Centers for Disease Control
National Institute for Occupational Safety and Health
Dose Reconstruction Review Methods Working Group
Thursday, September 13, 2018

The Working Group met in the Montreal Room at the Cincinnati Airport Marriott, 2395 Progress Drive, Hebron, Kentucky, at 8:30 a.m., Ted Katz, Designated Federal Official, presiding.

Members Present:

David Kotelchuck, Chair
Josie Beach, Member
David B. Richardson, Member*
Paul L. Ziemer, Member*
Ted Katz, Designated Federal Official

Also Present:

Nancy Adams, NIOSH Contractor*
Bob Barton, SC&A*
Kathy Behling, SC&A
Grady Calhoun, DCAS
Rose Gogliotti, SC&A
Mark Griffon, DCAS Contractor
Stu Hinnefeld, DCAS
John Mauro, SC&A*
Scott Siebert, ORAU Team*
John Stiver, SC&A*

*Present via Telephone

Contents

Proceedings

(8:29 a.m.)

Call to Order

Mr. Katz: So, good morning, everyone.

This is the Advisory Board on Radiation and Worker Health. It's the Dose Reconstruction Review Methods Work Group. We're just getting started here.

We are ready in the room. Let me check and see who I have on the line.

(Roll call.)

Dave Richardson is the other Member of the group. I don't know if he'll be joining us. He was expecting to.

And the agenda for this meeting is pretty open. It's really continuing the Board's discussion of how we might change, what we might have to -- should change for methods of doing the dose reconstruction case reviews.

And we have also in the room Mark Griffon, who has written a key report which is posted on the NIOSH website and has been discussed by the Board a couple of times, the Work Group and the Board, and it's sort of part of the meat for this discussion.

And I think that really takes care of preliminaries.

Folks on the phone, please keep your phones on mute while you can, when you're not addressing the group.

And I think we can get started with that.

Chair Kotelchuck: Okay. Very good.

First, let me say -- I mean, this is our first meeting since the passing of Dr. Melius, which was a tremendous loss to all of us. And he founded this Work Group in 2015. We met twice in 2015 and 2016, and then Mark Griffon was tasked with doing a major report for us, which you gave us at our meeting in December, I think, of last year, 2017.

Mr. Griffon: Of 2017, yes. Yes.

Chair Kotelchuck: So there are a number of different ways we can go about this. It may be worth -- we want to go over Mark's report, and I've certainly gone over it very carefully since taking over as Chair of this Working Group. I'm not quite sure -- this is a fairly loose agenda. We could -- one way of doing this would be to ask folks to give a sense from the Methods Subcommittee -- the Methods Working Group, of kind of where we are.

I, for myself -- we certainly talked about many different things, we really -- over the year where Jim was talking to us and talking about different areas that we might make improvements in the dose reconstruction process. Probably since we started, the Dose Reconstruction Subcommittee has certainly begun a new way of going through our cases by doing this Category 1 and Category 2, where, if you will, we take the cases where there is no longer any disagreement that things have been resolved at the level of NIOSH and SC&A.

But, in terms of how we might improve, there -- for myself at least, there was one issue that came up when I gave the last Subcommittee report about the blinds, and I believe it was in December also -- the

December meeting -- wherein we went through, I think by now, 32 blinds. I think that's where we're at. Somewhere close. And in the 32 blinds, we have had now only one case where the two groups had a different outcome in terms of compensation. No surprise. After all, we're now looking at blinds in the 45-to-52-percent PoC category.

So, of course, we would expect that there might be a few. So, we have perhaps, what, a 3-percent disagreement rate, which is really very good. I mean, the agreement is very impressive.

But, when I gave the report to the Board, Dr. -- I found -- the PoCs, I found the average PoC was, I think, something like 2 percent and the confidence interval was 2.5 percent and included zero. So, I made the point that there is -- that that represented the level of agreement. That is, the agreement between the two groups doing the blinds were consistent with no difference.

And Dr. Anderson at the time said, well, have you looked at the blinds and broken that down, and asked, well, where -- are there any places within the dose reconstruction process where there are consistent differences? That has not been done. It had not been done by the time of my report, and Dr. Melius also said that he felt that that was something.

In terms of my sense of agenda, that is something that needs to be done. But, beyond that, I did not have a sense of the many things that we could look into to improve the process; that at least Dr. Melius, in the course of time, I did not see from him, and maybe in a sense we couldn't -- we've never had a full discussion of your report by this group. There was no sense of there's one that really stands out. There are a few. You had a number of important suggestions.

So, it is really, I think, up to us now to think about how to proceed. And I wondered if -- Josie or Paul, if you had any sense of where we're left with in terms of what we have done already. Do you have a sense of agenda or priority?

Member Beach: Well, in reading through and refamiliarizing myself with all this, it really stood out that NIOSH has a huge part in what sort of things they're going to start with. Because we do some of the evaluating, but NIOSH has a big part in -- it's their program and their evaluation. So, I was kind of thinking we were going to see something from our last meeting, maybe some things that the NIOSH team has looked at and maybe things that they can get started on. And I never saw anything. So, I was kind of curious where that leaves us also, because a lot of those points were -- I mean, we had a part in it, but NIOSH has a huge part in how --

Chair Kotelchuck: Yes.

Member Beach: So I don't --

Mr. Griffon: There were some recommendations to NIOSH or to NIOSH/ORAU or --

Chair Kotelchuck: Oh, absolutely.

Mr. Griffon: Yes, yes.

Chair Kotelchuck: Absolutely.

Mr. Griffon: So -- yes, yes.

Chair Kotelchuck: But the question of -- but we hadn't sorted -- at this point --

Mr. Griffon: Right.

Chair Kotelchuck: -- we had not discussed priority issues or which ones --

Mr. Griffon: Right.

Chair Kotelchuck: -- we ought to focus on.

Member Beach: That's true.

Chair Kotelchuck: And frankly, there are so many different areas that have complexity that one can be concerned that, could there be a problem here? Could we make an improvement?

And obviously, one of the points of this meeting is to think about what we want to do and set some priorities, consistent with --

Member Ziemer: I didn't have a chance -- this is Ziemer.

I didn't have a chance to go back and look at the transcript of our last meeting, but were there some specific items that we had identified for follow-up? I don't know, Dave, if you had looked at that or Josie. But I was thinking that we should take a look at the transcript of our last meeting and identify any items that we had already discussed that we've agreed on following up.

Committee Discussion

Chair Kotelchuck: Yes. Yes. Well, I wish there was some sense of priority. My reading of the transcript --

Member Beach: There wasn't.

Chair Kotelchuck: -- was that we did not. We had not arrived at that point. There was -- well, we hadn't, and Josie seems to agree.

Member Beach: I read -- now, Paul, there were a lot of points made, but nothing really specific. We kind of left it at that point -- the last meeting was right

before the December Board meeting. And unfortunately, I wasn't able to look at those points on the December meeting, if the whole Board -- because I think Jim's sense was this wasn't a Work Group issue; it was more a Board issue.

Chair Kotelchuck: Yes.

Member Beach: And I don't recall if we had any specific recommendations out of our full Board meeting in December.

Chair Kotelchuck: I believe that Jim's intention, as I understood it, was that the first major initiative was to come out of Mark's report; that Mark's report was the working product, if you will, of where we were going or might go. But, unfortunately, sadly, we were not able -- Jim was not able to -- Jim's passing made us not able to get his judgment in terms of what he saw in his leadership post.

So, a lot of it, I think, will -- today, I do hope that we'll go over your report and maybe you might later want to consider coming back and talking to us again a little bit reacquainting.

I don't know if other -- Paul or Josie has had a chance to reread, I did -- your report, and I certainly read it in full before this meeting and tried to think of areas. But it seemed -- thinking about different areas of priority in it, I will admit it seemed to me a bit overwhelming.

Mr. Griffon: Yes, yes.

Chair Kotelchuck: That is, there are many things one could do because there are many complexities.

Mr. Griffon: Yes.

Chair Kotelchuck: And we have to fold that into the

ability of NIOSH to take on other tasks and other studies -- you have a pretty stiff agenda -- and, also, what SC&A can and should do. As I say, for myself, I really do think that one thing I hope will come out of this discussion was, in fact, looking at the blinds in a more careful way, in a more refined way, and seeing whether there are any trends within it other than the PoCs are the same consistently. Although that in itself is a very impressive finding, given that this is such a complex process of dose reconstruction.

Member Beach: Some of the simple things, Dave, like the timeline --

Chair Kotelchuck: Yes.

Member Beach: -- some dose reconstructors do a timeline; some do not. Some of the sites vary because some of them have templates that are being used; some of them TBDs. I mean, so there are such variances.

And there were a lot of good suggestions. I know you made a suggestion, Kathy, of using -- going into some of the smaller sites where Mark ended up going to an AWE --

Ms. Gogliotti: Linde.

Member Beach: -- Linde, and then, Savannah River. I mean, we have to get our head around some of that stuff, too, you know, doing some more comparisons to see if there's any other inconsistencies where we've -- I know Mark found some within those two sites he did. So, maybe that's a way to start? I'm not sure.

Chair Kotelchuck: Yes. The timeline, certainly there was much positive discussion about the timeline and putting the timeline in. It was in your report. And we did discuss that at the meeting. I mean, that's

more, I think, a question of going to the Board and saying, we would like -- or to NIOSH and saying, we would like this to be done on a consistent basis. And we should come back to that.

Mr. Griffon: Yes, yes. Right.

Chair Kotelchuck: I mean, that's good.

Mr. Griffon: I think this goes along with, I mean, years ago we asked for NIOSH to start putting the DR guidance into each case. Remember that, Stu?

Mr. Hinnefeld: Yes.

Mr. Griffon: And that's done now regularly. So maybe that's -- I mean, it's up to the Board. You know, it would be up to the Board if you wanted to recommend that to NIOSH, but I think that would be -- obviously, in my report, I think the timelines and where there's professional judgments made, if they flag them and explain the basis for that judgment in their work, because I feel like in the audit function oftentimes there's this big debate about it's looking at it after the fact and trying to explain after the fact why the dose reconstructor did something. So, the better it's documented upfront, the easier it is to say.

And then, I think the other overall thing I wanted to say about this is that -- and I don't know if everybody's in agreement on this -- but my sense through this process was that I think the whole purpose of this would be to refine and improve systems as much as possible. That would be procedures, DR guidance, QA process. It's not intended to say this dose reconstructor clearly is more -- you know, does a better job than this. It's not looking at individual performance. It's looking at --

Member Beach: It's giving them the tools.

Mr. Griffon: Right.

Member Beach: So that they have the tools to make better judgments --

Mr. Griffon: Yes, that's right.

Member Beach: -- or the correct judgments.

Mr. Griffon: Or the consistent judgments. I mean, it may be a fact that certain people are making -- maybe the guidance isn't completely clear, and some people err more conservatively than others, you know. But if the guidance was a little clearer, they might be more consistent in that respect.

Member Beach: And then, the CATI reports was another one.

Mr. Griffon: Yes.

Member Beach: The CATI reports can be difficult and challenging --

Mr. Griffon: Yes.

Member Beach: -- because they're vague.

Mr. Griffon: Right.

Member Beach: So, maybe figuring out how to pay more attention. I mean, I don't have the answers, but the CATI reports seem like there's clues there. Some CATI reports are, of course, better than others also in the details.

Mr. Hinnefeld: Well, wasn't the recommendation about CATI reports sort of looking at an aggregate of CATI reports --

Member Beach: Yes.

Mr. Hinnefeld: -- from a site, for instance?

Member Beach: Yes. That's correct.

Mr. Hinnefeld: See if it's informative about that site in terms of if there is information here that would affect essentially the Site Profile, you know, the approaches you use. That was the task it was assigned.

To be honest, my reaction to all of this is that everything that we, NIOSH, commit to this from our staff detracts from doing dose reconstructions and doing site research. So, what we're saying, if we decide to do these things -- and that's not an easy task because, while CATIs are electronic, in order to get much sense out of them -- I guess you could do some keyword searches or something if you thought that it was going to be helpful. But, if you really wanted to do that and combine -- you know, look at a composite or a sampling of CATIs from a site to see if it was informative about Site Profile, you're going to have read them all. I don't think there's another way to do that. And that's really -- that's work-intensive.

Member Beach: Yes.

Mr. Hinnefeld: And I think putting our staff on that, because we work so hard on site research anyway, and site research is all reviewed anyway. Everything we write in terms of technical documents is reviewed by the Board anyway. I don't see that paying off in the same way as maybe some other thing.

I think, Mark, what you were talking about I think was documenting judgments. I judge this person was not exposed to neutrons because -- something.

Mr. Griffon: Yes.

Chair Kotelchuck: Yes.

Mr. Hinnefeld: And you talked about maybe putting that in the dose reconstruction report, right?

Mr. Griffon: Yes.

Mr. Hinnefeld: Okay. So, I don't know the extent that we do that.

Mr. Calhoun: We do. We do.

Mr. Griffon: Yes.

Mr. Calhoun: I think it's one of those things that's always been getting better.

Mr. Griffon: Right, right.

Mr. Calhoun: But it's in there. Now is it in 100 percent of them? Probably not, but it certainly is something that we instruct the guys to do.

Mr. Griffon: Yes. I will say I saw a degree of variability. It was done differently in different cases.

Mr. Calhoun: And also, one of the things that's really improved a bunch from the CATI is the incident things. Now, if there's a statement at all in the CATI report that there was an incident, it's got to be addressed in there. Say, Mr. Jones said that he was exposed to bad, nasty 147, and here's why we think he was or he wasn't, and here's the dose associated with that.

Chair Kotelchuck: Well, that's good. It is very good.

Let me ask, let's first look at repertorial, the -- both the timeline and the justifications. I think it's implicit the advantages of that. As we go back over them, as the Subcommittee reviews some, those are there. So, the plus sign is fairly clear. The question in my

mind is, on the downside, how much additional work or how much of a problem in terms of putting yet another task on your plate would that be? I think, Stu, you implied maybe --

Member Ziemer: Guys, I have to go off the line for a few minutes.

Chair Kotelchuck: Sure. Absolutely. Thank you.

Mr. Hinnefeld: You know, I don't do dose reconstructions. And so, I'm not in a position to say. I don't know; you would probably have to get that information from ORAU.

I don't think Scott called. Did Scott call in?

Mr. Calhoun: Yes, I think that he was going to call in.

Are you out there, Scott?

Mr. Hinnefeld: He may not be prepared to say.

Mr. Calhoun: Right.

Mr. Hinnefeld: I don't know.

Mr. Calhoun: Right, right. And, you know, it depends on what the actual scope is that we ask them to do.

Mr. Hinnefeld: Yes. So, what we're talking about is the timeline of this person's employment, right? This person was hired for these -- worked for these years. In our interpretation, during these years, he was a millwright the entire time. You know, or something like that.

Ms. Gogliotti: Is this just the DOL determination?

Mr. Hinnefeld: Beg your pardon?

Ms. Gogliotti: Is this just the DOL determination?

Mr. Hinnefeld: Of what? Of his employment period?

Ms. Gogliotti: Yes.

Mr. Hinnefeld: Well, the employment -- the covered employment period is a DOL determination. That's their decision.

Our decision has to do with did his job change over that time. So, if he were a millwright for five years, and then became a supervisor, does that affect his exposure and --

Mr. Griffon: A sun dose, right, right.

Mr. Hinnefeld: -- and did that affect the assumptions we made in his dose reconstruction?

Mr. Griffon: Right.

Mr. Hinnefeld: Those are the kinds of things you're talking about, right?

Chair Kotelchuck: Right.

Mr. Hinnefeld: So, I really don't know.

Mr. Calhoun: Well, that's going to come from two different places. And the first place it comes from is the actual claimant.

Mr. Hinnefeld: Yes.

Mr. Calhoun: And so, you know, from the CATI --

Mr. Hinnefeld: What does he say?

Mr. Calhoun: -- you know, we ask that question, what was your job? And then, if there is a question, you can go down through some dosimetry records and other administrative-type records that we get,

and sometimes that information is there.

Now keep in mind, that almost doesn't matter if we've got dosimetry. If we've got internal and external dosimetry, it doesn't matter what they did --

Mr. Hinnefeld: Yes, sort of.

Mr. Calhoun: Unless there's a mix of different energies or something that you've got to worry about.

But, from an internal standpoint, it depends on what they're monitored for, unless they were monitored for something -- they weren't monitored for something that they potentially were exposed to.

Member Beach: So, what's the trigger now? Some of those are being done, and some of them aren't.

Mr. Calhoun: Some of what?

Member Beach: The timelines.

Mr. Hinnefeld: For what?

Member Beach: For dose reconstruction.

Mr. Calhoun: No, we don't lay out a timeline in the DR.

Member Beach: But in the judgments that are made or --

Mr. Calhoun: When a judgment needs to be made, they'll look through the CATI and the administrative records that we have.

Member Beach: But then they make notes of that, right?

Mr. Calhoun: Not necessarily. In the DR, they may or they may not. But, when you say timeline, I'm thinking that, you know, I've got something like a table. But that's not the case.

Mr. Griffon: And, Grady, just to be clear, when you say DR, you mean the DR Report, right, the final --

Mr. Calhoun: The Dose Reconstruction Report, yes.

Mr. Griffon: Report, right. And what I'm talking about, the timelines I was seeing was in the spreadsheets as part of the tools.

Mr. Calhoun: Okay.

Mr. Griffon: And the one I saw -- I mean, and it varies, right? I certainly didn't sample all of them. But Hanford, I found that there was a bunch of cases for Hanford that had very detailed spreadsheets with the timeline of the work, and then, the assumption of neutron, yes or no, or whatever. You know, it broke it all down. Whereas, other sites didn't do that, and I wondered, maybe that's something that should be done for the other sites as well?

Member Beach: For that, is that the dose reconstructor doing that or is there some guidance requiring that? I guess that's what I --

Mr. Calhoun: I don't dig down into those files.

Mr. Griffon: Yes, it's in the DR --

Mr. Calhoun: I see the finished product more than that.

Mr. Griffon: Right, right.

Mr. Calhoun: So, I'd have to --

Mr. Griffon: It's in the DR guidance. For Hanford,

they have the DR guidelines that say --

Member Beach: So, it is in the guidelines?

Mr. Griffon: -- you should do the timeline. Right. For Savannah River, it --

Mr. Calhoun: Scott's on.

Mr. Griffon: Yes, yes.

Mr. Siebert: This is Scott.

Maybe I can shed a little light on that.

Chair Kotelchuck: Sure.

Mr. Siebert: The reason you will generally see that for Hanford, the general thought process in the DR process is, if the dose reconstruction needs to create a timeline because it's a complicated case and they need to track the various locations where they're going to have to make a decision, is this person in A area, B area, C area, they have the flexibility to create those timelines to make it clear what they decided to do, what locations they were. So, the peer reviewer, the DCAS reviewer, and any further reviewers can easily find it.

And, Mark, Hanford is a good example --

Mr. Griffon: Yes.

Mr. Siebert: -- because it's a very complicated location. There's so many different locations, that it will depend on which location you assume as to what the energies are and things like that. You will generally see those in the more complicated claims, especially as you hit the point where you need to start getting to the best estimate territory.

As Mark knows from looking at those, those are

relatively intensive documents listing all the things, and they take a pretty good amount of time to generate, which is the reason that it is not a requirement on our side to do that, but it's a good practice, when you're getting into complicated cases, to put that together.

And once again, on a site-to-site basis, it's going to be a very different determination as to whether you need that type of thing for those sites. AWEs generally are a very good example. You know, you don't have the complications of the many different places they could be or it's all treated the same.

So, does that help outline a little bit our thought process when we use those?

Mr. Griffon: Yes, yes, that's good, Scott. Thanks.

Chair Kotelchuck: It does. It does.

Mr. Griffon: And I think that I wouldn't necessarily -- maybe it's a matter of -- I mean, we're getting into sort of -- anyway, I don't know my role versus the Board's role, but maybe it's a matter of just defining the triggers. You know, what triggers a timeline would be used? And if the worker had several different jobs in different areas, obviously, that would trigger -- you know, it's not hard.

And all this stuff is doing what we initially said, which is documenting professional judgments. In other words --

Chair Kotelchuck: Yes.

Mr. Griffon: -- you're documenting the work, and you're showing how you're assuming different exposures, because the job title changed and the areas changed.

Chair Kotelchuck: Mark, two things. One is you said, I'm not sure what my role is because I'm not a Board Member, which is fine.

(Laughter.)

Mr. Griffon: Yes.

Chair Kotelchuck: But let me say to all, this is a much more exploratory meeting than many we have had and many we will have, because of the loss of Dr. Melius and starting out again without totally clear sense of direction from him.

Mr. Griffon: Yes.

Chair Kotelchuck: I mean, we're essentially in a formative stage. And so, I would say in today's meeting, more than many, I think folks here -- whether staff or Board or Subcommittee -- or Working Group -- should feel a little freer to express. As time goes on, we'll probably go back into our more traditional roles.

(Laughter.)

Member Beach: And I have a question. So, Hanford, you saw a timeline. What about Savannah River? It seems to me that Savannah River would be such a place --

Mr. Griffon: Yes.

Member Beach: -- that would require that type of depth also, because of the comparison.

Mr. Griffon: Right.

Member Beach: Did you see that there?

Mr. Griffon: You know, I'm fishing in the memory of reviewing all the cases. And Scott, correct me if I'm

wrong, but I didn't see it used as often or it wasn't at least in the case material -- you know, the materials in the case file, I should say, where I saw like a spreadsheet the same way as Hanford. They might have done it in a different fashion, but yes.

Mr. Siebert: Yes. As I said, this is the dose reconstructor's judgment as to whether they need that to keep the data clear in their mind as they're working through it. I know, as you say, Savannah River can be complicated.

Mr. Griffon: Yes.

Mr. Siebert: And I know there are some dose reconstructors in complicated cases, they create those type of timelines for their own use as well. So, I can't say that -- you know, we don't have any sort of required format or anything of the sort. It's just something that, if it helps you keep the information clear when you need it, individuals have done that. It may be useful for us to be more clear on the format. Because, like you say, with Hanford, we generally have a format that people have kind of fallen into. We could be more consistent on that type of a thing, you know, as required.

Mr. Griffon: Yes.

Chair Kotelchuck: Yes. In fact, it seems to me that maybe both Scott and Grady -- I mean, to my mind, I wondered about asking you, with trying -- talking with your people and thinking yourselves further about what might be a trigger. It's clear you're saying -- I mean, the AWE cases, where the timeline doesn't mean anything much. But in many of the complex places they do.

If you folks would think about -- say until our next meeting, which will more likely be a conference call,

of course -- what might be a reasonable trigger -- that is, size or complexity of a plant such that, when you're dealing with these plants, you should do a timeline. And the trigger may not be an absolute one, but let's see if we can specify further, so that we don't have some people doing it and some people don't. And you say, hey, it's a good idea, but it isn't always done. To think about those places where it should be done --

Member Beach: It seems like you have a good model already in Hanford. It sounds like they have a pretty good handle on how that timeline is done, and dose reconstructors, as Scott just said, fall into that. Idaho is another site that looks like it's going to be large and complex, Savannah River. I mean, we can probably name a few that may benefit from having that type of a --

Mr. Calhoun: Well, I think it's probably worth looking into --

Chair Kotelchuck: Right.

Mr. Calhoun: -- and just seeing, you know, what we're doing and what's triggering it.

Chair Kotelchuck: Yes.

Mr. Calhoun: Hanford went and were just saying that we're going to do for every case at this point. It's going to be subjective, you know, what triggers it.

Member Richardson: Just for the record -- hello?

Member Beach: Yes?

Chair Kotelchuck: Yes, Scott?

Member Richardson: No, this is David Richardson.

Chair Kotelchuck: Oh, David, thank you. Welcome,

welcome.

Member Richardson: I've been on for the last 25 minutes, but you guys haven't stopped talking.

(Laughter.)

Chair Kotelchuck: Very good.

Mr. Katz: Thanks, David.

Chair Kotelchuck: Okay. Thank you. And we appreciate your being here. Are you in the Carolinas at this point?

Member Richardson: Yes, I'm in a basement.

(Laughter.)

Chair Kotelchuck: Yes. So, I thought about -- so, we have one Member in the hospital trying to participate, Paul. I don't know if you heard, but Paul's back was acting up and he is in the hospital. And he participated earlier and will come back.

Member Richardson: Yes.

Chair Kotelchuck: So, with four of us, one is in the hospital and one is trying to ride out a storm.

(Laughter.)

So, thank you for being here, since life has to be complicated with yourself and your family.

Member Richardson: Sure. Could I -- related to this discussion --

Chair Kotelchuck: Yes?

Member Richardson: Does a worker ever -- or does a dose reconstructor ever refer to employment history information? That is, instead of trying to obtain job

and department or location information from a dosimetry record, do they ever get from the Department of Labor the employment history information, which would provide the administrative change to the job title and the exact date that that happened on? Because even trying to figure out when a job title changed based on the dosimetry records is going to depend on the badging cycle, I believe.

Mr. Calhoun: Yes, I know that information is available, and I know we look at it. We, NIOSH, look at it especially when there's some question. I don't know if it's a matter of course that ORAU looks at the DOL information, if it's not in the DOE packet that's sent.

Member Richardson: Right. Because the information that was just rehearsed was the CATI report and then the dosimetry information. And what was left off there was the employment history information for creation of this timeline.

Mr. Griffon: Yes.

Ms. Gogliotti: Oftentimes, that does appear in the DOE records.

Mr. Calhoun: Yes, sometimes it does, and sometimes it doesn't.

Mr. Griffon: Yes, right.

Mr. Calhoun: Yes, you're right, yes. Yes, I've found that, generally, well, at least oftentimes, it's more prevalent in the DOL records than in the DOE records, if it's just -- if it's not specifically rad-related.

Member Richardson: Yes. I mean, for these sites we've been talking about, Hanford, Savannah River, Idaho, there's going to be a pretty rich employment

history information, at least historically, that we could retrieve.

Mr. Calhoun: On the other hand, I think there's some pretty good indicators, especially at Savannah River, as far as areas, work areas, and rad reports, the radiation dosimetry reports, too.

I don't know, Scott, if you've got anything to chime in on that, or if I covered that okay or not.

Mr. Siebert: Sorry, I'm just jotting notes down.

Yes. I mean, we look at the DOL file as well. Now the caveat here is many of those DOL files are multiple thousands of pages long. So digging through those can take extensive time, which, obviously, slows down the time for a dose reconstruction.

So what we really are looking at is, I want to say, basically, the weight of evidence, if we have enough information from the DOE file, it appears that we have enough information from the information that went into NOCTS as to where people were working, what they were doing. We will generally use that information.

The other piece that would go into that as well is if we can overestimate and make an assumption and it's less than 45 percent, we may not go into those depths of details. Once we start getting into the best estimate territory, we will generally spend more time in the DOL file as well, if we need to dig out the pieces as to, well, maybe they were in this specific location for a certain amount of time and things like that.

Does that help you, Grady?

Mr. Calhoun: Yes, yes. That makes sense.

Member Richardson: Yes. I mean, I have gone through those site records. I mean, I have seen workers who have, let's say, 100 lines of employment history changes. That would be a change in pay grade or an administrative change in a job title or department. I've never seen thousands of pages. And this is after reviewing tens of thousands of workers' employment histories. So that section of the DOL report should not be that long.

Mr. Hinnefeld: Yes, but, David, you can't necessarily find it. You have to look through everything DOL sends us in order to find those things.

Mr. Calhoun: And that's one file, one PDF file.

Mr. Hinnefeld: One PDF file is -- it comes over, the DOL file, everything they send comes over as one file.

Member Richardson: Okay. So you're just saying, physically, you just can't find that information?

Mr. Hinnefeld: Look, you have to look --

Mr. Calhoun: You can find it.

Mr. Hinnefeld: You can find it. You've just got to look through the whole file to find it.

Mr. Calhoun: Yes.

Member Richardson: Yes, but we've requested them in computerized form. I mean, we've gotten -- well either we've gotten cards, scanned, and then typed them in, or something. But I see your point. I mean, you're saying that things are --

Mr. Hinnefeld: Well, that would be a request to the DOE site that we have not made in the program up to now. Because DOL makes their request.

Member Richardson: All right. I just wanted to

understand what you were saying.

Mr. Hinnefeld: We request our exposure history. We've not gone to any of these sites and asked for, you know, as part of -- we ask for exposure history. We don't ask for employment history when we go to these sites. And so it would be a new request to the sites.

Member Richardson: Right.

Mr. Hinnefeld: And the sites, and they'll complain because they complain about the requests we make now.

Member Richardson: Yes, okay.

Member Ziemer: Okay. I'm back on the line here. Ziemer here.

Chair Kotelchuck: Wonderful. Wonderful.

Member Richardson: This discussion is pointing to the issue that employment history information is an important component for dose reconstruction at some sites and/or some areas.

Chair Kotelchuck: Certainly. Certainly.

Mr. Griffon: This is a little tangential, but it's actually something I raised on the other Board to the Department of Labor, which is that you gave us this file, there's got to be -- can you break these out into subareas before you -- how do you expect people to go through these files and review this stuff? So that's been brought up on the other side of the shop as well.

Member Richardson: So, Mark --

Mr. Griffon: Yes?

Member Richardson: -- in your review of those files,

is it just duplicate information? How do you end up with thousands of pages? Because I've gone through, again, for workers, and I didn't find thousands of pages.

Mr. Griffon: It's a lot of medical records. It's medical records stuff. And there is a lot of duplication, too, yes. I mean, I haven't reviewed -- I've reviewed tens of them. I haven't looked at hundreds of them.

Member Richardson: And you expect that the employment history page, basically, is somehow -- is not in a logical place between all the medical records that a site might hold?

Mr. Griffon: Yes, the ones I saw, it was inconsistent. It wasn't always right at the front, or whatever, yes.

Member Beach: Dave, it's not always just a page. Because if an employee spends 30 or 40 years at a site and they change jobs, there is going to be multiple employment records.

Member Richardson: Yes. I mean, I've gone through all those. Yes, it's page for page. What I'm talking about, once you look at it, it can be reduced to a few hundred lines of information.

Member Beach: Correct. Yes.

Member Richardson: It's basically when you get a change in pay or job assignment.

Mr. Griffon: Yes, yes.

Member Richardson: And that's not hundreds of pages or thousands of pages, even for a 30-year worker.

Mr. Griffon: Right, right.

Member Beach: Gotcha.

Mr. Griffon: Yes.

Chair Kotelchuck: Yes.

Dr. Mauro: This is John Mauro. If it's okay for me to jump in with some thoughts --

Chair Kotelchuck: Please.

Mr. Siebert: -- I noticed that we're diving, you know, we're going vertical right now into really very particular timeline issues.

Mr. Griffon: Right.

Dr. Mauro: I just had a thought to sort of step back up into the stratosphere a little bit and think about -- you know, I went through the transcript and Mark's report and its recommendations. And I sort of sat back and thought about how do we institutionalize into the program a way to systematically identify the judgments that are either programmatically, as Mark broke them up into two major categories, which I think is perfect. One has to do with where were the programmatic judgments made and where were the individual discretionary dose reconstruction made.

And then I say to myself, okay, that's really what we're trying to do. And in order to institutionalize it, I was saying one of the ideas, of course, that came out the last time we discussed it was, well, that that could actually be a section in each DR report, which is a burden.

But there's another place that I thought of, and I wanted to throw this on the table, is when we go through our -- there's two places. There is the dose reconstruction issues resolution Subcommittee activities. I don't think we actually have a separate part of the meeting. You know, we go through findings. But I have a recommendation.

We could make it structurally part of the meeting whereby, in addition to going through the findings and closing them out, maybe one of the things that could occur maybe toward the end of the meeting is to have a separate discussion, okay, folks, where do you believe in this particular case there were certain judgments made. And so they're itemized there.

Also during the one-on-one meetings -- and this is what came up recently, because I was involved in one, it could be institutionalized into the program during the one-on-one. And then what that does is it creates a record on a living basis of where, at least in the subset that we look at, we discussed these kinds of judgments. And then you could have -- you have sort of a list, a compendium, that is available to discuss at the Board meetings.

And almost like, I'm trying to say, how do you turn this into something programmatic without it being overly burdensome? I just wanted to make that offering.

Chair Kotelchuck: John, so you're saying the Dose Reconstruction Review Subcommittee --

Dr. Mauro: Yes.

Chair Kotelchuck: -- we review 1 percent of all cases.

Dr. Mauro: That's correct.

Chair Kotelchuck: And that we might add on a discussion of personal and professional judgments involved in the cases that we look at?

Dr. Mauro: Yes. Yes, that's my suggestion.

Chair Kotelchuck: Well, that's a thought. I mean, the Subcommittee, which I'm Chair of, is, as you know, the Subcommittee has been desperately trying

to catch up for a couple of years, but we're caught up and we're not having meetings for a little while. And I'm going to work on a new updated Secretary's report during that time.

But I think that is something that may be possible, and it may be something that we should talk about in the Subcommittee as to whether that's something viable that we could do. It would certainly give us a sampling.

Mr. Griffon: But I'm wondering what -- go ahead.

Member Beach: I was going to say, we still need to know what was a professional judgment versus a programmatic judgment. Is it intuitive? Can you guys see that when you're reviewing reports? I don't know that it is.

Ms. Gogliotti: Not always.

Mr. Calhoun: No, but it's come up frequently.

Ms. Gogliotti: Sure, sure.

Mr. Calhoun: It comes up in our current reviews. So, I don't know what we would be doing differently.

Mr. Griffon: Yes, that's what I'm not sure.

Mr. Calhoun: I mean, it comes up all the time.

Mr. Griffon: Unless you're just saying document it and track it.

Mr. Calhoun: Yes, but, I mean, we've had discussions that said, "Look, why did you decide this?" And they said, well, it turned out it was professional judgment.

Mr. Griffon: Right.

Mr. Calhoun: I've been in almost every one of these meetings and I know it comes up. I'm not sure if we would be doing anything different.

Mr. Griffon: Right.

Member Beach: I'm just saying that what John suggested is okay, but it's kind of the cart before the horse because we haven't quite got to that point yet to where we can discuss them.

Chair Kotelchuck: Well, yes, I admit, John, as you talked, to speak honestly, my sense when you said, "I'm coming in perhaps from a stratosphere," and my feeling internally was I'm an incrementalist.

(Laughter.)

I'm kind of eternally walking on the ground trying to step carefully each step. So that I was looking at extraordinarily modest things like timeline and justification and putting them in the files.

But, for myself just as a Subcommittee Member -- and you are, too, Josie -- maybe we should talk about that in the Subcommittee and begin to put those together. By the way, those discussions are in the transcripts. We have a transcript of everything we've done for years. But I don't think -- we were never directed --

Member Beach: I don't think we're ready for that.

Chair Kotelchuck: No. Also, I don't think we can go back and look at the old transcripts because we weren't thinking of collecting. So, it just kind of randomly appears.

Member Beach: I mean, that's separate --

Chair Kotelchuck: Yes.

Member Beach: -- the Subcommittee. But I have a suggestion. Mark has given us a set of recommendations and observations. Is it possible to go through those and maybe decide what would be something that we could do, NIOSH could do, and just go to each of those recommendations to start with? Because we're kind of all, I mean, we're having a lot of good discussion, don't get me wrong, but maybe just to pinpoint each recommendation to see if it's something we can do or we can't do, for whatever reason on whatever site it is? Does that make any sense?

Chair Kotelchuck: Yes. No, I think that makes sense, and I was hoping that we would do that today. My sense in the discussion about timeline and justification is that they are mentioned in your report, but, essentially, prior to your recommendations. They are things that we ought to be reporting. It's more recording. And then, I would say let's get to it. Let's get to Mark's.

But could we finish up the other?

Member Beach: Sure.

Chair Kotelchuck: Kathy?

Ms. Behling: Just one other question, maybe something to consider, and not to change the subject completely here. But, in re-reading Mark's report, it occurred to me that one of the other things we are obviously focusing on is consistency. Because professional judgment, we're trying to determine is everybody thinking the same way.

When we do our reviews, either through dose reconstruction or through the procedures, we're looking at one specific case or one specific site. One of the things that the Board that I'm not aware of

that we've done in a real consistent manner is say let's look at a number of sites; let's go out and look at all of the different sites and see is there consistency between all the sites.

When we do our Site Profile reviews, we're focusing on just that review. I'm not sure how often we sit and look at, is this methodology being applied at all of the sites consistently? Or the same with the dose reconstructions, is this dose reconstruction methodology being applied consistently at various sites or at all of the AWE sites, or where it's applicable? So, rather than focusing on a single, you know, look at the universe.

Chair Kotelchuck: I think that's part of Mark's --

Mr. Griffon: Yes.

Chair Kotelchuck: I think that's included in Mark's.

Mr. Griffon: Yes, it's sort of cross-cutting, yes.

Chair Kotelchuck: But, if I could, and maybe it's just me, but if we could just talk, finish up the timeline discussion and task.

(Laughter.)

And, Grady, I think we were pretty well -- and, Scott -- I mean, we were pretty well along the way of saying that you would try to gather --

Mr. Calhoun: We'll just take a look. We'll take a look --

Chair Kotelchuck: Take a look and talk --

Mr. Calhoun: -- at some of the big sites and see what kind of a burden that that would be, and if there's something that's actually triggering the DRs to actually do this --

Chair Kotelchuck: Yes.

Mr. Calhoun: -- and if it should be formalized. It may be that is shouldn't be.

Chair Kotelchuck: Yes.

Mr. Calhoun: I do keep coming back to the fact that we're looking -- we've got so much oversight between ourselves and ORAU and this group and the DR Subcommittee, and we're looking at the cases that are most likely to flip, if there's even a small error, and we're finding almost none. The one case that we found, I believe we comped it and you thought maybe it shouldn't be comped. You know, how much more do we do?

Member Richardson: And part of it is each thing, each point that we go over, it has to be asked, then, how much of a burden does it put on the people who are doing the dose reconstruction.

Mr. Calhoun: And what's the budget?

Chair Kotelchuck: Right. And do a cost/benefit on that or think about it in cost/benefit terms.

Mr. Griffon: And I will just say, as you consider this, Grady, the triggers for the timeline, at least my sense would be that one trigger would be whether it fit into the 45-to-52. You know, if it's an overestimating case, I don't think -- I mean, again, this is your decision.

Mr. Calhoun: Yes, it's certainly an underestimating case, too.

Mr. Griffon: Right, right, right.

Mr. Calhoun: If we've got based on internal dose --

Mr. Griffon: That's right. Yes, underestimating,

right, right. So, there may be ways, and then, you're down to like 5 percent of your overall cases. So, it might be less of a burden.

Mr. Calhoun: Eight percent.

Mr. Griffon: I'm sorry, 8 percent.

Chair Kotelchuck: Scott?

Mr. Siebert: Yes, I'm sorry, I just wanted to jump in on that.

Yes, I agree wholeheartedly that makes sense. The difficulty is you don't know where it is until you've done the case. So, you may be able to cut out those that are clearly overestimated, clearly underestimated, but once you're outside the "clearly" ones, you know, there's a larger number of cases that we have to do more work than just clear overestimates and underestimates that you would still have to do this timeline. It wouldn't just affect the best-estimate case. I can't think of an easy way for it to just affect the best-estimate cases. I just wanted to throw that out there.

Mr. Griffon: Okay. Fair enough.

Chair Kotelchuck: Okay. And I --

Member Richardson: This is David Richardson.

Chair Kotelchuck: Yes?

Member Richardson: I'd point out that this issue of whether it flips is one issue, and that's one way of viewing the cost/benefit. The other part is transparency, which is a component of fairness. If you're going to communicate back to a worker, I think it's useful if somebody else could look at it and make sense of what was done.

Member Beach: That goes right back to your timeline and consistency amongst the sites, amongst the workers at those sites. I mean, it's all tied together.

Chair Kotelchuck: Yes. By the way, that philosophical question, I know it's how much do we need to do and how much more, and I do sympathize with that. I mean, trying to put myself in the position of understanding what other people are doing that I'm not doing, and I must say, with the Subcommittee, even when I gave my report about the blinds, and I was so proud that, hey, look at all these blinds; we agree. This is amazing. This is complicated dose reconstructions. And yet, process, and yet, we agree.

And then, others came, and Jim, among others, saying, "Well, maybe you could do more." And it really does at a certain point -- and I don't know where Jim was going, other than whatever we're doing, there are enough assumptions and educated guesses, professional judgments, that we can always do better. And I think it's appropriate for the Chairperson of the Committee to do that and to always keep in mind, can we be doing better?

But, at this point, absent a permanent Chairperson, it is hard to know. I think we, at least in this Working Group, should just try to keep that -- we will keep that in balance by always asking, what's being asked of people who are already doing other things and whose work needs to be finished, needs to be done, the dose reconstruction? So, that's a side.

So, I think we're going to get a report, we now are going to get a report on timeline. I'm not sure the issue of putting justifications into the report. So, we're still in reporting. I'm not sure if that's the same question -- it's not the same question as timelines, but you will be talking to the dose reconstructors, and

thinking as supervisory people within that, what would make sense. So, could you think about that or report about that? I'm not sure. The timeline is more --

Mr. Calhoun: Yes. Certainly, just at least some kind of summary description and what we're doing and if anything else makes sense.

Chair Kotelchuck: Right.

Mr. Griffon: When I said that, I didn't necessarily mean in the DR report. I was talking about the supporting files.

Mr. Calhoun: Right. Sure. Yes.

Mr. Griffon: But, you know --

Mr. Calhoun: That's what I'm talking about, too.

Mr. Griffon: Right, right. Okay. Okay.

Chair Kotelchuck: Okay.

Mr. Griffon: Yes.

Chair Kotelchuck: So, that's done, and I think that we should go to what Josie was saying, to look at some of Mark's suggestions.

Member Beach: Okay. Can I just get a clarifying question?

Chair Kotelchuck: Sure.

Member Beach: Grady or Scott, the Hanford timeline, that comes out of -- it's the spreadsheets, but in knowing to do that, that comes out of the guidelines to the dose reconstructors? Is that where that --

Mr. Siebert: No. No, the decision to do that is a dose reconstructor decision based on their estimation of the complexity of the case.

Member Beach: And that's for Hanford as well?

Mr. Siebert: Well, that's what we do across the board, but you're focusing on Hanford.

Member Beach: Right.

Mr. Siebert: So, that's true for Hanford as well.

Member Beach: It was just more consistently done there? Okay. Is that correct, more consistently done at Hanford?

Mr. Siebert: I would say probably yes.

Member Beach: Okay. All right. Somewhere I thought that it was in the guidelines. I wanted to clarify that for myself, that it wasn't actually in your guidelines to the reconstructors.

Mr. Siebert: Correct.

Member Beach: Okay.

Mr. Siebert: We have no specific requirement for timeline.

Member Beach: That helps. Thank you.

Chair Kotelchuck: Does it make sense, let's go to Mark's recommendations? And we have the report. Let's go to the executive summary, where I think there are at least -- or how would you like to direct us to go into the report? And we'll go down --

Ms. Gogliotti: Can I make a suggestion?

Chair Kotelchuck: Yes.

Ms. Gogliotti: I don't feel like we've established what the goals of the Work Group are in terms of consistency, but consistency is such a broad term. Are we aiming at just dose reconstruction consistency? Are we aiming at programmatic consistency within sites, between sites?

Chair Kotelchuck: Yes.

Ms. Gogliotti: Because I feel like we're nitpicking at small items. But, if we're not working towards a common goal, then we'll never achieve --

Chair Kotelchuck: Yes. Well, I admit, though, first, I don't think I can answer that. And I sort of said at the beginning it seems a bit overwhelming to figure out, of all the many tasks, all of which, double our budget, give us more people, we could usefully do those things. So, I personally feel like I like to look at little things first, smaller things.

But the consistency across different sites involves a fair amount of work.

Member Beach: What I think got us here early on is we kept hearing that decision was made because of professional judgment, and I think that professional judgment just kept popping up, popping up, and we're like, well, wait a second; everybody's different. How does that professional judgment, you know, across the board how is it done consistently or not done consistently? And I think that's kind of where this started many years ago.

Chair Kotelchuck: That's within a site, and that consistency --

Member Beach: That was within all sites.

Chair Kotelchuck: It is, but --

Member Beach: That was within all discussions.

Chair Kotelchuck: But, in general, the thoughts were that the way to look at it is to first start within a site and see whether things are consistent within a site, because they are dealing with the same radiation and structural situation. But, then, of course, the issue has to eventually come into what Kathy was saying, that we have to look at various sites.

But, in a sense, I think we have to start small. But, ultimately, where we're going, all I can say is, what I got from Jim Melius was, where we're going is we're going to make things better, we're going to improve the process. And there's ultimately no limit to that, other than the resources we have and the things we come up with.

So, we're certainly not working in different directions or I don't feel like there's a disagreement about what would be good. And I think, Mark, pretty much everything you said would be, "Wouldn't that be nice?"

Mr. Griffon: Maybe, yes. Yes.

Chair Kotelchuck: But we're an operational organization and it might be nice, but we don't have the resources, or it might be nice, but we're not going to gain that much benefit and it's a lot of work.

Mr. Calhoun: And let me give you just an example here.

Chair Kotelchuck: Okay.

Mr. Calhoun: I'm going to hide the name. This is just the very first case that popped up. I do tech review all the time.

Chair Kotelchuck: Okay.

Mr. Calhoun: So, I'm calling up -- this is real, okay? And this is, it says here, "Grady" -- I'm going to say my name -- "worked as a pipefitter and a welder, F Area, H Area, tank farms, 300 Area, 700 Area near the Burial Grounds, according to records received from DOL and information provided in the interview process."

Go down another paragraph and it says, let's see, "The record supplied by DOE and interview process indicate that Grady worked at various facilities as previously listed. Therefore, when a specific facility was known for a particular year, it was applied for all other years."

So, the very first one I look at, there is a breakdown of where this person worked, "where I worked," and the fact that when the facility -- it had looked at DOL records. We looked at DOE records. So, I'm not saying that covers everything, and this is a Weibull of 10 percent. Okay? So, we're still looking at that to that degree of detail.

Mr. Griffon: Yes, yes.

Mr. Calhoun: That is what is routinely done.

Mr. Griffon: Yes.

Chair Kotelchuck: Do you feel comfortable with what I said or he said? I mean, respectfully --

Ms. Gogliotti: Yes, it makes me nervous because I think you are targeting solutions without identifying the problem. And I wonder, with limited resources, if there's a better way of identifying the bigger problem, and then, how can you address that problem, rather than picking small aspects?

Chair Kotelchuck: What do other people think?

Mr. Calhoun: Is there a problem?

Mr. Hinnefeld: Is there a problem with the dose reconstruction?

Mr. Calhoun: I mean, we can always do better, but short of saying there is a problem and here it is, and here's several examples of that problem -- you know, we can always find something to improve, and we do.

Chair Kotelchuck: Well, I guess I would say, from my point of view, yes, there's a problem. We are making grand assumptions for each person about where they worked and who they were near, and what they were doing, and, in particular, trying to decide about the doses that people are getting, when we don't have data. And so, we've got to do coworker. These are complicated things.

I accept that we have to do the best we can, and therefore, I mean, that's why we're here, and that's why I feel like I'm here. And we are going to do the best job that we can. But we do have to make major decisions about exposure based on limited information.

Mr. Calhoun: Sometimes.

Chair Kotelchuck: Sometimes.

Mr. Calhoun: Sometimes, and I would say rarely at these sites. You know, at these big sites that we're talking about right here, there's not a grand assumption, as you say, that we have to make. Because just this one -- and maybe it's an outlier, maybe just because it was the very first one that I picked -- but we have over this person's employment, we've got six or seven different locations. We've got dosimetry by year by location, and it's spelled out not in a hidden document that was used to develop the dose reconstruction, this

was in the dose reconstruction.

We don't routinely have to make grand assumptions to do a dose reconstruction. Sometimes we have to use professional judgment when data is lacking.

Member Beach: And that's what we're looking at.

Mr. Calhoun: And in many of those cases, when data is lacking, it's an SEC.

Member Beach: But not all.

Mr. Calhoun: Well, we're never going to get to all. We're never going to get to all.

Member Beach: I think that's where we started, is that professional judgment and why it was made --

Mr. Calhoun: Right.

Member Beach: -- how it was made. Was it right? Wrong? We don't really care about that. We just want to know if you can track back to that professional judgment.

Chair Kotelchuck: Yes, I feel, working with the Subcommittee, that we just see lots of assumptions that have to be made because the data is not there. And I will admit to you, the large facilities, things are just so much better. And then, I'm on the AWE Working Group, and there, you know, if there is anything I would like to look at as the group, it's probably AWEs. And one way of -- I'll come to that later -- but was to speak to Dr. Anderson and ask him, based on his experiences, what are some things we can do. But that's a diversion.

Member Beach: But, Dave, I have a question.

Chair Kotelchuck: Yes.

Member Beach: You've asked NIOSH to give us kind of a summary or a report on timelines and different sites.

Chair Kotelchuck: Justification.

Member Beach: Is there something SC&A can help us with in pinpointing some of the questions that you're asking? Because I'm sure you have some answers to those questions, because you guys are responsible for doing the dose reconstructions. I don't do it. So, is there something that we can ask our contractor to provide for us to help us with this task?

Chair Kotelchuck: Yes, go look at the blinds and try to look more carefully at the 32 blinds that we have. That may not be a huge task --

Mr. Calhoun: Redo the blinds.

(Laughter.)

Chair Kotelchuck: No, no.

Member Beach: No.

Chair Kotelchuck: You've got all the data here.

Ms. Gogliotti: I just question if that's what you're really after, though. Because my team, I have a great team.

We're getting along, but we don't have access to the same level of training that NIOSH does. We don't work with the same sites every day. They have teams that are dedicated to SRS, and we're doing a broad -- we're doing the best we can, but, to the same point, I don't know that that is going to have a lot of meaning.

Chair Kotelchuck: No, I'm just thinking about, more

or less, statistical analysis. You have the data for the exposures, the exposure level, the internal exposure, the external exposure, the medical records, the environmental. They're all listed for all 33 or 32 cases. And I want to take a look.

We know that there is, in the end, so many millirems difference and so much PoC difference.

Is there a consistent place where the differences seem to be occurring? How much weight do we give --

Ms. Gogliotti: It's pretty hard to see the impact of an individual IREP entry on the overall PoC because there are so many factors that go into the PoC determination. It's not only the type of radiation you're exposed to, but is it chronic exposure? What type of modeling are you applying to it? Is it a log-normal distribution? Is it a triangular distribution?

Chair Kotelchuck: Uh-hum, uh-hum.

Ms. Gogliotti: And pinpointing those exact things would be almost impossible.

Mr. Katz: Can I just say, I mean, you've gone through all of these blinds together. And it's very clear in my mind at least, and I think probably Rose's, too, I mean, the explanations for the differences, they've always been for the most part it's very simple. I mean, it's like Rose was saying this isn't their meat and potatoes every day, doing these dose reconstructions, compared to the volume that they do at each site at ORAU. So, there's a little bit of a gap between how they do it and SC&A does it because of the familiarity issue.

Chair Kotelchuck: Right.

Mr. Katz: And then, there's like the different

distribution approaches that they use, because one is simpler for SC&A to do and one's routine for NIOSH.

And I think, when you take all of that out, because all of that gets discussed with each case, there's not much left.

Ms. Gogliotti: I agree.

Mr. Katz: There's not much -- I don't think there's much interest in the differences between the blinds that SC&A does and the blinds that the program has been doing, because, again, it's more of a difference in approach for convenience and familiarity than anything.

Ms. Behling: Let me ask this, though: however, when we do go through the blind process, and we are stepping through it as NIOSH or ORAU is doing, we can say, here's where we have to make a professional judgment. And that could be perhaps pointed out a little bit more clear on the blinds. We could go back and say, yes, there was a gap here and we decided to use coworker data as opposed to data on either side of the records.

These are professional judgments that, with the blinds, we could probably sit down and identify those for you a little bit more clear than what we did in the original comparison reports.

Chair Kotelchuck: Yes, that's my impression of what --

Mr. Katz: There's not much there, but, yes, I mean --

Ms. Behling: But we could specifically say at that point, okay, here is where SC&A had to make a professional judgment.

Mr. Katz: Yes.

Chair Kotelchuck: Right. If we see differences, then we can ask where the professional differ. Was there something where the professional judgments differed rather consistently to cause --

Ms. Behling: Correct.

Chair Kotelchuck: -- the external or the internal exposure or the external exposure -- or the other aspect of it is that I think what I'm thinking of is a more modest task. I may be wrong because I haven't addressed it myself.

Member Beach: And I'm not thinking about going backwards. No, we've already done those. That's great for the future, but I wasn't thinking of the blinds when I was saying task you to help us with. Just where we could move forward to get a better understanding of what we want NIOSH to do and how to pinpoint some of those professional judgments that are made.

Chair Kotelchuck: Well, I think I was, though, because I gave a report to the Board, and at least two senior Members of the Board said, "Hey, you didn't look carefully enough. You've got to look further." And I thought they were right, that I could perhaps look further. There may be -- there may be -- some more meat there. There may not be. I mean, I think it's quite possible we'll look at it and say, hey -- and if it becomes a huge task, right, if it ties a lot of people up for a long period of time, then are we getting much benefit in terms of asking SC&A to do it?

And so, I'm looking at the pieces that could be looked at quickly, and then, we can talk about whether we have to look further. And I think, frankly, it's the

statisticians at this point. The first task is a statistician's, which could be you folks.

Member Richardson: Dave?

Chair Kotelchuck: Yes?

Member Richardson: My recollection of the process was that we had a small number of blinds, and they were sort of treated like case studies. We weren't expecting the number of those to be very large.

Chair Kotelchuck: Right.

Member Richardson: And they were going to describe, almost qualitatively describe both agreement, but, then, this issue of professional judgment was going to be perhaps not a statistical issue, but places where we could provide suggestions for clarification and guidance where there was ambiguity.

Then, we had other sets of reviews that we were doing where the numbers were larger, and some of the things that were going to be flagged out were more routine than professional judgment, like agreement in abstraction of the basic data, reproducibility in that. I don't know that we've ever resolved those issues, either. But we were treating these as different sorts of information.

Chair Kotelchuck: I'm not quite sure --

Mr. Griffon: Can I step back --

Chair Kotelchuck: Please. Yes.

Mr. Griffon: -- to 5,000 feet, not 20,000?

(Laughter.)

Chair Kotelchuck: All right. Okay.

Mr. Griffon: I'm scared of heights anyway.

(Laughter.)

Chair Kotelchuck: Right.

Mr. Griffon: No, I think Rose mentioned that we're trying to propose solutions and we haven't really identified the problems yet. In fact, I think over 14 years we've identified a lot of the problems and how big they are. When I say "problems," you know, relative.

For instance, neutron exposures, I mean, how many times have we had a discussion on the Dose Reconstruction Subcommittee about, well, we assumed he worked here, and therefore, we assigned neutron dose? And ORAU comes back and says, well, we think what the dose reconstructor must have done here was this, you know. And so, that's come up a number of times. I think that's probably one area where you say, okay, why are smart people on either side making different assumptions, and can the guidance be changed to make that more consistent? I mean, maybe you say, no, but there are points like that.

I think another one is internal dose, you know, assumptions on when you started the intake, or whatever. So, there are some of these factors. Glove box is another one. Like was the person a glove box worker, and do we assign the glove box factor or not? And that's mostly tied back into work areas and job, and all that.

So, we have some of these areas. And then, I see it as sort of, within a site, first, and then, maybe cross-cutting. And then, what I get into with the programmatic stuff is more the global. And I think that might be out of the realm of the Dose

Reconstruction Subcommittee, more into the Procedures, and, you know, wherever. And most of those recommendations I think fall more toward NIOSH.

And the reason I brought up the programmatic ones is I think the importance of that is sort of the overall, long-term documentation of this program. For instance, uncertainty and assumptions around uncertainty for external doses, or whatever, there are certain default factors. If you can't calculate uncertainties, sometimes there's default factors that go in. We've discussed at -- I can't remember how many meetings we've had this on and on discussion, but I don't think we have a document anywhere that summarizes how we came to all these conclusions.

And I pointed to one, a document that Jim Neton wrote up on the residual contamination thing. He said it was a lengthy process to go through and find, actually, how SC&A reviewed, the Board went over it, you know, all these steps. But it summarized it all there in one document and said, this is how we got here, and it pointed out, also, that it was thoroughly reviewed in this program and there's a lot of good, sound basis. And there's what we can point to for using these assumptions for years.

So, some of those global ones, I think it would be good to have that kind of documentation to support the program in the long term. But I would start with the site -- my feeling is start with the inside of the site and do targeted reviews of an issue, like neutron dose assignment, or something like that, or internal dose assignment, something like that.

That's sort of what I was envisioning. I know there's questions about, well, don't you need to pick workers that were in the exact same circumstances? I think if you're just looking for evaluating the guidelines and

how well they do it, and the system and how well it works, I don't think you need to have people in the exact same places and the exact same circumstances.

And you might be able to even go back and -- I haven't thought about this a lot -- but you might be able to go back to the old pieces that we have already out of our matrix and say, okay, here's five cases from Savannah River where the neutron question came up and work location, and let's look back at those, revisit those, and see why we have these inconsistencies, and maybe look at the DR guidance and see if it can be -- or whatever might improve that. And maybe it's just it wasn't clear to SC&A, and where there's a whole SRS team at ORAU that's talking about these cases all the time, the guidance was clear then, but it might not have been as clear to external parties. And that might be a simple sort of fix to put a little more verbiage in there to clarify it.

Dr. Mauro: Mark?

Mr. Griffon: Yes?

Dr. Mauro: Along those lines -- this is John again -- one of the interesting one with the guidance programmatically now, OTIB-70, which deals with the residual period, and Jim wrote up a very thorough guideline. But, in the guidelines, there were a number -- maybe five or so -- different strategies that can be used, and that's a judgment call. Which strategy is best? In other words, you have a number of different ways you could come at the problem, and it's left up to the dose reconstructor to make a determination that I think this approach is the way we're going to go. And that's it, and then, they go from there.

So, therein lies, right, within the guideline itself, it provides a lot of different ways you can go. And sometimes, I notice that the DR, the dose reconstruction itself uses multiple approaches. A good example is chest counts versus bioassay. When you have both, what are you going to believe? And they do both, and then, go to the validity one. So, this is the good news part of it, I guess.

I'm noticing more and more that, when you do have a situation where the guidelines present you with options, and then, the judgment has to be made on which is the best way to go to be claimant-favorable, in some cases NIOSH often will run all of them, and then, go with the worst. But, in other cases, I've seen, and especially this goes to the residual period and AWE facilities, a particular strategy, which are among the options granted in OTIB-70, and there would be one that will be picked.

And quite frankly, in my experience, because I look at a lot of these, I always felt that they picked, most of the time they picked the right one. In other words, yes, that's the one you have to use.

So, even within what I would say the programmatic process there's a lot of guidance given on how you come at the problem. Like the surrogate data criteria, I mean, that's a perfect example. It's, okay, listen, if you guys are going to go use surrogate data, you've got to pass these five tests.

I'm almost flipping and saying, there's an awful lot of guidance out there that tells you -- there are tests that you want to go through. There's the internal dosimetry, the coworker model OTIBs, all of which really go toward consistency, to make sure that you go through a process to come out at the other end; that you pick the approach that meets all the criteria as laid out in some OTIB or as the surrogate data

criteria.

But there are some places where the guidance lays out a lot of options, and then, it's up to the dose reconstructor to pick the one. And that's why I mentioned like, when we go through issues resolution with the Subcommittee, absolutely embedded in that, there's always where there are findings, it's right there. I think Scott pointed that out, yes, it's always there, and it's in the record.

All I was suggesting is that's one place where we could plant it and actually a spot to collect it, and there's no work here. By the way, while you're discussing the finding and how you resolve it, you could say, oh, by the way, this is a place there was a judgment made. And just mark it, yes, a judgment was made, and you collect them and somehow keep track of them.

And then, you create a body of records, not going backwards now. I'm sorry, I didn't want to leave anyone with that thought. It's just want to start to collect information that's already there, but put it someplace so that you could go out and say, okay, we reviewed, like in the last year, we reviewed 30 cases, and part of the documentation, as it should be right there, is that, yes, in those 30 cases that were reviewed issues came up regarding consistency on these, and these were the issues.

So, you start to build a record of where these judgments have been made, almost exactly what Mark did with Linde and Savannah River, where -- it was an enormous effort. But I'm saying that this almost becomes part of a process where, without adding any work, just at the end, you identify them. And you could actually somehow sort on them or track them, and retrieve them and say, okay, what did we learn over the last year in that 1 percent that

we looked at --

Mr. Hinnefeld: John?

Dr. Mauro: -- that indicates, you know, where there might be some problems.

Mr. Hinnefeld: John, this is Stu.

Before we get too far into this, I want to talk a little bit about what you said about OTIB-70. OTIB-70 gives several options, and those options depend upon what data is available for that for a site.

Dr. Mauro: Yes. Yes.

Mr. Hinnefeld: So, OTIB-70 covers many sites. And the kinds of information you have that are informative about residual contamination period are different at different sites.

Dr. Mauro: Yes.

Mr. Hinnefeld: And so, it's selected for a site based on what data it has. The dose reconstructor doesn't make that selection.

Mr. Griffon: Right.

Mr. Hinnefeld: That's not a personal judgment.

Mr. Griffon: Yes. Thank you.

Mr. Hinnefeld: That is made because of the data there.

Dr. Mauro: Yes.

Mr. Hinnefeld: Now I'm not arguing against what you're saying to do.

Dr. Mauro: I think we would agree.

Mr. Hinnefeld: Well, I'm not arguing on what you're saying to do, but I'm just saying let's make sure we understand what -- when you're talking about professional judgment, you're talking about things like this guy -- you know, at Savannah River, everybody got handed a badge that also measured neutrons, but this guy didn't have any neutron exposure because -- you know, that's professional judgment.

Mr. Griffon: Yes.

Mr. Hinnefeld: Okay. That's the kind of thing we're talking about, not OTIB-70.

Mr. Griffon: And for these personal judgments, there's definitely a finite list, I think, anyway.

Mr. Hinnefeld: Yes.

Mr. Griffon: And I don't disagree with what you're saying, John; maybe more explicitly documenting going forward.

Dr. Mauro: Yes.

Mr. Griffon: But all I'm saying is that I searched all the matrices, and even ORAU's internal database, and I even keyword searched on "judgment," and I found tons of these, you know. I'm saying we've already done this. We've found -- you know, we know some of these at least. Maybe going forward we'll find some different ones, or whatever. But I'm saying you found some. Why not look at least at those, at some of those?

Dr. Mauro: Yes.

Mr. Griffon: And maybe you start incrementally, you know. I think the turtle approach, you know --

Mr. Hinnefeld: Dose reconstruction review process --

Mr. Griffon: Yes, yes.

Mr. Hinnefeld: -- that's what you're looking at.

Mr. Griffon: Right.

Mr. Hinnefeld: You've got a large body of information about the review process --

Mr. Griffon: Yes.

Mr. Hinnefeld: -- with just the claims that have been done.

Mr. Griffon: Yes.

Mr. Hinnefeld: So, that's what I think.

Mr. Griffon: Yes. I mean, don't throw out the --

Mr. Hinnefeld: Someone could do that now.

Mr. Griffon: I'm saying, don't disregard that information. A lot of it is there.

Mr. Hinnefeld: Yes.

Mr. Griffon: And one, off the hand, all of us know is this work location thing, job location versus, you know -- that comes up constantly, right?

Member Beach: The titles.

Mr. Griffon: Right, right. So, why not look at that?

And then, another one I think lends itself to, you know, as you go forward --

Chair Kotelchuck: You mean going forward?

Mr. Griffon: No, I'm saying you could even look, you could probably just, I mean, I think, Kathy and Rose, you guys could look through your past matrices and find these and flag them pretty easily. I mean, I did it on keyword searches, but you also could sort on the type of findings and stuff, and find them. I mean, I think they jump out at us. You don't have to go back to transcripts, is what I'm saying.

(Laughter.)

Chair Kotelchuck: Right, right, right. Okay.

Mr. Griffon: Although I searched some DRs, so many transcripts, just on like "judgment," just to see how, and it comes up constantly. You know, it's constantly in there. So, it's been discussed a lot. I don't think we have to start collecting data going forward to find some of these area.

So, I'm not objecting to what John's saying. Maybe more explicitly, flag it and put a separate column saying, you know, judgment. It might be easier.

Ms. Gogliotti: That I could absolutely do, yes.

Mr. Griffon: Yes.

Ms. Gogliotti: It's super easy.

Mr. Griffon: Yes.

Ms. Gogliotti: And we could do the blinds also.

Mr. Griffon: Yes.

Ms. Gogliotti: Including the blinds.

Mr. Griffon: And including the blinds, right. Right.

Ms. Gogliotti: I like that.

Mr. Griffon: But I'm saying, for some of these, you've got information that says we've at least flagged these as professional judgments; we've had these as findings which were resolved, I think 95, 99 percent of them.

Chair Kotelchuck: They're all resolved.

Mr. Griffon: Right, they're all resolved, but, nonetheless, is there something that we can look at to improve the system, is what we're saying on those, like so that the guidance is clearer.

The only hiccup I got into, too, is you have the DR guidance, internal, like first event, or DR guidance, and I think I counted, it was more than a dozen variations of DR guidance since the TBD had been changed. I mean, the TBD is sort of the control document versus the DR guidance is not an official control document. But I don't know if I'd get hung up with that. I would say, try to improve the guidance, whether it's in the DR guidance or a TBD. What can we do to maybe clarify to a more outside party?

Because I think a lot of it stems from the fact that the Savannah River Group has been working on these cases for years and they know; they sort of have an ebb and flow of how they're doing them. And some of it may be specified in the DR guidance, but some they just know. You know, they've done so many of these cases. Maybe adding a few paragraphs would just -- that's it, you know.

Mr. Katz: Mark, can I get some clarification --

Mr. Griffon: Yes, yes.

Mr. Katz: -- about what you are suggesting with respect to retrospectively looking at cases where there were judgments? If you pull those all up,

you're going to have some portion of them where the judgments were fine. I mean, they were judgments --

Mr. Griffon: Yes.

Mr. Katz: -- and they were discussed, and you decided, actually, these judgments were all appropriate.

Mr. Griffon: Right.

Mr. Katz: So, I think, then, if you're asking to do that, look at that retrospectively, you want to know about the cases where we decided the judgment wasn't fine, right? I mean, that's the only ones that are relevant, right? I mean, why do you want to collect a bunch of data on judgments that you decided were perfectly appropriate?

Mr. Hinnefeld: Well, I guess --

Mr. Katz: That's the question.

Mr. Griffon: Yes.

Mr. Hinnefeld: This goes to something that I've talked about intermittently over my tenure here. It is that, since we're making a decision for the Government, we should have a clear and unambiguous record of the decision.

Mr. Griffon: Right. Yes.

Mr. Hinnefeld: And so, if the instructions to dose reconstructors are ambiguous enough so that there's discussion about whether the judgment was correct, is there a way to make it, the instructions or the guidance on making a professional guidance somewhat better? I think at some point you can't get any better.

Mr. Griffon: Right.

Mr. Hinnefeld: I mean, there still may be differences in judgments. So, I think that's the question you're asking. Is there a way to essentially squeeze in the latitude that a professional judgment --

Mr. Katz: Is needed.

Mr. Hinnefeld: -- actually reaches where there's not guidance to kind of guide that?

Chair Kotelchuck: So, in the matrix, if people use two different judgments, and then, there was a discussion and, say, SC&A was convinced that the NIOSH approach was good, and we've made an agreement -- but, remember, that's 1 percent of the cases. Ninety-nine percent of the cases, that would never be debated. And either one, I mean both are professional groups and both had people making judgments that were different initially. So, even if we've gotten agreement, that's still something to be marked down as professional judgment.

Ms. Gogliotti: It's not that. The goal is 1 percent, but we're nowhere near that.

Chair Kotelchuck: Well --

Ms. Gogliotti: There's been 40,000 and we're reviewed 500 cases.

Mr. Calhoun: Almost fifty.

Ms. Gogliotti: Sixty thousand?

Chair Kotelchuck: No, no, the last -- I did the report, and we had looked at 30,000 cases and we had 332 that we had gone for the -- now we may not have kept up with 1 percent. I'm a little worried about that for the next report.

Ms. Gogliotti: Well, you said 60,000?

Mr. Hinnefeld: No. Well, we had 50,000 claims. We've not done 50,000 dose reconstructions.

Chair Kotelchuck: That's right.

Mr. Calhoun: Well, if you count doubles, maybe we have.

(Laughter.)

Mr. Hinnefeld: Oh, you're talking about reworks?

Mr. Calhoun: Right.

Mr. Hinnefeld: Oh, reworks, we've got to be over.

Mr. Calhoun: Yes. You know, it's 50,000 claims. A lot of those get pulled for SEC. And so, they're not done.

Chair Kotelchuck: Yes. Well, I'm going to find that out soon because I made a commitment to update the report to the Secretary in the next few months.

Mr. Griffon: The other thing to highlight maybe in your report, Dave, is the percentage of best-estimate cases that you've done, because I think you've done a high percentages of those.

Chair Kotelchuck: Absolutely. We definitely have many.

Mr. Calhoun: Yes. We have a hard time finding them. We have to go outside the best estimates sometimes to do the case.

Mr. Griffon: Yes, yes, that's my point, yes. Yes.

Member Beach: And so, is the goal also to be able to track a judgment that was made and why they made

it? Is there a way or an avenue to do that?

Mr. Hinnefeld: Well, I mean, that was one of the things that ORAU was going to report on, right?

Mr. Calhoun: We're going to look at what drives the timeline, is what the first assignment is.

Mr. Hinnefeld: Yes. Right. I thought what drives the timeline, and I thought weren't we also, didn't we also ask ORAU to say what would it take to --

Mr. Griffon: Document, yes.

Mr. Hinnefeld: -- to essentially always document professional judgment?

Mr. Griffon: Right.

Mr. Hinnefeld: Isn't that what the --

Chair Kotelchuck: Yes, justification.

Mr. Calhoun: Yes, I'm not sure it's that clear, but yes.

Let's talk. We'll talk about it.

Chair Kotelchuck: Right, right.

Mr. Griffon: I mean, I'll give you a "for instance" on that. Some of the spreadsheets that I saw, workbooks, there were some cases where you had those little comment triangles in the corner, and you click on it, and the person wrote on out that, you know, for this dose, we assumed, we assigned coworker because dah-dah dah-dah-dah. Or for this dose, we assigned dah-dah-dah. You know, very detailed, but --

(Laughter.)

But you don't see that all -- you certainly don't see that all the time. So, I'm not sure, there might be a balance between that level of detail versus -- again, that's a judgment for cost/time, all that.

Chair Kotelchuck: And, Grady, since this particular Work Group does not have an inherent schedule for meetings -- we function when we think we need to function -- when you do look things over, you will make a report?

Mr. Calhoun: Yes.

Chair Kotelchuck: And then, we'll send out to the Subcommittee Members --

Mr. Calhoun: Yes.

Chair Kotelchuck: -- and the people who are here?

Mr. Calhoun: Yes.

Mr. Hinnefeld: We'll probably send it to Ted. Okay?

Chair Kotelchuck: Yes. Right. Right.

Mr. Katz: To everybody. We'll get it to everybody.

Chair Kotelchuck: That's good.

And then, we'll decide from there at what point we think we need to have a meeting. So, I'm not going to set a deadline for when you're going to have that. You'll do it --

Mr. Calhoun: Thank you.

Chair Kotelchuck: -- as you can do it, right?

(Laughter.)

Mr. Calhoun: Right.

Chair Kotelchuck: But don't worry, I'll remember that you said you were going to do it.

(Laughter.)

Besides which I'll go over a transcript in a couple of months. And then, if nothing else, it will remind me.

But there are two things to say. It's a little after 10:00. We normally take a little break, and maybe this is a good time, and then, come back and talk about, go through some of Mark's -- and how would that be?

Mr. Katz: That sounds fine.

Chair Kotelchuck: Okay. It's five after 10:00, six after 10:00. Let's come back, then, at 10:15, 10:20?

Mr. Katz: How about 10:20 --

Chair Kotelchuck: 10:20.

Mr. Katz: -- just to make sure everyone's back?

Chair Kotelchuck: Okay, 10:20. Very good.

Mr. Katz: Folks on the phone, we'll rejoin at 10:20. I'm just putting the phone on mute.

(Whereupon, the foregoing matter went off the record at 10:06 a.m. and went back on the record at 10:20 a.m.)

Mr. Katz: We're back. We're back.

And let me just check and see, do I have, Paul or David, are you on the line?

(No response.)

Either Paul or David on the line?

(No response.)

How about Scott?

Mr. Siebert: Yes, I was just about to tell you the line is still open.

Mr. Katz: Yes. No, I did this earlier, too.

Mr. Siebert: And I apologize. I don't think we mentioned this for the court reporter, but this is Scott Siebert from ORAU.

Mr. Katz: No, but I filled her in on this. I asked earlier just on the open line who was on and thought I had captured most, but I know some people joined since. And so far, I think we're pretty good.

I don't know. If there's anyone else on the line that's newly on the line that you want to identify, let us know.

(No response.)

But, otherwise, I think we're okay with attendance.

Chair Kotelchuck: Now for the court reporter, there are two Davids, but one's on the phone --

Mr. Katz: Right.

Chair Kotelchuck: -- and one's here. So, it's easy to separate.

Mr. Katz: Yes, they even get confused between themselves.

(Laughter.)

Chair Kotelchuck: Yes.

Mr. Katz: Paul, are you back on?

(No response.)

Okay. Paul may be busy.

And, David Richardson, are you back on?

(No response.)

Not yet.

Do you want to start or do you want to wait? It's up to you.

Chair Kotelchuck: I think we should start.

Mr. Katz: Okay. Good.

Member Beach: Can I ask a quick question beforehand?

Chair Kotelchuck: Okay, beforehand.

Member Beach: Or, you know, during. During.

Chair Kotelchuck: Oh, okay.

Member Beach: It's for the report.

Chair Kotelchuck: Okay.

Member Beach: So, we have Mark's report. We have a number of observations, a number of recommendations. Can we put together or can somebody, NIOSH, SC&A, put together a matrix? Because we're going to start having memos and reports and stuff. So, we can track it easier. Is that something we can do with these?

Ms. Gogliotti: Like on the BRS?

Member Beach: On the BRS would be great, and just for our use, a matrix.

Mr. Calhoun: That would be good to put that in the BRS, I think.

Member Beach: Well, just an official matrix --

Mr. Calhoun: Yes, right.

Member Beach: -- of all the recommendations that we decide belong on the matrix of this meeting, and then, that with tracking.

Ms. Gogliotti: So, just everything that we discussed today would be in there?

Member Beach: Yes, and all the recommendations that are within the report.

Ms. Gogliotti: So, you do want all of his recommendations?

Member Beach: All of them.

Ms. Gogliotti: Okay. Thank you.

Member Beach: I don't know about observations. That's for the group to decide, but recommendations for sure.

Chair Kotelchuck: Uh-hum.

Mr. Katz: Yes, let's start with that, and whatever gets thrown on the table that may not even be in his report.

Chair Kotelchuck: Yes.

Mr. Calhoun: And it seems like the observations are kind of a little bit different than our dose reconstruction observations. It's almost like what Mark saw --

Mr. Griffon: Yes, yes, yes.

Chair Kotelchuck: Oh, yes.

Mr. Griffon: Right.

Mr. Calhoun: -- rather than an issue.

Mr. Griffon: Right. It's not like an observation and finding, right.

Mr. Calhoun: Right. Yes.

Mr. Griffon: Yes.

Mr. Katz: Okay. So, Rose, you'll handle that? Thank you. Okay.

Member Beach: Thanks.

Ms. Gogliotti: BRS is my baby.

(Laughter.)

Chair Kotelchuck: Very good. Okay.

Member Beach: Love the BRS. It's great.

Chair Kotelchuck: Where should we go to follow in the text as we talk?

Mr. Griffon: Well, I think probably the best place, I mean, if you want to talk just from the executive summary --

Member Beach: Page 11.

Mr. Griffon: -- page iii.

Member Beach: And I just went right to your slides because you have them all nicely laid out in your slides.

Mr. Griffon: Does everybody have those slides, though?

Member Beach: I don't know. I've got them.

Mr. Griffon: Yes.

Mr. Calhoun: I've got the actual report.

Chair Kotelchuck: I have the report, but I don't --

Mr. Griffon: The slides are somewhere in here.

Chair Kotelchuck: The slides, they're not at the end?

Member Beach: They were from his December meeting, I think.

Chair Kotelchuck: I don't know. I don't --

Member Beach: Yes, December 13th.

Chair Kotelchuck: I don't have the slides.

Mr. Katz: I did actually distribute them at one point, but it doesn't really matter.

Mr. Griffon: Yes. Yes, maybe Josie's right, if you look in the body of the report instead of the executive summary --

Chair Kotelchuck: Okay. Good.

Mr. Griffon: Page 10 and 11 start the overall --

Chair Kotelchuck: Okay. Very good. That's very helpful.

Mr. Griffon: -- observations and recommendations, right.

Member Ziemer: Ted, I'm back on again.

Mr. Katz: Oh, great. Welcome back, Paul.

Chair Kotelchuck: Oh, wonderful. Wonderful.

Mr. Griffon: You sound better. Are you on good medicine? No.

(Laughter.)

Member Ziemer: I'm getting plenty of that.

(Laughter.)

Mr. Griffon: Sorry you're having troubles with the back.

Member Beach: You're setting the standard pretty darn high here, Paul, I want you to know.

(Laughter.)

Chair Kotelchuck: Right. Very good. Yes, we are very impressed that you --

Member Beach: If anybody goes to the hospital, they have to still be on Work Group meetings.

(Laughter.)

Chair Kotelchuck: That's terrific.

Ms. Gogliotti: That's the precedent.

Member Beach: Yes.

Chair Kotelchuck: Yes.

Summary of Mark Griffon's Report

Mr. Griffon: So, just to give an overview, and maybe with the document in front of us, it will make it a little easier, too.

Chair Kotelchuck: Yes.

Mr. Griffon: I mean, when I did this review just for purposes of review, I looked at two sample sites, one

DOE and one AWE. It ended up being Savannah River and Linde Ceramics. Out of those, I tried to identify -- mainly, I was looking for professional judgments. And quickly, as I was doing it, I ended up adding this category of what I call programmatic judgments. So, I make a distinction in the report of sort of dose reconstructor professional judgments versus programmatic judgments which have been made by the program, essentially, and they're in guidance or procedures or TBDs and, as such, are reviewed in other places, I would say, so the Procedures Subcommittee, et cetera.

But the first on page 11 goes into the recommendations on doing some targeted reviews. I actually gave options, several different options, because I think if you look down the idea of blind or focused reviews, I have different layers. And obviously, the first two are ORAU; the middle two are NIOSH, and then, there's the Board.

Because I thought some of these, it is beneficial, and I'm not sure where it stands now, but for a time period there, NIOSH was doing a certain amount of blind reviews of your own, right, Grady --

Mr. Calhoun: Yes, we were.

Mr. Griffon: -- of ORAU cases?

Mr. Calhoun: We have pretty much ceased that.

Mr. Griffon: Yes, resources, I mean it impacts resources.

Mr. Calhoun: That's right.

Mr. Griffon: Of course, yes.

But those sort of dovetail along with that idea.

And then, the Board, you know, these are really the vehicles of looking at the reviews. So, blind or No. 6 is really where I was talking before the Board, focused reviews. And that would be, if I had a preference out of these, the focused reviews at any level might be a place to start, you know. And the focused reviews would hit on, I mean, some of the areas, and I thought I had these laid out. I should have the slides, too, Josie.

Member Beach: Do you want --

Mr. Griffon: I have a copy here.

Ms. Behling: Can I ask a question?

Mr. Griffon: Yes, yes.

Ms. Behling: Because you brought up an interesting point. Does ORAU do any internal blinds?

Mr. Calhoun: No, no.

Mr. Griffon: No?

Mr. Calhoun: No.

Ms. Behling: Okay.

Mr. Calhoun: No, they've just got layer upon layer of peer review.

Ms. Behling: Okay. I was just curious.

Mr. Calhoun: Yes.

Mr. Griffon: Yes. Yes, and that was another idea, was to have a case assigned.

The other thing I didn't know about -- you know, there's some questions about how these reviews would be done for ORAU. For instance, if you assign

the case to two people and let them do the dose reconstructions, do you take the higher one of the two? I mean, you know, yes, there may be some -- yes.

Mr. Hinnefeld: In terms of functionality --

Mr. Griffon: Right.

Mr. Hinnefeld: -- there are more problems with asking ORAU to do blind reviews because everything is -- the dose reconstruction preparation review process is automated.

Mr. Griffon: Yes.

Mr. Hinnefeld: And so, when a case gets assigned to a dose reconstructor, it's all done on the computer; it all goes to review.

Mr. Griffon: Right.

Mr. Hinnefeld: And it cranks through a fairly complicated system to move to the next spot. And I don't think there's a way to assign the same case to two people.

Mr. Griffon: Yes, right. Right.

Mr. Hinnefeld: You have to go outside the system. It would clearly not be blind to the dose reconstructors --

Mr. Griffon: Yes.

Mr. Hinnefeld: -- because somebody is going to know they're doing a duplicate.

Mr. Griffon: Right, right, right.

Mr. Hinnefeld: Given the way the work process is, there's just no real way to do that.

Mr. Griffon: Yes, yes. Right. So, that may be one that just doesn't make sense.

Mr. Hinnefeld: Yes.

Mr. Calhoun: And you guys may not see it like we do, but, like for the 45-to-52, if you ever looked at the approval, signature approval on the DRs --

Mr. Griffon: Yes.

Mr. Calhoun: -- there's two.

Mr. Griffon: Right, right.

Mr. Calhoun: And the ones that aren't in that range, there's only one, but there's two on the --

Mr. Griffon: Yes, yes.

Mr. Calhoun: It's not like they're doing it independently --

Mr. Griffon: That's right.

Mr. Calhoun: -- but it gets two different looks.

Mr. Griffon: Getting a good -- yes.

Mr. Calhoun: You've got to put your name on it.

Mr. Griffon: Right, right, right, which is good, yes, yes.

So, again, the focused reviews of the Board, I mean, for the purposes of, since you're talking about Board work --

Chair Kotelchuck: Yes.

Mr. Griffon: And the personal judgments, I'm trying to find out where I have those laid out, but some of those include -- and I think we've been through these

before -- the judgments regarding worker location for purposes of internal dose estimates or external dose estimates; judgments regarding job title, and the associated potential for exposure. So, exposed/unexposed, be in the 50th, 90th, 95th percentile issues there. What if you're using coworker models?

Member Beach: Wasn't that in your observations?

Chair Kotelchuck: That's in 10.

Mr. Griffon: Is that on page 10?

Chair Kotelchuck: That's on page 10, judgments.

Member Beach: If you look at 10 in your observations --

Mr. Griffon: Okay.

Chair Kotelchuck: Yes.

Mr. Griffon: Yes. Oh, yes. Okay. So, it's laid out there. I'm sorry. Yes.

Chair Kotelchuck: Yes.

Mr. Griffon: Yes. And judgments in the calculation of missed external and internal dose. And I think Kathy earlier had talked about filling in a gap with coworker versus the nearby data. There's different options.

Member Beach: So, Mark --

Mr. Griffon: Yes?

Member Beach: -- did your recommendations come out of the observations as well?

Mr. Griffon: Yes, yes, yes, yes.

Member Beach: Okay. So, that's good information.

Mr. Griffon: Yes. So, this is sort of what I saw.

Member Beach: Okay.

Mr. Griffon: And then, my recommendation would be to do some sort of targeted audit, and I was giving different options on that --

Member Beach: Sure.

Mr. Griffon: -- maybe too many, but different options --

Member Beach: Very thorough.

Mr. Griffon: -- of how that could be looked -- well, I mean, I do like the NIOSH blind review option, but I also understand that they've sort of cut back. You know, there's resource issues there, too. But, anyway, like I said, out of all these, if I had to pick one that I think works now best, and it might be a way to incrementally look at this, I would say No. 6 with this focused review of the Board, and then, looking at page 10, some of those. And I would say to Kathy and Rose, here's where I say the database. This database exists, and, also, with Scott, they've been continuing to track internally. They've done reviews, and they've got a database that's been in effect since when, Scott, 2012? Am I right about that?

Mr. Siebert: Well, we don't have a database for these results. We have a database of returns from NIOSH, and that's, yes --

Mr. Griffon: Yes. So, NIOSH's comments back to you on cases. Yes, not necessarily on these, but I think some of these might be in there or others. What I'm saying is, between those two databases, you might

want to look at those databases and scan them to see if there's other professional judgments that jump out.

Ms. Gogliotti: I don't think we have access to that.

Mr. Calhoun: Uh-uh, we don't.

Mr. Griffon: Okay.

Chair Kotelchuck: But, also, let me ask you, there are many judgments in here. I don't think you can go back to the matrix and -- you'll find some, but I don't know. We were talking before about coming back to the matrix.

Mr. Griffon: Yes.

Chair Kotelchuck: These are a good --

Mr. Griffon: Yes.

Chair Kotelchuck: -- collection of them. On the other hand, they're not going to be able to identify --

Mr. Griffon: You don't think so on the matrix?

Ms. Gogliotti: I could easily go through my documentation, since I took over as dose reconstruction on the SC&A side, and identify findings where we've said the word "judgment" in the resolution.

Chair Kotelchuck: Yes.

Ms. Gogliotti: That would take me a few hours to go through.

Chair Kotelchuck: That would be great.

Mr. Griffon: Yes.

Chair Kotelchuck: And then, we'll see which overlap with these judgments?

Mr. Griffon: Yes, yes. I mean, I did sort of that. I didn't do it completely, but I did -- and you said since you took over, that's a good point.

Ms. Gogliotti: I can only control what I've done.

(Laughter.)

Mr. Griffon: Right. Because I was looking for some of the earlier matrices. I think the first 100 cases, I'm not sure where that is. I know at one point, Ted, you asked me for those files from way back --

Mr. Katz: Yes.

Mr. Griffon: -- the matrices, the original matrices.

Ms. Behling: I think I have those.

Mr. Griffon: You have them? Yes, yes.

Chair Kotelchuck: Did we do matrices for those also?

Mr. Katz: Yes.

Ms. Gogliotti: Before we --

Chair Kotelchuck: Yes, yes.

Committee Discussion of Report

Mr. Katz: Can I ask, Mark and everyone, you guys are looking at this report and speaking, looking at the report --

Mr. Griffon: Sorry.

Mr. Katz: -- but the record here is going to be terrible because no one knows what really anyone is talking about if they're just reading the transcript because you guys are looking at your screens. So, please flesh out what you're speaking to --

Mr. Griffon: Okay.

Mr. Katz: -- before you, then, discuss it.

Mr. Griffon: Sorry, sorry.

Mr. Katz: Otherwise, it's going to be terrible figuring out most of all what's actually being said.

Chair Kotelchuck: Yes. Okay. Yes. Thank you. Okay.

Mr. Katz: I mean the staff where they resurrect the discussion.

(Laughter.)

Chair Kotelchuck: That's a good point. A good point, yes.

Mr. Griffon: Yes.

Mr. Hinnefeld: On the Advisory Board you need documents or decisions.

(Laughter.)

Mr. Katz: That's right, yes.

Mr. Hinnefeld: I can retire in peace.

(Laughter.)

Chair Kotelchuck: So, what we're seeing is on page 11 --

Member Beach: Of Mark's report.

Chair Kotelchuck: -- of Mark's report are the recommendations, and there are seven of them, I believe.

Member Beach: And more specifically, Mark's report

of November 5th, 2017.

Chair Kotelchuck: Right. And then, after that, we are looking at what are the judgments that we're talking about, and those were on page 10 and finish on page 11, observations.

Mr. Griffon: Right.

Chair Kotelchuck: And these are judgments, also seven or eight different bullet points.

Mr. Griffon: These are the professional judgments --

Chair Kotelchuck: Professional judgments starting with judgment --

Mr. Griffon: -- of the individual DR, right, right.

Chair Kotelchuck: So, you actually started to say those, and I interrupted and said, "Could you get a page?"

Mr. Griffon: Oh, yes.

Chair Kotelchuck: So, we could look at it --

Mr. Griffon: Right.

Chair Kotelchuck: -- which was a mistake now in retrospect.

(Laughter.)

So, we started with judgments regarding worker location for purposes of internal and external dose estimates, and they go down through your final one --

Mr. Griffon: Yes.

Chair Kotelchuck: -- which was "Judgments

regarding calculating dose associated with incidents/events noted in the claimant interview or DOE records." So, that's page 10 to 11 in Mark's November --

Member Richardson: This is David Richardson.

Member Beach: Hi, David.

Chair Kotelchuck: Hi, David. Good, good.

Member Beach: And so, if we do agree that we're going to start with No. 6 of Recommendation No. 1, SC&A will have the observations from Observation 1 to use in putting your report together, based on that starting point 6 on page 6, the Advisory Board focused reviews? Okay. Is there anything NIOSH can do in that same venue or would that be too much of a -- like flesh out, like a certain point maybe flesh out some of the professional judgments that were made?

Mr. Calhoun: What I'd almost rather do is respond to the matrix.

Mr. Hinnefeld: Sure. I mean, it's far better --

Mr. Calhoun: You know, look at that.

Mr. Hinnefeld: -- to select the universe of things that we want to talk about, and then, we will be able to talk about them.

Mr. Calhoun: Right.

Mr. Hinnefeld: I think that will work better.

Member Beach: Okay.

Chair Kotelchuck: I agree. And we'll find some judgments that are just not going to be there.

Mr. Calhoun: Once we get them into the BRS, you know, I kind of use that as a crutch, too. It's just so easy to go, here's the issue; here's our response, one by one by one.

Chair Kotelchuck: Right, right.

Mr. Griffon: And so, just looking at the first bullet on page 10 of the observations, the judgments, I mean, you can see that --

Chair Kotelchuck: Looking at 1, and then, for the record, "Judgments regarding worker location for purposes of internal dose estimates and external dose estimates, photon, neutron, electron, and assumptions regarding sources of internal exposure and assumed energy distribution". That is the first bullet.

Mr. Griffon: Right. And my point there was that -- and I was going to read that out -- my point there was that in that one bullet there's probably, if you're going to do a targeted, focused review, there's several -- I mean, obviously, there's six or seven different issues there, right? You could do, for instance, just pull out neutron doses and say, okay, let's look at Savannah River and neutron doses where worker location was a question. And so, all I'm pointing out is it is not simply run one recommendation in that or one set of issues to look at in each bullet. You know what I mean?

Member Beach: And this will be done not just at one site. Will you do this at an overall --

Chair Kotelchuck: At the 1 percent, it would be --

Ms. Gogliotti: When I do my tracking, it's just whatever we --

Member Beach: Whatever you've done? Okay.

Ms. Gogliotti: Yes.

Member Beach: Perfect. Perfect.

Ms. Gogliotti: It will be everything, but I can't --

Chair Kotelchuck: We have a good 1-percent sample.

Member Beach: Good, good. Okay. Yes.

Chair Kotelchuck: By the way, you don't think we have 1 percent?

(Laughter.)

Ms. Gogliotti: I think we have --

Mr. Griffon: You're not going to let that one go, are you?

Chair Kotelchuck: Well, that was very important in our original report.

Mr. Griffon: Yes.

Ms. Gogliotti: Well, we took four years off, too, of reviewing cases.

Chair Kotelchuck: Right. Okay. We'll talk about that after the meeting because it's not actually related to this subject.

Mr. Hinnefeld: How many cases have been reviewed? How many have been reviewed?

Ms. Gogliotti: Five hundred and thirty.

Mr. Hinnefeld: Well, 50,000 would be 500.

Chair Kotelchuck: Yes, that's 1 percent.

Mr. Hinnefeld: That's 1 percent.

Chair Kotelchuck: Okay.

Mr. Hinnefeld: All right?

Chair Kotelchuck: Yes. That was for the first Secretary's report. Actually, the first Secretary's report was made in 2010 or '09, and the goal was 2 percent. And when I did the last report -- I wrote the last report for us, and we approved it -- it was we did 1 percent. We agreed, the Board agreed that 1 percent was good and adequate because we're doing more complex cases.

But, anyway, this was a side issue. Let's go back. I'm sorry, Mark.

Mr. Griffon: That's okay. That's okay, yes. No, it's fine.

So, I mean, what I'm trying to get a handle on is I think in SC&A, in the matrix of cases you've reviewed, I think you'll be able to pull out even cases --

(Off-the-record comments from the phone line.)

I would just say like, for instance, in the second bullet, we're talking about the --

(Off-the-record comments from the phone line.)

So, like in the second bullet, my point being, when you go through these matrix of cases, I think you can pull out just more than professional judgment. Like if you see 50th, 95th percentile, we'll know what issue it is.

Member Beach: Right.

Mr. Griffon: It's a coworker model issue, blah, blah, blah.

Chair Kotelchuck: Yes.

Mr. Griffon: So, right, right. So, if you can, I think it would be worthwhile if you can outline those, like not just it's a professional judgment, but it's a neutron/worker location issue. It's a -- you know, some of them might be a little harder like the assumed energy distribution, but usually that is dependent on where they assign the worker, you know, where they put the worker, because different assumptions are made if you're working in different areas. Anyway, you got the idea, yes. Yes.

Now, for actual case selection, I mean, I don't know; that's something that the Subcommittee will have to think about. If you're going to do a focused review, do you want to just do it from whatever cases you previously reviewed? Does that make sense? I haven't really grappled with that idea.

Chair Kotelchuck: I think we do what we can do for the 1-percent sample, which was a good sample, right? It's a pretty representative sample of 40 to 52 percent, yes.

Mr. Griffon: Okay.

Chair Kotelchuck: Yes. Best estimate cases. But the best estimate is important because these are where the judgments --

Mr. Griffon: Right.

Chair Kotelchuck: -- come in most acutely.

And I believe that, once we get that report, as Grady said, once we get that report, we'll be able to see whether there is reason to go beyond it and to try to go back to some selection of files. But we'll see.

Mr. Griffon: Okay. Yes, yes.

Chair Kotelchuck: We'll see, but I'm certain that we will not be able to -- we will not collect in that sample all of the many judgments that you're talking about here. I'm confident. There will be a lot of things that we may have discussed that didn't get into the matrix.

Ms. Gogliotti: And if the word "judgment" isn't there, it might not get --

Mr. Griffon: It might not jump out, right. Right. Yes.

Ms. Behling: But we can also scan for types of findings.

Chair Kotelchuck: Yes.

Mr. Griffon: Yes.

Ms. Behling: The other thing I will make mention of, I do have the data for the first 100 cases. However, let's remember, those were a lot of the efficiency cases, the overestimation.

Chair Kotelchuck: That's right. That's right.

Ms. Behling: So, I'm not sure how much we'll benefit from those.

Mr. Griffon: Right.

Ms. Gogliotti: And that was very early in the program and things have changed quite a bit since then.

Ms. Behling: Right. Yes.

Mr. Katz: Well, I think you have decide whether you want this to just focus on best estimate or not.

Ms. Behling: Yes.

Mr. Katz: Because if you don't, then those are

perfectly relevant.

Chair Kotelchuck: Yes.

Mr. Katz: So, that's a decision you have to make.

Ms. Behling: Yes.

Chair Kotelchuck: I think the answer is to go over all of them, but to keep separate in two piles the first hundred and the other 232.

Mr. Katz: Well, no, that's not the distinction. The distinction is whether you're going for best estimates versus efficiency cases or not, not when they were done.

Chair Kotelchuck: Yes.

Mr. Katz: Because that's the real difference.

Chair Kotelchuck: Yes. Right. And the first, I have it in my report. I may even have it in my computer. The profile of cases was just so different, and the first I think was less -- well below 5 percent. And then, the second set, the latter 232 that I reported in the last report, we had 8 percent.

Mr. Griffon: Eight percent that were efficiency cases.

Chair Kotelchuck: And then, an average -- yes.

Mr. Griffon: Yes.

Chair Kotelchuck: So, it would average 6 or 6.5 or something.

Ms. Gogliotti: Well, and I think the first five sets, I don't know that the documentation even exists to that, unless Kathy knows more than I do.

Ms. Behling: I do. I have quite a bit of

documentation. I just don't know if that's something --

Member Beach: The question is whether we're doing best estimates or efficiency and --

Ms. Behling: Correct.

Mr. Katz: Or both.

Member Beach: Or both.

Mr. Katz: Yes, that's the question.

Member Beach: And I'm sure what is --

Chair Kotelchuck: I think we can straightforwardly do that, and that is, for the first set and the later set, that we separate -- we do those, and then, we separate them in cells into what are the best-estimate ones and what are the non-best-estimate ones.

Mr. Griffon: Yes, you can sort them out. Yes, you can sort them out.

Mr. Katz: So, you're saying do them all? Okay. That was my question.

Chair Kotelchuck: Do them all and keep them in separate trenches. Yes. Right.

Mr. Katz: Okay.

Chair Kotelchuck: We'll learn a lot. We'll learn a lot from those.

Mr. Katz: Well, here's my second question, because maybe this is clear to Rose and Kathy, but it's not clear to me for this assignment. So, they're basically flagging cases that have this, where there's a professional judgment. So, you're going to get back

from them just these piles, basically, of cases, but what is the analysis you're asking for from them?

Mr. Griffon: Not piles of cases. You're filing --

Mr. Katz: Well, you're having cases organized by whether they used --

Mr. Griffon: What I would say is you're finding out how many, for instance, how many neutron worker location cases there were.

Mr. Katz: Right.

Mr. Griffon: And if there were a dozen of them --

Mr. Katz: But you just want to know the number there were, not --

Mr. Griffon: I think the number, yes.

Chair Kotelchuck: The number out of the number of cases.

Ms. Gogliotti: We'll put together a summary and also have the data to support the summary.

Chair Kotelchuck: Yes. Right.

Mr. Katz: No, I'm just trying to understand what you would do with that itself.

Chair Kotelchuck: Yes.

Mr. Griffon: I mean, ultimately, I would say you need to do the targeted review, right? But, if there's only --

Chair Kotelchuck: What it will tell us --

Mr. Griffon: Yes.

Chair Kotelchuck: Yes. What it will tell us is, first,

which ones come up and that we've done. It will also tell us which ones of Mark's we can't pick up, we don't pick up. That may be because we don't pick it up or because it isn't a problem.

Mr. Griffon: Right. And it might inform on prioritizing, too.

Chair Kotelchuck: Yes.

Mr. Griffon: If you're getting a lot of certain types --

Chair Kotelchuck: Yes.

Mr. Griffon: -- I would do those first, especially where resources --

Chair Kotelchuck: Each thing -- we'll ask Grady; we'll ask SC&A -- will allow us to think sensibly about how to go forward, if we need to go forward further, and what we should go -- and set priorities.

Ms. Gogliotti: So, this is very exploratory?

Chair Kotelchuck: It's exploratory.

Mr. Katz: Okay. So, you just want to know the number of cases that you could look at, if you want to, as the next step? Because like knowing --

Chair Kotelchuck: That's right.

Mr. Katz: Okay.

Mr. Griffon: Yes.

Mr. Katz: That's what I'm trying to understand, what the assignment is for.

Mr. Griffon: I mean, the hard part, what I was grappling with, too, is, if you wanted to select new cases for professional judgment in these areas, how

exactly would you select these cases without actually getting into the case so far that you're almost doing a review? You know --

Chair Kotelchuck: Yes.

Mr. Griffon: Would it be easy to find them from NIOSH's, from ORAU's standpoint? Could we say, "Find the case where it involves this professional judgment."?

Chair Kotelchuck: And that --

Mr. Griffon: And I'm not sure about that.

Chair Kotelchuck: That would get into priority issues that Stu, who happens to be out of the room at this moment, that Stu would really weigh-in on, and Grady, in terms of --

Mr. Griffon: Right, right, right. Yes.

Chair Kotelchuck: -- the workload.

Mr. Griffon: Yes, yes.

Chair Kotelchuck: Because we may look at things and decide that it's not a priority because it doesn't come up often enough or it's just too much to do.

Mr. Griffon: Yes. Yes. Because the other thing you'll get into, I think, I mean, if we say, well, let's drill down into some of the older cases for these and see why we've had these inconsistencies, I think you're going to deal with cases where you had Savannah River dose reconstruction guidance No. 1 versus No. 16.

(Laughter.)

Chair Kotelchuck: Right.

Mr. Griffon: And you're going to say, oh, it's so different.

Mr. Calhoun: And oftentimes, what has happened is that we go through the individual dose reconstruction and we come up with, okay, a professional judgment was done here. Why was it done here? Well, it's not clear. Okay, we'll fix it.

Mr. Griffon: Yes.

Mr. Calhoun: And so, what's happened is our procedures have evolved to try to minimize that.

Mr. Griffon: That's right. Clearly, yes, yes.

Mr. Calhoun: And Scott will come back and say, "Okay, we fixed that. We fixed this tool, so that it will only do this." Or "We fixed this document so it only does that."

Mr. Griffon: Yes. So, my point is that I don't think going back too far is going to be very useful because you're evolving --

Mr. Calhoun: Probably, if you want to look at that kind of stuff, I mean, I guess you could look at some of the stuff in the pay estimate. I mean, I would recommend that we just, as we're going through them, start flagging them rather than --

Mr. Griffon: Yes, yes.

Mr. Calhoun: -- trying to pick new ones.

Mr. Griffon: Right.

Ms. Behling: I'm sorry. We are getting ready --

Member Richardson: So, for the recent records, how many best estimates are there to review?

Chair Kotelchuck: We're working in a percent of the overalls from the beginning, including the first hundred. I think it's 6 to 7 percent. And we have 50,000 cases, roughly?

Mr. Calhoun: Yes, yes, yes. We haven't quite hit 60,000 claims, yes.

Chair Kotelchuck: Fifty thousand claims. Okay.

Mr. Calhoun: We've got over 61,000 dose reconstructions.

Member Richardson: Yes, but they're all in this past; they're all in the stack, but the recent ones?

Ms. Gogliotti: No.

Mr. Calhoun: Just the ones that you're looking at, that the Dose Reconstruction Subcommittee is looking at. And some of those are outside of it because we can't find as many as they want to look at.

Ms. Gogliotti: It's really quite a few.

Member Richardson: Yes, that's what I was asking: how big is that stack going to be?

Chair Kotelchuck: Oh, you're talking about, yes, cases as opposed to review, yes.

Member Beach: Are we talking ourselves out of doing that first 100?

Chair Kotelchuck: No.

Member Beach: We're still going to do them? Because that's so far in the --

Chair Kotelchuck: That's hard. That's hard, and we've done it.

Ms. Behling: It will tell us something anyway.

Chair Kotelchuck: It will tell us something, and we may decide -- I mean, where it takes us we don't know because we have to have the reports to have some hard evidence to base priorities.

Member Beach: Sure.

Mr. Katz: So, it sounds like it would be helpful, also, when you do that analysis, then to break it out by when the dose reconstructions were done, certain periods.

Ms. Behling: Yes.

Mr. Katz: Because if you go back to the very old ones, you're wasting your time really.

Ms. Behling: Right. And also, what kind of a dose reconstruction was it, underestimate, overestimate?

Chair Kotelchuck: So, let me ask you, then, let's take not the first -- the next 232. I think of them because in writing I thought of them as separate categories. Some of those that we did in the 232 were really old.

Mr. Katz: Right.

Chair Kotelchuck: And they were done, by the way, before I was even on the Board.

Mr. Katz: Right.

Chair Kotelchuck: So, does that mean that they should be keeping an eye on the date that the review was done?

Ms. Gogliotti: We definitely track that in our reports.

Chair Kotelchuck: Yes. But the question is, as you assemble your data, do you want to put that as a

column?

Ms. Gogliotti: I'll definitely have that as a column.

Ms. Behling: Yes.

Chair Kotelchuck: Okay, fine. That's good.

Mr. Calhoun: And it's probably even more important to see when the DR was done.

Mr. Griffon: When the DR was done, right, right.

Mr. Calhoun: Because, then, we can compare that back to when --

Chair Kotelchuck: That's right. Yes, the case.

Mr. Calhoun: -- any changes were made. But both of them couldn't hurt, you know.

Mr. Griffon: Right, right.

Mr. Calhoun: Because the review may have triggered us to make a change.

Mr. Griffon: A change, that's right.

Chair Kotelchuck: Right. So, we're engaged in modest efforts to gather information from what we've already done, and therefore, limited additional tasks. But, then, they will allow us -- while you were out of the room, Stu -- I mean, they will allow us to make decisions about priorities, about things to do in the future or things to look at.

Member Beach: Kathy's been waiting.

Chair Kotelchuck: Oh, I'm sorry.

Ms. Behling: Just one question because SC&A is in the process of doing a next set of blind reviews, and the comparisons are just getting started. Should we

be adding something to the comparison reports about areas of professional judgment? Is that something that --

Member Beach: I was going to ask that same question. I think so. Why not? Why not?

Ms. Gogliotti: All right, but we haven't started them yet. I mean, you haven't seen a memo.

(Laughter.)

Chair Kotelchuck: Right.

Member Beach: Why not if you're already --

Chair Kotelchuck: Yes. No, I think that if we are looking at them --

Mr. Calhoun: I think that's probably the best way --

Chair Kotelchuck: Yes.

Mr. Calhoun: -- because, then, we have specifics, and it's not that it's already planned, you know, and if it's not increasing resources at all --

Chair Kotelchuck: Exactly, exactly. Okay.

Mr. Griffon: I was actually going to build on what Grady said, which was -- and maybe this was what John was getting at before, which I didn't agree with when he first said it, but I'm coming back to it now, John, if you're still on there.

(Laughter.)

Yes, the idea of, in the cases you review going forward, not only the blind reviews, but I don't know if you have another set of cases, blind. Has another set of cases been planned or not?

Mr. Katz: The blinds are ongoing.

Mr. Griffon: The blinds, but what about --

Mr. Katz: They're in the middle of the one-on-ones with Board Members on the last set.

Mr. Griffon: Okay. Oh, okay. Okay.

Mr. Katz: Yes.

Mr. Griffon: So, anyway, with those cases, maybe the emphasis on the review can change to look at these issues of judgment. And when I say that, not just flagging that a judgment was made, but getting into the specifics of the best guidance we had to make this judgment included this DR guidance. You know, you clip out the section of the DR guidance that addresses that. And therefore, we made this conclusion. And then, when you review it with NIOSH, if they made a different conclusion, then you can see why didn't we come to the same place, or whatever, you know.

Ms. Behling: Perhaps we could add a section to our dose reconstruction review procedure --

Mr. Griffon: Right.

Ms. Behling: -- to add a section exactly on that topic, professional judgment decisions --

Mr. Griffon: Yes.

Ms. Behling: -- and then, how they were --

Ms. Gogliotti: Are you talking about in the blinds or in the --

Ms. Behling: No, in the dose reconstruction.

Mr. Griffon: No, in any of the cases.

Chair Kotelchuck: What that would be was a request for the Subcommittee, the DRR Subcommittee to begin to look at those moving forward.

Ms. Gogliotti: Correct.

Chair Kotelchuck: And I would say it happens that we've stopped the regular cases. You folks are doing the blinds now, and we're still taking care of what we had done in the past. We'll have the reports by the time our Subcommittee meets again I think.

Mr. Griffon: Yes.

Mr. Calhoun: I know what you're getting at, Rose, because you can't do it on the blinds. You can only document --

Mr. Griffon: Yes, yes.

Mr. Calhoun: -- SC&A's professional judgment.

Ms. Gogliotti: Uh-hum, yes.

Mr. Calhoun: You won't be able to do professional judgment unless it's ones that have already been completed. So, I think that's what you were thinking, isn't it?

Ms. Gogliotti: Yes. And some of my initial blinds are just getting completed.

Mr. Calhoun: Right. Because you don't know what we did.

Mr. Griffon: Yes, yes, yes. Right.

Mr. Katz: They will know additions as they do the comparisons.

Ms. Behling: As we do the comparisons.

Mr. Griffon: Right.

Chair Kotelchuck: That's right.

Mr. Katz: So, they still can address it with those.

Ms. Behling: Oh, absolutely, yes.

Mr. Griffon: You can talk about it and, then, address it later in the review process, right?

Ms. Behling: Right, in the comparison.

Mr. Griffon: Yes, in the comparison.

Member Beach: And then, for me, the question is the recommendation. Doing that, can we answer the question on determining if the consistency was there or not? Because the recommendation is the assessments should be performed in the areas identified where professional judgments were made by individuals, reconstruction staff, to determine consistency of judgment.

And then, he just gave us the how we could accomplish that. So, I don't want to lose focus of, are you able to make that determination? I know you can pull out there was a judgment made there, but can we answer that question? Is that possible or not?

Ms. Gogliotti: We can't necessarily answer the consistency because --

Member Beach: Okay.

Ms. Gogliotti: -- it's not comparing to NIOSH to NIOSH; it's comparing NIOSH to SC&A.

Member Beach: Uh-hum. So, that would come later maybe?

Chair Kotelchuck: That's right.

Mr. Calhoun: One thing, just thinking off the top of my head, you could look back and see, well, was there some document there that helped to drive that professional decision?

Mr. Griffon: Right.

Member Beach: Yes, I want to just keep in focus why we're doing that work, so we can answer that question.

Chair Kotelchuck: Right.

Mr. Calhoun: But, again, unless we find out that the reviewers believed that the professional decision that was made was wrong, how could we go back --

Member Beach: How would they know that it was wrong unless they knew why it was made?

Mr. Calhoun: Well, everybody's got an opinion. Everybody's got an opinion.

Member Beach: But you would have to know why it was made to determine if it was right or wrong.

Mr. Calhoun: Right. And that's very often either documented in the dose reconstruction report or we've gone through significant discussions about them in our fast reviews, case-specific reviews actually.

Mr. Griffon: And the other way I think you could get an inconsistency is in the batch of cases you have, you're going to now, going forward, be looking at, you know, if you decide to implement this, you would be looking at these issues for all the cases. And out of every batch, you always have a half a dozen Savannah River, a half a dozen Hanford. You know, they're the big sites. They come up, right?

Chair Kotelchuck: Right.

Mr. Griffon: So, then, you might have multiple cases that you can look at for a certain --

Member Beach: Or half a dozen neutron or half a dozen --

Mr. Griffon: Right, right.

Member Beach: Yes.

Mr. Griffon: Right.

Mr. Calhoun: That's true.

Member Beach: So, it needs to be pinpointed a little --

Mr. Griffon: Yes.

Member Beach: -- or defined.

Mr. Griffon: So if you're keeping track of that along the way, then you'll be able to make -- then you can do the drilldown later.

Chair Kotelchuck: Do I understand you're suggesting that after we look at the matrix or after we look at the comparison, we look at the blinds, we can go back to the 32 cases and look at their files or look at the decisions that were made?

Mr. Griffon: I'm not sure what the 32 is.

Chair Kotelchuck: They're the blinds.

Ms. Gogliotti: We're not going to --

Mr. Griffon: Oh, no. No, no, no. I meant the regular --

Chair Kotelchuck: Okay.

Mr. Griffon: Yes.

Chair Kotelchuck: Okay.

Mr. Griffon: Yes, this was just talking about going forward.

Chair Kotelchuck: Okay. Good.

Mr. Griffon: I mean, maybe when some of this starts, I think you'll be able to clarify it, too, you know. But the vision I would have is that several of these judgments are going to come up in several of the cases you review in your first batch, and then you're going to say, well, we got four instances where we had a judgment on the energy distribution at Hanford. And then, even to go a step further, you might have six or seven cases that involve professional judgment on internal dose, and it might be Savannah River, but it might be other sites.

And you might be able to do the cross-comparison that we were talking about.

Ms. Behling: Yes.

Mr. Griffon: But that's -- start small, yes, you know, start with the --

Ms. Behling: In fact, because it is a small subset, I don't think it would be unreasonable to go back to the 32 blinds that we've done.

Mr. Griffon: Yes.

Ms. Behling: And there again, you do have a comparison of what NIOSH did and what SC&A's decision was.

Mr. Griffon: Yes.

Ms. Behling: And so, it's not a problem to go back to

the 32.

Mr. Griffon: Okay.

Chair Kotelchuck: Yes, that's my thought, but we'll see.

Mr. Griffon: And they're all fairly recent, too, right? They're all fairly --

Ms. Gogliotti: No.

Mr. Griffon: No? Some of them are older?

Ms. Gogliotti: Some of them are pretty old.

Mr. Griffon: Okay.

Ms. Gogliotti: But I have the records of them.

Mr. Griffon: Yes.

Member Beach: And then, moving forward with this, if there are questions that arise -- and this is for you, Ted -- can memos be sent out or questions or technical calls? Or how would we address questions, if you guys have questions?

Mr. Katz: Well, just like we always do. We just send an email.

(Laughter.)

Member Beach: Send an email? Okay.

Chair Kotelchuck: But answer -- after we get -- it's clear to me that after we get both reports, both sets of reports, that we'll need to have a conference call, have another meeting.

Member Beach: Yes. I just thought, in the interim, if there were questions about process or if something -- because something's going to crop up. I mean,

there's been a bunch of stuff pop up just in this discussion.

Chair Kotelchuck: Oh, sure. Sure.

Member Beach: We should be able to --

Ms. Gogliotti: Okay. Well, if we're doing a working matrix and the BRS, I would suggest that I send out the working matrix to everyone here. You can comment on it, make changes to it, whatever you would like. And then we can finalize that. And then, with that completed, then I'll move it into the BRS.

Member Beach: Sure.

Ms. Gogliotti: Does that sound reasonable?

Member Beach: That makes sense.

Chair Kotelchuck: Wonderful. Wonderful. Yes. Well, this is good.

Mr. Griffon: Can I be in on that distribution, Stu?

Mr. Hinnefeld: Yes.

Mr. Griffon: Okay. I didn't know.

Chair Kotelchuck: Surely. And by the way, I realized, before David came online, I had mentioned that two of us in the room were on the Dose Reconstruction Subcommittee, but David is also on the Subcommittee. So there are three of us. Because we're going to have to bring that back to the Subcommittee --

Mr. Griffon: Right.

Chair Kotelchuck: -- which has only one or two more people.

Member Beach: You certainly are going to have to do that.

(Laughter.)

Chair Kotelchuck: I'm going to ask for help. Okay.

Let me ask where --

Member Beach: Have we got done with one yet?

Mr. Griffon: You've got a plan.

Chair Kotelchuck: Right. We have a plan. I think this is useful in moving us ahead and allowing us to think about priorities. And there's no point in setting a date for a meeting. To my mind, is there something else that we need to talk about today right here?

Member Beach: We need to go through all the recommendations, don't we?

Mr. Calhoun: There's a lot of them.

Chair Kotelchuck: Yes. Okay.

Member Beach: There's Recommendation No. 2 on page 13.

Chair Kotelchuck: He was going into six, right? Okay. All right.

Member Beach: That's what I thought we were going to do.

Mr. Griffon: Yes, yes.

Chair Kotelchuck: Well, the question is whether --

Member Beach: This one is program.

Mr. Griffon: Yes.

Chair Kotelchuck: In my mind, the question is there are three agencies which ORAU, NIOSH, and the Board, three groups that have the same set of questions are asked, the blind reviews and the focused reviews. We've taken -- we've looked at six, five and six, right? Is there -- I guess -- okay. I'm not sure what the first four --

Mr. Griffon: Yes, I think the ORAU option, I think Stu pointed out the problems with that, with doing that.

Mr. Hinnefeld: It would be very difficult for ORAU to do blinds.

Mr. Griffon: Yes, yes, yes. And then the NIOSH reviews, I think this capacity right now is going to be problematic.

Chair Kotelchuck: That's right. That's right.

Mr. Griffon: So I think we targeted No. 6 because of that.

Chair Kotelchuck: And also, organizationally, these are going to be Board decisions. That is, they need to be --

Mr. Griffon: Yes, yes.

Chair Kotelchuck: Changes need to be approved by the Board, go to the Board and be approved. And our function is to make recommendations to the Board, make decisions, and then go to the Board with them.

Mr. Griffon: Dave, I will point out --

Chair Kotelchuck: Sure.

Mr. Griffon: -- I'm on page 11 of the report again.

Chair Kotelchuck: Good.

Mr. Griffon: Recommendation 1.7, I guess, the seventh item under Recommendation 1. That may be something that NIOSH wants to consider.

Chair Kotelchuck: Yes.

Mr. Katz: Can you read that?

Mr. Griffon: Yes. It says -- refine current peer review conducted by NIOSH to assure a greater percentage of best-estimate cases undergo a comprehensive review.

And I think, Grady or Stu, if I'm wrong on this, you can tell me, but the current procedure, I think they do a 5-percent random sample. Now this might be generated in NOCTS, too. So there might be some problems on how to do this --

Mr. Calhoun: This was our blinds.

Mr. Griffon: Yes. Oh, this was your blinds?

Mr. Hinnefeld: I thought this was where they got -- the reviewer had to put out the --

Mr. Griffon: I thought this was peer reviews. Yes, this is peer reviews, yes.

Mr. Calhoun: Oh, yes, yes, yes.

Mr. Griffon: This is peer reviews, yes.

Mr. Calhoun: Yes. That's the automatic one that pops up.

Mr. Griffon: Right. And I was saying it might be worthwhile to bias that toward best-estimate cases, if possible. That's the only recommendation there. So, I don't know if that --

Mr. Hinnefeld: Okay. We can look into it.

Mr. Griffon: Yes.

Member Beach: Well, with that same question in mind, the consistency, right?

Mr. Hinnefeld: Well, I mean, those are the ones you really want to focus --

Member Beach: Sure.

Mr. Hinnefeld: -- additional review on. And so rather than randomly select 5 percent --once you try to select ones between --

Mr. Griffon: Right. Since the professional judgments, since those judgments tend to affect 45 to 52 percentile cases most, you know, the logic would be that you're getting another set of eyes to look at that. Just like Grady said, at the ORAU level, you have two signoffs on that.

Chair Kotelchuck: I'm not quite understanding that, what we're -- because NIOSH is already doing additional work on the best estimates, right? You said you have two people --

Mr. Calhoun: ORAU does.

Mr. Hinnefeld: ORAU does.

Chair Kotelchuck: ORAU does?

Mr. Griffon: ORAU does. That's what I'm saying, this would add another set of eyes.

Mr. Calhoun: And then, the one thing that you don't see that we're talking about is that this is an automated system. And so when our HPs go in and approve, actually put their signature on it and approve the dose reconstruction --

Mr. Griffon: When you say our HPs, it's NIOSH.

Mr. Calhoun: NIOSH.

Mr. Griffon: Right.

Mr. Calhoun: NIOSH. What happens is there's a program that runs behind the scenes, and then 5 percent of those claims, all of a sudden, you get this screen that pops up, and it asks, I don't know, 10 or 12 different questions.

Mr. Hinnefeld: There's a checklist of items that you have to verify that these things were checked on this dose reconstruction. You know, go through this --

Mr. Griffon: Another level of peer review, right?

Mr. Hinnefeld: So, it's more than -- other than having that checklist pop up, the DR reviewers can just read it and, from his memory, this sounds right to me, essentially. That's how they can do that with questioning.

Chair Kotelchuck: Okay, okay.

Mr. Hinnefeld: But, in 5 percent of the cases, a checklist pops up.

Mr. Griffon: And then, they've got to do a little more, yes.

Mr. Hinnefeld: And you've got to say external dose was done, such and -- I forget exactly what they say. It's been a long time since I've seen it.

Mr. Griffon: Yes, yes.

Mr. Hinnefeld: It's been more than 10 years.

Mr. Calhoun: There's a bunch of them. They go down even to like, were the margins right, was the external right, was the internal right.

Mr. Hinnefeld: Yes. And so what the suggestion is, rather than have a random 5 percent pop up, have that checklist pop up when they're best-estimate cases or in that --

Mr. Griffon: Or at least bias it towards best-estimate cases.

Mr. Hinnefeld: Bias it toward that. Mr. Griffon: Right.

Mr. Hinnefeld: And so the question we'll have to ask our TST people, the people who fix our computer applications --

Mr. Griffon: Is can they do that, yes.

Mr. Hinnefeld: -- is the PoC from the draft ER loaded in NOCTS, so that we are going to be able to make that selection? I don't when -- because the PoC does end up there, but I don't know when it gets loaded.

Mr. Calhoun: I think it gets loaded after you approve it and it goes to tech review.

Mr. Hinnefeld: Yes, so in which case it wouldn't be able to do that.

Mr. Griffon: All right.

Mr. Calhoun: But there's other things we can look at, too.

Mr. Hinnefeld: We might be able to do something else.

Mr. Calhoun: Yes.

Mr. Griffon: Okay.

Chair Kotelchuck: Okay. That's very good.

Mr. Griffon: Yes. Well, great. So, we got through one.

Member Beach: Well, and we dropped off page 11, and some of your bullets went over to page 11, that last one.

Mr. Griffon: Yes, yes, yes, yes.

Member Beach: Is that something, judgments regarding calculating dose associated with incidents/events note in claimant interview or DOE record.

Mr. Griffon: Right.

Member Beach: Are those available to you? It's on page 11 in the file where those --

Chair Kotelchuck: Matrices include discussions about whether or not there was an incident here. Many times there are incidents, they're just -- we talk about them.

Mr. Griffon: Yes.

Chair Kotelchuck: But they're not special notice.

Ms. Gogliotti: We don't track that.

Chair Kotelchuck: Yes.

Ms. Behling: Not if it's not a finding.

Ms. Gogliotti: Yes.

Chair Kotelchuck: Yes.

Ms. Gogliotti: If it was a finding because we thought it should have been mentioned or something, then --

Mr. Griffon: I think you probably stopped tracking as

many of those because, early on, we had that as a finding a lot.

Ms. Gogliotti: Yes.

Mr. Griffon: And then, NIOSH, as Grady said, yes, fixed it, put it in the DR report, and addressed it upfront in the DR report.

Mr. Calhoun: Yes.

Mr. Griffon: So that made that sort of go away.

Chair Kotelchuck: Yes.

Mr. Griffon: But the underlying thing is there's still a judgment. If you see incidents in the CATI, the dose reconstructor has to somehow --

Chair Kotelchuck: Address it.

Mr. Griffon: -- address it.

Chair Kotelchuck: You address it.

Mr. Griffon: And if it's like an internal exposure incident, a lot of times there's so little information about it, as Scott has mentioned before and in reports, that it's hard to, you know -- but if you have a full set of bioassay records going until the time they left the plant, you know, they can demonstrate that it was bounding oftentimes.

Chair Kotelchuck: Right.

Mr. Griffon: So that's how they'll address it, right? Right.

Chair Kotelchuck: Right.

Mr. Griffon: But, again, they can look at --

Chair Kotelchuck: I don't think that will be picked up.

Mr. Hinnefeld: That's going to be hard to find.

Chair Kotelchuck: Yes, it is going to be hard.

Mr. Hinnefeld: Other than, very typically, people will say that --

Mr. Griffon: Earlier on, they probably came out a lot, yes, yes.

Mr. Hinnefeld: -- well, since I worked at Fernald, at Fernald they always had these furnace blowouts.

Mr. Griffon: Right.

Mr. Hinnefeld: And a lot of them were --

(Simultaneous speaking.)

Chair Kotelchuck: That's right, CATI reports.

Mr. Hinnefeld: And they say that in the CATI. You know, a siren would go off and we would evacuate. They had airborne. Well, those people are on a bioassay.

Mr. Griffon: Well, yes, right.

Mr. Hinnefeld: So, okay, yes, we know what your intakes were because you're on a bioassay program. So despite the fact that they were evacuated out because of furnace blowouts or mag flashes, they were monitored. So they are included in the monitoring records.

Mr. Calhoun: I'm pretty sure that's one of the questions that pops up on that screen, too, were incidents --

Mr. Griffon: Addressed.

Mr. Calhoun: -- addressed?

Mr. Griffon: And they mean was it addressed in the report, yes.

Mr. Hinnefeld: So, the specific question, in time, you may say, well, this incident would not have affected the exposure beyond what -- or it would have been captured by monitoring or it wouldn't have been --

Mr. Griffon: Right.

Mr. Hinnefeld: -- affected the outcome because of the thing with favorable aspects.

Mr. Griffon: Right.

Mr. Hinnefeld: That might be written in there sometimes.

Mr. Griffon: Yes, yes.

Mr. Hinnefeld: And those are going to be hard to find. Those are going to be hard to find.

Chair Kotelchuck: Right. But we do address incidents where people don't have badges, a lot of them. And as a Subcommittee Member, it is troubling. I mean, when we're reviewing, being satisfied that we're doing the best we can, but whether that's really adequate, but that's --

(Laughter.)

(Simultaneous speaking.)

Mr. Griffon: This one may also overlap with sort of one of those global issues that I talked about, which is that --

Chair Kotelchuck: Yeah.

Mr. Griffon: I mean, early on in the program, many were here, Kathy, I know Hans, and we had some

good dialog about this issue. But it was this question of like a series of acutes versus one long chronic, and if you had a sample at the end of their work period, could it really bound these acutes? And I remember Jim Neton and some lively debates about this. But I think we all came to the conclusion that a lot of these -- and I shouldn't, but I think the cases, then, we were talking about uranium. So, it might be different for different types of exposures.

But that sort of became a global issue that we sort of put aside. We all accepted because NIOSH demonstrated that, in fact, these were bounded by the chronic. So it might fall under that, too.

Chair Kotelchuck: Yes.

Mr. Griffon: But I know that some people, some claimants were frustrated because they say, how could they -- they didn't have any records of that incident that I was involved in; they didn't even give us a urine sample afterwards, and blah, blah, blah, blah, you know. We know, but you're communicating with the outside as well.

Mr. Hinnefeld: Heard that at Rocky a lot.

Mr. Griffon: Yes.

Mr. Hinnefeld: -- at Rocky a lot.

Mr. Griffon: Right, right.

Mr. Hinnefeld: These really high air samples, they never even pulled a bioassay.

Mr. Griffon: Yes, yes.

Mr. Hinnefeld: But, I mean, all these people were on routine bioassays.

Mr. Griffon: Right, right.

Mr. Hinnefeld: And the dose reconstruction approach should have --

Mr. Griffon: Right.

Mr. Hinnefeld: -- been bounding for their exposure.

Mr. Griffon: Should have still caught that dose, right.

Mr. Hinnefeld: -- even grab one -- if there was an incident.

Chair Kotelchuck: Right.

Mr. Griffon: Yes, yes.

Chair Kotelchuck: There are many things, and we'll have to figure out priorities.

Mr. Griffon: Yes.

Chair Kotelchuck: Whether this should be high on the list to address or something that happens --

Mr. Griffon: Yes. No, I get it. I'm also thinking of what Stu said about that record long term for, you know --

Chair Kotelchuck: Yes.

Mr. Griffon: -- unambiguous sort of record of how things were approached.

Mr. Hinnefeld: I've said it periodically for a long time.

Mr. Griffon: Yes, yes.

(Simultaneous speaking.)

Mr. Hinnefeld: -- decision, there should be a clear, unambiguous record.

Mr. Griffon: Right.

Chair Kotelchuck: And one of the things I think that, when I indicate things are troubling sometime, it's that, as a newer Board Member -- I mean only five years now or six, but that's new.

Mr. Griffon: A newbie, yes.

Chair Kotelchuck: Yes. No, but there are things that have been decided that are within the OTIBs and that, you know, I -- and certainly Wanda would say, hey, we have talked about that for 15 years.

(Laughter.)

And therefore, I accept that those were discussed.

Mr. Griffon: Right.

Chair Kotelchuck: I was not part of that discussion. So, seeing the after-effects, sometimes I'll look at it and I'll say, gee, I really wonder if they looked at that, you know, that way.

Mr. Griffon: Yes.

Chair Kotelchuck: And also, as time goes on, of course, we lose older Members like Wanda, who was also an institutional memory, and others who have been onboard for a long time.

Mr. Griffon: Yes.

Chair Kotelchuck: And, of course, you were yourself as Chairperson of the Subcommittee.

Mr. Griffon: Yes, I was the one that had that DR Subcommittee moving very slowly.

(Laughter.)

Chair Kotelchuck: Well, that was fine. No, no, that was fine.

Mr. Griffon: I didn't have any efficiency measures.

Chair Kotelchuck: Right. We're --

Mr. Griffon: Yes, yes. No, I'm teasing.

So, should I go through the other -- all the others fall under the programmatic thing.

Chair Kotelchuck: Yes.

Mr. Griffon: I mean, I can go through them. We don't have to --

Member Beach: It's interesting, because on your slides you have them listed under Professional, but, then, when I look back here, they are under Programmatic.

Mr. Griffon: Well, yes, okay. I sort of considered them all professional judgment, but some are personal, some are programmatic, you know. That's the --

Chair Kotelchuck: You know, there's a part of me that thinks that we've bitten off some big chunks here today, and whether we should --

Mr. Griffon: Yes, maybe we just want to start --

(Simultaneous speaking.)

Chair Kotelchuck: -- whether we should because we're not going to be able to --

Mr. Griffon: I'm not saying to act on any of them. I'm saying maybe just --

Member Beach: For the record.

Mr. Griffon: -- for me to discuss them --

Member Beach: For the record.

Mr. Griffon: -- and clarify them, if people, you know -- or maybe some you can dismiss right away and say there's no need to do this, or whatever.

Chair Kotelchuck: No, no. The question is, though, I mean, if you read them, there should be an ability for people to respond. Otherwise, we've all read or we can read again.

Mr. Griffon: Yes.

Chair Kotelchuck: So I think there's no point in going over them, unless we have the time to talk about them. And I'm less worried about the time than keeping a grasp of everything.

(Simultaneous speaking.)

Mr. Griffon: No, I agree.

Mr. Hinnefeld: I would just say, in terms of programmatic assumptions -- and I haven't familiarized myself with --

Chair Kotelchuck: Yeah.

Mr. Hinnefeld: -- recently, so I'm not sure how this applies generally. But many of these programmatic assumptions are written into technical documents which are reviewed.

Mr. Griffon: Yes, yes.

Mr. Hinnefeld: And so I think that is a different question than an individual dose reconstructor having to exercise professional judgment because that is -- I realize I have to have them, but it's a nightmare because I have always said it is more important to be consistent than to be right.

Chair Kotelchuck: Yeah.

Mr. Hinnefeld: I mean, you can argue about, well, this dose reconstruction, we're giving it more -- I hear this from staff all day, these dose reconstructors should not be this high.

Chair Kotelchuck: Yes, yes.

Mr. Hinnefeld: But I don't care as long as everybody gets the same answer.

Chair Kotelchuck: Yes. Yes.

Dr. Mauro: Yes, Stu, this is John.

I want to second that. I could imagine us revisiting MDL over 2. That was a programmatic judgment. I mean, do we really want to go down that road?

(Laughter.)

Mr. Griffon: Right.

Mr. Hinnefeld: This stuff has been hashed out. It's been reviewed. It's in technical documents that get reviewed. And so, there may be some cases of things that say, oh, well, this one, maybe it's not -- you know, it was just accepted and never really -- and it's just been put in there and not really thought about and discussed. There may be some of those, but I think in most part these have been out there and considered enough that I feel like, programmatically, were very carefully reviewed.

I can walk out proudly with that. Hey, we were programmatic. And I'm also proud that that review occurred in public. It's out there on our website, and all these meetings were public. So that's something to really be happy about.

Mr. Griffon: Yes, yes.

Mr. Hinnefeld: But I think the focus, though, is more

on not what has the program decided, but what do we have to rely on individual people to decide. To me, that's the real vulnerability.

Chair Kotelchuck: Yes, and I agree. Because I don't know, although I visited ORAU and I've talked to the staff, at least we had conversations once when I was new to the Board, but I worry about variability among staff, and I don't know really their -- I depend upon the other staff to know that they are professionally up-to-speed and responsible, but that does not mean that they have similar judgments, just as all of us who were professionally trained have different judgments at times.

So, sorry, I -- go ahead.

Mr. Griffon: I mean, I agree with what you said, Stu. Actually, we don't have to go through them. It's whatever your agenda is. But my point is that most of these recommendations don't -- we're not -- I'm not asking or I'm not recommending that review be done. Rather, I think one big point for me is, because I tried to do this on my own and I tried to track down one of these -- I forget which TIB it was, but it dealt with uncertainty and this whole, you know -- and we've discussed it for 15 years on the Board, on Subcommittees, and I think some of these issues, like Jim did with the residual, might warrant a good summary document, so that all of us can point to it, and it's a legacy for the program.

Because you said it's all on the record, it's all out there. But who's going to dig through transcripts to piece together how they came to this conclusion? And I think for some of these global issues it's warranted to have one summary document to explain how, you know --

Chair Kotelchuck: You've said that finding --

Mr. Griffon: Yes.

Chair Kotelchuck: I'm going to interrupt you, I mean if I may.

But, to put it down, that takes work.

Mr. Griffon: I know. No, I know. I know.

Chair Kotelchuck: That takes a fair amount of work.

Mr. Griffon: Yes, and I'm not minimizing that.

Chair Kotelchuck: Right.

Dr. Mauro: Because Jim said that took a lot of work to do, yes.

Mr. Hinnefeld: Well, we have a consultant who might be able to do that.

(Laughter.)

Mr. Griffon: And there is one task on there that I am working on. So, yes. But, anyway, yes.

Chair Kotelchuck: Yes. All right.

But do other Subcommittee Members --

Mr. Griffon: I mean, I'm not prioritizing now, but I'm just saying that's an important thing for some of these.

Chair Kotelchuck: Well --

Member Beach: I agree, yes.

Mr. Hinnefeld: On the specific question about uncertainty, we say in a number of technical documents, for this measurement and this use, this uncertainty.

Mr. Griffon: Yes.

Mr. Hinnefeld: But there's no bible that says in these conditions.

Mr. Griffon: Right.

Mr. Hinnefeld: Like on TIB-70, there's a bible that says, if you have this data, you use it.

Mr. Griffon: Yes.

Mr. Hinnefeld: But there's no bible out there that says in these conditions, for this type of data, use this distribution.

Mr. Griffon: Yes, yes.

(Simultaneous speaking.)

Mr. Hinnefeld: -- that might be true.

Mr. Griffon: Yes.

Member Beach: So does that fall under Recommendation 7, Mark, where it says, tt is recommended that a tracking mechanism should be developed to the extent possible to consider findings, comments, from all reviews, peer reviews, NIOSH reviews, the Advisory Board, or --

Mr. Griffon: That's a little different.

Member Beach: That's a little different?

Mr. Griffon: That's a little different, yes.

Member Beach: Okay.

Mr. Griffon: And I'm not sure that --

Mr. Hinnefeld: I think you're talking about Recommendation 2.

Mr. Griffon: Yes, 2 is what I was talking about, yes.

Member Beach: Is it 2?

Mr. Griffon: The global issues, yes. It's on page 13 --

Member Beach: Okay. Yes.

Mr. Griffon: -- of the report.

Chair Kotelchuck: Page 13.

Mr. Griffon: Yes.

Chair Kotelchuck: And if you would just read that?

Mr. Griffon: Yes. Recommendation 2 says a summary document should be developed for several of the program assumptions, including, but not limited to, what NIOSH has defined as global issues. A document similar to that produced by NIOSH regarding the treatment of residual contamination seems appropriate.

Chair Kotelchuck: Yes.

Mr. Griffon: And I reference the Jim Neton report, the Advisory Board review of residual period. Jim Neton, and that was November 15th, 2016.

Chair Kotelchuck: Okay. Right.

Mr. Griffon: Yes.

Chair Kotelchuck: And I think the way I look at it is that our focus, as we start our personal judgments and what assessment we can make and consideration of change from procedures that we do, this is certainly an important task. It's different.

Mr. Griffon: Right.

Chair Kotelchuck: It's a rather different kind of task.

Mr. Griffon: Right.

Chair Kotelchuck: And that should come at some point to talk about.

Mr. Griffon: Yes, yes. And it may be not be a pressing -- I agree, you don't want to stop your case production for this, you know, right, right.

Chair Kotelchuck: But you are correct, I believe, in your report that, ultimately, the program recommendations, the programmatic recommendations are probably the more important one because they apply to all cases.

Mr. Griffon: Right. Or maybe a lot of cases anyway, yes.

Chair Kotelchuck: Right.

Mr. Griffon: Yes, yes.

Chair Kotelchuck: But I think we have to start out with what the personal judgment issues will pay off, if you will, that is, will result in changes quickly that should be addressed.

Mr. Griffon: Yes.

Chair Kotelchuck: And there's a certain urgency to that.

Member Beach: So these recommendations will all be on the matrix? Would it be too difficult for NIOSH to go through and look at these recommendations and maybe put a note in that, no, this isn't possible, we can't do it? Or we can certainly look at this and maybe at a future -- is there a way to kind of go --

Mr. Hinnefeld: I think we can put out a response.

Mr. Calhoun: Yes, I think that's the plan.

Mr. Hinnefeld: We'll provide a response. We'll provide a response.

Chair Kotelchuck: Good, good, good.

Member Beach: For each one of these? Okay.

Mr. Calhoun: Sure.

Chair Kotelchuck: That's great.

Mr. Calhoun: I think that's easier than, you know, a free form kind of --

Mr. Griffon: Yes, yes, yes.

Member Beach: And then figure out a path forward from there?

Mr. Griffon: Right, right, right.

Member Beach: There may be more work for Mark down the road.

Chair Kotelchuck: Are there other things that we should be discussing right now, either mundane or profound?

(Laughter.)

Mr. Katz: Those aren't mutually exclusive.

(Laughter.)

Chair Kotelchuck: All right. But I think it sounds to me as if we're pretty well finished for this. And I certainly leave the meeting feeling much better than when I came in this morning.

(Laughter.)

No, because, as I said right from the beginning, reading your report again and trying to really go over it more carefully, that I -- it just seemed overwhelming in terms of there's such a vast array of recommendations, almost all of which seem to have some merit in terms of, yes, it would be nice.

Mr. Griffon: Right.

Chair Kotelchuck: But, for lots of reasons, they may or may not be able to be dealt with.

Mr. Griffon: Right. Yes.

Chair Kotelchuck: So, we've started.

Ms. Behling: Can I just go back to --

Chair Kotelchuck: Sure.

Ms. Behling: -- the blind discussion for one second?

Chair Kotelchuck: Yes.

Ms. Behling: As I mentioned, we are in the process of starting blind comparisons. And it seemed as if you all are in agreement that there should be a section added to our blind comparison. Does that have to be approved by the full Board before we make --

Mr. Katz: I think it's a trivial amount of effort to pull out -- I mean, you already looked at the whole case --

(Simultaneous speaking.)

Mr. Katz: -- and addressed everything that needs to be addressed. This is not really new material.

Ms. Behling: It's highlighting.

Mr. Katz: This is an organizational issue.

Ms. Behling: Yes. I got it.

Mr. Katz: So I don't think that's a problem highlighting it, no.

Ms. Behling: Okay.

Mr. Katz: I think you go ahead and do that.

Ms. Behling: Okay. Thank you.

Chair Kotelchuck: Yes.

Mr. Katz: Thank you.

Chair Kotelchuck: Yes. But I appreciate your raising it because those are --

Mr. Katz: Yes.

Chair Kotelchuck: And it's always easy for any Working Group or Subcommittee to make sure that we go to the Board, that the Board decides, not the committee. We recommend.

Okay. Well, thank you, all, and we are finished.

Mr. Griffon: Tell Paul or is anyone on the line?

Chair Kotelchuck: Oh, yes.

Member Ziemer: Oh, yes, I'm back. I am on the line. I was off there for a second.

But I just wanted to say that my main interest in being aboard today was just to keep up-to-date on the conversation. I haven't been in a position the last few weeks to address the information in the reports themselves in any coherent way. And in fact, my doctor told me, don't get involved in making any important decisions.

(Laughter.)

Chair Kotelchuck: And don't drive a car.

(Laughter.)

Member Ziemer: So, I'm just listening today, and I'm not offering any motions or recommendations.

(Laughter.)

But thank you for helping me stay up-to-date.

Chair Kotelchuck: Right. Very good.

Mr. Griffon: Paul, feel better.

Chair Kotelchuck: And thank you for helping us both being in the hospital and participating. And, also, you are a very important part of the institutional memory of this Board. And so your -- as time goes on and your health permits, your contribution becomes more and more valuable.

Member Ziemer: Yes. Well, thank you.

And I would say that I'm quite in agreement with the plans going forward here that have been discussed today. So I'm good with that.

So thank you.

Chair Kotelchuck: Good.

Mr. Griffon: Feel better, Paul.

Chair Kotelchuck: Good.

Member Ziemer: Yes.

Chair Kotelchuck: Yes. Thanks.

Okay.

Member Beach: Is David Richardson there?

Chair Kotelchuck: David Richardson?

Member Richardson: I'm here.

Chair Kotelchuck: There we go, yes. I figured you were on mute.

Member Richardson: My doctor recommended that I make no large decisions either.

(Laughter.)

Adjourn

Chair Kotelchuck: All right. And do you have anything that you want to say or is there anything? We're getting ready to close up now.

Member Richardson: Yes, no. I'll just second Paul's comments. I agree with the direction that we're going, and it's very useful, and it's been a long time coming. So it was a great discussion.

Chair Kotelchuck: Very good. Thank you.

Member Beach: Good luck weathering out the storm, too, Dave.

Chair Kotelchuck: Yes, indeed.

Member Richardson: Well, thanks.

(Whereupon, at 11:32 a.m., the meeting was adjourned.)