giving a shot to trying to add some discussion to capture that in narrative at least. And maybe with some statistics, too, on SEC petitions and so on, or maybe some analysis. But I mean, to fill out the picture of where the Board is in its sense on how the dose reconstruction program is going.

MEMBER RICHARDSON: Ted, can I ask a question?

MR. KATZ: Yes.

MEMBER RICHARDSON: This is David. Am I right that between the first report and this one, the ten-year review was another report?

MR. KATZ: Yes. Although that's an internal, that's a NIOSH, I mean, that's really not the Board's business work. In other words, that was an internal NIOSH project, that review.

MEMBER RICHARDSON: But sort of provided another major review of, kind of the status of the DR program at some interim period in between that prior report and this one.

MR. KATZ: Yes. And that report was not reported to the Secretary. And to the extent that you want to discuss it, I mean, I think it's all fine for you to discuss. Again, my point is just that I think there's more to say than just the case review that you may want to say to the Secretary.

That may end up getting too complicated and you may abandon it. But I think it's worth considering on the front end, because if you

recall, with the first report, it took a lot of work just to get that first report done. And that was the simplest of all worlds. So this is complicating things. Is anybody still there?

MEMBER MUNN: Somebody is.

MR. KATZ: Okay.

CHAIRMAN KOTELCHUCK: On mute. I'm both chairing --

MEMBER BEACH: I think we're digesting.

CHAIRMAN KOTELCHUCK: Yes, we are. Good. I also have a general problem which is to say, I probably live in the noisiest place of any of our staff and Board Members. And so, I keep having to cut myself off onto mute because every time a big truck or fire engine goes by, it messes us up.

But yes, we're thinking anyway. Are there suggestions, folks, for -- well, have you finished first?

MR. KATZ: So that's with that introductory section.

CHAIRMAN KOTELCHUCK: Okay.

MR. KATZ: That covered the introductory section. And I guess you all can ponder that. I mean, I think, at minimum, you could do, in a very summary sense, just discuss the fact that, concurrent with doing these case reviews, you know, there have been X number of petitions that have approved, some of these which affected the sites.

And some of these cases, you know, have changed as a result of those, results of those SEC petitions for example, or Site Profile Reviews, et cetera. I think there's something minimal that you could probably say that at least would acknowledge the bigger world of the Board's review process. Okay.

The next section: methods. It just, it seems like you always want to explain how you went about your review. So that's all that is intended to cover. And then findings, you know, I think that's self-explanatory.

Future review plans. I think that

would tie in. And since it's going to take a little time to get this report done, my thought there is that you would want to tie in and tell the Secretary about future plans as they relate to, you know, the other Work Groups, the Subcommittees. I mean, the Dose Reconstruction Review Methods Work Group -- their work, and what the Board finally decides about how to go forward. You may want to capture that in this report, too. It will probably be timely. So that's my thought for future review plans.

And then the appendices, you know, would be Rose's nice tables, graphs, the statutory text just to remind, make it easy for the Secretary to see where this comes from, this requirement. And the first report because we'll refer to it so it's probably nice to just make it easy and have that as an appendix. Anyway, those are my thoughts.

CHAIRMAN KOTELCHUCK: Well, thanks much. I wasn't sure if I was on, where my mute was. Thanks, Ted. Do folks have comments, further

thoughts, things that we might add that were not covered?

MS. BEHLING: This is Kathy Behling. Were you going to consider including any of the blind review of comparisons in this report?

CHAIRMAN KOTELCHUCK: Oh absolutely, we must. I assume that when we do case selection and case review procedures -- well in fact, findings. I guess it's actually findings. No, we absolutely, that's one of our most important measures of how well we're doing, that we're consistent.

So certainly. And I guess it's probably in findings. Case review procedures will discuss that we do reviews. And then findings, Part A, we will discuss what we found. And we'll talk about those later, of course, today, the remaining blind cases. Other comments or thoughts?

MR. CALHOUN: This is Grady. Do you have anything in there about, I didn't see it in what we just reviewed, but do you have anything in

there about the total number of cases reviewed and the total number of them that were actually determined to have caused a reversal in compensation decision? Because there were like two.

CHAIRMAN KOTELCHUCK: Yes. Certainly we should mention them.

MEMBER CLAWSON: Well, if we're going to get into that kind of a draft or something like that, do we have any that says because of these reviews, how many DR reviews were then changed, or the whole programs have changed because of that information?

I understand what Grady's saying but that's, you know -- you guys are doing a marvelous job. There's no question of that. But I do think what you're saying is important. These findings we've had and gone through this whole thing have not, there has not been major players in there to really reverse somebody's compensation or not.

But, you know, we can put a lot of stuff in there, in my opinion. But I don't think it's

going to be, I think what Grady's saying would be useful. I do, don't get me wrong. But I just, I don't know. We can put a lot of things in there.

CHAIRMAN KOTELCHUCK: Well, certainly we can put in the number flipped in the text and put some emphasis on that.

MEMBER CLAWSON: Well, yes. But because of these reviews, how many TBDs have been changed? How many Site Profiles have now been --

CHAIRMAN KOTELCHUCK: Yes.

MEMBER CLAWSON: Let's take a look at the real big picture. Let's paint the truth, the whole picture.

MR. CALHOUN: We've certainly made some changes. And if we think back on -- most of my discussions here, the majority of those changes were made after the case was complete but before it was reviewed. And I agree that this program is very valuable.

But our goal has always been to come up with the correct compensation decisions. That's always been our goal. If you just look at the

number of findings, I think it could lead one to believe that there's a lot more that have flipped than possibly have.

And just from the top of my head, because these are so important to me, I can think of three cases. One back in the day flipped, or the assertion was that we overdosed somebody and compensated them. But that was based on the fact that we, it was the Director's decision to use an overestimating technique to complete a very, very, very large number of cases to get them out of the queue. That was one. So that one wasn't a mistake. That was the direction that we were given.

The second one was a Rocky Flats case where there was, we requested data. Department of Energy did not give us NDRP data. We used the data that was given to us and it was non-comp. But we went back and re-requested the NDRP data. We got it and then we assigned neutron dose. So again, I would say that that one was not a mistake. That was just, we used the data that was available to

us.

And there's a third one and I don't recall what that one is. But anyway, those are very, very important to us. I may be wrong and there may be more than that. But I only recall those three and I just don't know the details of the third.

MR. KATZ: Well Grady, I mean it sounds like that data -- going back to Dave's question to everyone, what else is missing in terms of data that we need for this report? It seems like all of those cases and what happened there, maybe is information that's needed in writing by the Subcommittee, in writing this report. Right? I mean --

CHAIRMAN KOTELCHUCK: I think you're right. In fact, it seems to me if there were three cases, if there are three cases, we should write in detail why each of them, or put it in an appendix so that the Secretary can read exactly what went wrong. And in fact, as indicated by Grady, what went wrong was not our methodological procedure.

But in one case, you know, getting, not

being given the right data or not having the right data. In other words, I think it will make -- the fact is that we only have three. That's a very small percentage of the cases that we've reviewed. Or actually, that we analyzed, right?

MEMBER CLAWSON: Yes. You better make sure about that number before we proceed.

CHAIRMAN KOTELCHUCK: Oh, absolutely. But we should quote the number and then explain what happened in those cases because, in fact, I think it will reflect well on us, not badly. That even the few that were flipped were flipped for reasons that were, essentially, beyond our control, beyond out analysts' control.

DR. MAURO: This is John Mauro again. I'm sorry to interrupt like this. Brad mentioned something in terms of the big picture. With the statements that are being made about there have been very few, I agree with, directly related to the DR process. But what comes to mind immediately is like, recently PERs are issued.

And the genesis of those PERs may very

well come from the DR process or come from a Site Profile Review process. I can mention, for example, General Steel just went through a PER process where 100 cases were flipped. That was just General Steel.

Now the degree to which that story is appropriately told in this particular report is a question I think needs to be answered. Or are we going to limit it? You know, is that part of the story? Because there are many, many reversals as a result of the PER process which, in turn, was triggered by a myriad of processes at work throughout the entire program.

And I think that needs to be understood because I wouldn't want to leave the impression that there were very few flips. There have been many, many flips for a variety of reasons.

CHAIRMAN KOTELCHUCK: Right. And those -- okay. So those, what you're saying --

MR. CALHOUN: I think those are different.

CHAIRMAN KOTELCHUCK: Yes they are.

MR. CALHOUN: That is because the GSI claims in particular were based on ongoing discussions between our staff and the Board.

DR. MAURO: I agree with you completely. I just wanted to bring that up so that we air it out.

MR. CALHOUN: It's like included in the number of SEC claims that were paid because for some reason, the Board said we couldn't do dose reconstruction and we thought we could. I think that this Subcommittee is very targeted on whether or not we made mistakes that were made that caused a change in compensation.

What you're talking about are programmatic changes. And they could have been brought about by a variety of things. But I think that they're very, very different.

MEMBER MUNN: But what John was talking about, I think, is what Ted was talking about under his Executive Summary list when he talked about the relationship to concurrent Board review activity.

MR. KATZ: Right. That's exactly

right, Wanda.

MEMBER MUNN: That's where that falls.

CHAIRMAN KOTELCHUCK: Good.

MR. KATZ: That's right. I mean, I agree with John that I think this broader context, could be touched on to some degree, is important just to give, you know, a more complete account. I'm not differing with Grady on the narrow purpose of the Dose Reconstruction Review Subcommittee's work.

But I think this broader context, you know, is important. It also, though, in having this discussion, you can see how it's complicated and it's going to be a hard one to summarize nicely and briefly.

CHAIRMAN KOTELCHUCK: Right. And I would now like to ask the nuts-and-bolts question. Who is going to write Findings A? Who is going to write Findings B? Or how do we actually go about writing? Who is going to write the first draft and when? Who is responsible for that?

MR. KATZ: Yes, and --

CHAIRMAN KOTELCHUCK: I'm not sure it's us.

MR. KATZ: Well, yes. Let me note that, that it's really not approved with Federal Advisory Committees, in general. And this one I would say is more important than any. But staff including contractors should not be writing report language. So this really is something that falls to the members to do.

CHAIRMAN KOTELCHUCK: Okay.

MEMBER CLAWSON: Enjoy yourself, Dave, and make it brief and short.

CHAIRMAN KOTELCHUCK: Right, right. Hey, wait a minute. I think we better consult Jim on this. No, but obviously we have a role to play. And if I'm Chair of the Committee, I've got to put my shoulder to the wheel or whatever they say.

So I'll certainly help -- hold it, sorry. But let's, maybe we should talk altogether about who should be writing. I certainly, if I'm going to do some work then I'm glad to. Others should be doing up -- and particularly, for

example, in the introduction.

I think some of our more senior Board members may be the most appropriate folks who understand many of these issues in greater depth. And that's certainly three of, well, that's quite a few of our Members, four of our Members. Well, if staff is not supposed to write it, I don't know, Ted, if I can say to you, do you have some good ideas? Or what other Board Members think how we should do this. I'm clearly not going to write the whole thing. And clearly, I will write parts of it, major parts.

MR. KATZ: Yes, I think it's not a problem, Dave, for folks to comment on things that are drafted and to provide bullet points on matters, factual matters and all that kind of thing. But there's, because FACA committees are supposed to be independent of the agency, and the Agency is it's staff, including its contractors, it's just, the actual writing and construction really has to be done by members.

CHAIRMAN KOTELCHUCK: Right. Maybe

the right -- I had not thought this through much other than I knew it was coming up sooner or later, that we've actually got to write this now. I think we have a nice outline, a good outline. And we've talked it about a little bit.

Why don't I speak with Jim Melius, who is our Chair of the Board, and look to his suggestions, both in terms of who on our committee, from the Subcommittee should be working on this in addition to myself, and also what other Board members, what role they should play?

Because clearly, there are a whole lot of issues that are things like our Site Profiles, et cetera that others could and should be involved with. So is it appropriate to say that I will speak to Jim and think with him about how we might put this together, write a draft?

MEMBER MUNN: Sounds reasonable to me.

CHAIRMAN KOTELCHUCK: Okay.

MR. KATZ: And Dave, I have some ideas administratively how we can -- if this is an overwhelming task for you administratively, I may

be able to get you help in another way to sort of supplement the Subcommittee's membership just for this task, ad hoc members. So I'll talk with you and Jim about that.

CHAIRMAN KOTELCHUCK: Excellent. Oh, that would be helpful. Okay. Well then, if that, I think we've handled --

MEMBER BEACH: Dave?

CHAIRMAN KOTELCHUCK: Yes.

MEMBER BEACH: Dave, before you move on, this is Josie.

CHAIRMAN KOTELCHUCK: Yes.

MEMBER BEACH: So this needs to be pretty timely, too. So just a suggestion on time frame on that.

CHAIRMAN KOTELCHUCK: Good.

MEMBER BEACH: It probably shouldn't linger for too long.

CHAIRMAN KOTELCHUCK: Right. In fact, Ted, you're probably the most knowledgeable of us in terms of when we should get this to the Secretary.

MR. KATZ: Oh there's no, I mean there's no answer to that, Dave. I mean, we wanted to do this, you know, a couple years ago.

CHAIRMAN KOTELCHUCK: Right.

MR. KATZ: There's really no answer to that. We do it, we get it done when we get it done and then it'll go.

CHAIRMAN KOTELCHUCK: Okay.

MR. KATZ: We don't really worry about the should be of it.

CHAIRMAN KOTELCHUCK: Right. I work better on deadlines. But maybe I'll let Jim say, okay, we should have it done by January 1st or whatever.

(Laughter.)

CHAIRMAN KOTELCHUCK: Is that a joke?

MR. KATZ: I think that's very manageable. We ought to have it done before the new year. I mean, we want to get it done earlier than that and actually get it to the Board. But you know, I mean realistically, obviously we're not going to get it done before the November Board

meeting, I think.

CHAIRMAN KOTELCHUCK: That's right.

MR. KATZ: Unless, you know, unless you really have some time to sit down and write. And if that's the case, then you know, the rest of the Board's not going to get to it. And this is only, sort of, advisory to the rest of the Board anyway.

CHAIRMAN KOTELCHUCK: Right.

MR. KATZ: The rest of the Board actually decides what the letter will be.

CHAIRMAN KOTELCHUCK: Right.

MR. KATZ: You know, the next meeting then is in March, I believe.

CHAIRMAN KOTELCHUCK: Yes, that's right. You're right.

MR. KATZ: That gives you some sort of time frame --

CHAIRMAN KOTELCHUCK: They're not going to have it done by November.

MR. KATZ: The Board could have it early enough that the Board can actually think about it independently and give comments before the

March Board meeting. And then get it done and finalized at the March Board meeting. I think that's probably a realistic time frame.

CHAIRMAN KOTELCHUCK: Well then, I think that's a way to look at it is, let's get a draft out by the end of the year. And give the folks -- I think that's doable. And then we'll have folks go over it and either approve it or approve it with changes or make changes at the March meeting.

Sounds good. And thanks, Josie, you're right. Time frame is important. So anything else with respect to this item on our agenda? I think not. I think we're finished.

MR. CALHOUN: This is Grady. I just want to give you one of my go-dos real quick that I got done. The total number, and I'll get more details, but the total number of female energy employees. That's different than claimants because claimants don't have to have worked there; they could be survivors. But the total number of energy employees from a percentage standpoint is

13.64 percent women in our total pool.

CHAIRMAN KOTELCHUCK: Okay. Well, that's --

MR. CALHOUN: I'll work on that by site as you requested but that's the total.

CHAIRMAN KOTELCHUCK: Well that's very interesting. Could you explain again? There was a little interference on my line. What defines the females? They're not survivors.

MR. CALHOUN: Yes. They're not survivors --

CHAIRMAN KOTELCHUCK: These are energy employees.

MR. CALHOUN: People use the term claimant. I think we all know what we want to mean by that but a claimant could be a survivor.

CHAIRMAN KOTELCHUCK: That's right. So 13 actually is a larger percentage than I thought. And it's a larger percentage than we've been reviewing recently, I mean, I think of the case selections.

MR. CALHOUN: It's roughly 6,000 women

out of roughly 44,000 claims.

CHAIRMAN KOTELCHUCK: Okay. Thank you very much. That's an interesting number.

MEMBER MUNN: Six thousand employees, right?

CHAIRMAN KOTELCHUCK: Pardon?

MEMBER MUNN: Six thousand employees, claimants.

CHAIRMAN KOTELCHUCK: Claimants.

MR. CALHOUN: Wanda, that's what I would say. Yes, 6,008 women employees who have cancer and who were in our program out of 44,035 total.

MEMBER MUNN: Okay. Sure doesn't seem like that when we're looking at case selections and trying to find.

CHAIRMAN KOTELCHUCK: No it doesn't. And that's why it's a surprisingly large number.

MEMBER RICHARDSON: Hey, Grady? This is David Richardson.

MR. CALHOUN: Yes.

MEMBER RICHARDSON: Could I ask you for

one more thing at some point?

MR. CALHOUN: You can absolutely ask for whatever you want.

MEMBER RICHARDSON: Yes. Well, is there a way to break that down by, let's say like, five-year intervals in terms of when the claims came in? Are there --

MR. CALHOUN: Is when the claims came in as important as when they worked?

MEMBER RICHARDSON: Yes. Like, is there a trajectory of there being more female claims in recent years? Like, is that different than it was in the past? My question is sort of, are we -- my intuition is that we are looking at a trajectory in which women will become a more important part of the claimant pool.

MR. CALHOUN: I would agree with that.

MEMBER RICHARDSON: And it would be interesting to see that.

MR. CALHOUN: Yes. I think I can. Okay. So you're just saying as a function of five-year intervals.

MEMBER RICHARDSON: Yes.

MR. CALHOUN: As we received the claims.

CHAIRMAN KOTELCHUCK: And that's for making projections for the future. Certainly our case selections for recent sets have not had 15 percent, 13 percent women. I don't think they've had ten percent women.

MR. KATZ: That's my guess, too, Dave.

MR. CALHOUN: Now the one thing that, you know, we're not going to do anything different based on that. So this is just information that you guys might be interested in.

CHAIRMAN KOTELCHUCK: Well, it will affect the goals for case selection in the future.

MR. CALHOUN: Yes. I mean, yes, because we all do our dose reconstructions with changing processes. I think they can do anything with our -- we've got all these numbers here. We certainly should be able to do that.

CHAIRMAN KOTELCHUCK: That's good. This is very good. Thank you for the data and

thanks for the observation on that. Now, it's 12:00 East Coast time and we're ready to go into the case reviews issue resolution. And in particular, we have a relatively few, three cases according to my notes that are still open from ten to thirteen.

And then we have the blind cases which -- how many blind cases are there remaining to be reviewed?

MS. GOGLIOTTI: Sorry, Kathy.

MS. BEHLING: I'm sorry, Rose. This is Kathy Behling. If we are still going to discuss the two initial cases plus I think there's three from the twentieth set. So it's a total of five.

CHAIRMAN KOTELCHUCK: Okay. Well, that's are fairly substantial number. Do we want to just -- I'm figuring we that we should go another half, if people are open to go another half hour. Or should we take a comfort and lunch break right now?

MEMBER BEACH: Dave, this is Josie. I wonder if this would be a good time to have the

discussion that Grady brought up earlier this morning. Or does that fit somewhere else better?

CHAIRMAN KOTELCHUCK: Oh my goodness. No. Thank you. We said we'd do that and I forgot to come back to it. So this is the time, before we go on to the case reviews. Thank you for reminding me. So can we go on, folks?

I mean, this is the point people may well want to take a comfort break now and come back. Or you may want to take lunch. But we do have the discussion with Grady and Rose for the benefit of the Subcommittee Members.

MEMBER CLAWSON: This is Brad. I'm good.

CHAIRMAN KOTELCHUCK: I'm good.

MEMBER BEACH: I'm good.

CHAIRMAN KOTELCHUCK: Okay. Let's go back to that discussion. There was a rich discussion between Grady and Rose on the counts in the tables. And perhaps people -- maybe Rose, would you like to summarize why you didn't change the graphs that you had presented earlier today?

That Grady had requested, the changes that Grady had requested.

MS. GOGLIOTTI: Sure.

CHAIRMAN KOTELCHUCK: Okay. Good.

MS. GOGLIOTTI: The findings that are in my Table 3, I believe it is --

CHAIRMAN KOTELCHUCK: Could you put it up?

MS. GOGLIOTTI: Yes. Here, let me.

CHAIRMAN KOTELCHUCK: Thanks.

MS. GOGLIOTTI: Okay. These findings are the findings as they were discussed in the Board. I made no modifications other than, there were four that SC&A did deem were inappropriately made and we did remove those. But we did not remove findings that Grady pointed out, that he disagrees should not have been there.

Now, it's our understanding that the findings are the Board's findings. And so, for me to go in and select findings that are wrong feels disingenuous. Now, we can go ahead and look at them if that is what the Subcommittee desires. I

did take an initial crack at it just to see.

And I did find five percent, around, that we concede are probably incorrect. But then, I had a proposed solution that I think might resolve some of the issues at least. For a lot of findings, we weren't necessarily correct--

CHAIRMAN KOTELCHUCK: If I may interrupt, Rose.

MS. GOGLIOTTI: Yes.

CHAIRMAN KOTELCHUCK: Bear in mind that as we're talking, it was Grady who made the initial objection to this set of findings. And maybe it would be better first if Grady said what's wrong and then you respond by talking about what you think would be a good solution.

MS. GOGLIOTTI: Okay.

CHAIRMAN KOTELCHUCK: Would that be okay?

MEMBER MUNN: Yes. And one other thing, please, Rose, your voice is so soft that I can hear you but barely. I'm straining my ears to get your voice. If you can, if it's a matter of

distance from your mic --

MS. GOGLIOTTI: I've got the phone directly -- I'll just try and talk louder.

MEMBER MUNN: Oh thanks. That's much appreciated. Sorry about that.

CHAIRMAN KOTELCHUCK: Good. Grady?

MR. CALHOUN: Yes. Basically what I started thinking about when I was looking through these is, during the course of our evaluations, we have a finding written down, and then we all kind of come to the agreement that, well it actually was done according to that procedure. And we just close it and move on.

I would prefer that, if there was really nothing wrong, that it doesn't get taken off of the --

CHAIRMAN KOTELCHUCK: I'm having a lot of break-ups. Are other people having them?

MR. KATZ: Yes. I think we're all hearing it. Somebody, I don't know, everybody else try muting your phones. I don't know what that's coming from.

CHAIRMAN KOTELCHUCK: Me neither. Okay. I'll go back on mute.

MEMBER BEACH: Terrible beeping sound somewhere.

MR. CALHOUN: Okay. So anyway, basically what happened is, you know, during the course of our discussions, we find that these really aren't findings and we just close them and move on. And so, I'd like to take credit for it but I didn't, I can't. I asked Scott to do it and he did a very quick look of the tenth to thirteenth sets.

I sent examples over of the cases that we believe, that we all, at the end of them, said hey, there's really nothing wrong with that. It was just a misunderstanding in the review. Because this is, kind of, a report card of how we're doing, I would like to get those taken off in retrospect.

But I would also think that, as we review these now, to make it easier, we just say, you know, this really wasn't a finding, let's take

it off.

MEMBER CLAWSON: You know, Grady, this is Brad. I thought we had this discussion about three to four years ago when we were going through this process, when we were looking at how we were ranking these. I was understanding what you said in your memo there. But we've been through this one a while back.

We felt that we had good enough paper trails to be able to show all of this. But we were still leaving them --

(Telephonic interference.)

MR. CALHOUN: That must be Brad because as soon as he started, it started the popping and stuff. We do but no one who is reading this report understands that. So I mean, I believe that if something is flagged as a finding and we decide that nothing was wrong, it shouldn't be recorded as such.

MR. KATZ: I mean, that's correct, Grady. I mean, I don't think there's any other side to the debate on that. I thought we were, I

mean we have been tracking those in the discussions. And I thought and I assumed, I don't think I was entirely correct that these were actually being inputted into the summary tables.

And we've had a discussion about this. Dave and I had a discussion with Rose about going back through those tables and then correcting for those decisions. And I think Rose did some of that. I'm not sure but that was what the direction Rose was headed.

And then she came out with the report and then I heard about your, Grady, your objections that there were more of those cases that hadn't been, the corrections hadn't been reflected. So that's as much as I know about it. Rose can maybe shed more light on the distinction between what Dave and I discussed with Rose and what actually came out of the pipe.

MR. CALHOUN: And I think what, next step what may actually have to happen is that you take a look at the, at these sort of one, two, three, four cases and it looks like five different

findings of those cases total, and see if I'm wrong somehow. I mean, some of these, if you look at the closing things, this is NIOSH's text, TBD indicates, you know, this is how it was supposed to be.

MR. KATZ: Those were the cases that Rose was going to correct the statistics for. Rose, but I don't know what's gone on on either side here. So maybe we could give Rose a chance to talk about it.

MS. GOGLIOTTI: Okay. Well, when we went through and did our initial cumulative ranking for the scoring for, you know, starting that cumulative rank, total rank. And I had Nicole flag me with these, the findings that she thought were very wrong. And those were the ones that we removed.

Now, these are just the four -- I'm sorry. I still have interference. I don't know if you can even hear me.

MR. KATZ: I don't know if we all need to dial back in but this is pretty terrible. So

if everybody is muted and it's still making this noise, then we should just all dial back in to the number.

CHAIRMAN KOTELCHUCK: That sounds like a good idea.

MR. KATZ: Dial back in.

CHAIRMAN KOTELCHUCK: Okay.

(Whereupon, the above-entitled matter went off the record at 12:13 p.m. and resumed at 12:15 p.m.)

MR. KATZ: So Rose, you want to give it another shot?

MS. GOGLIOTTI: Okay. So Nicole did pull four findings that we felt were, for whatever reason, were incorrect and were very incorrect. Now the question is, when we looked at Grady's email, we disagreed that many of those were valid findings.

Perhaps we were wrong but there was substantial discussion. NIOSH may have agreed to revise something because it was clear that there was confusing in the text. And it's very difficult

to read that in the matrices. And it's very difficult to make a judgment on right or wrong.

I feel at least, that most of these findings fall into more of a gray category. But I did have a proposed solution that I hope will resolve things. Ultimately, it's up to the Subcommittee. I was proposing we add another category to this and a no impact category or combine a no impact category slash low income, or low impact. Sorry.

And those would be the findings that we might not have been correct on but there was lengthy discussion to determine if we were correct. A lot of times there were White Papers generated, these discussions went over multiple meetings, they were professional judgment calls, suggested findings.

Or even in the earlier case sets, because we didn't have the option for observations, a lot of the findings were more observations. And so, they were clarifications of what we needed, the information to complete our dose reconstruction reviews. If we were to add another category, 30

percent of these findings would move over into that category.

MR. CALHOUN: Let me just, and I don't want to argue too much here but let's just use one for example here. I'm looking at one right now and the finding was that we neglected to use the actual dosimetry data that was available. Well, the case was done before the data was ever identified. We never got it. We asked for it, we didn't get it. And when we did get it, we've got a program in place that automatically captures that. So, the finding that we neglected to use the actual data is false because there was no data.

So that one, to me, is not arguable. It can't be a finding because you're judging us against something that wasn't even there. So that's one of the examples that I want to use.

CHAIRMAN KOTELCHUCK: Grady, it seems to me that you're suggesting that the large number of findings, what you would consider the inflated number of findings, reflects poorly on your team. And I don't see that in terms of, it may reflect

SC&A being super, I mean, they're invested in trying to find as many problems as they can to ferret out what are real problems. Right?

I mean, there are misunderstandings. But, in a sense, they're doing their job by finding a lot of findings. You're, in a sense, saying you're doing your job. You're going to try to make sure they don't have too many findings. I don't think it reflects on your group. It also reflects on SC&A and the interaction between the two.

MR. CALHOUN: It certainly affects our group because it's saying we're wrong when we're not.

CHAIRMAN KOTELCHUCK: And you're not. Absolutely --

MR. CALHOUN: So they should be eliminated. I mean, that one in particular. And if we have to go back and look at some of these, we will. But it certainly does reflect on us negatively because they're not findings. You can't classify something as a finding if it's not a finding.

It may be an observation if something wasn't clear. That's not a finding. A finding is when we fail to follow the procedure adequately.

CHAIRMAN KOTELCHUCK: But --

MR. CALHOUN: It does reflect poorly on us and I don't particularly like it. I know from going forward, we could certainly do a better job and say, hey, this wasn't a finding. But when this report comes out, the people that are reading this report have no idea of all of our interactions and how this program works, at least a lot of them won't.

They will just be looking at how many findings are there in these cases. And if there's a number of them that aren't findings, it's just incorrect information.

MR. STIVER: This is John Stiver. Can I jump in for just a minute here? That finding that Grady used as an example would be one that would be withdrawn, at least in my opinion, it should have been withdrawn if it was a situation where we ding them on not using the data when the data wasn't even

available yet. There are others --

MS. GOGLIOTTI: The problem is that we don't have access to that when the dates that these --

MR. STIVER: Yes. There's another category, and it kind of gets back to the whole historic evolution of the program. And these were the ones where we just didn't know what, after putting in our due diligence, we just didn't know what NIOSH was doing and we couldn't figure it out.

Back during that period, you know, when most of these cases were done, it was kind of a commonly accepted practice to make those findings and then resolve them and get clarification in the Subcommittee environment, in that forum. And then those would then be resolved that way. But they still were listed down as findings.

And those I can understand, you know, Grady can see, I understand his position. That the cursory observer is going to think that those are actual deficiencies in the program when in fact they weren't. So I personally wouldn't have any

problem in taking those out of the statistics.

But then, at least, having some narrative discussion as to why. You know, just to explain that, you know, not only was this historic, the way things were done at the time. But also, it kind of fostered an improvement in the communication and transparency. And also on the part of NIOSH and the ability of SC&A to, you know, get the tools and techniques and so forth and have a better understanding of what NIOSH is doing.

So it actually helped improved the program. So we don't want to really lose that in the letter. But, you know, I can see taking those types of findings out of statistics so it doesn't kind of distort the whole picture.

MR. KATZ: I want to, what Stiver just said, John just said, I mean, you could have a section, you could add in the statistics on observations, pile those in with the other observations that were already categorized as observations and have that narrative discussion.

I mean, you know, I mean part of the

clarification of course is mostly an internal interest, you know, inside baseball thing. Because it makes it easier for you guys to audit, you know, an the transparency versus it's not really making anything easier for the claimants per se. But there have been a lot of improvements that have made it more straightforward and easy and thorough for you to audit. I would agree with that.

MEMBER CLAWSON: This is Brad. Can I just speak one minute? You know, as I've been sitting here looking at all the discussions we've had on all the process, we've got SC&A looking at this as a process from their view. We've got Grady looking at it from NIOSH's view.

And one thing to remember is that part of this is what this is being for the Board. And this is so that we can track this. We're the ones that are responsible to put forth this letter. I will be the first, Grady, to say that I believe that NIOSH, with what they have had, has done a remarkable job.

But also too, the data here, especially the one that you just spoke about, here's my point of view on that one. No, I think that is a finding. And the reason why I feel it is because this dose reconstruction was done and it didn't have the right information.

Now, later on that did come in, that information did come in. But when we reviewed this, it wasn't there. So in my point of view, and I want to emphasize this because every one of us has a different perspective that we're looking at this.

But I want especially the Board Members to remember that this is our information. We are the ones, same as Grady is responsible for, you know, looking at these findings and thinking it's real bad. We are also the Board and we have been tasked, this is our responsibility to be able to put forth this letter.

And all this information that we have will come into it. And I want it to be as transparent and as clear as everything is in there.

Do I see your point of it? A hundred percent. I really do. But I'm looking at maybe a little bit bigger picture of what we're tasked to do, what we're putting our name on to be able to send to the Secretary.

MR. CALHOUN: If you've ever worked in a QA program though, or QC program, that's not a finding.

MEMBER CLAWSON: What's that?

MR. CALHOUN: It's just not a finding, that particular one.

MEMBER CLAWSON: Oh, because the QA didn't work? I beg to differ. If your QA is falling, I will tell you right now, then you've got problems.

MR. CALHOUN: That's not, you can't expect somebody to do something with something they don't have. I'm not going to argue that one because that one's crystal clear.

MEMBER CLAWSON: Well Grady, you know, I've said this from the beginning and I'm so glad that you brought that up. If you don't have the

right data, then you don't have the data and you can't do it. So why is it being done if you don't have the data? Bottom line, crystal clear finding to me.

But I also, in the same sense, it is not -- I see your point. I want you to understand that. That that's not a finding against NIOSH on this. You can only deal with what you have. This is one of the things that I've brought up numerous times. If we don't have the sufficient data and everything else, you can't do it.

And this is a perfect example of what I've said for years. Now all of the sudden the data comes in, okay, now it's okay, we can do it. But that's not a finding against us. Well, how many of these were done in that sense?

You know, we're sampling a small section of this and find stuff like this. It does bother me. Makes you wonder what is the real big picture on that.

MEMBER BEACH: This is Josie. Dave, if I may.

CHAIRMAN KOTELCHUCK: Yes.

MEMBER BEACH: Rose, you mentioned adding a column. That seemed like a reasonable suggestion to me. Did anybody else have any thoughts on that?

MEMBER CLAWSON: No. You know what? I have no problem with this. And we discussed this several years ago. This is how we kind of -- because SC&A was looking at this same problem of how do we categorize these? And if I remember the communications right, I believe it was John Mauro that was involved with this.

Was that we felt that we, you know, we were covering this with sufficient information and going forth with it. I can understand, you know, I look at this 670 and I'm thinking holy cow. That's nothing, to tell you the truth.

But looking at it from Grady's point, it looks really terrible. Looking at it from SC&A's point, this is the information we have. But what are we going to do, Josie, for the past? Because in the future, going on, I think that's

going to be fabulous. But what are we going to do with this?

MS. GOGLIOTTI: Now we could recategorize these here into low-impact or no-impact findings.

CHAIRMAN KOTELCHUCK: Yes. We could certainly, in the future, be a lot more clear for sets 14 on as to whether something should be a finding or an observation. Certainly I did not see the significance of that and the impact when I first took over as Chair. And I don't, I feel like the Subcommittee did not try to say, no, this shouldn't be a finding; it's an observation.

Recently we started doing that. But it's pretty hard to go back for ten through thirteen and recreate it.

MEMBER CLAWSON: Well no, I think this is what Doug tried to bring up to us later on when he was trying recategorize some of these.

CHAIRMAN KOTELCHUCK: Yes. Later he did. We did do that. But I don't think we started all the way back at ten.

MEMBER CLAWSON: No, and that's my point.

CHAIRMAN KOTELCHUCK: Yes.

MEMBER CLAWSON: Is how are we going to be able to go back to all of these? Because I do agree with Grady. There's some of these that are in here that, you know what, it was a problem that, for one, that SC&A couldn't get access to the tools the other group had. And that was the only problem. And those weren't a finding.

CHAIRMAN KOTELCHUCK: Well, we do have a record of that data. I hate to think about it but I've been going over those transcripts for a couple of years now. And in the transcript, we can see the discussion that went on. One might be able to tease out whether findings should be an observation or vice versa. But that's still a hell of a job.

MEMBER CLAWSON: You're talking a monumental job.

CHAIRMAN KOTELCHUCK: I think it is. Yes.

MEMBER CLAWSON: The whole thing that, because this is what it is, this is what we came into. This is how we went through the process. Do I believe that we should have changed these findings? Yes, I should have -- I feel that we should have.

And I believe that we were getting, feeback from both sides, you know, of how do we do this? You know, what is the proper way to be able to do this? Because I remember several conversations with Doug on this of, you know, how do we handle this? Because he was right up front. But the whole thing is to be able to go back and to be able to pull all these out.

MR. KATZ: This is Ted. I mean, Rose has the universe of them because she mentioned it and she gave you a statistic on it. What I had just suggested is -- and I agree with Rose. Some of them are gray-area things where it's a matter of judgment and it was really clear. But the Subcommittee basically said no, never mind with this because, you know, it's not a big deal.

And I agree with Rose for those ones. Those, I think, belong in the low-impact bucket. But I do also agree with Grady that the ones where the Subcommittee pretty clearly said, we agree with NIOSH at the end of the day, those should just be thrown in the observation bucket because they're not findings in the audit world sense and in the QA world sense, which is the sense that most other people that read this would understand findings.

You know, that's how they would think about them. They would think of them as low-impact defects. And it's unfair to call it a defect if the Subcommittee itself said, that's not a defect. So I mean, I think for proper accounting, those ones should be pared out.

You know, the alternative is to have a discussion about what a finding is on the front end and be clear that findings aren't necessarily defects. You can go at it that way too. That's the other side of the coin.

CHAIRMAN KOTELCHUCK: Ted, how could we come to some resolution on the findings going

into observations?

MR. KATZ: Well, I mean, Rose has them. I think I don't know how much detail she has on each of them. But she gave us the statistic of 30 percent or whatever it is. And if she could distinguish between those where the Subcommittee simply said, we agree with NIOSH versus those where the Subcommittee said, no never mind , we don't need to fool with this any longer. She could just split them that way.

CHAIRMAN KOTELCHUCK: Well let me ask you this. I think there's a conflict, if you will, a conflict of interest between the NIOSH group and SC&A on this. Is it possible for Grady to do the same thing and then have them compare?

MR. KATZ: Yes.

CHAIRMAN KOTELCHUCK: Then why don't we do that? That will resolve a lot of the problem. Although there's still the issue of, you know, there will be a debate. Because, just as Brad said, you know, he would consider the example that Grady gave a finding.

MR. KATZ: Yes. But I mean, Brad didn't go back and review the transcript where that one was discussed. But I mean, if that one was one where the Subcommittee actually agreed, then it's not really a debate any longer because the Subcommittee spoke on it.

And I think, it's my recollection over these years, the Subcommittee has been pretty clear at the end of the day where they agreed, where they disagreed.

CHAIRMAN KOTELCHUCK: Yes.

MR. KATZ: Or where they said no, never mind . Because I remember the no never mind s, too. And again, I would credit the no, never minds as findings and the others as observations. I would just say let them give it a shot and exchange information, see if we can't resolve this. And everyone will be happy if we can.

CHAIRMAN KOTELCHUCK: Would that be, how would that sound?

MEMBER CLAWSON: Let me ask you this. Who is going to make the ultimate decision then?

Because --

MR. KATZ: Well let's --

MEMBER CLAWSON: You're talking about conflict of interest here.

MR. KATZ: No I'm saying let the two parties both do it. And let's see if they actually disagree at the end of the day before we worry about conflict of interest. Because the Subcommittee can decide, again, the Subcommittee transcripts are really clear. So there's actually the facts. You don't have to -- it's no subjective judgment here.

CHAIRMAN KOTELCHUCK: If they can go down to a limited number, if they can agree on a lot of the cases -- First, in answer to your question, the Subcommittee makes the decision.

MR. KATZ: Right.

CHAIRMAN KOTELCHUCK: But if they can narrow down the gap, if there are not a lot of problems, differences between them, we can then go back to the transcript. I just don't know how many there would be. I mean, the transcripts will have

it.

MS. GOGLIOTTI: There would be a lot if we compare values.

CHAIRMAN KOTELCHUCK: Yes. Could I suggest that, as you have these conversations, would it make any sense to have you cc me and Ted, or the whole Committee? Although I don't think that's probably useful. But could there be, I mean, should any of the rest of us look in on this as you talk back and forth?

MR. KATZ: I absolutely think that they should at least copy you and me, Dave the Chair, and me for DFO, on the correspondence back and forth. Yes.

MR. CALHOUN: Okay. And I would think too, that you don't need to go back to the transcripts right away. I think that you can glean a lot just from looking at the matrices

CHAIRMAN KOTELCHUCK: Yes, exactly. That's why I'm saying no. You and Rose will look at them. You'll go over the review and you'll see where you agree and disagree. And then, if there

are a relatively small number, we can go back to the transcript. But we can't, going back to the transcript for all of them is, again, a monumental job.

MR. CALHOUN: Right.

DR. MAURO: Dr. Kotelchuck, this is John Mauro. I do have one question that I think would greatly expedite this.

CHAIRMAN KOTELCHUCK: Okay.

DR. MAURO: Many, many of the low findings have to do with the fact that the information that was -- it's a different category than the example we just had. The information that was contained in the DR Report and its supporting documentation did not have all the information we need. The explanation of the basis or rationale wasn't there.

So as a result, we were in a position where we could not check the numbers. And during the course of the issues resolution process, more information was provided which said, oh no, this is what we assumed, we did this and here's the

reason why. And at the end of the process, we all understood exactly what they did and we agreed yes, that you did it correctly.

Now, here's my question. The fact that there is a DR Report that does not have sufficient information in it that would allow an independent person to check the number, is that a finding? If not, then I think a lot of these go away.

If that is a finding, the report itself has a -- let's call it a deficiency in that it lacks clarity and completeness to allow a person to independently check in. If you feel that, in the end after you go through the process, everything is okay and that should not be a finding, it's important for us to know that.

But if you feel that, running into these challenges where there is a deficiency in terms of the report itself not being complete enough. And if you feel that's a finding, then it stays a finding. So I mean, that's going to be a big deal. In other words --

CHAIRMAN KOTELCHUCK: Yes.

DR. MAURO: That's a philosophy, really.

CHAIRMAN KOTELCHUCK: That's right.

DR. MAURO: We need guidance from the Board on how you would like us to deal with those.

CHAIRMAN KOTELCHUCK: Well, my first thought is that that's an observation.

DR. MAURO: Okay.

CHAIRMAN KOTELCHUCK: What do other Subcommittee Members think?

MEMBER CLAWSON: This is Brad. I disagree.

CHAIRMAN KOTELCHUCK: Okay. For reasons, essentially, that you outlined before?

MEMBER CLAWSON: Yes. You know --

CHAIRMAN KOTELCHUCK: Okay.

MEMBER CLAWSON: Go ahead.

CHAIRMAN KOTELCHUCK: Others?

PARTICIPANT: Of course, I think that that's just a finding, or an observation because it's not a violation of a written requirement.

MEMBER MUNN: This is Wanda. I agree.

CHAIRMAN KOTELCHUCK: You agree that it's an observation?

MEMBER MUNN: Yes. It would seem an observation to me.

MEMBER CLAWSON: Let me ask a question so I'm understanding where she's coming from on this. Why do you feel that it's an observation?

MEMBER MUNN: I've always felt that unless the findings, unless the material that we're talking about is absolutely based on the total facts that's available, that it is not -- to me a finding is something that can be corrected. And if it's not something that can be corrected, then it's an observation.

MEMBER CLAWSON: Well and this is, we've had this debate so many times on this. This all comes back to the data. And if you're coming into this and you don't have all the data, then you've got a problem. To me, if the data wasn't used, and as Grady has said, it wasn't there but then it was, to me that's, we took it at face value when this was done and it was.

But you know, and I guess maybe part of my QA program and my QA past is starting to come out in that. Each one of us is looking at it a little bit different. And I agree, in some aspects, with this. But I also do not want to lose, I have no problems with putting them into an observation bucket.

You know, when there were little things that have gone wrong because I'm one of the first ones to agree too when we've got in there and come to find out, when we get into it, that the dose still came out the same. The way that they arrived at it was a little bit different.

And we've made changes into that. This has been something that, this has been working itself to be able to make what it is now a long time. And everybody has their own opinions too. And the only reason I'm asking you, Wanda, is because I'm trying to see how you were looking at it. That's the only reason why.

CHAIRMAN KOTELCHUCK: Am I on?

MEMBER CLAWSON: Yes.

MEMBER MUNN: Yes, you are.

CHAIRMAN KOTELCHUCK: Okay. Is there any value -- I'm thinking out loud, I admit. Is there any value to having something called, a category called gray area with findings and observations. I mean, good people will disagree and we are disagreeing. It may actually muddy the waters to think of a gray area. But would a gray area, would that --

MEMBER CLAWSON: I thought that's what the, kind of, observations were. They weren't really a finding. They weren't anything. This has been something we've been dealing with for a lot of years.

CHAIRMAN KOTELCHUCK: Yes.

MEMBER CLAWSON: Where do we put them in the bucket at?

CHAIRMAN KOTELCHUCK: Right.

MEMBER CLAWSON: We've had these same arguments and stuff in the meetings of, well, is it a finding or is it not a finding?

CHAIRMAN KOTELCHUCK: Yes.

MEMBER CLAWSON: And I will be the first to tell you that I take a finding serious because I don't want anything to look bad on this program either.

CHAIRMAN KOTELCHUCK: Right.

MEMBER CLAWSON: But also too, we're tasked with a job to be able to look at this. And I believe Doug Farver brought it up to us and told us. He says, you know, we're getting into these areas that, at first glance, they are a finding. But as we work ourselves through it and both parties agree and then we better understand how it was done, it's not a finding. We came out to the end that it was an observation. And I thought that's how we came up with this observation part of it. To me, that was the gray area.

CHAIRMAN KOTELCHUCK: Yes.

MEMBER CLAWSON: That's where we threw it into the gray area.

CHAIRMAN KOTELCHUCK: Right. Dave and Josie, what are you folks thinking?

MEMBER BEACH: I guess I was waiting

for Dave to say something. I can see the merits on both sides so I'm kind of on the fence.

CHAIRMAN KOTELCHUCK: At some level, we all -- David? Excuse me. David, are you on the line?

MEMBER RICHARDSON: Yes, I am, but go ahead.

CHAIRMAN KOTELCHUCK: Okay. At some level, I think we all -- I was not here for those earlier discussions. But I think we all recognize that there's merit on both sides. There really is. And that is, maybe we need to think about this a little bit more, all of us. And still, we can have Grady and Rose begin to look at those gray areas, the grays, the ones that are uncertain and see what they come up with. And that will also give us on the Subcommittee a little bit more time to think through.

Since I wasn't here for those earlier discussions, I haven't thought it through as much as I could or should. But I'll be glad to think about it. I see the issue now.

MEMBER CLAWSON: And Dave, this is Brad. I agree with you 100 percent, but basically this comes down to the Board or the Subcommittee to be able to go through this.

CHAIRMAN KOTELCHUCK: Yes.

MEMBER CLAWSON: To be able to hash it out. But that being said, all this discussion that we have had today, we need to be looking into the future. So that we're not trying to come back in the past and try to figure this out, if it's a finding or not.

Now we've got observations and I know that this started with Doug. But we were going into it and, you know, this is just an observation, we've got this area. But we need to take a look at how we're going to handle these in the future too.

MR. KATZ: With respect to that, Brad, I mean I did, quite a while ago, discuss this with SC&A when this first came up. That we just get our tracking sorted so that our tracking is the basis for our statistics. And our tracking accounts for

the Subcommittee's decisions on these cases so that it is clear at the end of the day.

When findings are determined to be not findings by the Board or it disagrees, in other words, with them, that that's reflected in the source for the statistics so that we don't have to go back and tease through and reconstruct what happened.

CHAIRMAN KOTELCHUCK: I agree.

MEMBER CLAWSON: I've watched that. I've watched that because over the last few times, and I think Dave can even talk to this one. That we've, well, is this a finding or not a finding? How are we going to change this? And I think that's showing that we were seeing what the problem was.

CHAIRMAN KOTELCHUCK: Yes, that's true.

MEMBER CLAWSON: I just want to make sure because there can be some of them that come out that kind of really don't fit anywhere. And we're going to have to figure out how to deal with them.

CHAIRMAN KOTELCHUCK: Well I mean, as Chair, I'm committed for the future to being more careful about this, and to admitting that I did not see the importance of this as I first took over as Chair. So I certainly never pushed it. And I agree, that we're seeing this problem now.

But that doesn't resolve the issue of the Secretary's Report. I think, for the moment, we just have to say, if it's okay with people, that Grady and Rose look, and will cc Ted and me, and we'll see in the end what they come up with and how much overlap there is and figure out how to proceed.

MR. CALHOUN: This is Grady. What I'm thinking we do, if it's okay, I'll just communicate directly with Rose. And we'll start it with, instead of, you know, doing a shotgun approach and looking at everything, we'll take some subset and look at maybe the six through thirteenth sets and see what we come up with there before we go on to the next thing.

I can tell you like, you know, we just discussed -- and one thing that I'm not losing here

is we have made a lot of improvements because of this process here. And I don't deny that and we've just, we've done a great job and you've really helped us out.

When we look through some of these things though, some of them that we'd be pushing into an observation in our mind, you know, our two goals are to do the Dose Reconstruction on the right side of the compensation decision. And to make the Dose Reconstruction Report readable and understandable to the claimant.

Although it's important, it's not one of our main goals to make our process auditable by you, and I mean that with all respect. Just because you don't understand what we did right away, if we did it right, it's an observation not a finding. So when we do our evaluations, that'll be the point that we're coming from.

CHAIRMAN KOTELCHUCK: Yes. Sounds good. I admit, as a guy sitting on the Subcommittee, I'm glad to see SC&A give us a lot of false positives which we can then get rid of and

say, hey you know, that's not an observation.

MR. KATZ: Yes. Well, we certainly prefer for them to err on the side of bringing something forward.

CHAIRMAN KOTELCHUCK: That's right. And that's always been, I mean, that has been the spirit.

DR. MAURO: This is John Mauro again. The mechanics of this going forward, because I understand going retrospective for the purpose of the letter. But what I'm hearing is the mechanics of this going forward, when we are in the process of sitting down in issues resolution and we get to the point where we say, it turns out we accept NIOSH's answer, we did not understand it or the information wasn't available or whatever.

But at the end of some sometimes protracted process, it's concluded, no, the numbers are good. At that point, when we're right there, do we change it from a low to an observation?

MR. KATZ: I think that's the way to do it in the future.

DR. MAURO: Okay. So that's how we're going to go forward in the future.

CHAIRMAN KOTELCHUCK: Yes.

DR. MAURO: Ted, if you recall, you may not have been there. We had that conversation and the decision was, no, we're not going to go back and fix those. Let the record speak for itself. But now what we're hearing, and this is important and I have no problem with any of it. I mean, what I'm saying is that we're going to change our way of doing business during the issues resolution process when we reach that point, when SC&A realizes no, they were correct after all. Even though it may be a complex process to get to that point, once we get to that point, we change that low impact finding to an observation.

MR. KATZ: Right. And John, that doesn't mean you have to issue a new audit report, revised audit report. All it means is that, it's just so that our summary table where we pull our statistics for these reports for the Secretary, just so that those statistics are correct. That's

all.

DR. MAURO: Very good.

CHAIRMAN KOTELCHUCK: Yes.

DR. MAURO: This is very helpful for going forward. Thank you.

CHAIRMAN KOTELCHUCK: And both sides are doing a good job, it seems to me.

MR. KATZ: Oh, absolutely.

CHAIRMAN KOTELCHUCK: Yes. And process is good; it's a good process. But it's now ten of one Eastern Time. It seems to me we have finished this discussion and it's time to take a break, a lunch break. Yes? Or a late breakfast break for our West Coast contingent.

MEMBER MUNN: Absolutely.

CHAIRMAN KOTELCHUCK: So it's ten of one here. Is it okay, let's just do it for an hour and get back together at ten of two this time.

MR. KATZ: Yes.

CHAIRMAN KOTELCHUCK: Okay. See you in one hour, folks.

MEMBER CLAWSON: Okay. Bye.

CHAIRMAN KOTELCHUCK: Thank you, all.

MS. GOGLIOTTI: Thank you.

CHAIRMAN KOTELCHUCK: Bye.

(Whereupon, the above-entitled matter went off the record at 12:53 p.m. and resumed at 1:52 p.m.)

CHAIRMAN KOTELCHUCK: Al right. Well, just going in order in our agenda, we have three cases that remain from sets ten to thirteen. As folks will remember, we have done all that we could do for all the cases but there were three that we referred to other Subcommittees or needed some more work from NIOSH or whatever.

So, the three I have are Hooker Chemical Set 10-221.1, and Koppers Company Set 12-282, and Monticello Uranium. And I'm glad to know there's a Monticello Utah because I had never heard of it before and I was thinking Monticello, New York, when did they have a uranium mill? It's part of the Catskills area. So there's Monticello, Utah uranium mill.

Now I have a feeling I don't know how

much was done. For Hooker Chemical, we have a Site Profile issue on internal exposure. I checked for the AWE Working Group which I'm a member of, by the way, and we have not dealt with AWE for a long time.

They had an SEC petition which the Subcommittee has recommended not be accepted. But they are looking to get some information from FOIA and they requested that we not go to the Board until they get their FOIA information. It may have some bearing, they believe, on the decision.

But what I don't know is, as I said, it's a Site Profile issue. Do you know, Ted, if anybody has worked on it? That hasn't been mentioned by --

MR. KATZ: Yes. The Hooker Work Group has not been ready to meet. So that's why that's sort of put on ice. So that's why that hasn't gone forward. So there's no progress to be made there on the Hooker cases. I thought there were two Hooker cases but maybe --

CHAIRMAN KOTELCHUCK: There actually are. There's 222.2. You're right, another one.

Yes. Same issue.

MR. KATZ: So if the findings that are outstanding are germane to the Site Profile issues, then those are just on ice.

CHAIRMAN KOTELCHUCK: That means that we, it's not a question of --

MR. KATZ: It means that the specific Subcommittee can't resolve them because, until the Site Profile issues are resolved, there's no right answer.

CHAIRMAN KOTELCHUCK: Right. And there's no way to expedite the Site Profile issue.

MR. KATZ: No, we can't push that forward.

CHAIRMAN KOTELCHUCK: Okay.

MS. GOGLIOTTI: Now can I recommend that we transfer them to that Committee?

MR. KATZ: No, because these are Dose Reconstruction Review cases. We can't transfer them. We just deal with them after that Work Group gets around to the Site Profile issues.

MS. GOGLIOTTI: Okay. I will point

out that there are a number of transfers already in the six to thirteen --

MR. KATZ: Cases themselves, we don't transfer. I mean, we don't transfer cases. We wait for the resolution of Site Profile issues that affect the case in our hands. But there's no transferring cases to a Work Group from this Subcommittee.

MEMBER MUNN: You can transfer action but not the case.

MR. KATZ: Yes. I mean, in effect, you're just awaiting their actions because they're the ones who will make the decision about the Site Profile, what the Board's view of the Site Profile is.

MEMBER CLAWSON: I don't know if anybody else is hearing it, but I'm hearing that on the phone again.

MR. KATZ: Yes. There's some crackling.

CHAIRMAN KOTELCHUCK: Same, yes. Do we want to do what we did before which seemed to

help? Which is to say hang up and dial in again.

MR. KATZ: We can try that. Sometimes crackling is caused if people have their cell phone close to their phone. So folks that do, and they have their cell phone on, they want to either turn off their cell phone or move it further away from their phone. That might help too.

MEMBER CLAWSON: There we just went.

DR. MAURO: It just ended.

CHAIRMAN KOTELCHUCK: Yes, it did. Thank you. We will not ask for identification of who did it, but thank you. So all right, now those represent two cases. No, two findings on the case 222, set ten case -- no, 221 and 222 are two cases. And by the way --

MS. GOGLIOTTI: Yes, it's the same.

CHAIRMAN KOTELCHUCK: Pardon?

MS. GOGLIOTTI: It's the same case, just --

CHAIRMAN KOTELCHUCK: Oh okay. So that's one of the two cases that were reviewed. Rose, when you're in the previous analysis -- I'm

sorry, I know there's background noise when I'm speaking.

MS. GOGLIOTTI: No, that case was reviewed, Dave.

CHAIRMAN KOTELCHUCK: Pardon?

MS. GOGLIOTTI: That case was reviewed.

CHAIRMAN KOTELCHUCK: Oh, okay.

MS. GOGLIOTTI: We have findings on it. These cases are open still. So I treated those cases as if there has been no change. So the original ranking was ranked again.

CHAIRMAN KOTELCHUCK: Okay. Al right. Good. And then so, we're waiting on that. Then there's the Koppers Company from Set 12-282.1. And folks will remember TBD-6001 was withdrawn. At that time, last time we met, folks could not find the Kopper matrix to handle the external exposure. Is there anything new there?

DR. MAURO: This is John Mauro. Maybe I could help a little bit.

CHAIRMAN KOTELCHUCK: Always welcome.

DR. MAURO: I took a look at the matrix and the TBD-6001 issue and the way it's written up in the matrix. Since TBD-6001 is off the table, the matrix really isn't very helpful. So what I ended up doing is going back and looking at the Koppers dose reconstruction and our review of the dose reconstruction forgetting about TBD-6001 because it doesn't exist.

And I said, okay, I did a quick review of the case. I think there are two problems with it that really need to remain open. The only thing I can really do right now, if this is helpful, is there are two very simple technical issues. One dealing external and one dealing internal.

Perhaps, if I just explain it very briefly, it's something that NIOSH may be able to look at pretty quickly and answer. I don't think it would take much time. So if you'd like, I could very quickly give you the bottom line on Koppers and what is it we have to close out.

CHAIRMAN KOTELCHUCK: Please do.

DR. MAURO: And I'll do that very -- it

turns out that, from an external point of view, the way to look at it is, you've got 55-gallon drums filled up with some form of uranium and people are standing near it, being externally exposed. NIOSH has come up with an external dose to people who work there from the radiation coming from these drums of .055 rem.

We looked at that number and we come up with .34 rem per year. And NIOSH's position is, well John, your numbers are based on the assumption that the person spends 100 percent of his time one meter away from the drum. So in effect, the difference between SC&A and NIOSH is, we both agree that the right distance is one meter but it's the amount of time.

You know, I assume the person is there 2,000 hours per year. That's the distance he was away, how long he's there. Effectively, and please, NIOSH, correct me if I'm wrong because I reviewed this yesterday. Effectively NIOSH is claiming, well we're not assuming he's there 100 percent of the time.

Effectively, it implies it's more like ten percent of the time. So I think the fundamental external issue is for us to come to an agreement on, what's the reasonable amount of time that the person is in the vicinity of these 55-gallon drums? And once we resolve that, the issue will be resolved.

So right now, we're at about a factor of ten difference. Because I'm at one extreme where I put the guy one meter away 2,000 hours per year. And I'm presuming, based on NIOSH's number which is one tenth mine in terms of external exposure, that they're assuming a shorter time period that person's away. So that's issue one. It's very simple.

Issue two is the internal dose. And basically, there's airborne radioactivity associated with the handling of all this uranium. And I went back to the -- they're using surrogate data that's out there from a report by two guys named Christifano and Harris.

And he provides a wonderful amount of

data on all the different internal exposure data, airborne dust loading data for uranium, for a whole wide variety of different ways of working with uranium.

NIOSH assumed that the dust loading, the intake rate, I'm sorry, the intake rate for uranium by the workers is 100 picocuries per day. And that's based on certain assumptions about the airborne dust loading. I come up with a much -- I looked up Christifano and Harris, and the numbers I get from them is much higher in terms of what the airborne dust loadings are and the intake rates are.

So bottom line is, from looking at this from scratch basically, we don't agree on the internal dose either. I'm not saying I'm right or wrong. I'm saying if I were doing the dose reconstruction, I would have come up with a substantially higher external dose and a substantially higher internal dose.

And I think it's up to, you know, the issues resolution process to resolve those

differences. So we really can't close those out right now. The issues related to Koppers unfortunately, I believe, has to remain open until we have a chance to discuss the matters I just mentioned.

MR. CALHOUN: John, did you get a chance to look at my response, at least for the external?

DR. MAURO: I think you -- yes. Your response is to the amount of time the person was there.

MR. CALHOUN: It actually was detailed -- ultimately your finding was you didn't know, you couldn't figure out how we did it. And I went through and looked at the DR and showed you where the calculations were. Because you're right, you can't tell from the DR. But if you look at the IREP input sheet, I went line by line and showed exactly where those came from and the table in TBD-6001 was referenced.

DR. MAURO: Yes, but I think we have to discard the table, we ought to get rid of TBD-6001.

It doesn't exist anymore and we have to look at the merits going back to the original source document that establishes the basis, originally established the basis for TBD-6001 which is Christifano and Harris.

So what I did is -- I don't want to, you know, we shouldn't even be talking about TBD-6001 because it doesn't exist anymore. And since we have Christifano and Harris which is, ultimately, the source document that stands behind, originally was supposed to stand behind TBD-6001 which everyone agrees is a rock solid piece of work.

Let's just go right to Christifano and Harris and see what they say about, you know, this particular type of operation. And it's in there. And I didn't come up with your numbers. So I'm looking at the matrix and I see your words and I see your reference to TBD-6001. But I decided that -- listen, we can't be talking about TBD-6001 to close this thing out because it doesn't exist.

Let me just go back to first principles and go look at Christifano and Harris and see if

I match your numbers or come close to them, both external and internal. And unfortunately, I can't. Now, I'm not saying that I got it right. But I can't say here on the phone now that I understand what you did and that it's correct.

And that's why I'm saying that. We're going to need to have an opportunity to communicate this. And I could write something up. I wrote up notes that I'm reading from right now about what I did and where I come out. I'll try to summarize it quickly, you know, why I came out differently than you.

And I think I've got to get that into your hands. And then I think we speak from there.

MR. CALHOUN: Right. And yes, that's fine. I'll definitely need something that outlines that.

DR. MAURO: Yes. And I wish -- quite frankly, it wasn't until getting ready for this meeting where it was brought to my attention that these are items that were still unresolved. And I said, let me see what I can do to help. And I

think that I see where our differences are. But I think I owe you some material to explain, okay this is what I did and why I'm coming up different than you.

Then, I think we'll quickly converge once you see how I'm looking at it. You may find out where, you know, we'll come to an agreement. But I have to show you why I did what I did.

MR. CALHOUN: Okay. Now, just so everybody knows, it was done according to TBD-6001 which was in place at the time. It was current and it was referenced.

CHAIRMAN KOTELCHUCK: Right.

DR. MAURO: And that's fine. But I'm looking at it now, do we have -- I mean, the reality is we're trying to close out an issue. And I can't agree with the doses, notwithstanding the fact that TBD-6001 existed or didn't exist at the time the work was done.

I can only look at the doses from the point of view, do I think you've assigned the right dose to this guy or is there a problem?

MR. CALHOUN: Okay.

DR. MAURO: I didn't ask myself the question, did you follow TBD-6001?

MR. CALHOUN: I know.

DR. MAURO: You understand?

MR. CALHOUN: I just need that write up so I can respond.

DR. MAURO: And I will. It won't take me very long to do it. I'll get something to you next week and then we can talk about it. I don't know the machinery of how to do that. I'll just take my lead from John Stiver on how to best go about doing that.

MR. KATZ: Oh John, I mean that's -- this is Ted. I mean, just a memo describing your methodology and the basis for which you contend that this was done wrong, is what you need to do. It'd just be a supplement to your Dose Reconstruction Case Review.

DR. MAURO: Yes, and I can do that very quickly.

CHAIRMAN KOTELCHUCK: And I think I

hear Grady saying, I didn't do anything wrong, TBD-6000 existed, well 6001 existed at that time; it's since been withdrawn. And so, we have to do it again. Right?

DR. MAURO: Yes. TBD --

MR. CALHOUN: That's fine. I'm completely open to look and see what John has to say.

DR. MAURO: Okay.

CHAIRMAN KOTELCHUCK: Very good.

DR. MAURO: Okay. We're in good shape then.

CHAIRMAN KOTELCHUCK: Okay. Then that's the way we're going to resolve that. And finally, the Monticello uranium.

DR. MAURO: That's me again. And the good news is we can close this and I'll tell you why.

CHAIRMAN KOTELCHUCK: Okay.

DR. MAURO: When I reviewed this, one of the most important exposure pathways for these uranium mill tailings facilities, uranium mills,

is radon, inhalation of radon and its progeny. And the typical way in which it's done is you calculate the intake, the exposure rate in terms of working level months per year. That's the numbers that are used as input into IREP in order to get a Probability of Causation.

Now it turns out, when I reviewed this, I saw something unusual. There was actually a dose that was calculated. And I said, a dose. I mean, I didn't know that, you know, my experience has been that the protocol is to come up with working level months per year.

So I called Jim Neton up. And Jim explained to me that, in this particular case, they followed a certain protocol that I was unaware of. He explained it to me. I understand it, and as far as I'm concerned, that's another way to do it, and that's fine. You know, it's not the working level month per year approach.

It's a dose approach based on the citation material that Jim gave me. It's certainly another way to do it. So as far as I'm

concerned, this issue is resolved. It wasn't something that was documented. The problem was, it wasn't in the documentation.

I just simply went by the protocol that NIOSH normally uses which is a working level month per year protocol, not this other approach. But once it was explained to me, what that other approach is, I didn't have any problem with it.

CHAIRMAN KOTELCHUCK: Okay.

DR. MAURO: So I would recommend closing this item.

CHAIRMAN KOTELCHUCK: Okay. That sounds good.

MR. KATZ: So Dave and Subcommittee, this is an example, I think, where you need to be clear about whether in this instance, there's no problem with the methodology except that it wasn't documented so that John Mauro wasn't aware of it when he reviewed it. So does this end up as an observation?

MR. CALHOUN: I think it is an observation. Isn't it?

DR. MAURO: Yes. I would agree with that.

MS. GOGLIOTTI: It's already an observation.

MEMBER MUNN: It is.

CHAIRMAN KOTELCHUCK: Formerly it was an observation.

DR. MAURO: It always was an observation.

MR. KATZ: Okay. Sorry, I apologize. I wasn't following along.

MEMBER CLAWSON: See Ted, this is one of these situations where we've got into where going through this review, we're just not understanding. This is why we went to these observations like we did. So it is a good example. I think it's working. The only problem I see is it's in the later part of this process.

MR. KATZ: Okay. Thanks.

CHAIRMAN KOTELCHUCK: Sounds good. Well, we've taken care of those case issues. And I think we're ready to go on to the remaining blind

cases.

MS. GOGLIOTTI: If I may really quick. Because we were asked to hold all of the revisions to these cases until the 10th through 13th sets were finalized, as long as no one has any objections, I'll go ahead and reissue all of those.

CHAIRMAN KOTELCHUCK: I could not hear that. I'm sorry.

MS. GOGLIOTTI: Oh, I'm sorry. Can you hear me now?

CHAIRMAN KOTELCHUCK: Yes. Could you please repeat now?

MS. GOGLIOTTI: SC&A was asked to hold the revisions of all of the case sets that were directed by the Board until after we finished the tenth through thirteenth sets. And now that this almost wraps it up, I'm going to go ahead and reissue those. I believe there's five or six cases. And that's where we were asked to withdraw a finding or reduce a finding to an observation and that was Board-directed.

CHAIRMAN KOTELCHUCK: Okay.

MS. GOGLIOTTI: So you can expect to see those.

CHAIRMAN KOTELCHUCK: Good. Thank you.

MR. KATZ: So Rose, are you saying that you'll send out a new sort of case summary? Or what is it you're sending out?

MS. GOGLIOTTI: Throughout the issues resolution process, we were asked to withdraw certain findings or from the actual Dose Reconstruction Report. I think we withdrew three observations for change of findings. And we were asked to make those in the actual report. And those changes have been made, they just haven't been finalized.

MR. KATZ: Oh I see. Okay.

CHAIRMAN KOTELCHUCK: Good. Okay. Well now we're ready to go to the remaining. You mentioned that there were, the first three blinds that were done way back in sets one through six that you wanted to go over again. I thought we had completed them but --

MS. BEHLING: This is Kathy Behling. And there were actually two initial blinds that we were given back in the 2009 time frame, I believe. What you had asked me to do, back when we initially did those first two blinds, we were not asked to calculate a PoC.

CHAIRMAN KOTELCHUCK: Right.

MS. BEHLING: So at the last meeting, you asked us to go ahead and calculate that PoC, which I did. And I know that, perhaps many years ago, we did have an opportunity to discuss these cases. However, I think there are new Subcommittee members who that are not really aware of what we did in these two blinds.

And this is back when we did the two SC&A methods, Methods A and B, and then we compared it to NIOSH. If you agree, I do think there are some interesting aspects and observations that I would like to point out from these two older blinds that may be worth taking some time for me to go over them. I'll try and be brief although I do want to go through each of the elements, if you agree.

Let me just say this, on the first blind which was a Portsmouth blind case, Method A's PoC ended up being 49.35 percent. Method B was 79 --

MR. CALHOUN: Hold on a second. This is Grady. I don't want to throw a wrench into things, but I don't think case numbers should be up there since we have members of the public on the phone.

MS. BEHLING: That was going to be my other question. Are there members of the public on the phone? Because my next question was going to be, for these two particular blinds, we never did back then get a PA-cleared version.

Now they are available under the Advisory Board website under the DR Subcommittee folder under today's meeting, September 24th meeting. And I was going to ask Ted, if we would be able to pull those up or not.

MR. KATZ: Yes. They're fine on Live Meeting. I think Grady is worried about what you say orally.

MS. BEHLING: Okay. I don't think I

gave --

MR. KATZ: Live Meeting is not available to the public. It's only available internally.

MS. BEHLING: Okay.

MR. CALHOUN: You have to be careful with the case numbers.

MS. BEHLING: Yes.

CHAIRMAN KOTELCHUCK: Okay. Good.

MS. BEHLING: I didn't say the case number, did I?

CHAIRMAN KOTELCHUCK: No, you didn't.

MR. CALHOUN: You did not.

MS. BEHLING: Okay. Thank you. But first of all, like I was about to say, finally I was going to say that NIOSH's PoC for the first Portsmouth case is 48.75 percent. So Method A and NIOSH's method are close: 49 and 48 percent. Method B was 79 and I can explain that if you'd like me to go through this.

This second case was an X-10 case. And again, I calculated Method A's PoC to be 66.15

percent. Method B's PoC was 72 percent. And NIOSH's PoC was 43.63 percent. So as you can see, both of the SC&A methods would have compensated in this particular case.

But again, if you'd like me to go through these, I can explain. I think in both of these cases, we are going to find this was professional-judgment type issues that drove the differences. So I will let you decide if you'd like me to go through those.

CHAIRMAN KOTELCHUCK: Yes, I would like you to.

MEMBER BEACH: So would I.

MS. BEHLING: Okay. Al right, I will start with the Portsmouth case. I will ask Rose, maybe we can bring that up and I will start talking. As I said, I'll try to keep it brief.

This particular person worked from [identifying information redacted] through [identifying information redacted] as a sheet metal worker and then ultimately, a sheet metal [identifying information redacted]. He was

diagnosed with [identifying information redacted] skin cancers and a [identifying information redacted] cancer. It was a [identifying information redacted] cancer.

In Table 2-2 on Page 8 of my report, I give you a comparison of the different methodologies. As you can see, SC&A's Method A used what they considered a best-estimate method. Method B set a reasonable but claimant-favorable method. And NIOSH actually stated that they overestimated these doses.

The primary approach for overestimating associated with what NIOSH did is that, rather than using the actual [identifying information redacted] DCF of 0.62 prior to 1987 and 0.479 after 1987, they used a [identifying information redacted] DCF of one. You can see that in this Table 2.2.

I won't go through all the details but everyone agreed on what the monitoring years were and what years the individual wasn't monitored which was 1970 to 1979 and applied various

dosimeter correction factors and uncertainty factors.

When we get to the recorded photon and electron doses, which are shown in Table 2-3, you can see that the difference in the electron dose between SC&A's Method A and NIOSH was due to, in this case, Method A incorrectly read the records and assigned a positive dose of 139 millirem in 1969. And so, that is what created the difference there in Table 2.3.

Method B is 2.8 times lower because Method B only assumed one positive dose in 1969 and used the RBS, [identifying information redacted] --

(Telephonic interference.)

MS. BEHLING: Can you hear me?

CHAIRMAN KOTELCHUCK: Yes. Maybe folks, somebody has their cell on.

MS. BEHLING: I hear crackling again. So do you want me to continue?

CHAIRMAN KOTELCHUCK: It seems hard. Let's wait a second. Does anybody have a cell

phone nearby that may be feeding in?

MEMBER CLAWSON: How about everybody mute from their --

CHAIRMAN KOTELCHUCK: Yes. Let's all mute.

MS. BEHLING: Should we call back in?

CHAIRMAN KOTELCHUCK: I think we should. Yes.

MS. BEHLING: Okay.

CHAIRMAN KOTELCHUCK: Okay, folks. We'll all call back in. Sorry.

(Whereupon, the above-entitled matter went off the record at 2:22 p.m.)

CHAIRMAN KOTELCHUCK: Okay, what were we doing? Is Wanda back?

MEMBER MUNN: Yes, I am.

CHAIRMAN KOTELCHUCK: Okay. She's not the culprit either.

MR. KATZ: And David?

CHAIRMAN KOTELCHUCK: No, David's on I think. Right?

MR. KATZ: Good.

MS. BEHLING: Okay, so I -- can I continue?

CHAIRMAN KOTELCHUCK: Please do.

MS. BEHLING: Okay. And I was going to just also say with regard to the [identifying information redacted] dose, Method B was about 2.8 times lower and that was because that method assumed one positive dose in 1969 and used the [identifying information redacted] DCF as opposed to NIOSH assuming that there were three positive values throughout the years and used a DCF of one, which was overestimating a function with using the DCF of one.

If we go on to missed dose in Section 2.1.2, here again, Method A, the differences in dose here was that Method A assumed an LOD of 15 milligrams --

MR. KATZ: I'm sorry, I'm sorry. But someone is in a shopping area or something and if you could just mute your phone.

MS. BEHLING: Okay, there we go. Back to the missed photon and electron doses, if you look

at Table 2.4, Method A assumed an LOD of 15 millirem based on information in the Portsmouth TBD, whereas NIOSH and SC&A's Method B assumed a 30 milligram LOD, which comes from OTIB-17, which is your assessment for skin doses. So that's what created the difference in the missed photon and electron doses.

Now, here's where we go to some professional judgment. And again, this is unmonitored external doses, Section 2.1.3 and Table 2.5.

Everyone assumed that the individual was unmonitored between 1970 and 1979, and assumed that there should be coworker data used to fill in that unmonitored period. And they all used the OTIB-40, which is the external coworker data for Portsmouth.

However, Method A and NIOSH assumed that this worker fell into the 50th percentile category, while Method B assumed that this worker, being a sheet metal worker, would perhaps fall into the 95th percentile category.

And again, NIOSH used the DCF of one, where the others used the DCF values associated as appropriate for that under the implementation Guide 1.

Occupational medical dose. Again here, there are some differences. Again, all of the B methods used the TBD for assessing -- that's Table 2.6 -- used the TBD, Portsmouth TBD, Section 3, for calculating the medical doses. However, differences in the dose was that SC&A's Method A assumed an annual frequency based on information in Table 3.1 of the Technical Basis Document.

And Method B and NIOSH only assigned doses for documented. And, in fact, in looking through the records, I think Method B came up with ten X-rays and NIOSH came up with 12, so there was a little bit of discrepancy between how they interpreted the records.

Also, it's interesting with a skin dose, because you have to select various areas and various sites. Each method maybe selected a different site and NIOSH used the entrance skin

dose prior to 1970 and used the eye/brain as a surrogate for the skin cancers on the [identifying information redacted] and the [identifying information redacted].

They used the thyroid as a surrogate organ for the [identifying information redacted]. And just standard skin for the cancers on the [identifying information redacted] and the [identifying information redacted]. So there was some differences in the selection of where the particular site of the various cancers, skin cancers, were. The only method --

CHAIRMAN KOTELCHUCK: Kathy, you're fading for me.

MS. BEHLING: Okay. Is that any better?

CHAIRMAN KOTELCHUCK: A little better. How about others?

MEMBER BEACH: We're fine here.

MR. KATZ: Yes, she sounds fine here, too.

CHAIRMAN KOTELCHUCK: Okay, that's

fine then. Keep going. I can hear you.

MR. BEHLING: Okay. I'll speak up. The only method that calculated dose from potential skin contamination was Method B. They based that on assuming a hundred hours per year of potential skin contamination from uranium and technetium-99. And that resulted in somewhere between one and two rem.

Now we go to internal. Internal skin doses were very similar between Method A and NIOSH. Method B did not calculate that. Difference in the [identifying information redacted] dose for the uranium had to do -- it basically comes down to the various assumptions used regarding how they're going to fit the data.

For Method A, they assumed a chronic exposure period between 67 and 85 at the LOD level. They assumed Type M, because he felt that there was also a lung count, and he felt that using a Type S, the lung count would have bounded to using a Type M. And Method A also accounted for recycled uranium components.

Method B considered three different intake regimes and calculated a chronic intake from 67 through 75 at one-half the LOD value, also added the recycled uranium component where NIOSH assumed a chronic intake period based on one-half the LOD throughout the employment period and also assumed there was one bioassay in 1977 that was right at the LOD level. And so they assumed that that was an acute intake and calculated doses based on that and also added in the recycled uranium component.

So it comes down to that the internal doses differed resulting from interpretation of the records. You know, whether it was acute on that 1977 or whether that should all be considered chronic.

Also, the selection of the sorption types. Those Method B, I didn't mention is that NIOSH in Method B assumed Type S absorption and just a fitting procedure, whether it was a chronic or acute.

So, really, the major difference was the issue of the selection of 50th versus 95th

percentile value from the coworker external data.

So that pretty much sums up this first one. And the reason that Method B went over the 50th percentile was because of selecting the 95th percentile for the coworker.

CHAIRMAN KOTELCHUCK: Yes.

DR. MAURO: So, Kathy, this is John. I think that, you know, the level of granularity here is amazing in terms of the level of detail done in comparison.

But what I'm hearing is, it really boils down to, the major difference was this judgment on 95th versus 50th percentile. And I know that there's guidance out there by one of the OTIBs of when you use 95th percentile and when you use the full distribution.

And I guess, is it your opinion that there's enough ambiguity in interpreting and using that guidance, that reasonable people could very well come to different decisions regarding whether the 95th or the 50th should be used?

And if that's the case, that is a bit

of a problem, because then you have inconsistent approaches, which could have a substantial effect, as we see here.

MS. BEHLING: I'm going to ask NIOSH to weigh in on this, but when we're talking about sheet metal workers, wouldn't they be plant type workers or does it have to be more of operations type people? I really, I'm not quite sure.

But I do ask myself, this is something I think that -- that's why I wanted to discuss this case so that we could have a better understanding of, does a sheet metal worker fall into what you would consider a 95th percentile?

MR. SIEBERT: This is Scott. I mean, I can give you answer as to why we did what we did.

MR. BEHLING: Okay.

MR. SIEBERT: In this case, we were talking about two different things. In this case, we're talking about somebody who was monitored for some of the period and was not monitored for other parts of the period. But it doesn't appear their job classification really changed.

And in a case like that, what we will normally do is look at the time frame they actually were being monitored and see if it lines up reasonably with the 50th percentile or the 95th percentile.

Because the thought process really isn't that suddenly they pulled his badge and started exposing him at a much higher rate. So we looked for what was relatively consistent.

And, just like SC&A Method A, it seemed to be more reasonable that the 50th percentile was indicative of what he was being exposed to when we were monitoring him or when he was being monitored within the 95th percentile. So that's the thought process that went into this one.

MS. BEHLING: Okay. I can also understand why Method B would perhaps select the 95th percentile, if you're considering that this individual started out being a sheet metal worker, person in the plant and then ultimately a [identifying information redacted].

And so, I guess, like I said, that's the

dilemma as to how do you classify this type of person. But I think looking at the previous records or looking at the dose records also is an appropriate way to determine if it's 50th or 95th percentile values that should be used.

MEMBER CLAWSON: Yes-- this is Brad. I thought you always went to the most claimant-favorable process. This is a prime example of, you know, these are judgments that these people are having to make.

CHAIRMAN KOTELCHUCK: Yes.

MEMBER CLAWSON: And I'll tell you right now, from my standpoint, as being in the operations, we have sheet metal workers in cells with us and everything else like that, but we even have some of the foremen are in there because there's a problem, things like this. So it's one of those things.

CHAIRMAN KOTELCHUCK: Well, Dave, but I understood Method A and NIOSH were the, their comparison if you're using the same methodology, the B is not to check on whether NIOSH did it

correctly.

It's -- well, it is, but it's a different methodology and we are no longer using B in now from the 5th, during the current grant period.

So, to me, A and the fact that NIOSH agree -- and A -- NIOSH and A agree, seems to make me comfortable they're trying the same methods, following the same rules, and they're getting the same answers.

MS. BEHLING: If I can just interject for a second and --

CHAIRMAN KOTELCHUCK: Yes.

MS. BEHLING: I don't mean to put Doug Farver on the spot here but, because this goes back a long way and I don't know if he's prepared to answer this question, but he was the person that did SC&A's Method A. And I don't know, Doug, if you recall what your thought process was in selecting the 50th as opposed to the 95th. Perhaps Doug can give us some insight. You on the phone, Doug?

CHAIRMAN KOTELCHUCK: Give him a second to get off of mute. Doug?

MS. BEHLING: Okay. I hope he's on the line, because he was going to discuss some of the later blinds.

CHAIRMAN KOTELCHUCK: Maybe he just stepped away for a second.

MR. KATZ: Maybe someone could pop him an email just to, or I'll send him an email, but --

MS. BEHLING: Okay.

MR. KATZ: If you have a different email for him, you might try him with yours, too.

MS. BEHLING: I will do that. Okay. So I'm just presenting the different methodologies and, like I said, I don't know. I didn't actually go back because, as I said, it has been a while into the TBD to reread whether there's any very clear and concise -- it's never clear, I guess, to determine if it's 50th or 95th, but I don't know how specific the guidance is in the Portsmouth TBD.

MEMBER BEACH: That seems to be a

problem that should be clearer.

DR. MAURO: Kathy, this is John. Your PoC for A, did that come in above 50 percent?

MS. BEHLING: No, it didn't. That came 49.

DR. MAURO: The only one that came in above 50 percent was --

MS. BEHLING: Method B.

DR. MAURO: Was B.

MR. FARVER: Hello, hello? Hi, this is Doug.

MS. BEHLING: Hi, Doug.

CHAIRMAN KOTELCHUCK: Okay.

DR. MAURO: Okay, I'll leave you to talk.

MR. FARVER: Okay. I was my pushing my mute button on and off and that phone wasn't working, so I had to switch phones.

CHAIRMAN KOTELCHUCK: Oh.

MR. FARVER: I'm trying to talk to you and nothing was happening. Okay.

CHAIRMAN KOTELCHUCK: Yes.

MR. FARVER: But I was going to tell you, the short answer is I do not remember off the top of my head why I selected 50th percentile. I would have to go back and look at my report.

CHAIRMAN KOTELCHUCK: Yes.

MR. SEIBERT: This is Scott. I'll just say once again, if you'll notice, there were only three years where the individual even had positive external dose. All other years that he was monitored were all zeros. So that doesn't seem to indicate a 95th percentile exposure.

MR. FARVER: If it's important to the Subcommittee, I can go back and look at my original report and see what I wrote in it.

CHAIRMAN KOTELCHUCK: Yes, I don't know. I feel like we've talked about not using B, because B uses different methodology. It doesn't try to reproduce what NIOSH did, but tries to start fresh from, whatever, a good basic approach. In which case, I don't see the issue. I don't see that it's an important issue.

MEMBER CLAWSON: This is Brad. I, you

know what, I understand where everybody's going, but this is one of the reasons why, when we get into this professional judgment, it is so difficult and so -- here we see a case like this and because of, I believe, it's one decision. Correct, Kathy? To go from 50 to 95?

MS. BEHLING: Correct.

MEMBER CLAWSON: Made it comparable or not?

MS. BEHLING: Yes, that was the driver, I believe, yes.

MEMBER CLAWSON: All I'm saying is I want us to look at this and understand that this is why so many times when we're looking at little small things that change here or there or thought processes, it can make a difference and we don't see the outcome like this. I think this is very useful, in my opinion.

CHAIRMAN KOTELCHUCK: Okay.

MR. SEIBERT: This is Scott again. I went back to the original report. And in Method A, it says the 50th percentile doses were chosen

as a best estimate of the EE dose, since he was likely exposed to intermittent low levels of external radiation.

MS. BEHLING: And that does make sense in this particular case, in my view, because of the existing records. As Scott indicated, there was only three years of positive doses and so I guess it wouldn't be necessarily unreasonable.

CHAIRMAN KOTELCHUCK: And they were discussing --

MR. CALHOUN: I imagine that their 50th percentile doses aside were higher than any of the doses when he was actually monitored.

CHAIRMAN KOTELCHUCK: Yes.

MEMBER MUNN: That's key. Correct, yes. If you go to 95 percentile, you're just simply making things up.

MEMBER CLAWSON: Wait a minute. I think we do that quite a bit. We're taking a lot of guesses here.

MEMBER MUNN: Well, when you have a --

MEMBER CLAWSON: You can't tell me that

what he did was -- we're making a guess. We're using a, I guess you could even say we're making a professional judgment on this individual. He may have, in the earlier years, been subjected to a lot that he wasn't. We don't know. We're guessing, I think, quite a bit.

MEMBER MUNN: What we're doing is we're basing our judgment on the facts that are before us. For us not to do that would be to be essentially refuting all of the recordkeeping that had been done.

MEMBER CLAWSON: Or lack of.

MEMBER MUNN: We have the record on this particular worker.

MEMBER CLAWSON: We've got a fair amount of record, yes. And I agree with that. But we're taking that and spreading that over a long period of time and we're telling everybody this is, you know, this is our best guess.

And we have not, you know, this -- this slide of the TBD is why we go into such great detail with them and get as much information as we can.

CHAIRMAN KOTELCHUCK: Other questions?

MEMBER BEACH: Dave, I guess, for me, it just goes back to, is there clear guidance and should there be clear guidance on which percent you use. So it's not left up to such a judgment, a professional judgment.

MEMBER RICHARDSON: It's always going to be a professional judgment. Because there's so many factors that come into play. And you've got to remember, too, that this guy was, I believe, he was monitored, in fact, in the earlier parts of his career and then he wasn't.

So that's even more indicative that he moved to a job or moved to an area, even if it might have been the same category, where he just wasn't getting dosed or they didn't see any need to monitor.

MR. SEIBERT: That is correct. He was monitored on either side of the gap. That is correct.

MR. FARVER: This is Doug. In

OTIB-40, which is the external coworker dosimetry data document, under -- it does give guidance for selecting the 50th percentile or 95th percentile under Section 7. So there's some guidance given. If you want, I could read it to you.

CHAIRMAN KOTELCHUCK: Yes, could you?

MR. FARVER: Okay. There's a table, so it talks about the table below. These percentile doses should be used for selected PGDP workers with no or limited monitoring data using the methodologies outlined in Section 7 of OTIB-20.

In general, the 50th percentile dose may be used as a best estimate of a worker's dose when professional judgment indicates the worker was likely exposed to intermittent low levels of external radiation.

The 50th percentile dose should not be used for workers who were routinely exposed. For routinely exposed workers, i.e. workers who were expected to have been monitored, the 95th percentile dose should be applied.

For workers who are unlikely to have

been exposed, external on-site ambient dose should be used rather than coworker doses. So that's the one bullet, Number 5.

CHAIRMAN KOTELCHUCK: Yes. Thank you.

MR. CALHOUN: And, Doug, you're correct. And that comes, also that's just pulled right out of OTIB-20. The guidance that talks about assigning a coworker.

MR. FARVER: So that would be the reason I would, my guess is, that I assigned it.

CHAIRMAN KOTELCHUCK: And that was what NIOSH would have followed, as well.

MS. BEHLING: However, I will say, after reading that guidance, you can understand why there would still be some question, in a dose reconstructor's mind, perhaps, as to -- because it was simply, if I understood it correctly, it's simply saying, if he had been monitored, and maybe I'm misunderstanding what was said, but if he was routinely monitored and should have been monitored, perhaps some thought to the 95th is appropriate.

Now, as I'm saying, in this particular case, because we're looking at relatively low doses, but he was monitored before and he was monitored after, so after hearing that, I could understand why there would still be some need for professional judgment. And it's not very clear as to which way you would go with that.

CHAIRMAN KOTELCHUCK: Yes. So what is our conclusion? Do the two blinds agree or not. Do the blinds agree?

MEMBER RICHARDSON: Yes.

MEMBER CLAWSON: Okay. If we're going off beta, I'd say no.

CHAIRMAN KOTELCHUCK: Okay.

MEMBER CLAWSON: The whole thing comes down to you're going to want the best judgment that they run into with this. And I can understand what they're doing on this, but I just -- we are looking at this. It's interesting. We use the data when we can and we have to do other. This is a monumental task that these guys have to go through.

CHAIRMAN KOTELCHUCK: Yes.

MEMBER CLAWSON: I guess that's why we're still debating with the issue of professional judgment.

CHAIRMAN KOTELCHUCK: Yes. Other folks? I think there's a -- I mean, my feeling is there's agreement.

MS. BEHLING: Okay. And, as I said in this particular case, just based on the doses, I would agree. And especially if the 50th percentile doses are even higher than the actual monitored doses. Perhaps there could be a little bit more clarity put into the coworker guidance, dose guidance, but --

CHAIRMAN KOTELCHUCK: Yes.

MS. BEHLING: -- in this particular case, I have to say I would agree that the 50th is probably appropriate.

CHAIRMAN KOTELCHUCK: Yes.

DR. MAURO: This is John Mauro. To help out a little bit, to make this -- I'm the Method B guy. And listening to the arguments, I have to agree.

When I made the judgment to go with 90th percentile, some of the considerations I just heard are certainly reasonable. And if I were to do it over again, I'd probably go with the 50th percentile. So I'm just trying to help --

CHAIRMAN KOTELCHUCK: Right.

DR. MAURO: -- everyone get comfortable with the decision that is being made right now. Because I think that the arguments that were made by NIOSH and by Kathy -- you should also realize that when we used to do the A and B, the A people did not talk to the B people. They let each person --

CHAIRMAN KOTELCHUCK: Good, good.

DR. MAURO: Which is good. And I think in this particular case, we did do the B. I know we don't do it any longer. But it is sort of indicative of what could happen and I'm sort of glad that we did A and B here.

And I'm happy to listen in, and I'm glad to hear that my assumption was probably the wrong one. Because I think that the arguments made by

NIOSH are compelling and, you know, so that may help everyone get comfortable with this because it's a tough one. Because --

CHAIRMAN KOTELCHUCK: Yes.

DR. MAURO: -- it's a reversal situation.

CHAIRMAN KOTELCHUCK: Right, exactly.

DR. MAURO: Yes, so --

CHAIRMAN KOTELCHUCK: That's why it's so important.

DR. MAURO: I am now hearing, you know, hearing the arguments. And the way I'm listening to them now, I'm sold that I should have went with the 50th percentile as opposed to the 95th percentile.

MEMBER BEACH: John, that's helpful for me. This is Josie. Thanks.

DR. MAURO: Okay.

CHAIRMAN KOTELCHUCK: Yes, it is, also. So we concluded that there is agreement and unless -- do I hear objections? Except Brad certainly objected or disagreed. Any other?

Brad, what do you think?

MEMBER CLAWSON: What's that? I'm sorry, I couldn't hear you.

CHAIRMAN KOTELCHUCK: Oh, I'm sorry. I said, Brad, do you feel comfortable --

MEMBER CLAWSON: Yes, I do.

CHAIRMAN KOTELCHUCK: Okay. Then we have agreement, I think. All of us. David, I didn't hear from you, but I'll accept that as agreement.

MS. BEHLING: Okay. If you'd like, I'll go on to the X-10 case.

CHAIRMAN KOTELCHUCK: Yes.

MS.BEHLING: There's some interesting aspects to this also. And I'll have those, or whoever, someone pull it up.

This particular case, the individual worked at Y-12 between [identifying information redacted] and then at the X-10, the Oak Ridge National Lab facility, from [identifying information redacted].

CHAIRMAN KOTELCHUCK: And we skipped

those. We skipped quickly over the overall picture, but NIOSH A and, excuse me, SC&A A and NIOSH disagreed on the 50th percentile, right? They disagreed on compensation.

MS. BEHLING: Yes. Both SC&A's Method A and SC&A's Method B --

CHAIRMAN KOTELCHUCK: That's right.

MS. BEHLING: -- were greater than 50 and NIOSH came in under 50.

CHAIRMAN KOTELCHUCK: Right. And, in fact, A and B are close to agreement on some basic level.

MS. BEHLING: Yes. And we will get to those issues.

CHAIRMAN KOTELCHUCK: Good. Okay.

MS. BEHLING: Again, judgment calls. The individual worked in various job categories. [Identifying information redacted], on and on, and was diagnosed with [identifying information redacted] carcinoma in 1982.

Now for the -- and I'll quickly -- yes, there's Table 1-1 that shows you the doses and I'll

just highlight for you the occupational medical dose. You can see there's quite a difference between Method A and the other two methods.

And also, the Method B internal dose is quite a bit higher, and we will get to those issues. But when it came to the -- and I'll just mention to you that NIOSH and Method A used the urinary bladder as the target organ for this particular cancer, where Method B used the liver. It's just an interesting side note. But currently, I think the current OTIB-5 now uses the liver for the [identifying information redacted] carcinoma.

Also have to mention that there was an SEC at the Y-12 facility, so for this individual's employment between 1944 and 1947, due to the SEC, the external dose prior to '48 NIOSH in Method A only used medical dose. Method B assigned a medical dose and an on-site ambient dose.

If we look at Table 2.1, again here are the comparison of the parameters that were used. Pretty much everyone used a best estimate. Assumed pretty, you know, a close -- yes, I'm sorry.

Method A and NIOSH used a dosimeter correction factor.

Again, the differences are going to be in the organ DCFs with SC&A Method A using the bladder and NIOSH using the bladder. The only difference there is that NIOSH broke up the energy ranges of 25 percent per 3250, which has a 1.244 DCF value.

And they assumed that 75 percent of the dose was greater than 30-250 keV, which actually has a DCF of .883. So that will explain the difference in some of the doses.

If we go to the recorded doses shown in Table 2-2 --

MR. SEIBERT: Hey, Kathy? I'm sorry. This is just a point for the -- this is Scott.

MS. BEHLING: Okay.

MR. SEIBERT: I'm just asking the Subcommittee, so this one has more differences than the last one. The last one, really the only difference was the 50th and 95th percentile.

Do you want Kathy to go all the way

through and then go back and discuss each one separately or would you like me to address these as we go through? I can do it either way. I just wanted to let you know, whatever is better for you guys.

MS. BEHLING: I will leave that up to the Subcommittee.

MEMBER CLAWSON: Myself, I'd like to address them as we go through them, because it would be kind of hard to recap back a little bit. But that's just my opinion.

MS. BEHLING: Okay, Scott. If that's the agreement of the Subcommittee, I'll let you chime in. Just interrupt me any time.

MR. SEIBERT: Yes, I'm sorry to do that. So we already talked about the use of the organs and that was the changing OTIB-5. And I think we already agreed that it was done correctly at the time. And then OTIB-5 changed the organ of interest.

And just one thing I want to point out on that is that the change to the organ of interest

being the liver rather than the bladder, it reduced the DCF.

MS. BEHLING: Correct.

MR. SIEBERT: So there was no reason to go back and do a PER or anything of the sort on this one.

MS. BEHLING: Yes.

MR. SIEBERT: The next one is the discussion of the energy ranges, which is why I stopped you at that point.

MS. BEHLING: Okay.

MR. SEIBERT: The reason we used the energy range up until, I believe it was, 1962 of the split of 25 percent, 30 to, 250 keV, and then 75 percent at the over 250 keV, is because we based it on the actual locations of the EE as came out of the bioassay records and the various records that we had within there.

The other thing that really drives -- and in '62 on, we actually used the hundred percent 30-50 keV just like you guys did.

MS. BEHLING: That's correct, yes.

MR. SEIBERT: The other, the big thing for me to point out on that is if you go to the actual TBD and look at the facilities, there's only two facilities that have a hundred percent 30-50 keV as the energy split. Almost everything else is 25 and 75 percent or a hundred percent in the greater range.

And those two facilities are 4508, which is what we assumed after 1962, and a storage facility vault for special nuclear materials.

Both of those in the attachment in the TBD do not have, they're not open until, they don't that have range until the early 1960s anyway. So prior to the early 60s, there are no facilities that would be 30 to 250 a hundred percent. So that's why we used what we did.

MS. BEHLING: Okay. And I agree. In fact, we go to the bioassay records also to try to determine where this individual worked to get a best estimate as to where that is. And I think that that was appropriate.

As you can see in Table 2.1, where I have

identified work locations, Method A and B of the SC&A both assumed that he was in building 4508 and the metal and ceramic labs throughout most of the employment period.

So that is why I believe that they assumed a hundred percent, 30 to 250, but I do understand and agree with NIOSH's assumption.

Okay. If I go on, under the missed photon doses on Table 2-3, again, I guess there is some difference in interpretation of the records. And I believe, and correct me if I'm wrong here, Scott, but it's pretty much a difference in assessing whether it's a zero dose or a blank and how that gets counted for the missed dose.

SC&A's Method A interpreted, or counted, 332 missed doses. Method B counted 450 missed doses or doses that were less than half the LOD value.

And NIOSH counted 406 missed doses. And again, the differences in DCF values is what created the difference that we see in Table 2-3. Anything to add, Scott?

MR. SEIBERT: Yes. I would agree it does have to do with the counting of blanks versus zeros. And there is guidance in the TBD for X-10 on how to handle those things.

One thing I will point out and I'll admit, if you look at -- I believe that Method B probably has the best number of zeros, 450.

Going back and looking at the claim, we had 406, and when I went back and looked at it, we've actually done this claim under PER for Super S plutonium.

We looked at that and there was a period in '49 and '50 where there would be approximately 42 additional zeros that probably should have been counted, which would bring our number almost exactly the same as Method B.

So I think Method B probably has the best number on that case and we realized what the issue was. And we had actually done it correctly in the PER when we corrected it for Super S. So we would agree with that number, once we redid the work.

MS. BEHLING: Okay. Well, I'm glad to hear that you did go back and we haven't gotten to it yet, but I did point out in this report that at the time that we were comparing or making this comparison, the OTIB-49 guidance was not in effect. And so, NIOSH did not look at the Super S.

But when I went back into the records just recently, I didn't see where this case was reworked, but obviously you said that it was reworked. So I'm glad to hear that, because that was going to be a comment when we got to the internal section.

Okay, now here, when we get into the occupational medical doses on Table 2-4, here again I think we can consider this again professional judgment.

The reason that Method A's doses were so much higher is because Method A assumed that this worker was, quote, a craft worker and therefore assumed that they would have received a lumbar spine X-ray between 1950 and 1953. And that added 13 rem to the occupational medical dose.

And in the case of NIOSH and Method B, they assumed a PGF for those years. So, Scott, I don't know if you have anything to add to that.

MR. SEIBERT: Yes. And you're right. It does have to do with craft worker assumption. And looking at the, what this claimant is listed as, I mean, I'm seeing [identifying information redacted], lab technician.

Nothing really suggested to us that he was a craft worker that would be moving things like that, which is the reason I would assume that they would getting a lumbar spine. So there was no indication to us that those type of exams would have been appropriate.

MS. BEHLING: Yes. I'm just seeing, though, that he was a [identifying information redacted] for one month in 1948. And then [identifying information redacted]. So, you know, various job categories, so.

Anyway, that was the difference in that particular dose. And I'll move on. We can get back to that.

On-site ambient dose --

(Telephonic interference.)

Nothing much there.

Now, occupational internal. Due to the SEC at Y-12, SC&A and NIOSH did not assign any internal prior to '48. The individual did have numerous urine bioassays, about 53.

CHAIRMAN KOTELCHUCK: Sorry. I was on -- oh, you said 52 millirem. I read .052 millirem.

MS. BEHLING: Oh, you are right. I'm sorry. It was such a low dose.

CHAIRMAN KOTELCHUCK: Okay. Fine. Yes, good, good.

MS. BEHLING: I'm sorry I misread that.

CHAIRMAN KOTELCHUCK: Right.

MS. BEHLING: Thank you.

CHAIRMAN KOTELCHUCK: Okay. Good, good. I'm just --

MS. BEHLING: Okay. So --

CHAIRMAN KOTELCHUCK: But go on.

MS. BEHLING: You needed the correction. Now --

CHAIRMAN KOTELCHUCK: Okay.

MS. BEHLING: If we go to Table 2.5, again, a lot of the differences in the dose here, and I'm not going to make judgment as to which is right and which is wrong, but it was the intake regimes that were selected by the various methods that were used.

For the plutonium dose, Method A assumed one chronic and three acute intake periods. They also assumed for the plutonium, the Super S. And as we were just talking, at the time, NIOSH did not have the OTIB-49 guidance in place.

Method B went in and looked at numerous intake regimes and ended up with one chronic period for '48 through '50 and seven acute periods, also considered Super S after 1955.

NIOSH assumed two chronic intake periods and two acute periods. And they looked at that fitted dose and compared it to missed dose and compared year by year and assigned the highest for each year. And again, no Super S dose was considered.

Now when it came to the uranium dose --

MR. SEIBERT: Can I go ahead and talk about plutonium?

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

MR. SEIBERT: That's okay.

MS. BEHLING: Go ahead.

MR. SEIBERT: I know, you're excited about internal. I am too. The plutonium, if you notice, and Kathy did a great job pointing this out, SC&A A and NIOSH, even though they're slightly different from the methodology point of view, they actually do come up with darn close to the same dose, if you take out the idea of Super S, which was not in place at the time.

The way you would deal with Super S is basically a factor of four. That's a simplification, but it would be approximately a factor of four.

So if you look at the NIOSH dose in Table 2-5, where it's just over 200 millirem, and the SC&A Method A is at a little over 800 millirem, once we applied Super S in the PER, those two numbers lined

up relatively well. So those are very close agreement.

Method B, however, you can see, obviously, is the outlier here. We didn't have the files for how Method B actually created their intakes and so on, so I spent a lot of time trying to recreate it.

And what I came up with is, it appears that each of those intake regimes was assessed individually, separately. So the intake regime 1 was calculated in intake and then regime 2 was calculated without taking into account that there already was a regime 1.

MS. BEHLING: That's correct.

MR. SEIBERT: And that is a huge issue in that if you don't take into account earlier intake regimes, you're going to over-predict later bioassay.

In this case, just by going through those dates and those intake quantities, when I projected out the last two bioassay samples, it overestimated them by a factor of approximately 8

and 24.

So that's the main issue. The difference with the, the plutonium difference in B, is that it was just assessed very differently without taking into account previous intake regimes, which would not be our method.

MS. BEHLING: That's correct. And that we're also going to see the same issue with the strontium and fission product doses.

MR. SIEBERT: Correct.

MS. BEHLING: The uranium doses were all very close and so I won't go into details, but, as Scott is saying, for the strontium and fission product doses, Method A used two chronic periods, as shown in Table 2-11. Compared types F and S and eliminated any doses obviously less than one milligram.

Let me see here. What else did we do? It looked like we did some coworker doses. And then we assumed -- the associated radionuclides for the fission products for Method A.

And let me go back and just -- I think

the method, no, no. I was going to say Method A and NIOSH were similar, but they weren't. And we'll let Scott explain that.

But what happened with Method B is they assumed 11 independent continuous periods, '51 through '53, as you can see in Table 2-14. And I'm sure, as Scott's going to tell you, because of looking at them independently and not considering the previous intake regime, that is what resulted in the very significant dose.

They also, Method B also looked at some ingestion from '48 to '50, but that really explains why the 29 rem was very much different than the other approaches.

MR. SEIBERT: That is part of the issue. The other issue, which is also the reason you see a difference between the NIOSH and the Method A for data -- go ahead.

MS. BEHLING: I'm sorry. Go ahead, Scott. I didn't mean to interrupt.

MR. SIEBERT: No, that's okay. The main difference that I see there is NIOSH assumed

a Type F fast-clearing solubility type, and SC&A assumed Type S slow clearing.

The issue there is Type S is only for strontium titanate and there are very few places on-site at X-10 that had that. Actually, there's only one location, Building 3517, where that material was handled.

So the assumption is unless you can tie them into that area or have an indication that they could have been exposed to strontium titanate that is not an option for doing Type S strontium.

When you look at the actual strontium doses, it doesn't impact it that much. But if you look at the intakes, there will be a much larger intake of Type F strontium, which when you then compare and put the other radionuclides that can be ratioed to it, it makes them basically multiple times larger.

I don't have the number, but I want to say they're 30 or 40 times larger, which gives you the much larger doses. And they're based on that strontium titanate, which is not an option for

uptake at that point.

MS. BEHLING: I agree. I agree. And I guess the difference between Method A and NIOSH's strontium-90 dose is that they also, Method A also considered some coworker dose between 1971 and 1975 -- internal coworker dose unmonitored for the strontium-90.

MR. SEIBERT: Right. And that was a very minuscule difference. And, yes, I agree.

MS. BEHLING: Yes.

MR. SEIBERT: But I think we pretty much agree on that.

MS. BEHLING: Okay. And that's pretty much the summary. Like I said, I thought the biggest issue was whether you classify this individual as a craft worker with regard to the medical doses, because that's really what drove Method A into indicating that the dose, or that the PoC would be greater than 50.

So again, as Scott and I mentioned, this is a judgment call based on what type of worker was he? Was he considered a craft worker, based on the

job categories that we've identified?

CHAIRMAN KOTELCHUCK: And we have no way of knowing.

MS. BEHLING: And again, I will defer to Doug. Again, I don't mean to put you on the spot, Doug, but I guess you could be the best one to explain why you felt that this person was a craft worker.

MR. FARVER: I just found my old reports from this. I'm going to try and find out why.

MS. BEHLING: Okay. And if you go back, Rose, to prior to this Table 2.1, I think I list all of the job functions that this individual -- right there. I've highlighted them.

And I guess, again, it's difficult for me to tell, but laboratory technician I wouldn't necessarily think was a craft worker. Science technologist, I don't know.

As we're talking about doses, we're talking about medical doses associated with the X-10 facility.

MR. FARVER: Kathy, I'm having a hard time finding my original report, so I don't want to take up everyone's time.

MS. BEHLING: Right. And in this particular case, like I said, I can also understand, from Scott's perspective, saying trainee, I don't know, repairman, mechanic. Although that was Y-12, I'm sorry. We need to look at the Oak Ridge data. So patrolman, store attendant, security guard. I can understand, I guess, why I would not have considered him a craft worker.

MR. SEIBERT: And, Doug, I happen to be looking at it right now, just to help you out. There really isn't -- I'm looking at that section. There really isn't a reason to say why you did assume that in that report.

It just says, in addition, it was assumed that the EE received lumbar spine X-ray series from '50 to '53. So, and your report doesn't really give that information, if you're looking for that, that I can see.

MR. FARVER: Okay, thanks.

MEMBER RICHARDSON: Hi, this is David.

CHAIRMAN KOTELCHUCK: Go ahead.

MEMBER RICHARDSON: Another way of looking at this, my guess, is, is there not clear guidance right now on the definition of a craft worker or what job titles or set of job titles fall into that? Is that correct?

MS. BEHLING: I'm going to ask NIOSH, perhaps.

MR. SEIBERT: Yes. I mean, I'm going to tell you that X-10 is not my site, so I can't tell you from the specific X-10 point of view. However, from a generic point of view, it falls under the same thought process as the construction trade worker, OTIB-52.

And that does list various types of individuals. Laborers, mechanics, masons, carpenters, pipe fitters, painters, boilermakers. It gives that type of information. And this person just doesn't seem to fit into those categories.

CHAIRMAN KOTELCHUCK: Dave, it seems

to me that this is a case where there is not agreement. That is, that it would flip depending on which perspective you had.

Because the person's working in so many different types of jobs and we don't have detailed information about what's involved with each, right? I mean, I think this is the one that I would accept as there was not agreement between NIOSH and SC&A on the blind.

Well, how do others think? What do others think? Excuse me.

MEMBER RICHARDSON: Well, I guess what I was getting at is there's an advantage in, to the extent possible, having clarity in the definition of rules or categories so that you have reproducibility in decision making.

And it may just be sitting on the place where, you know, I think there's one of two ways of doing it. Either to try and refine the definition of what that means or, in some cases where there's uncertainty, NIOSH has had a precedent of doing things like averaging between

two options or --

CHAIRMAN KOTELCHUCK: Yes.

MEMBER RICHARDSON: And I don't have any advice about it, except that it seems like it's flagging someplace where two people with good intentions are coming up to different, trying to defend different positions.

CHAIRMAN KOTELCHUCK: And that's what we're trying to find out is if the two people working separately, the two groups working separately, come to different opinions.

It's not a question, I mean, we can, for the future, look to forcing people into one of the two categories, craft or not. But what we've been doing, presumably all along, people have been making some judgment or other without clear guidance. But the result is that they do come up with different compensation decisions.

MR. SIEBERT: This is Scott. One thing I do want to point out that the craft worker X-rays were only assigned from 1950 to 1953.

And that is the period where he was

working as, the listed jobs are [identifying information redacted] and lab technician. And, once again, I just do not see either of those as being craft workers.

CHAIRMAN KOTELCHUCK: Yes, yes.

MR. FARVER: Listen, this is Doug. I did find that, where I got that number from.

MR. SIEBERT: Oh good.

MR. FARVER: It's from Table 3-2 of the ORNL Technical Basis for X-rays. It lists the whole sequence, starting in 1947, '47 through -- and through the different years and what X-rays were taken during those different periods.

And the period from April 6th, 1950 through September 23rd, 1953, you go across to the X-ray and projection, and that's where the lumbar spine series comes in.

And then if you keep going over, it says people involved, craft workers. But it's the only thing listed for that time period. But that's the table that that assumption came from. Table 3-2.

CHAIRMAN KOTELCHUCK: Yes.

MEMBER CLAWSON: And actually, that person, you know -- how many different groups, Scott, do we have? You have craft and operation and what else?

What do you know -- because I'm looking and he was only a [identifying information redacted] for a couple of months there and a lab technician, or whatever. It seems like if he was a lab nerd, he would have stayed with that quite a bit.

But, you know, if he was a lab technician out there taking samples or whatever else, it -- I don't know if you could really classify him out of it.

That craft one really bothers me. That, so only people who were out there, pipefitters or welders or, would have got that X-ray. I think --

MR. SEIBERT: Well, I'm going to speak here and, unfortunately, Elyse Thomas, our medical X-ray guru for the project, could not be on the call today.

But the idea for those additional lumbar spines based on craft workers was based on a safety concern of the type of work they were doing was lifting and turning and so on. So it had nothing to do with radiation.

And anybody can correct me if I'm wrong. That's my understanding. So once again, a lab technician just would not fit that type of definition to me.

MS. BEHLING: I agree that that is also my interpretation of why they did the lumbar spine X-rays.

MR. FARVER: I'm not going to -- this is Doug and I'm not going to say that's a good or bad assumption that I used. I'm just saying that's where it came from. The Technical Basis Document.

CHAIRMAN KOTELCHUCK: Yes.

MS. BEHLING: It almost sounds like that table should have another option for those years.

MR. FARVER: It does above it, but it incorporates a lot of years. It's a little

confusing.

MS. BEHLING: Yes. That's what I was going to say.

MR. SEIBERT: Yes. What it seems to be saying is craft workers during that time frame had a special regime where they were getting a lumbar spine series, APs, a lot of it lateral. All those things are listed there, whereas the line above it is talking about 1947 to 1963, and it's for employees in pre-placement. It's the people involved.

So the way I read this table is if you're a general employee, you're going to be getting the one X-ray, one film projection. If you're a craft worker during that minor subset of time, you would have also gotten these additional exposures.

MR. FARVER: Oh, okay. Scott, I understand that. Now go down to the line below that, where it says, end of 1963 to 1976.

MR. SIEBERT: Yes.

MR. FARVER: And it goes, people involved, only pre-placements. Does that mean

employees were not given regular exams?

MR. SIEBERT: That is the way I would read it, but I can't say for sure.

MR. FARVER: And then back in '76, they started giving employees exams again?

MR. SEIBERT: Employees in respirators and asbestos programs every three years.

MR. FARVER: Okay.

MR. SEIBERT: So, yes, it does seem like they changed their process over the years, which is what this table is explaining.

MR. CALHOUN: And I'm sure we didn't guess on that. That was something that we had documentation about their program.

MR. SEIBERT: Oh, yes, I'm sure that came from somewhere.

MEMBER CLAWSON: That's interesting.

MEMBER RICHARDSON: Just for me to clarify, you're saying there was no medical screening in those years, other than for craft workers?

MR. SEIBERT: No. During those years,

there was medical screening for, it appears, everyone up until -- I just went away from the table. I'm sorry. Up until -- was that '63, Doug?

MR. FARVER: Yes.

MR. SIEBERT: Yes. Up until '63, employees in pre-placement were getting that. But during the 1950 -- actually, it was April 6th of 1950 to September 23rd of 1953, which gives me the indication, as Grady was saying, this ties back to a reference we have in the SDRB saying that craft workers were getting additional exposures for medical X-rays during that time frame.

CHAIRMAN KOTELCHUCK: Where do we stand, folks?

MR. CALHOUN: Good to go is my vote.

CHAIRMAN KOTELCHUCK: Pardon?

MR. CALHOUN: I vote that it's good to go.

CHAIRMAN KOTELCHUCK: Others now --

MR. CALHOUN: It was based on, you know, we have a program. Documentation is discussed. What was required when. And that's

fairly typical that different types of X-rays were done based on the types of workers.

That, combined with the fact that we have clear years when they assigned that extra X-ray dose. And during those years, there's not even a job category that remotely sounds like a craft worker.

So this case was done according to all our documentations. If there's an issue something thinks was TBD, that's a different situation.

CHAIRMAN KOTELCHUCK: So you're good to go?

MR. CALHOUN: I'm good to go.

CHAIRMAN KOTELCHUCK: Okay. Then does that not mean that if you're good to go, that SC&A and NIOSH disagree on the blinds?

MR. CALHOUN: I'd agree that we did it right, so --

CHAIRMAN KOTELCHUCK: I'm not saying you did it wrong or right. I'm saying, do you agree or disagree? And if you say you did it right, which is fine and sounds persuasive, then we have to say

that SC&A didn't agree.

MR. KATZ: Well, let's hear again from SC&A. Kathy was saying that she understood the crafts issue distinction and the job definitions, but I haven't heard SC&A speak with one voice on this.

CHAIRMAN KOTELCHUCK: Good. Let's hear.

MS. BEHLING: And I'm going to let Doug weigh in here, but it does sound to me, and I do agree, I would not consider laboratory technicians to be a craftsperson. That I agree with.

And I do think the lumbar spine exams were given for people that were out there lifting and turning and exactly for that reason.

MEMBER BEACH: Okay. Well --

MS. BEHLING: The only thing -- yes?

MEMBER BEACH: This is Josie. Let me stop you just for a sec. Process, it says, process operators, repairmen, mechanics, lab techs. The lab techs that I know of do the same work that operators do, and that does include lifting and

turning and up to, I think the limit is, 40 to 80 pounds. So --

MS. BEHLING: Okay.

MEMBER BEACH: The only thing I --

MS. BEHLING: -- you're saying that is true for lab technicians?

MEMBER BEACH: The ones that I'm aware of here at my site, lab technicians do that type of work. So do the operators, the repairmen, mechanics. Those all fit under categories where people would be doing some kind of lifting.

MS. BEHLING: Okay.

MEMBER BEACH: Because that's the time frame --

MS. BEHLING: Alright, yes.

MEMBER BEACH: Yes. That is --

MS. BEHLING: I think that Doug is also saying he was looking at a table that seemed to indicate between that time frame, that was the dose that got assigned to the medical. And I'm just, also didn't want there to be some discrepancy or something that is not clear in that table or in the

TBD.

But if lab -- and you have a better understanding of what the roles are and the jobs for these various job categories, so I'm going to stay out of it.

MR. FARVER: This is Doug. All I can say is that there were no medical records. So you didn't have anything to go by to say that, you know, you had a previous history of just certain exams.

It just really wasn't clear to me, so I took the most, we'll say, claimant-favorable approach, which was to add in those lumbar exams for, what, three years or so.

MEMBER BEACH: Four years.

MR. FARVER: Four years. I don't know if it's right or wrong. I don't know if he really was considered a craftsperson or if he had those exams, because there are no records.

In the absence of records, I thought it was the right thing to do.

MEMBER BEACH: Most claimant-favorable. I agree.

MR. FARVER: I think what we're falling down to, though, and maybe we'll have to go back and look at our source documents, but the frequency and type of exams were determined or stated somewhere, I imagine, to be craft workers. Not people who left, but craft workers. And so, that's how the site determined who was going to get these X-rays.

MR. SIEBERT: I did some tracking while we were talking and I'm --

MR. FARVER: Great.

MR. SIEBERT: -- sorry to interrupt.

MR. FARVER: I'm going to mute myself then, Scott.

MR. SIEBERT: I found the SRDB reference that this actually comes from. It's called Oak Ridge National Lab Historical X-ray Practices and Protocols. And I'll read you the portion that is talking about that portion.

Pre-employment and chest X-rays were done on all prospective employees and, depending on job classification, parentheses, i.e. crafts

workers, close parentheses, lumbar spine X-rays were also performed. Lumbar spines were performed from 4/1/50 through 9/23/53.

And that's the information we have. So it very specifically states craft workers, but there's no specific definition.

MR. FARVER: It sounds like pre-job only though, doesn't it?

MEMBER BEACH: No, no, no. That's two different topics. He said pre-job for the one type of X-rays and job employment for craft people for the lumbar.

CHAIRMAN KOTELCHUCK: For three years.

MR. SIEBERT: Right. Depending on job classification, lumbar spines were also performed. It's not necessarily clear if that lumbar spine would be only pre-employment lumbar spine or while they were doing the work. It's, once again, it's not clear. However, through the TBD, we've listed it as if you're a craft worker, you would assume it every year.

MEMBER BEACH: Well, you have

classifications in these job titles that are craft people, so you have to go with the most claimant-favorable, in my opinion.

MR. CALHOUN: Not for the years that you assigned those doses.

MEMBER BEACH: Which are what years again? Please remind me. '50?

MR. FARVER: '50 to '53.

MEMBER BEACH: And that is your tech science and --

MR. FARVER: No. No, it's --

MEMBER BEACH: No?

MR. FARVER: Only the lab technicians.

MEMBER BEACH: Okay. Then those lab technicians should be covered also.

MR. CALHOUN: I've never heard a lab technician be classified as a craftsman. Never.

MEMBER BEACH: Well, I have to beg to differ. That's what they're classified as here. Lab technicians take care of all their own waste, handle all their own barrels, move barrels.

MR. FARVER: So in 1955, do you think

a lab technician was classified as a crafts worker?

MEMBER BEACH: I do, yes.

CHAIRMAN KOTELCHUCK: In Y-12?

MS. BEHLING: X-10.

MEMBER CLAWSON: Well, let me ask this question. What would you think they would have been classified as?

MR. FARVER: A lab technician.

MEMBER CLAWSON: Well, okay. And what is a lab technician? Is he a scientist? Is he classified as a professional? You know, you're putting this position of a craft in there, and you're looking at it very small, you're looking at just pipefitters, welders, so forth like that.

And then you start getting into all the operations personnel. Then you get into all the scientists. You get into the professional part of it.

You've got -- and each one of these sites is a bit different the way they classify their people. I can see very easily, with Josie, how this can be classified as craft.

But the whole thing comes down to, guess what? It comes back to one thing again. We're making a professional judgment here.

But he does not look to me, where he's been a [identifying information redacted] for so long, just all these different ones, he does not look like to me that he falls in the professional category as a scientist or administrator or anything else like that. So, in my opinion, I think he'd fall more into the craft end of it.

Craft is pretty broad spectrum, I'd say. But I imagine that they'd have operators and everything else that would fall into that category as craft.

I'm considered a craft. I'm an operator. But they've thinned, through the years they've made those separations even more clear.

MS. BEHLING: I will go on to say, and I'm not going to try to make a judgment in any way, but if you go on to Page 15 of the Technical Basis Document, it does talk a little bit further about the lumbar spine series of exams.

And it says that it was reserved for pre-placement X-rays exams for craft employees. And then in parenthesis, it says, pipefitters, carpenters, et cetera.

MR. FARVER: Yes.

MS. BEHLING: So I don't know if that sheds any additional light on --

DR. MAURO: Kathy, does this whole conversation decision rest on this single metric or are there other differences that could possibly have turned this, reversed this, also? Because I, the numbers, I didn't -- how close are we to that 50? How close was NIOSH to that 50 percent? What was the number?

MS. BEHLING: Let me look. NIOSH was --

MEMBER BEACH: While you're looking, can I ask Grady a question? You said this lumbar thing was based on a finding or something within the plant. Do you guys have a copy of that?

MR. CALHOUN: Yes. Scott, I believe, read that.

MR. SIEBERT: Correct. What I was reading --

MEMBER BEACH: Oh, that was what you were reading?

MR. SIEBERT: Yes. That was from --

MEMBER BEACH: Okay.

MR. SIEBERT: -- the Site Research Database that we got data from the plant.

MEMBER BEACH: Okay.

MS. BEHLING: And, John, to answer your question, NIOSH's PoC, at least for this particular dose reconstruction, was 43.63.

Now, Scott indicated that -- and that was a question I was going to ask -- that because of the Super S plutonium, this case should have been reevaluated.

And I don't know what the result of that reevaluation was, because, in fact, I didn't -- I was questioning whether it was reevaluated, because I didn't see it in the file.

MR. SIEBERT: The reevaluation was at 48.1 percent.

DR. MAURO: I'm hoping that this is an exception. This very -- you see we're operating at a very, very fine edge on judgment, on interpretation of the regs, where a decision regarding compensation for a real person hangs in the balance. So it's -- and the fact that we're coming in at 48 one is --

CHAIRMAN KOTELCHUCK: Yeah.

DR. MAURO: And anyway, I don't want to lose perspective here. This nuanced argument that I'm sure is impossible to resolve --

CHAIRMAN KOTELCHUCK: Well, and that says there's a disagreement. Look, the issue is not negotiation between the two parties.

DR. MAURO: Yeah.

CHAIRMAN KOTELCHUCK: The issue is if each party believes its professional judgment is correct. In the previous space, we had a discussion. And one party, SC&A, agreed on Method B that what NIOSH did was right and we came to agreement.

DR. MAURO: Yes.

CHAIRMAN KOTELCHUCK: But if SC&A believes that it did the right thing, and it is open to interpretation and then you made a professional judgment, and NIOSH didn't, then there's disagreement.

I do say -- although it shouldn't influence us, so I won't say it -- that just looking at this case alone, I just feel as if we have to say we don't agree.

MR. KATZ: Yeah, I think you can say that, Dave. I was going to just say, one of the things that you -- I'm sure it's not worth it, the level of effort. But it is a factual matter, in reality. And there may be someone who has historical memory at the site who could tell you for sure whether lab technicians fall in that bucket or not. I mean, so --

CHAIRMAN KOTELCHUCK: Okay. We could do that.

MR. KATZ: There could be answer to it. I'm not saying that that would be easy to get or that it's worth the level of effort, but it's a

factual matter and someone may have historical memory to be able to --

CHAIRMAN KOTELCHUCK: No, no, no. I would say that a judgment was made. This happened. This happened already. And people had cases decided. Those that we didn't -- that we're not reviewing.

MR. KATZ: No. I'm just saying -- Dave, I'm just saying it's a factual matter whether lab technicians got that X-ray or not.

It's actually not -- it's a judgment now because we don't know. But people at the site, some people at the site, associated with the site, may actually know the answer to the question.

CHAIRMAN KOTELCHUCK: That may be true.

MR. CALHOUN: And our X-ray guru, like Scott says, is not here at the moment. So there may be some other thing that she knows about that we'll try to see if we can find.

CHAIRMAN KOTELCHUCK: Okay. We do have somebody who -- from inside the groups here,

who can say -- who might have said something that would have affected it. Obviously, I'm dubious, but it's perfectly -- let's try and find out what we can, and if there's a factual matter that we can resolve.

MR. CALHOUN: Give me a few days and I'll look at it. And if I can't find anything, I'll tell you I can't find anything.

CHAIRMAN KOTELCHUCK: Okay. And, alright. What I was going to say then I stopped before, was that we have an agreement on, I think, almost all the other cases. And there's been agreement, and that is good. So, one case that's not in agreement. There's one case that's not in agreement.

MS. BEHLING: However, as Ted is saying, if we can get some clarity and make sure that the TBD is very specific as to who falls under this craft workers -- it's not for just this particular case, but for obviously other cases out there. And we want to be sure that the TBD is as accurate as possible and takes away that as much

judgment as we can from the dose reconstructors.

CHAIRMAN KOTELCHUCK: Okay. And that's true. Certainly going forward, it would be valuable to resolve. And we'll see how much it impacts in this case.

Okay. Scott, you'll get back to us in a few days.

MR. CALHOUN: That was Grady. Yes, I will.

CHAIRMAN KOTELCHUCK: Grady, I'm sorry. Excuse me.

MS. BEHLING: Okay. If we can move on. If you'd like to move on.

CHAIRMAN KOTELCHUCK: It is a quarter of 4:00. We've been meeting since ten of 2:00. Would it be appropriate to take a comfort break now, folks?

MR. KATZ: That sounds great.

CHAIRMAN KOTELCHUCK: Okay. Let's take, what, ten minutes' comfort break?

MR. KATZ: Yeah, that would be super. Thanks.

CHAIRMAN KOTELCHUCK: Okay. We'll resume at ten minutes of 4:00 Eastern Time. Okay. See you in a few minutes.

(Whereupon, the above-entitled matter went off the record at 3:43 p.m. and resumed at 3:53 p.m.)

MS. BEHLING: Okay, if you want, I can start. I just wanted to make mention of two things under the 17th set. I believe -- and someone correct me here if I'm wrong -- that we did last time discuss all of the blinds under the 17th set.

But I do want to go back to two of those lines. And the first one is the Allied Chemical. And if we recall, that was one we had a great deal of discussion on regarding the radon issue.

CHAIRMAN KOTELCHUCK: Yes.

MS. BEHLING: And I think we sort of resolved that. The other thing that was a little bit odd to me, that seemed odd at the time, was that NIOSH had used an approach of 10 percent of the values in the OTIB-43 for calculating their internal and external doses.

And I wanted to just go back. I had looked at it, but I wanted to go back and go into NOCTS and be sure that that was consistently applied. And when I did, all of the cases that I looked at that had to do with the Allied Chemical & Dye, there was a document in there called "Instructions." And I did verify that I believe all of the cases associated with Allied Chemical & Dye did use these instructions.

I guess the one thing that I do want to make mention of is that Bob Anigstein did send me a note saying that what we had missed in some of these discussions is that the representative phosphate ore from Central Florida, associated I guess with this particular site, contains, from his research 1,200 becquerels per kilogram of uranium-238. And also 1,460 becquerels per kilogram of radium-226.

And these instructions, and the dose reconstruction, does not consider radium in this mix. And I'm not sure that we can really just ignore this radium component. Perhaps, NIOSH can

talk to that issue.

MR. CALHOUN: I certainly cannot, at the moment, because that wasn't -- I thought this was done. And so I put that case away.

CHAIRMAN KOTELCHUCK: Sure.

MR. CALHOUN: So I guess I'll have to reopen it and look.

MS. BEHLING: Okay. Because --

MR. CALHOUN: Can you email me Anigstein's findings or whatever so I can actually make sense of this, please?

MS. BEHLING: Yes, I will. Okay.

The other thing -- I don't mean to divert our attention here -- but, again, and I guess in light of these blinds, when I see this type of instructions in these files -- and we briefly touched on this in the past -- when we do a blind, we are following the hierarchy of data which is looking at TBDs and OTIBs and documents that are out there and published.

And it sounds again like this is one of those guidance documents that is being used. It

may be under the DR Tools folders that we can access through the H drive, but it's not something that SC&A would even know exists.

These type of instructions -- and I'm glad to see that they're being applied consistently, but if we were not assigned this particular case as a blind, we may never have come across these instructions. And we may never have even questioned this radium issue.

And, I guess, the other thing that comes to my mind is that during the one-on-ones for the last set of DR reviews that we did -- in fact, that Josie and Andy were on that one-on-one -- we had encountered a Vallecitos case where there was one of these templates that's embedded in the dose reconstruction report. It's not a separate document, as far as I can tell. I talked to David Allen on that issue.

And I know that Josie and Andy both recommended that this is something, perhaps, that SC&A should be looking at because -- and perhaps this is always already been discussed before the

board meeting, I'm not sure -- but just in light of this Allied Chemical, it brought that issue to my mind again.

And I know at least that those two Board Members felt that it was important that SC&A maybe at some point be tasked with looking at all of these templates and try to identify if we have seen cases associated with sites that have these templates embedded in the dose reconstruction reports. Just something that I was throwing out there.

MEMBER BEACH: Kathy, from my memory, we decided to put that to the special Work Group for those reconstructions. Is that correct, Ted? Do you recall?

MR. KATZ: That's exactly what I was going to say, Josie.

MEMBER BEACH: Okay.

MR. KATZ: So, yeah, they sort of have that on their plate to consider these sort of extra instructions. In some cases, I think, the case is that they're sites with very few cases. And so that's part of the reason in some places.

Well, what have you, I think it's become clear to everyone that there are these other procedures that are used in special circumstances that are not getting reviewed through the TBD reviews and so on.

MS. BEHLING: And in fact this Allied Chemical & Dye instruction is -- it's not dated, it's just a Word file that's in the file. I think it's signed by Dave. I assume that's probably David Allen. I'm not even sure, but it's not dated. And it just talks about what his feeling is, and, you know, why they should use the 10 percent in this case and so on and so forth. So I'm not sure how many of these instructions are being used in lieu of maybe more generic types of TBDs or --

MR. KATZ: I think, I mean -- and Grady can refresh my memory -- but Grady sent forward to -- I know I distributed it to some people on the Board. But Grady sent forward a listing of sort of extra-TBD, meaning outside of the TBD, methods and procedures. He collected those and sent them

in a document forward, which I distributed.

MS. BEHLING: Okay. I was not aware of that. Okay.

MR. KATZ: Okay. So I think someone at SC&A has it. But I definitely distributed it to embers of the Board.

MS. BEHLING: Okay. Just didn't want that to fall through the cracks.

MR. KATZ: Yeah.

MS. BEHLING: So if we could get some response for the Allied Chemical case regarding the radium, and I will forward some information from Bob Anigstein over to Grady. I think we need to resolve that.

One more issue before I stop talking here: the Rocky Flats case associated with the 17th set. During the discussion of that particular blind, we talked about the fact that we were not able to reproduce some of the internal doses because the version of IMBA we had didn't allow us to do the ingrowth -- I don't -- but, Grady, you had been working on trying to get us the most

current version of that IMBA, and I don't remember what happened to that somehow.

MR. CALHOUN: Yeah. We're having a hard time getting it ourselves. I don't know, there's a lot to it, but the guy who distributes the thing is terminally ill. And he's not in the United States. And there's some question as to who actually owns the rights to the program. So, we're actively trying to get that for us as well as for you. So that's where we stand on that one.

MS. BEHLING: Okay.

MR. CALHOUN: Sorry.

MS. BEHLING: If you can keep us in the loop on that, that would be appreciated.

CHAIRMAN KOTELCHUCK: Kathy, on the Allied Chemical.

MS. BEHLING: Yes?

CHAIRMAN KOTELCHUCK: Whatever is found, will that affect the blinds' decision? I don't think so.

MS. BEHLING: No.

CHAIRMAN KOTELCHUCK: Is that correct?

Right. Okay. I mean, it's certainly something that we need to check. And I appreciate, you know, having this pointed out about the radium-226.

MS. BEHLING: Well, I should say that NIOSH's PoC on that blind was 45.9.

CHAIRMAN KOTELCHUCK: No, I see, I see.

MS. BEHLING: So, maybe -- I don't know what the contribution of the radium will be.

CHAIRMAN KOTELCHUCK: No, but let me ask, if you were to argue that that was a mistake -- I mean, if you think, would that be categorized as a mistake?

MS. BEHLING: Well --

CHAIRMAN KOTELCHUCK: That they ignored something which they should have taken into account?

MS. BEHLING: All I'm going to say is based on the phosphate ore that was coming out of Florida, there is a ratio of uranium to radium, and the radium component seems to be even higher than the uranium.

They consider uranium, but they didn't

consider radium. And if there is a reason for that, we need to know. But I just want to be sure that that was considered.

CHAIRMAN KOTELCHUCK: And it should have been.

MS. BEHLING: Yes. I think so.

MR. CALHOUN: Considered, maybe. We've got to see what he found --

MS. BEHLING: Right.

MR. CALHOUN: -- and what he's making these --

MS. BEHLING: That's what I said. Considered.

MR. CALHOUN: Right.

MS. BEHLING: Perhaps it was considered and it didn't contribute enough to the dose. I don't know.

CHAIRMAN KOTELCHUCK: Alright. Okay. Thank you. That clarifies it for me.

MS. BEHLING: Okay. And I believe the last three blinds that we have to discuss are under the 20th set.

CHAIRMAN KOTELCHUCK: Right.

MS. BEHLING: And so now you can listen to someone other than me, because I think Doug can take care of the two Hanford blinds. And Ron Buchanan , I think he's still on the phone I hope, there's another Rocky Flats site that needs to be discussed.

CHAIRMAN KOTELCHUCK: I see 20 blinds here. I see, excuse me, six blinds under the 20th set.

MS. BEHLING: That's correct. And three of them, I believe, we have not discussed. There were three that were disclosed during the last --

CHAIRMAN KOTELCHUCK: Let me -- oh, you're right. No. No. I'm checking back on my notes. That's correct. The first three, the three of them that Ron handled were reviewed and there was agreement.

MS. BEHLING: Correct. And I believe we still have a Hanford -- that was in Weldon Springs -- Hanford, but Weldon Springs is the

majority --

CHAIRMAN KOTELCHUCK: Right.

MS. BEHLING: And the Hanford case that, I believe, Doug is prepared to discuss. And then there's also a Rocky Flats case under the 20th set that Ron Buchanan should be discussing.

CHAIRMAN KOTELCHUCK: Good. Okay. Let's do that. First, Hanford.

MR. FARVER: Okay. This is Doug. If we just look what's on the screen at the moment under the case, where is says "Hanford WSP."

CHAIRMAN KOTELCHUCK: Yes.

MR. FARVER: If we could just go across the board and kind of just give a look-see on the doses. The external doses, there's a little bit of difference: nine and 13. Internal doses, similar difference: four and six. And then the total dose, we show the differences. And then the PoC differences, a difference of two percent in the PoC. So, that's kind of the range that we're looking at here when we go through the process.

CHAIRMAN KOTELCHUCK: Yes.

MR. FARVER: Okay. Now Rose if you would put up the -- let's see, get the right one. The blind DR comparison file 12/2015 I believe is the one. Hanford.

CHAIRMAN KOTELCHUCK: WSP.

MR. FARVER: Does it say WSP?

CHAIRMAN KOTELCHUCK: Yeah.

MR. FARVER: I'm trying to find the right one. Oh, there it is. Okay. Alright. Okay. Please scroll down to Page 7, Table 1.1. And then I'll just give a little recap of this case.

CHAIRMAN KOTELCHUCK: You don't think we should talk? You don't mention the organ, right?

MR. FARVER: Okay. Let's --

CHAIRMAN KOTELCHUCK: Let's not mention it.

(Comment redacted.)

CHAIRMAN KOTELCHUCK: Okay.

MR. FARVER: So that's kind of the background. And then when we see the doses in Table 1.1.

CHAIRMAN KOTELCHUCK: Where there are unusual cancers, probably we should not identify them. Sorry.

MR. FARVER: Okay.

CHAIRMAN KOTELCHUCK: I tried to head that off, but proceed.

MR. FARVER: Okay. Table 1.1, we can see a comparison of the photon doses.

CHAIRMAN KOTELCHUCK: You know what, Doug. I'm sorry. There'll be a transcript of this. I don't believe we have any external folks on the phone, on the line at this point. Can we check that?

MR. KATZ: Well, there is no way to check that, actually.

CHAIRMAN KOTELCHUCK: Okay. Well, we should delete the last comment about the type of cancer. It's an unusual enough type that it may well identify a person, which we do not want to do.

MR. KATZ: The way to take care of that is I will send a note to the people who do the transcriptions.

CHAIRMAN KOTELCHUCK: Exactly.

MR. FARVER: Okay.

CHAIRMAN KOTELCHUCK: Okay. Sorry. But that's a general issue. Go ahead.

MR. FARVER: Okay. I just want to make sure I don't say it again, because it's going to come up. I believe it comes up later on where there a difference where the organs used.

CHAIRMAN KOTELCHUCK: Okay. Well, we'll just say there's a difference in the organs used.

MR. FARVER: Okay. Let's just jump down to Table 2.1 on Page 8. We'll go through a comparison of the assumptions that we used.

Looks like both NIOSH and SC&A used similar energy ranges. NIOSH did account for neutrons. SC&A did not.

The dose conversion factors, NIOSH used a 1 for the organ dose and SC&A used .845.

There a difference of -- NIOSH used a correction factor -- I mean a -- yeah, a correction factor of 1.4, and SC&A did not.

The medical X-rays, very similar, almost identical, eight exams on both cases.

Ambient dose, very similar documents used, similar assumptions.

Okay. We get down to the internal dose, and there's a little difference there. SC&A assumed the best estimate and NIOSH used a little bit of an overestimate, so we'll see a little bit of a few differences as we go down through.

Okay, if we go down to Page 11, go down to Table 2.3 and it will just show a comparison of recorded photon and neutron doses.

Right off the bat, SC&A did not feel the need to calculate neutron doses because, based on the Weldon Springs Technical Basis Documents, which we quoted up on Page 10, it's a very slight possibility of neutron doses. So we did not consider them, but NIOSH did.

And in the comparison of the photon doses, you will see a very small difference. And a lot of that has to do with NIOSH did use a correction factor of 1.4. SC&A did not.

And NIOSH used an organ dose conversion factor of 1 for the higher energy photons, and SC&A used the actual .845 dose conversion factor. And those two items account for the differences. Other than that, they are pretty much the same.

We move on to the photon doses, or the missed photon doses, we can see that both SC&A and NIOSH assumed 72 zeros, so they should come up with the same dose. Once again, there's a slight difference because NIOSH used a DCF of 1 and we used the DCF of .845. That is the difference with the missed photon dose.

NIOSH calculated the missed neutron dose and SC&A did not calculate neutron doses.

Occupational medical dose. Both the SC&A assigned 8 exams, Table 2.5. You can see we come up with the same exact number for the Weldon Springs plant. Hanford Site, the employee did have a PFT exam, which is shown in Exhibit 2-1. I understand that -- I guess it's OTIB-70 --

MR. CALHOUN: Seventy-nine, Doug.

MR. FARVER: Seventy-nine. It says

you're not supposed to use these because they were taken offsite. However, I did include it, because it does not say anything about a hospital, and I understand that the Hanford medical facilities were located at the hospital. So I included it. But that is the difference, that we included the medical, the PFT exam from Hanford.

Let's see, if we go on down to the ambient dose, SC&A determined the Hanford dose to be the three months that a person was there, or four months, from the Hanford Technical Basis Document which gives 115 millirem per year. And we prorated that down and it works out to 20 millirem for that year.

NIOSH did something very similar. We have some differences that were used where we assumed 2,500 hours and NIOSH assumed 2,600 hours. And that really accounts for the difference between our 20 millirem and their 38 millirem.

NIOSH also determined the ambient dose for 1957 of 43 millirem, where SC&A used coworker doses for that time period at Weldon Springs. And

we came up with 341 millirem, which is shown in Table 2-6.

And the big difference is that we assigned coworker doses based on the 50th percentile value of Table 6.8 from the Weldon Springs Technical Basis.

We move on down to the internal dose. The employee wasn't monitored for internal doses while at Hanford. At Weldon Springs, the employee had several urine samples for the time period from '57 through '64. SC&A used the best estimate method.

Prior to 1960, all the bioassay results were less than the detection limit. So we performed a visual fit using IMBA and assumed a chronic intake period for the time period from 1960 until '64.

In other words, everything before 1960 was less than the detection limit, so we started with the period after that and went on through the end of the employment period. And we came up with uranium Type M of 225 picocuries per day.

NIOSH used overestimating assumptions and the highest bioassay result, which was obtained in 1964, and calculated the intakes shown in Table 2-7, based on Type S uranium. So they had a much higher intake, 200-and-about-57.8 picocuries per day.

Both NIOSH and SC&A assumed recycled uranium contaminants. And the way this works is that's usually based off your uranium intake. So, Table 2.8 shows the uranium contaminants based on an intake of 225 picocuries per day.

And the ratios that were used in the Fernald recycled-uranium, mixed-intake rate calculator, both for natural and one percent enriched. The dose works out to about 2.3 rem total.

NIOSH used an overestimating method. They started with 5,780 picocuries per day. The approach would be similar to apply the conversion or the fractions for the recycled contaminants. They came up with 3.2 rem per day. But the organ is different. And I don't know if you want me to

specify which organs were used or not.

MR. SIEBERT: Well, to explain that one, I almost think -- because I could explain that, but without getting into the specifics it's very hard to explain.

MR. FARVER: I understand that.

MR. SIEBERT: Well, okay, let me see if I can explain it without getting too specific. In OTIB-5, for this ICD-9 code, there is a footnote, Footnote [identifying information redacted], to discuss that a medical review is required when this type of cancer is run into.

During that review, based on information in the DOL file, it was determined that the organ that NIOSH used would have been specified in the DOL medical records rather than just assuming the other one. So we had the documentation behind it as to why we chose the one we did over the other.

MR. FARVER: And where were those records contained?

MR. SIEBERT: That would be in the DOL

file, Page 301 of the DOL file.

MR. FARVER: Okay. And is that the initial case file, DOL file?

MR. SIEBERT: Correct.

MR. FARVER: Okay. But there is a difference for that ICD-9 code, and the footnote is there on Page 18 of Kathy's report where it's quoted from OTIB-5. And it depends what organ you use, whether it is specified as one type or if there is an internal review. Okay. Apparently, I did not see that in the DOL file.

MR. SIEBERT: Well, the DOL file is over 1,100 pages long, so I understand.

MR. FARVER: So that was one difference. If we go back to Table 10, there's a little bit -- there's a difference in the values used to determine the recycled uranium mix.

The NIOSH person, I believe, used the values from Table 5.11, which were in parts per billion instead of the correct values. Is that fair, Scott?

MR. SIEBERT: To tell you the truth,

that was such a small portion of the differences, I did not review that portion. I apologize.

MR. FARVER: Okay. And where you can see that is if you compare Table 2.9 to 2.10, I think. Oh, no. I'm sorry. It's 2.11, 2.11. Sorry. Where you give the SC&A RU-to-U ratios and the NIOSH RU-to-U ratios. And it just comes out to using different conversion factors. But as Scott pointed out, it is not a big dose concern, it is just a QA concern. We'll call it that.

Both NIOSH and SC&A assigned dose from thorium processing. The approach is almost exactly the same for both NIOSH and SC&A. In other words, it's pretty straightforward out of the Technical Basis Document for Weldon Springs what to use.

If you scroll down to the bottom of Page 19, there's two big differences. The doses wind up differing by about a factor of seven, even though the approach is the same. One has to do with the choice of organ.

The second is that NIOSH assigned a dose

from 230, thorium-230, instead of -232. And that results in a substantial difference in the doses.

And then, lastly, environmental dose. NIOSH and SC&A both did the environmental dose for the short period while the person was at Hanford, and it came out to be less than a millirem and was not included.

So on top of Page 20 we can do a comparison of the internal and external doses. For the internal, we'll start first, a large part of that is the difference in choice of organ.

CHAIRMAN KOTELCHUCK: Right.

MR. FARVER: And then the external dose, I believe a big part of that is the neutron. NIOSH assigned a neutron dose and SC&A did not, which accounts for a couple of rem. PoC-wise, we're within, you know, a couple of percent of each other.

A comparison of the methodology. NIOSH did the overestimating approach and SC&A did the best estimate. NIOSH overestimated a little bit on the DCFs by using 1 for the external dose.

SC&A included a Hanford PFT under the occupational dose. NIOSH did not.

And then on the internal doses, we discussed those, a differences in -- even though the approaches were similar, there was a difference in the organs and the recycled uranium ratios used.

CHAIRMAN KOTELCHUCK: Okay. While the number of rems are different, the PoCs don't differ by much. And they're both on the same -- they both come to the same conclusion. Right?

MR. FARVER: Correct.

CHAIRMAN KOTELCHUCK: Okay. So, that's agreement.

MR. FARVER: Okay.

CHAIRMAN KOTELCHUCK: Any comments, anybody, or concerns?

Okay. Do you want to go on to the next one, the Hanford PNNL?

DR. BUCHANAN: Do you want me to go on the Rocky Flats to give you a break, Doug?

MR. FARVER: Sure. Go ahead.

CHAIRMAN KOTELCHUCK: Okay, fine.

Yes, sure.

DR. BUCHANAN: I know how hard it is to keep going.

CHAIRMAN KOTELCHUCK: Yes.

DR. BUCHANAN: Yes, this is Ron Buchanan of SC&A, and we're looking at the Rocky Flats plant, there.

And we see that we had pretty good agreement on this one. And so we had similar doses, we had similar PoCs, about 43 percent, and dose around 11 rem.

And so if we look at this, it was a [identifying information redacted]. It's Rocky Flat plant, [identifying information redacted].

The worker got diagnosed with cancer in 2011. And, according to the DOL records and the CATI reports, the worker worked at buildings 881, 444, and the 700 area during the first period of employment. And trailers at the wind site close to building 664 during the second period.

The worker was monitored for photon exposure during most of the first employment period

and the second employment period. There were a few bioassays conducted.

We relied mainly on the TBDs for Rocky Flat. And both SC&A and NIOSH came out with a PoC less than 50 percent. Table 1.1 provides the summary of the doses assigned and the resulting PoC. And as we discussed briefly, they were similar.

So we'll just briefly go over the ones that were the same and discuss any of the differences. And if there's any questions, stop and let me know.

So, if we go to Table 2.1, we look at the external dose assumptions and parameters, and we see there that we pretty much agree on best estimate, location.

Now this worker did go in and out, was around the plutonium building quite a bit. So even though it's clerk/secretary during the first employment period, it wasn't like they sat in administrative. They were out on the floor area and working, and so this is the reason we assigned

the plutonium building where most their work was located.

We look at the table there, and we see that we agree on most of all the parameters used. The main difference in external dose, photon dose, was the logarithmic distribution and some triangular distribution by NIOSH, whereas we used -- usually we use a straight distribution, whereas NIOSH will go ahead, and the way I understand it, they have program that looks at the best distribution and assigns each year according to the best distribution.

And we don't do that, so we come out with similar results but not exactly the same. And this is true on all of these here in this case.

Now, the missed dose, we used similar parameters. We came up with 27 photons, 27 neutron zeros. They came with 21, 25. Similar. Similar LD values and DCFs.

And the neutrons, we assigned the same energy range. Again the way theirs was assigned, the distribution is slightly different, but

similar.

Shallow doses, same parameters and assignments. Ours has onsite external dose. We see that we had similar values there. We used a slightly different dose conversion factor. We calculated what appeared that NIOSH used and came out with a similar one. We had a constant, no uncertainty; they had normal and triangle distribution.

The medical, we had three documented X-rays on both cases, same distribution assignment. No problems there.

So we look at 2.2. We look at the guidance there. Now this is the main difference in this whole dose reconstruction, that this was done before coworker intake was released. We did it after NIOSH did theirs. And so they used the OTIB-18 air sample data. We used the newer coworker intake from TBD-5. And so we used a different method than they did and we came out with some different results, although not greatly different.

And so we looked briefly at the recorded and shallow dose. If we look at Table 2.3, there we see that this -- and Rocky Flats is a very complicated site. And they use a different dosimetry system depending on the year, how it's recorded, and how you subtract out the information.

Because they record everything and then you've got to subtract out the information. You've got to remove the photon and neutron and shallow dose according to these formulas. And we had to use N over P value, so I gave that in Exhibit A there to illustrate those values.

So each year you've got to look at what's happening, what the dosimetry system was, and back out individual doses. And so if we look at Table 2.4, we see what we ended up with there.

The recorded doses, we see, are very similar on the photon dose. Now the shallow dose, there was some difference there because there was an error in the records, in that for one quarter in 1970, the shallow dose read less than the penetrating dose. And it shouldn't have done

that. You should always have more total shallow dose than you do penetrating dose. And all the other records in for this EE show that.

And so we treat it two different ways. I treat it, SC&A treats it, as if they reversed the values. And that's because it looked very similar to the other entries.

NIOSH was more conservative, they said, well, we'll use the skin dose as recorded. No, we'll use the penetrating dose as recorded. We'll add the dose to it to get the total dose, shallow dose and then back out the skin dose.

And so they were more conservative than I was, used what appeared to be the pattern in the previous quarters and following quarters.

And so this did not affect the results much except for the shallow dose, the non-penetrating. NIOSH ended up assigning more dose than we did because of the conservative correction of that error in a recorded dose.

Now there were periods that the worker was not monitored. So SC&A used the 50th

percentile. And we see that, if we look at Table 2.5, and we see the coworker dose again.

And NIOSH used the same assumption, 50 percent coworker dose. And we had some difference in the distribution assignment. And also the error post-1970 assumptions in the recorded dose.

And so we see that the 3-250 keV doses were very similar, about 1.5 rem. The shallow dose was slightly different because of some of the assumptions.

And just the missed dose, we calculated, we just went through it and looked if it was recorded every quarter. And if the person was badged monthly, then we just counted the periods in between. NIOSH, I think, used a best estimate-type method to derive the zeros. We came up 27, they came up 21; similar values. And so we assigned the doses as shown in 2.6.

NIOSH, also similar doses, and assigned them using the same distribution, just slightly different number of zeros counting.

Neutron dose, since the worker was

employed in the plutonium area, we used the N over P value to sort out the photon and the neutron dose.

Now in addition to the sorting out, you also have to look at NDRP. When Rocky Flats, when they used NTA neutron film, they went back and reread a lot of the earlier neutron doses. And so some of the files will have NDRP data in it that supersedes the recorded dose.

So we went back and looked back at the NDRP data and then incorporated that in for 1970, when it was available, used N over P values to count the information in other years. And we agree pretty much with NIOSH in the dose assignments.

And so we can look at Table 2.7 there. We had 457 millirem, and they had 445. Now, the main difference there was some rounding. You go through quite a bit of distribution or parameters adjustments on these, the conversion factors and such.

And so it depends whether the tables are truncated, rounded, or if NIOSH in their workbook carries it out to the ninth decimal point, exactly

what value you get. So, considering that, the values are pretty close, and no issue there.

Coworker neutron dose. So we used a 50 percent coworker dose, according to the TBD, and so did NIOSH. And again the differences come, as I just stated, in the constants, parameters applied, how far you carry out the decimal point. And also how you figure the time periodfractions by months, days, etc.

If a person had coworker dose for, you know, three and a half months, you calculated that on a monthly, 365 days a year, or used some kind of program, gave you slightly different values on the fraction.

And so we see it in Table 2.8 there. We have similar doses in our coworker dose assignment. Now we did the same thing for neutron dose. It came out very similar, 27 zeros. They came out 25. They assigned it just like we did the neutron dose.

We see Table 2.9 there, very similar doses. And, again, some of the differences are the difference in mainly the number of zeros we counted

compared to what NIOSH did, and then the other factors I spoke of. So we had no real issues there.

Now, Rocky Flats is one of the few cases that you still, according to Procedure-60, assign onsite ambient external dose. They're monitored for seven years. And we followed that procedure. So did NIOSH. And we come out with very similar doses.

We did find that, I think, the dose conversion factor, although I can never really find what they used, it was similar to ours but slightly higher. And so they assigned .018 and we assigned .016 rem. So we had no real issues there.

Medical dose. Okay. We used the records and we assigned the doses according to the recorded X-rays and the TBD-3. We found that they were 210 there. You see that we assigned about .10 rem, and they assigned .033.

And the main difference in external dose that we found was that, apparently, the Rocky Flats workbook, under the X-ray data tab, that comment just above 210, Table 2.10. If you want to

go to Table 2.10? Okay, just above that I list the issue.

The TBD lists one value for the lumbar spine used. And, apparently -- and I gave their column and rows there -- in the Rocky Flats workbook they list the lower value. And so this total came out to, they assigned a lower value than we had. And so, you know, I guess, this needs to be checked out, why the workbook has a lower value than what the tables have.

MR. SIEBERT: Hey, Ron. This is Scott. I'll butt in at this point, if that's okay.

DR. BUCHANAN: Yes.

MR. SIEBERT: I've got an answer on the X-rays. The reason for that is the Rocky Flats TBD was older than OTIB-6. OTIB-6 was updated in 2011 and reflected updated values, which the TBD actually uses the OTIB-6 values and references OTIB-6.

So once OTIB-6 was updated, we updated the values in the tool to reflect what the OTIB-6 values are. The Rocky Flats TBD, the medical TBD,

needs to be updated to reflect those numbers as well. We agree with that. However, just during the period until we get a TBD updated, if we still have the root document, such as OTIB-6 reference, we'll use that in the tool and use the more recent values.

DR. BUCHANAN: Okay. So we were going by the TBD and it had an older version of the OTIB-6 values in it. And Rocky Flats workbook, which we generally don't use unless we really need to, had updated values from a new OTIB-6. And so that's the reason their values were lower than ours.

Okay. So I'll finish the internal dose. We see that this is the main difference in the whole dose reconstruction. Although there wasn't a lot of difference, this was the main one, in that we performed our dose reconstruction after NIOSH had performed theirs. When they performed theirs, the coworker dose was not available. It came out in September of 2014, and the dose reconstruction was done in 2013.

So they used the air sampling data in

OTIB-18, of August of 2005. And so this is where the difference came in. And so I will go over how we assign dose and then look at how this came out differently.

We assigned dose, SC&A used the coworker dose because that's what we -- the person had external monitoring and/or we used coworker dose for external. So it was natural that we used coworker for internal.

He had received some whole body counts, but they were, you know, normal backgrounds and such. And so we used coworker dose intakes and used those in the chronic annual dose workbook. And assigned the dose accordingly for the isotopes there, which is uranium-234, plutonium isotopes, and americium.

And so we came out -- okay, now, in our case, OTIB-49 had been issued and so we looked at the -- this is uranium, this was a urinalysis that the coworker data was taken from, and so we applied the plutonium Super S according to OTIB-49, and came out with the doses showing in Table 2.11, a

total of plutonium plus uranium of 3.3 rem.

Now, NIOSH performed this before the coworker data was released, the way I understand it, that is why I had to query this out. And so they used the air sampling data, OTIB-18, and arrived at one rem.

And so I looked at the difference there, and if you go down and look at the actual doses calculated before you do Super S, before you apply OTIB-49, just below Table 2.11 there, I explained that we got very similar doses, about one rem a piece.

And so when I applied the Super S for the uranium analysis then it increased it by the last years entered into the table, increased it to about 3 rem. And so this is the reason there was a difference in the internal dose assignment as far as I can tell.

Now for some summaries in doses, Table 3.1, we see that the external doses were very similar. Internal doses were different, didn't play as big a role as external doses. So the PoCs

both came out to about 40. Theirs came out to about 43 percent, and ours came out 43.8. So we see that there were some differences, like we always see, in the number of zeros. There were some differences in the distribution assignment that we usually see. And the main difference was the use of coworker internal dose as opposed to the OTIB-18 internal intakes. And so that's where we're at on that case.

CHAIRMAN KOTELCHUCK: So alright. Good. Good. Comments? Questions?

MEMBER MUNN: I don't think there's much to be said here. Looks like good agreement to me.

CHAIRMAN KOTELCHUCK: Looks like fine agreement.

MEMBER MUNN: I can see no argument with either approach and the end result is very close. Looks like it's good to go, to me.

CHAIRMAN KOTELCHUCK: Agreed? Others?

MEMBER BEACH: I agree also.

MEMBER RICHARDSON: I agree.

CHAIRMAN KOTELCHUCK: So we have agreement on that one. So there's only one left. However, there are time considerations at this point. It's a quarter of 5:00, East Coast time. The last one is the second Hanford, in which there is good agreement. It's pretty far from compensable and both groups agree.

Doug, is it possible to go through this, or summarize what the major differences are? These are both far from compensable.

MR. FARVER: Yes. I think it is.

CHAIRMAN KOTELCHUCK: Good. Could we do that and then finish up?

MR. FARVER: Yes. Okay.

CHAIRMAN KOTELCHUCK: Is that okay with other members of the Subcommittee?

MEMBER RICHARDSON: That's fine with me.

CHAIRMAN KOTELCHUCK: We may go over a couple of minutes. Go ahead, Doug.

MR. FARVER: Okay. If we put up the

comparison report and just jump right to -- we can jump right to Page 6, Table 1.1 and we go through and discuss which doses we really want to talk about.

CHAIRMAN KOTELCHUCK: Good.

MR. FARVER: A lot of them are pretty similar. I'll wait until we get to that point.

CHAIRMAN KOTELCHUCK: Here we are.

MR. FARVER: Okay. Table 1.1, if we just scan across line-by-line. Less than 30 keV photons, looks like everyone's pretty similar. Same thing for the 30 to 250 keV recorded photons. Everybody's pretty close.

The neutrons, if you want me to give you the story on the neutrons, it has to do with the number of years. NIOSH chose to assign neutrons for less years than SC&A did. The method's the same, it's just the number of years.

The missed dose, the less than 30 keV photons, NIOSH did not assign them separately for the skin doses, and the [identifying information redacted] doses are exactly the same.

We get into the missed dose for the 30 to 250 keV photons, and I can tell you it has to with the number of zeros. We assumed a biweekly and then monthly, and NIOSH assumed a weekly exchange and then a monthly exchange. And therefore they had a larger number of zeros, and therefore the doses would be higher.

The missed neutron doses, once again has to do with the number of years. NIOSH chose to assign neutron dose for a smaller number of years, and that's the difference in the dose. Ambient dose about the same.

Medical dose, there's a little difference on the skin. So it would be the skin on the chest. And that's probably one you want to talk about. It has to do with the locations that each of us chose as the locations of the cancer site.

Hot particles. NIOSH assessed from hot particles. SC&A did not.

MR. SIEBERT: I'm sorry. Doug, do you want to go ahead and discuss that real quick? The

X-ray one?

MR. FARVER: I thought we'd drop down to that point in it. I mean, I was just trying to hit the highlights and see what they wanted to discuss.

MR. SIEBERT: That's fine with me.

MR. FARVER: That will be one of them.

MR. SIEBERT: You got it.

MR. FARVER: The internal dose, we can look across there. There's a little difference in the alpha dose for the skin. Then all the way across.

But then you drop down to your photon and electron doses, and they're pretty similar. And then you'll see that the bottom the differences in the PoCs for the separate cancers. And then, let's see, the overall PoC difference was 36.43 for SC&A and 42.31 for NIOSH.

Okay. Now, of those, which ones do you think you would like to discuss? I think we need to talk about the medical. Do you have any preference? Or do you just want me to go down and

give you some of the big differences, which would be the years for the neutrons, the medical. Okay. We'll just drop down to the neutron doses.

CHAIRMAN KOTELCHUCK: Okay.

MR. FARVER: On Page 9. Okay. SC&A assigned neutron doses from 1950 to 1971 based on the penetrating photon doses and the neutron to photon ratio that's given in the Technical Basis Document. NIOSH defined for shorter period from 1964 to 1969. So, in Table 2.2 you'll notice the big difference in the neutron doses, and that's pretty much the reason, is the shorter time period.

MR. SIEBERT: The reason we did that is based on the work, the type of work the individual was doing, and the location. Such as in the early '50s, they were a [identifying information redacted] in the 300 area; mid-'50s, [identifying information redacted] in a metal hut close to the 3706 building, which is not a neutron facility; '58, there's no employment; '59, there's only one month of employment, no monitoring. So, it seemed like low potential. '60 to '62, there's no

employment. And, starting in '63, they were rehired for a short amount of time. There doesn't appear to be any exposure during that time frame. Then they came back in October and there's no bioassays for the rest of the year.

Then, starting in '64, which is when we started assigning neutrons, there was unknown locations and building 326. And the badge house in the 300 area. All those areas, if I remember correctly, are neutron locations, which is why we assigned them as well.

And then from '68 through '74, he was in the 700 area working with a whole body counter, so neutrons did not seem appropriate during that timeframe for ours. So it was based on location.

MR. FARVER: The worker was employed there from [identifying information redacted] or so. So, there was a huge history of different positions throughout the time period.

CHAIRMAN KOTELCHUCK: Okay. Are there -- am I on?

MR. KATZ: Dave. You're on.

CHAIRMAN KOTELCHUCK: Yeah, I was on. Are there other ones that we want to look at?

MR. FARVER: The next major one would be the medical.

CHAIRMAN KOTELCHUCK: Okay.

MR. FARVER: And this does come up from time to time. So it's probably something everyone should be aware of.

CHAIRMAN KOTELCHUCK: Okay.

MR. FARVER: If we look at Table 2.4, on top of Page 11. And the main one is the [identifying information redacted] on the chest. Now, gosh, I guess in PROC-61 it is several different locations for skin cancer. And I don't remember exactly how many, Scott. It's got to be 15, 20 different locations?

MR. KATZ: Yeah, you're right. There are a lot.

MS. BEHLING: I thought it was closer to 40.

MR. FARVER: It's a lot.

MS. BEHLING: Forty-three, I think.

MR. FARVER: And this is just a good example of how much difference it can make from what you choose. Now, what we chose, we chose left torso, base of neck to end of sternum. NIOSH chose front torso, back of neck to end of sternum, as the cancer location.

So when you go back and look and see, well, where is the cancer located, the best I could find by looking at the medical records was left chest.

Now, sometimes, if you're lucky, you'll see a drawing in the medical records where it will actually show you the location. Not too often. So this can become something that's not very easy to determine. Sometimes it is easy.

In this case, I am not saying I made the right choice or the wrong choice, I'm saying there's a huge difference in the choice you make. But that is the difference in the doses. It all has to come down to choosing the parameter of the location of the dose.

MR. SIEBERT: And I agree

wholeheartedly with Doug that it's often a digging through the records issue.

In this case, you're right, the medical X-ray -- let me see here -- NOCTS' description of the dose or the cancer was left chest. Further digging into the DOL initial file, on Page 40, actually had the discussion of the sternum chest for this specific [identifying information redacted].

So, since the sternum was mentioned as opposed to just the left part of the chest, it made more sense to use the front of the torso rather than the left side of the torso.

MR. FARVER: You know, I'd go along with that except both descriptions have sternum in them. They both say base of neck to end of sternum, except one says left torso and one says front torso.

MR. SIEBERT: Well, the sternum is in the front.

MR. FARVER: I understand, but that's why -- that's what's confusing about where it say left torso, base of neck to end of sternum.

MR. SIEBERT: Well, that would be the left side of the torso on that -- that gives you a range, a vertical range. There is no sternum on the left side of the chest, obviously, or the left side of the torso. It's in the front.

MR. FARVER: I understand that, but your argument that you just said was that because it mentions sternum in the document, the medical document, you chose front.

MR. SIEBERT: Yes. What I'm saying is, the left torso, there is no way to describe a north-south, a vertical difference, other than using the neck and the sternum, because there is nothing on the left side of the torso that you can call the bottom part. You're just saying it's the bottom part of the sternum.

MR. FARVER: Okay. So if there was a cancer in that location, how would you describe it?

MR. SIEBERT: In what location?

MR. FARVER: Let's say it was on the left side of the torso, in that location between the neck and end of sternum.

MR. SIEBERT: So you're referring to under the arm, basically? The left side of the torso? I mean, I can't classify something. All I can say is the records mention the sternum specifically, and the sternum is in the front portion of the body.

MR. FARVER: And what I'm saying is that PROC-61 mentions sternum specifically, too. My point is --

MR. SIEBERT: Also it's stating what the vertical -- what the top and the bottom part of the vertical is. There is nothing on the body, on the left side of the body, to say what the bottom part is on your left side of your body.

All it's doing is it's talking about the front side of the body to reference how high and how low the area would be on the left side of the torso.

MR. FARVER: My point is that PROC-60 may have a -- there may be a better description that could be used for the left torso in that area. That's all. And I'm not arguing the location of

the sternum. I'm just saying that it's probably not the best description to use. But, anyway, this is what can result from using different locations for your X-ray exams.

CHAIRMAN KOTELCHUCK: There's no -- there's a distinction, but there's no difference in the -- no significant difference in results?

MR. FARVER: No.

CHAIRMAN KOTELCHUCK: Right?

MR. FARVER: Not in this case.

CHAIRMAN KOTELCHUCK: Right. Right.

MR. FARVER: Because you are looking at a single exam. Now, if it had been several years of exams, it could make a huge difference.

CHAIRMAN KOTELCHUCK: Yeah. Yeah. Are there further things we need to talk about?

MR. FARVER: I don't believe so.

CHAIRMAN KOTELCHUCK: I hope not.

MR. FARVER: I think I hit the highlights.

CHAIRMAN KOTELCHUCK: Good. Good. And there's agreement. So, again, unless somebody

has a comment that they want to make, we should just record agreement.

Hearing none, I think we're about to finish. We will need to think about the next meeting. We probably need to go on. We've now resolved all the blinds, which is very good, for our Secretary's report. Except the one --

MEMBER BEACH: Allied Chemical.

CHAIRMAN KOTELCHUCK: Except, the Allied, of course. Yes. And that will come out.

And then we, frankly, need to just go on and start going into Sets 14 through 18. We started a long time ago. So, what should we have--an early December meeting? Or a December meeting, yeah, early?

MR. KATZ: That time frame makes sense to me. Why don't I send out a scheduling request for that timeframe to everybody. And then, instead of doing it on the phone here --

CHAIRMAN KOTELCHUCK: Right.

MR. KATZ: Unless you want, I mean, if folks want to tell me right now on the phone since

you're all on, bad dates in early December, then I'll avoid those when I send out the scheduling request.

CHAIRMAN KOTELCHUCK: Well, I think that's -- go ahead.

MEMBER CLAWSON: The 25th.

CHAIRMAN KOTELCHUCK: Yes, right.

(Laughter.)

MR. KATZ: That's not early December, but --

CHAIRMAN KOTELCHUCK: Al right. Okay.

MEMBER MUNN: Early. E-A-R-L-Y.

CHAIRMAN KOTELCHUCK: Right.

MEMBER BEACH: Ted, this is Josie. I'm not available from December 2nd through the holidays, so the first is --

MR. KATZ: Okay. That's all of early December, basically.

MEMBER BEACH: Yes.

CHAIRMAN KOTELCHUCK: Okay. That's very helpful to know.

MEMBER BEACH: The first through the 30th.

MR. KATZ: I forgot. I remember now, but you have a trip.

MEMBER BEACH: Yeah.

CHAIRMAN KOTELCHUCK: Okay. If we can, the last week in November after Thanksgiving.

MR. KATZ: Now, how does that look, the end of -- well, Thanksgiving's kind of late this year, I think.

MEMBER MUNN: It is. It's the 26th. It's the last week.

MR. KATZ: So that is the end of November, I think.

MEMBER BEACH: Yeah, it is.

CHAIRMAN KOTELCHUCK: So shall we do something in early January?

MR. KATZ: It sounds like we need to, yes.

CHAIRMAN KOTELCHUCK: Yes.

MEMBER BEACH: Okay.

MEMBER MUNN: Or we could do, when we

say it's the end of November, we're not taking into consideration Monday the 30th and December 1st.

MEMBER BEACH: Exactly. I'm good both of those days.

CHAIRMAN KOTELCHUCK: Okay, check on those two dates, everyone.

MR. KATZ: I'm sorry. Something happened. Anyone there?

MEMBER BEACH: Yeah.

MEMBER MUNN: Yeah.

MR. KATZ: Oh. Okay. So?

MEMBER MUNN: Josie said she was good those two days.

MR. KATZ: So, she's good the 30th and December 1st?

MEMBER MUNN: Yes.

MEMBER BEACH: Yes.

MR. KATZ: So is everyone else who's on the phone good those two days?

MR. CALHOUN: I am.

MR. KATZ: How about, so, David Richardson, December 1st?

Maybe we don't have David anymore. Brad, December 1st?

MEMBER CLAWSON: At this point, I am, yes.

MR. KATZ: Okay. You're not taking off for Christmas yet on December 1st.

MEMBER CLAWSON: Well, I'm thinking about it.

(Laughter.)

MR. KATZ: Okay. Alright. So I'll check with David and John Poston about December 1st. But if everyone else is good with that, why don't you pencil that in, December 1st.

MEMBER MUNN: Okay.

MR. KATZ: I'll check with those two.

MEMBER RICHARDSON: Hey.

MR. KATZ: Yes. Who's that?

MEMBER RICHARDSON: David Richardson. I'm sorry. I was --

MR. KATZ: Oh, okay. Are you good for December 1st?

CHAIRMAN KOTELCHUCK: I got cut off of

the last minute. So basically we're finished. We have a couple of dates to check out for --

MR. KATZ: Well, so, David, December 1st, does that work for your schedule?

MEMBER RICHARDSON: That's a Tuesday right?

MR. KATZ: Yes.-

CHAIRMAN KOTELCHUCK: Oh, you're right. I should check. But I believe that we'll -- and I'm almost certain, hold it. December. But you're right, I should check. December 1, yeah. And November 30th, December 1, yes.

MR. KATZ: Okay. So, let's everybody, December 1, let's plan on that. I'll check with Dr. Poston.

CHAIRMAN KOTELCHUCK: Okay. That sounds good. And, alright, folks, thank you all very much. We got a lot accomplished.

MR. KATZ: Fun day.

CHAIRMAN KOTELCHUCK: Okay.

MEMBER BEACH: Thanks much.

CHAIRMAN KOTELCHUCK: Bye-bye.

MEMBER BEACH: Bye-bye.

CHAIRMAN KOTELCHUCK: Have a good weekend.

MR. KATZ: Bye.

(Whereupon, the above-entitled matter was concluded at 5:09 p.m.)