UNITED STATES OF AMERICA

CENTERS FOR DISEASE CONTROL

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NATIONAL INSTITUTE FOR OCCUPATIONAL
SAFETY AND HEALTH

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ADVISORY BOARD ON RADIATION AND
WORKER HEALTH

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110th MEETING

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WEDNESDAY,
MARCH 23, 2016

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The meeting convened at 9:00 a.m., Eastern Time, in the Hilton, Tampa Airport Westshore, 2225 N. Lois Avenue, Tampa, Florida, James M. Melius, Chairman, presiding.

PRESENT:

JAMES M. MELIUS, Chairman
HENRY ANDERSON, Member
JOSIE BEACH, Member
BRADLEY P. CLAWSON, Member
R. WILLIAM FIELD, Member
DAVID KOTELCHUCK, Member
JAMES E. LOCKEY, Member
WANDA I. MUNN, Member
JOHN W. POSTON, SR., Member
DAVID B. RICHARDSON, Member
GENEVIEVE S. ROESSLER, Member
PHILLIP SCHOFIELD, Member*
LORETTA R. VALERIO, Member
PAUL L. ZIEMER, Member*
TED KATZ, Designated Federal Official

REGISTERED AND/OR PUBLIC COMMENT PARTICIPANTS:

ADAMS, NANCY, NIOSH Contractor
AL-NABULSI, ISAF, DOE
COATES, DONNA*
COLLEY, VINA*
CRAWFORD, FRANK, DOL
DARNELL, PETE, DCAS
FESTER, JOSH*
FITZGERALD, JOE, SC&A
FROWISS, AL*
GRIFFON, MARK, DCAS Contractor
HAND, DONNA
HINNEFELD, STU, DCAS
JEWETT, BILLY
KROLL, DONNA
LEWIS, GREG, DOE
NETON, JIM, DCAS
RUTHERFORD, LAVON, DCAS
SHEPPARD, ROBERT
STIVER, JOHN, SC&A
STRICKLAND, MARGARET
TALBOT, KATHY LUDWIG
TAULBEE, TIM, DCAS
VAUGHN, DAVID
VON SOY, LARRY
WOLZ, GERALD*
WORTHINGTON, PATRICIA, DOE
ZINK, BRIAN*

*PARTICIPATING VIA TELEPHONE

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

9:01 a.m.

WELCOME

CHAIRMAN MELIUS: Welcome to the 110th meeting of the Advisory Board on Radiation and Worker Health. And let me turn it over to Ted for the housekeeping introduction.

INTRODUCTION/HOUSEKEEPING

MR. KATZ: Right. Thank you. Preliminaries and then I'll get to roll call.

So, welcome, everyone in the room and on the line, to the Advisory Board meeting. For folks on the line, just a few preliminaries. One, all of the papers, all of the presentations, any background reading materials related to the presentations for today that are relevant are posted on the NIOSH website. So, you can go to the NIOSH website, to the EEOICPA section of that site, under DCAS -- or OCAS, I think it's still titled -- schedule of meetings, today's meeting.

If you bring up today's meeting, all those files are on the website and you can read those materials as we go through them, along with

the agenda for the meeting today. And on that agenda also is the information for Live Meeting. If you have the connection to Live Meeting, you can join by Live Meeting and that will allow you to see the presentations in realtime as they are given here in the room.

Phone etiquette for folks on the line: we ask that everybody on the line mute their phones when they are listening. And if you don't have a mute button, press *6. That will mute your phone. Press *6 again to unmute your phone. But press *6, mute your phone for the meeting, unless you are addressing the group, and that will improve the audio quality for yourselves as well as our ability to hear people on the line here in the room.

And at no point, please, put your phone on hold, because that will be a problem for everyone else on the line and in the room. So hang up and dial back in if you need to leave for a piece.

We have a public comment session. I'll notice it again after lunch, but it's today at 5 o'clock, from 5 o'clock to 6 o'clock this evening is a public comment session. So, normally we will

take comments in the room first related to the local site and then on the line.

So, if you would like to comment and you are on the line, then, please, be at that session at 5, be on the line by 5 and we will get to you.

For folks in the room who would like to comment this evening, there is a sign-in sheet outside. There's Zaida Burgos outside these doors. Please sign-in indicating that you would like to comment and you can do that at any point today. That would be great.

Alright. Let's then go to roll call. And let me just also note, for folks in the room with your mikes, your mikes have an on/off button. I think all but Dave Kotelchuck's, which is broken. It's constantly on. Everyone else has an on/off button. Please press on your light, you have a green light that should go on when your mike is live. And please speak directly into the mike, so that we get good transcription and the people on the phone can hear well.

So I'm going to run roll call, and I will address now conflicts when I do this. And then

we'll take care of those also just before the sessions where the conflicts occur.

ROLL CALL

MR. KATZ: Very good. And that takes care of roll call. And the meeting is yours, Dr. Melius.

CHAIRMAN MELIUS: Okay. Thank you, Ted. And we will start, as usual, our first speaker is Stu Hinnefeld from NIOSH who will give us an update. Go ahead, Stu.

NIOSH PROGRAM UPDATE

MR. HINNEFELD: Thank you, Dr. Melius. Just a few news items. We have a personnel action or two to mention. Many of you probably recognize we have an old friend in the room with us today, Mark Griffon. Mark's working for us now. We've contracted his services to assist us in evaluation, first of all, of the dose reconstruction process for ambiguities, things like that, so we can try to make sure that we are as consistent as possible on our dose reconstruction process.

We have some checks and balances in there already, but we think an outside look,

because those of us who do it sometimes are too involved in it to really look terribly critically at it. And so we will have that, and probably some other tasks as well as we go forward that Mark will be assisting us with.

I guess you can all chat with Mark as the day goes on. And so if there are any questions, I'll try to answer them. We still, you know, have only firmed up like one task for sure, and we're still sort of firming up the tasks, but he will be working pretty closely with us and NIOSH and our contractor, ORAU, as we go forward.

Okay. I have just a very slight amount of news, in case you are interested, about the Advisory Board on Toxic Substances and Worker Health, what I like to call the Part E Board. It has -- of course, it was authorized, I think, more than a year ago. And the membership, as I understand it, has been selected and it will be announced in the Federal Register.

And until that announcement is made, DOL is being very, you know, silent about the membership. But they have scheduled their first

meeting for around the 26th of April. And I believe it's maybe even a three-day meeting that's scheduled.

And Rachel Leiton at DOL tells me that much -- there are several items on the agenda where DOL is presenting to the Board on essentially a primer, "this is how the program works," and there is some of that.

Denise Brock, our Ombudsman, has been asked to present to the Board, and I think she is fretting about that, but I believe she -- is she planning to go?

MR. KATZ: I think actually she's not going to present.

MR. HINNEFELD: She's not going to go? Okay. And then I think, Dr. Melius, you were invited, right? So there is some -- there will be some modest interaction, I suppose, at the start. The meeting is a public meeting. I mean, people can go and attend. Whoever wants to attend, it will be in the DOL Frances Perkins Building in Washington, D.C.

So we did have -- we have a number of

outreach activities that we continue to participate in, mainly through the Joint Outreach Task Group, that's a task group that includes DOE, DOL and ourselves, as well as the Ombudsman for DOL and our Ombudsman.

And in February, they were down in this neck of the woods. There was an outreach meeting. There were outreach meetings in Orlando and here in Tampa. We will also have meetings sponsored by that group in Idaho Falls and Pocatello in Idaho. I think it is kind of towards the end of June.

An outreach-type activity that we are conducting on our own is a one-day dose reconstruction and SEC workshop. This is sort of a scaled-down version of the three-day workshop that we give in Cincinnati once a year. We are doing this one-day site-specific workshop in Richland. And that is in late April.

And if anyone is interested in any information about the Joint Outreach Task Group, there is a -- the Department of Energy has some information about it on their website, and the citation is here on the slide.

I just want to run real quickly through the statistics. We're at the point now where they don't change terribly quickly. We are up to almost -- in fact, I think since this slide was prepared, I think we did receive our 45,000th case number since this was -- so we're up to about 45,000 in total cases received. Most have been sent back to DOL with dose reconstructions completed. The number in our house is -- the data is relatively constant where it is now.

Here's a breakdown of the ones that have been sent back, those that were sent back with the dose reconstruction. Some were pulled for SEC consideration, and others were pulled for other reasons by DOL before they were completed.

Here's the summary of the Probability of Causation, how they worked out in dose reconstruction. The greater than 50 percent comes out to about 28 percent. About 28 percent have been compensable by dose reconstruction, of the claims that have gone through dose reconstruction. That value has stayed relatively stable, I think, for the past year or so.

I have got up here again my slides on the first 5,000, first 10,000. Unless someone objects, I think I'll drop these out of the presentation going forward, because it's pretty far in the rear view mirror by now.

You'll notice there is one initial claim on there, and I had to look that up to be able to explain that. So there's one initial claim there. This was a claim that was referred to us for dose reconstruction quite some time ago. And while we had it for dose reconstruction, we added an SEC Class that included this claim. And so that claim was pulled and sent back to DOL and the person was compensated through the SEC process.

Subsequently, the person came down with a non-SEC cancer. And so the Department of Labor sent it to us for dose reconstruction to determine if there should be medical benefits granted for the non-SEC cancer. Since we have never done a dose reconstruction for it, it still is on Version 0 in our system, Version 0 of the dose reconstruction. So it appears an initial in the statistics, even though we've only had it for a short period of time,

had it back for a short period of time.

So I suppose that could continue to happen. I can continue to give that explanation, but, on the other hand, if I don't report on the first 5,000 and 10,000, I won't have to give that explanation anymore. And the 10,000 statistics are very much the same. That one initial is the same one that was in the first 5,000.

Okay. Records requests. You can see that almost nothing is over 60-days old from the Department of Energy in terms of our records requests. They did have a contractor change at the Y-12 plant fairly recently and there was some effect on the timeliness there, but I think they have rectified that now.

And the history of submittals versus production. As you can see, we are hanging pretty close to 500 new cases a quarter, and not much sign of dropping significantly below that. So that's how their dose reconstruction load continues to go.

We had a relatively small up-tick in new cases in February. I don't know if that was attributed to anything in particular, but it

up-ticked a little bit in February.

And our contact information, for anyone who, in the public, wants to get a hold of us, is there. I think there's probably a copy of my presentation in the back. And I know it's on our website, if anybody wants to look at this, you can find our website and the information there.

Okay. Any questions about this today?

CHAIRMAN MELIUS: Questions for Stu? Yes, Henry?

MEMBER ANDERSON: Just quick, Stu. So what's the total eligible population? Do we have a sense?

MR. HINNEFELD: Well, I don't know --

MEMBER ANDERSON: You have 45,000. Do we know what is -- do we have an estimate?

MR. HINNEFELD: The estimate, going back quite a long time, they said it was around 600,000 people worked for the Department of Energy contract at these sites.

MEMBER ANDERSON: Okay.

MR. HINNEFELD: So is that the DOE only, not AWE? That wouldn't include the AWE

sites.

MEMBER ANDERSON: Okay. Thanks.

MR. HINNEFELD: That would be the DOE sites, right.

CHAIRMAN MELIUS: Since you appear to have cleaned up all but one of the initial 10,000, how about just updating us next time on the first 20,000?

MR. HINNEFELD: Would you like a 20,000 slide?

CHAIRMAN MELIUS: Well, we're giving you a break there, you know.

MR. HINNEFELD: Sure. We will do it for 20,000.

CHAIRMAN MELIUS: You won't have to do the 15, we'll just go right up to 20.

MR. HINNEFELD: Go to the 20?

CHAIRMAN MELIUS: Yeah, we will go for it.

MR. HINNEFELD: Okay. Okay. We'll give it a shot.

CHAIRMAN MELIUS: Okay.

MR. HINNEFELD: Since I don't have to

write the code to do the query, I say that sounds really easy.

(Laughter.)

CHAIRMAN MELIUS: Okay. Unless other Board Members have a different number they would like to get lucky with? Okay. Twenty-thousand it is.

MR. HINNEFELD: Alright.

CHAIRMAN MELIUS: Thank you, Stu. We would advise you to keep an eye on that Griffon guy.

MR. HINNEFELD: Well, yes, some contractors you've got to watch more than others.

CHAIRMAN MELIUS: Yeah. Next up, DOL Program Update. I'll try to go slow here so Stu can find it. There we go. Okay. Department of Labor Update, Frank Crawford. Welcome back, Frank.

MR. CRAWFORD: Good morning. Thank you, Dr. Melius. Well, let me just launch right in. Stu already stole most of my thunder about the Part E Board, so --

CHAIRMAN MELIUS: I was wondering about that.

(Laughter.)

MR. CRAWFORD: And I know nothing more than he knows at this point, so that's it for that.

CHAIRMAN MELIUS: We can name names. I mean, there is lots of rumors around.

DEPARTMENT OF LABOR UPDATE

MR. CRAWFORD: I'm just glad I'm not on it, but that's another story. This is supposed to come up, I think, but we've gotten too fancy on the slideshow. I no longer know how to even change the screen. Oh, here it comes. I hit the spacebar, maybe that's it.

Well, let's get right to it. Give me the next number, please. There you go.

I think what's of interest, at least to me, here, is that I think Part E is going to be catching up to Part B in terms of dollar outlays.

So, the program so far has dispersed $9.6 billion in compensation of various kinds, with Part B leading so far, but I think the number of potential cases for Part E is much, much larger.

Here's a figure that I hadn't seen. We have 185,000 cases filed. And that's out of both

the DOE and the AWE universe, I assume. And we have the medical bills added into this compensation figure.

Okay. We finally outsmarted ourselves completely here. No numbers coming up. However, they will be on the website, so I'm not going to go into it too deeply. It's the usual business of how many cases have been referred to NIOSH and how many we got back and how many were paid and that sort of thing.

I'm going to go see if the next slide works. Okay. I won't read the numbers to you. They're all on the website. And everybody, I think, can view them there a lot more easily.

We do show 2,100 cases, approximately, at NIOSH right now, and I can more or less agree with their numbers. These numbers also more or less agree with Stu's numbers. So, you can see the approvals are about one-third of the total.

As far as Part B cases, no surprises here. Again, the "Other" includes a lot of things that we don't see very much here at the Board or NIOSH so much. The beryllium sensitivity problem,

the chronic beryllium disease, chronic silicosis, those take up a pretty large slice of that pie there of 30 percent.

And we have about 92,000 cases with a final decision under Part B only, which the majority are approved. That would include, I believe, SEC cases. Well, we are almost half-and-half here with approvals and denials.

The top four work sites are -- well, they don't change too much, because they're mainly the largest work sites.

The AWE percentage took a mysterious dip in January, and then came back in February to its normal 12 or 13 percent range. Again, I'm expecting the AWE cases to slowly fade because they are so far in the past. Most of those sites were closed in the '50s or '60s.

Now, for our site discussions, we see there's a range in the number of claims per site, with Argonne having about 1,100; Idaho National Lab about 5,500; Lawrence Livermore about 3,700.

It looks like, from looking at the Part B and the final decisions, that there are quite a

few cases left to be adjudicated or are in some stage of adjudication right now.

And Pinellas Plant, which is probably most germane to our site today, we have about 1,400 claims, 600 final decisions, 135 Part B approvals, 196 Part E approvals.

I'll move on to the town hall presentations. So far -- well, since December -- as you see, we've had presentations of various sorts in the Denver area; Grants, New Mexico; Farmington, New Mexico. That's from the Denver office, I should have said.

And then in December we also had a Niagara Falls presentation. There are a bunch of AWE sites there. We had a town hall here in Tampa in February, and then Orlando, also February, about the same time, another town hall meeting.

And the end of this month, coming right up, we are going to Bridgeton, Missouri. And in June, yes, Pocatello, followed the next day by Idaho Falls. And I believe that's as far as we're looking out right now.

There is much more available on the

website in terms of explanations of the program, eligibility, compensation, and that sort of thing. So I'll leave that to the Board Members and the public who need a review on that.

Any questions?

CHAIRMAN MELIUS: Questions for Frank?

(No response.)

CHAIRMAN MELIUS: Okay.

MR. CRAWFORD: Thank you.

CHAIRMAN MELIUS: Thank you.

DOE PROGRAM UPDATE

DR. WORTHINGTON: Good morning. It's a pleasure to come to the Board and present some updates on where we are with the Department of Energy's roles and responsibilities. I'll be very brief today. We don't have any major changes in any of the activities, but just some updates.

I want to first acknowledge that I'm joined today by Greg Lewis, who's the director for this office, and by Dr. Isaf Al-Nabulsi, who is a senior technical advisor, who has a lot of responsibilities, but a lot of it is focused on supporting the EEOICPA programs. So, again, good

morning.

I want to just mention this slide. We mention it every time, but I want to focus on it again: that we recognize the responsibility of Department of Labor and NIOSH for DOE workers, and our role is to provide support to them. We want to make sure that all available working facility records and data are provided to DOE, NIOSH, and the Advisory Board.

And when we say "all available data," sometimes it's difficult -- and we'll talk about that a little bit during the course of this brief presentation -- but we, again, we feel we have a huge responsibility to make available the data that's important for making decisions.

DOE responsibilities. I'll mention them briefly. A couple of years ago we developed this secure electronic records transfer process to kind of ease our fears of releasing data, PPI data, when we shouldn't do that, but also to just expedite things and to make it easier. And I believe we are getting some good feedback from DOL and NIOSH on this, so we continue to work on that. It certainly

expedites our response to employment verification and exposure records for individuals.

We want to provide support and assistance to DOL and NIOSH and the Board on large-scale research projects, and we'll talk about some of those as we go through the presentation today. But characterization projects, looking for records or whatever it is, I mean, DOE has that responsibility. We are well-suited for that. They are things that are within our system, whether they are old or new, and so we want to work hard to do that.

Let's talk about sort of, again, another group of individuals that are helping us to deliver this very important mission, and that's what we call EEOICPA site PoCs. The data, for the most part, is not really in headquarters. It's out in the field, at the sites, and so we certainly have points of contact. They are very visible and working very hard to help us to deliver that data.

And sometimes the data is in different forms. It may be tours or other things that the contractors or NIOSH or the Board would need to get

a better sense for sort of what was going on and what decisions ought to be made and recommendations that are made. So, we want to provide all those services and we rely very heavily on our site points of contact to help us to do this.

A little bit about the individual records. We keep putting this slide up, and if you look at it, it's pretty much the same numbers. Over the years, they've changed only just a little bit. We haven't seen any major trends yet in the program that would direct us to take, you know, dramatic cuts or anything like that at this time, but we continue to provide a large number of employment verification, because that's very important.

People need to understand, know, and be able to verify whether their workers were actually part of a DOE network or not. Dose records certainly provide that information to NIOSH, and the DARs are very important. A lot of information there about the history, exposure, other kinds of things related to those individuals.

A little bit about sort of the DOE

climate and the way things work at DOE. We find that many of the workers, over time, they may move around to other DOE sites. And so when they are looking, you know, for data, it could be in the form of being a primary contractor, subcontractor. It could be multiple sites.

I remember when I first started working for DOE, there were a lot of things going on in the Fernald area and they were doing some major cleanup and kind of putting themselves -- at first, it was the view they would be out of business for a job, but what happened at Fernald, and many places across DOE, is that we have individuals who become experts in doing certain kinds of remediations or other kinds of activities, and they move around, which is lucky for DOE, that this experience can be used at other sites.

And so it's important for us to be able to gather this information from the various locations. Because we talk about sort of a long period of time for many of the workers at DOE, we have many different types of systems, then, that need to be communicated. Some things that are only

available on microfiche or hard copy records.

And most of the sites, they have some very sophisticated records management systems in the way that they manage the data, but it may not talk to the data from the past, and so we have lots of places to go and look.

And going back to the first slide, we want to make sure that all available data, you know, can be found and made available. And so it may be difficult, but we remain committed to doing this and looking for ways, you know, like SERT and other things that we can be more productive in getting this done.

The large-scale research projects, they are driven by DOL and NIOSH. They're not dictated by DOE. Certainly, we share our information and knowledge and experience and make some suggestions, but we are being responsive to the needs of DOL and NIOSH in these large-scale research projects.

And, of course, we accommodate all requests. Certainly, sometimes we have competing things, maybe some priorities associated with it,

but we are working to deliver this information.

Large-scale research projects. Many of the major ones are mentioned here: Pinellas, Kansas City, Hanford. We talk about the Hanford Reservation here in sort of two different pieces. We mentioned Hanford as a research project. We also mentioned the laboratory as well, but these are all part of things that occurred on the reservation. And there is a lot of interaction from time-to-time with PNL providing the science and all the parts of Hanford providing cleanup mechanisms and so forth.

Savannah River, again, a lot of complex things going on there. We have several labs: Sandia, Los Alamos, Idaho, Livermore, and Oak Ridge National Lab. So, again, you'll see that our large-scale research projects cut across a large number of DOE facilities, a lot of different types of operations and activities.

Document reviews. DOE is committed to providing documents, again, to NIOSH, DOL, and the Advisory Board. Again, we have a balancing act in terms of the things that we are responsible for in

doing this in a secure manner, but also expediting and getting information out to the various organizations.

Some years ago, we developed a security plan that would provide sort of a framework on how we would do these various things. I think it's been successful over the years in terms of keeping us out of trouble, but also being able to deliver things at the earliest possible date.

We have a typical turnaround date of eight workdays. If you think back to when we got into this business some time ago, I think this major change has been fairly consistent. In terms of that, we always certainly look for opportunities, you know, to make it better, but we also recognize the need to tailor things, from time to time, tailoring them in our response to a specific situation. So when we need to expedite, we work with our organizations to make that happen.

We are fortunate -- I'm actually talking about the previous slide -- but we are fortunate in that many of the roles and responsibilities of other offices that need to

interface with us to make this happen are within our organization, so we are able to reach to them and set some priorities within our overall organization to get these reviews and so forth done.

Facility research. Our research and maintenance of the Covered Facility Database, we want to have the database that's up-to-date, that's accurate, that's current, that people can go to. We've listed the link for that database here and so it's available for people to use it.

Stu introduced what we were doing in terms of joint outreach. DOL, I think, mentioned that as well. It's something that we, the three organizations, value as an important interaction that we're working together, where we can, to go out to communities and make information available to them.

I want to mention another program that we have that's interrelated with the EEOICPA program. We think it's important, because when we think of workers coming to EEOICPA, you know, with claims, it could be current workers or it could be

former workers. So our commitment is actually to both of those organizations, current and former workers.

Former workers. We have a program that has been in place for some time, what we call Former Worker Medical Screening Program. DOE has some very unique hazards and operations that you may not encounter any place else, and so it may be difficult, if you're going to just your regular primary care physician, you know, for exams and updates of some frequency. So we offer, once you exit DOE, an opportunity for you to come through the medical screening program and have a nice interview and then have an exam that is tailored towards operations and hazards that you were associated with during your work experience at Department of Energy.

And based on what the feedback we get from these former workers, they are very pleased with that, they think it's working very well and I think it certainly addresses a gap between just a regular physician versus is there something that I should be looking at adverse health effects as

a result of my work experience?

We are able to offer that to all former workers from all DOE sites. Maybe a year or two ago, I think, we may have announced at this meeting that we had hit 100,000 screenings of former workers. And I know the question is, well, how many are you really trying to reach?

We heard this morning about 600,000 as sort of a number for DOE workers. Certainly, that number is questionable. We believe it may be a little higher than that. But I think that's why the Joint Outreach Task Force reaching out to workers and other things we are doing to make them aware of the screening so that they can come back if they want to do that.

We publish an annual report. If you haven't seen that report, we have a website here with more information. We would suggest that you look at that. I think it has some very interesting insights, in particular the ones that come from the former workers themselves. Their testimony, their feeling about sort of the merits of the program and what it brings to them.

I want to mention here, or at least put up on the slide here, Pinellas. We are certainly in the Florida area. It makes people especially aware of the things that are available here and the websites that are available for these former workers to reach out to and request an exam, if they so desire.

Again, so it's just a very quick overview. We haven't changed our process. We are looking for ways to certainly enhance it, to improve it. And sort of this is the way of just restating our commitment to this program and the importance of the program and sort of continuing to work with the various groups that are associated with it.

I'll be happy to address any questions, especially since I have my colleagues here with me to help out with any of them, if you have any.

CHAIRMAN MELIUS: Questions? Yes, David?

MEMBER RICHARDSON: Thank you very much. One of the ways, historically, that DOE I think has helped decision making in this program,

and even helped kind of understand the scope and the nature of the issues, was through supporting research into the health of workers and understanding of the exposure conditions.

I've got a very specific question, which is does -- DOE used to have what was called an Access Handbook for conducting health research for studies at Department of Energy sites. Does that still exist and is that -- are those the rules under which you are operating?

DR. WORTHINGTON: In terms of the Access Handbook, we did update that handbook maybe about three years ago. And many of you here may know Marsha Lawn, who was involved with many of those programs, actually it was one of sort of the last things that Marsha did at DOE. She was very focused and committed to getting that handbook out.

So, yes, it is available, and we will make sure that, as a part of the record, we will make that available, the link, in terms of how to get to that. But, yes, it does drive how we do worker studies in the Department.

MEMBER RICHARDSON: So, in making

requests, we, the community of external researchers, can still refer to that document and the procedures within that last version of the document, or the ones which will be followed?

DR. WORTHINGTON: Yes. But also, at any time, if you have some specific request, or if it doesn't seem to be covered in the handbook, you know, feel free to contact me or people from my staff and we'll be happy to assist you.

MEMBER RICHARDSON: Okay. Thank you.

MEMBER ANDERSON: Yeah, just a quick question. Do you have any analytics on your websites? I mean, there's a lot of information out there and I'm just curious as to if you have measures of the number of the individuals that are going to the various sites or the specific web locations for information.

I would assume, for instance, when there are various town hall meetings or whatever, typically, at least at the state, we would see an increase of people visiting the website. I'm just curious have you had a sense of how well it's working for reaching people?

DR. WORTHINGTON: There are numbers on how many hits we have on various topics on the website. I don't know if the data was collected in such a way that we could draw upon it to say that when we made these kinds of announcements, we got a big increase. But we probably could still look in it, look for something like that to give you some idea, because we know when we actually did that.

MEMBER ANDERSON: Okay.

DR. WORTHINGTON: But we'll try to provide you some additional information on that.

(Off-microphone comments.)

DR. WORTHINGTON: And thank you for your attention.

CHAIRMAN MELIUS: Alright. In the early days there were, like, lots and lots of people working there, I mean, bringing, I don't know, construction workers and other workers in from all across the country to some of these sites to get them ready and operational.

DR. WORTHINGTON: We believe that the numbers are higher, but we haven't published anything that would say that. So we have to look

for a way to do that.

CHAIRMAN MELIUS: Okay.

DR. WORTHINGTON: Alright. Thank you.

CHAIRMAN MELIUS: Thank you.

MEMBER ZIEMER: I have a question here, Dr. Melius.

CHAIRMAN MELIUS: Oh, I'm sorry. Go ahead, Paul.

MEMBER ZIEMER: Yeah. Dr. Worthington, I have a question on the Former Worker Medical Screening Program. It's a two-part question.

Number one, is the budget for that, is that budgeted through your group?

And number two, is there any limit in terms of the budget as to how many former workers you could actually handle?

DR. WORTHINGTON: Yes, it is budgeted through our organization. And I believe your second question, is there a limit to how many screenings from former workers we could do? The budget right now, there is probably not an

opportunity to increase the budget. We are under some tight budget constraints, but for the Former Worker Program, we have not, and we don't have a plan to, decrease the funding for that.

When we go out and do outreach or we do mailings and other kinds of things, our goal still is that if we have people that respond to us that they want to be screened, that we do it within a 30-, no more than 60-day window from the time that they made the request.

I believe that we do not have a backlog that goes beyond that. Certainly, it's my goal that we do not have that. We want to respond quickly. And so, yeah, there are limits. Have we exceeded that, are we concerned about closing the door and not telling other people? No.

So, for the moment, things are working okay for us in terms of the funding that we have, the screenings that we do, and the outreach that we are doing to get other people to come in for screening. So, so far so good. Does that answer your question, sir?

MEMBER ZIEMER: Yes. Thank you.

DR. WORTHINGTON: Thank you.

CHAIRMAN MELIUS: Okay. Any other questions? Okay. Thank you.

We will now spend some time talking about our report to the Secretary on dose reconstruction reviews. And we will start with Dave. How we're going to do this, it's not a well-oiled machine, but I think we can figure this out.

Dave will talk about the report itself and so forth. And then I'll do a presentation, because we need to add our conclusions and recommendations to it.

And I have sort of broadly outlined those, because I think we need to have some sort of general agreement on those before we actually write them out and, you know, do our usual, you know, five years of wordsmithing or whatever it will take to get it through, but hopefully not quite that long.

But it took us a long time the first time, I remember, a few meetings. But I think we can do it quicker this time. But it will certainly help if we can reach an agreement.

And then I want to talk a little bit about some of the possible changes in the dose reconstruction review process, because those need to be at least, again, in a broad way, included in our letter to the Secretary. So we'll do that. But we'll do Dave. And someplace in there we'll take a break also.

MEMBER KOTELCHUCK: Okay. So you all have copies of the report. Basically I'm going to be going between two files: the text of the report and the graphs that were done by folks at SC&A which are very helpful.

So first let me talk about the background to this. As Chair of the Dose Reconstruction Subcommittee, I wrote a first draft of this. The Committee met and went over this in great detail. That is -- and to give credit to the members, Josie Beach, Brad Clawson, Wanda Munn, John Poston and myself went through, reviewed it, made many good changes.

I then changed that and then went back to the Subcommittee. So we've gone over it twice and wordsmithing and content smithing. And here

we are at the Board.

So perhaps something for the Subcommittee, Set 6 through 13 were Cases 101 to 334. And if you'll remember, Subcommittee members will remember, I spent a lot of -- I talked about 101 to 334.

But there were, within the group, two cases that were never reviewed because they are subject to rework under a PER, so a Program Evaluation Report.

So as a result, we had 232 dose reconstruction review cases. And I changed the construction in the titles of some of the graphs so that you all -- originally the way I wrote it was you'd see 101 to 334. But we only had 232 cases, not 234 cases. I felt it was rather confusing.

And when the folks at SC&A suggested on the graphs some changes, I just went ahead and made that change in the title. And the graphs, as you'll see, have a slightly different title always, rather than just case numbers which I essentially eliminated, just 232 review cases within Sets 6

through 13.

Okay. Maybe the best way to go through it is simply to go page by page here. The first section, Part A, let's go on Page 1, Findings, Part A.

This is, if you will, a little piece of, a little intro paragraph that, obviously, I think will be changed as we finish up the report. If you will, it's a little, a holding introduction.

So let's go, unless there's something significant there, let's go to cases sent to NIOSH for reconstruction. Now, we had to have a date. We started this a while back, so in fact, we picked November 1st, 2015, the dates of our last meeting, excuse me, two meetings ago.

We had a total of 44,789 total case claims sent to NIOSH of which 95.4 percent had been returned to DOL with compensation recommendation.

Is there anything that folks would suggest within that little section? That's just some dates. We now, as we work on this, we may want to update those dates. But then we would have to change the graphs. And I'm rather hoping we can

stick with this. And we'll finish the report early enough that this will not feel like it's old numbers, like this is 5,000 when we're actually up to 20,000 or whatever.

So any thoughts about that or any suggestions for change in that little section?

(No response.)

MEMBER KOTELCHUCK: Okay. You know, I'm going over section by section. Maybe I --

MEMBER ZIEMER: Let me interrupt you--

MEMBER KOTELCHUCK: Maybe I got started too quickly. Hello?

MEMBER ZIEMER: Yes. Can I interrupt you with a question?

MEMBER KOTELCHUCK: Pardon?

MEMBER MUNN: It's Paul.

MEMBER KOTELCHUCK: Paul, yes. Surely.

MEMBER ZIEMER: The wording that says that 95 percent of the cases had a compensation recommendation, I know what you mean, but it sounds like that they're actually recommending that they be compensated, that percentage of the cases.

MEMBER KOTELCHUCK: Right. And of course that's not true. So --

MEMBER ZIEMER: No, that's right. That's why I'm asking about the wording.

MEMBER KOTELCHUCK: Right. Is there a better way to suggest -- that's why I said recommendation, but recommendation can be positive or negative. With a compensation decision perhaps?

MEMBER ZIEMER: Yes, decision would be better. Because recommendations --

MEMBER KOTELCHUCK: That sounds good.

MEMBER ZIEMER: But the decision means that it could go either way. That was a little bit --

MEMBER KOTELCHUCK: Compensation decision.

MEMBER ZIEMER: I don't know how the others feel about it, but that was a question I had on that wording.

MEMBER KOTELCHUCK: Others agree. I saw some, yes, some heads nodding.

MEMBER RICHARDSON: I'm not sure I

would agree. I mean, this is maybe quibbling. I don't think NIOSH returns it with a decision. NIOSH just returns it with a value, I think. So, I mean, I think you could just strike it and just say returned to DOL.

MEMBER KOTELCHUCK: Yes. What do other people think? Wanda?

MEMBER MUNN: No, no. It sounds like it's not enough.

MEMBER ZIEMER: It's true. They don't recommend the compensation either way, do they?

MEMBER KOTELCHUCK: Well actually, of course, we don't make a decision either. We recommend to DOL. DOL makes the decision. We're an advisory board to that.

MEMBER RICHARDSON: I move that Ted correct that.

(Laughter.)

MEMBER KOTELCHUCK: Right.

CHAIRMAN MELIUS: At this rate, we'll be here for another week or two.

MEMBER KOTELCHUCK: Okay.

CHAIRMAN MELIUS: But why don't we, you

know, flag these issues, and then we can figure out -- And I would also add that I think that everyone needs to, either at this version or perhaps the next version, depending on what we decide here today, we'll talk about this later, is we can then ask people to submit written comments within a, you know, relatively --

MEMBER KOTELCHUCK: Good.

CHAIRMAN MELIUS: -- reasonable but tight timeframe so that we can get comments in. But if we try to wordsmith it in a general meeting, we'll --

MEMBER KOTELCHUCK: Okay. By the way, Jim, as we start, maybe should I have asked for rather broad overall comments by Board Members before we begin going through details?

My sense is I should have. And maybe I'll just ask. I'll stop for a moment and go back and just say, folks, overall what is your sense of the strengths, weaknesses, what needs yet to be done beyond what Jim had said earlier. Any comments, general?

CHAIRMAN MELIUS: I just will --

MEMBER ZIEMER: Well, the comment is, if you want to hear it now, this is Ziemer again.

MEMBER KOTELCHUCK: Yes?

MEMBER ZIEMER: Maybe Dr. Melius' introductory things are going to take care of this, but I realize -- and you quoted in your first paragraphs that our responsibility is to comment on scientific validity and quality in the dose process. So we have all these statistics, but I don't think that comment has yet been made on the main point that we're required to provide to the Secretary.

MEMBER KOTELCHUCK: Right. And --

MEMBER ZIEMER: And, Jim, I assume that was what you were suggesting, but I hadn't seen it yet.

CHAIRMAN MELIUS: Correct.

MEMBER KOTELCHUCK: Right.

MEMBER ZIEMER: Okay. Thank you.

MEMBER KOTELCHUCK: Yes, this is the data and not the conclusions, or only some limited conclusions.

CHAIRMAN MELIUS: Yes. I have one

other general comment which --

MEMBER KOTELCHUCK: Please.

CHAIRMAN MELIUS: -- I wasn't going to cover as much or get comments on, later on. But I think we also need an introduction to this that sort of explains a little bit more background of what we do and get away from the jargon we're so used to using to put some of this in a little better context so people can understand what we're talking about.

I think we had some that in our first one and in our letter. But I think we need to add it to this report. And again, I don't think it's difficult, but it's something we will need to do.

MEMBER KOTELCHUCK: Right. And as I said, I even, as I said initially, this is, like, this introduction is just like a holding text.

CHAIRMAN MELIUS: Yes, yes.

MEMBER KOTELCHUCK: And I agree. Okay. Wanda?

MEMBER MUNN: Yes. I just wanted to say that I try to keep reminding us that, if my viewpoint in what this report should be is skewed,

as someone just pointed to me, from my perspective this needs to be the 30,000 foot view.

And trying to make sure that we cover an adequate amount of information but not belaboring it to the point that it far exceeds a truly administrative executive review is, to me, the difficult point that we tried to identify.

So my personal request from the other members of the Board who haven't been involved in actually putting this together is to, please, I would appreciate it if they would identify it from the point of view is this adequate information, is this too much information? That defining line, those guidelines, I think, are most difficult for me personally.

MEMBER KOTELCHUCK: Good. Thanks.

CHAIRMAN MELIUS: I mean, I agree with you, Wanda. I would just add that, at this point, it's probably better that we have too much detail in there so that we make sure that everybody understands and agrees with what the results being presented are and understands that.

Then we can go back through and cull out

what needs to be culled out. Because I agree with you. I think it's, you know, we don't need the level of detail all the time.

MEMBER MUNN: Yes.

CHAIRMAN MELIUS: But it's easier to cut than it is to add later on, I think.

MEMBER KOTELCHUCK: Right. Going on, the next section, types of dose reconstruction, Page 1 through Page 2, that's virtually lifted, of course, from our first Secretary's report back in 2009. That's just -- so is there any comment about that or -- that's more or less just informational.

(No response.)

MEMBER KOTELCHUCK: If not, let's go on to the dose reconstruction cases which starts to get a little more into the meat of it.

The DCAS reported a total of 31,534 claims with completed dose reconstruction sent to the Department of Labor. And this is the list as of November 1st, 2015.

And as you'll see -- and it was interesting to me, certainly as a relatively new Board member, that of course the overestimates, the

largest number, the majority, were over overestimates which is to say pretty well it was determined that the claim was unlikely to result in compensation, and there was an overestimate made, overestimated dose assessed. And indeed, these were not compensated.

So are there any comments that folks want to make on this section?

(No response.)

MEMBER KOTELCHUCK: Again, okay. And we will have time later, as people look it over, as I've looked over this and have few suggestions today of things that I didn't pick up before, you will have a chance to give me written reports or written comments later as you pick up other things.

Dose reconstruction cases reviewed, basically of the 232 recently reviewed cases, 82 percent were best estimates. And that was a dramatic change from -- did I say 82 percent? Wait a minute, 193, 82 percent.

There is a difference between the text and the table, folks. There's a round-off error there. One of those is incorrect, not rounded off

correctly, round-off error in best estimate. But, well, surprise.

However, basically in the Case Sets 6 through 13, we really focused on the best estimate cases. Whereas in the early first 100 cases, we had only seven percent best estimates.

And I discuss in here and we discuss in here why the best estimate, why doing reviews, dose reconstruction reviews on best estimate cases are, of course, the best way of assessing how well we're doing in terms of accuracy and reliability of our estimates, consistency of our estimates, I should say.

Are there any comments on that section, any of the --

(No response.)

MEMBER KOTELCHUCK: I made note of the fact -- I want to make sure that the Secretary understood that there is a lot of work behind these dose reconstruction reviews by the different site-specific Board Work Groups and that, with the limited number of members that we have on the Board now, which is what, 22, 18, something. I didn't

count the number of Board members.

But we have 37 work groups for about half as many members. And of course we have the Dose Reconstruction Subcommittee, and we also have the Procedures Review Subcommittee. So all of that work is done.

Any comments on that?

MEMBER RICHARDSON: I have one brief comment. This is David Richardson.

MEMBER KOTELCHUCK: Yes, David.

MEMBER RICHARDSON: The last part of the text, as I'm looking at it, describes a few reasons why there's been less reliance on overestimates and underestimates and a focus on --

MEMBER KOTELCHUCK: Right.

MEMBER RICHARDSON: -- this next set on best estimates. And there are some technical reasons that are given, and sort of administratively. It think it might be worth noting that it was a conscious policy decision to move away from, to move towards best estimates where possible.

And I think part of that came out of the,

whatever it was, the ten-year review of the program, that it was easier to communicate to claimants, if my recollection is correct, when doing best estimates, and some of that had to do with people who had subsequent re-estimates and their doses went down.

MEMBER KOTELCHUCK: That's fine. I thought I was communicating that. But I certainly agree that if it's not emphasized enough that this was a conscious policy decision, do you remember or do folks remember about when we -- was this at the time of the first Secretary's report that we decided --

CHAIRMAN MELIUS: It was after the first Secretary's. It was around the time of the ten-year review so --

MEMBER MUNN: It was. But also the more pressing reason for that change was very clearly the fact that you stopped having the enormous influx of continually high numbers of claims for which people were eager to have a decision.

And once you have an established

program of this sort where -- and the bow wave of claims begins to diminish and you get -- then it's an entirely different administrative activity to try to get the decisions to the people as quickly as possible.

There was enormous pressure to get decisions out. And there were no, these were not shortcuts, they were just legitimate scientific reviews, quick reviews, of what was likely to come out. And so, yes, so --

MEMBER KOTELCHUCK: Well, again, when I think about it, that seems to me something we should just flag.

MEMBER MUNN: Yes.

MEMBER KOTELCHUCK: But essentially, let's sharpen the emphasis here because I thought we were trying to describe that. Let's sharpen it a little bit. And I have that noted. And of course it's noted in the transcript.

CHAIRMAN MELIUS: I have another --

MEMBER KOTELCHUCK: Yes.

CHAIRMAN MELIUS: -- somewhat related question. What I found to be missing in this

report was a statement or a description up front of how cases were selected for --

MEMBER KOTELCHUCK: Yes.

CHAIRMAN MELIUS: This is like viewing it as you have this universe of cases, and you're working backwards: how many from each site? And there was much more, but it sort of implies that there's sort of the random selection or maybe one or two strata or something. And it's not, it was a very directed selection of cases.

And it was based on, I mean, so I think, good criteria and appropriate criteria, but you never really described them. And I think --

MEMBER KOTELCHUCK: That's true.

CHAIRMAN MELIUS: -- we may know them internally, because we, you know, they're in our Board transcripts. The Board was usually involved in reviewing, if not certainly the Subcommittee was.

And I think that would be more helpful as a paragraph or two up front explaining that.

MEMBER KOTELCHUCK: Right.

CHAIRMAN MELIUS: Because that's what

I'd want to know, you know, if I were, you know, someone totally unfamiliar with the program and looking at these results. Well, random selection, where do these come from?

MEMBER KOTELCHUCK: Right.

CHAIRMAN MELIUS: And it ties into some of Wanda's comments. There was also other decisions made about trying to catch up with certain sites and types of cases and so forth.

MEMBER KOTELCHUCK: Okay. So you're right about that.

CHAIRMAN MELIUS: Yes.

MEMBER KOTELCHUCK: And I agree with you that that should be in there. So let's try, add something, add a discussion of that in this dose reconstruction cases reviewed. And first, how did we decide on the cases, and then what were the results in Table 2.

CHAIRMAN MELIUS: And I would just say, for the time span that's involved here, that I'm not sure anybody remembers off the top of their head, maybe people on the Committee, Subcommittee do, but you may have to go back through some of the

earlier transcripts or get SC&A to do that to sort of, you know, get a listing and so forth. Because it did change over time.

MEMBER KOTELCHUCK: Yes.

CHAIRMAN MELIUS: And usually, when we selected cases, it was mix of different sort of criteria or focus of what we're to sample within the available cases.

MEMBER KOTELCHUCK: Well, it's very nice to have Mark Griffon around --

CHAIRMAN MELIUS: Yes, yes.

MEMBER KOTELCHUCK: -- who was original chair of the Subcommittee. He might remember that.

MEMBER MUNN: I'm sure the original Chair remembers all of that clearly.

MEMBER KOTELCHUCK: Yes. Okay. Good, very good. And that will be done. And I will -- findings among the reviewed cases, now here I found, pardon me, just one second. On Page 4, here I see something that I think is a mistake operationally.

If we are not going to consider the two

cases that were ready to be reworked, then we shouldn't include their findings. And you'll notice that, at the end of the first paragraph, it said the four findings from the two cases not completed were assigned their original finding rating.

They're not in among the 232 cases we're considering. Therefore, we should not have included them. I think that's operationally a mistake and that we should then have not 626 findings, but 622.

And if folks agree with me, then we'll have to make a couple of small changes. It may affect the distribution down below in a very limited way, on Page 5. And it will also result in a slightly different ratio of findings per case reviewed. It's not 2.7 on the next page, but something close but not the same.

So would folks agree that that's just -- I think we made a mistake. We just shouldn't have added those findings. I didn't notice it myself until I was reading it over for this meeting.

Yes. Ted, do you want to say

something?

MR. KATZ: No. I think everyone was concurring, nodding heads. It doesn't end up on the transcript. So I was just going to say that. But also, I wanted to note for the record that we've been joined by Dr. Lockey during this session.

MEMBER KOTELCHUCK: Very good.

MR. KATZ: And also note he has no conflicts for any of the sessions this meeting.

MEMBER KOTELCHUCK: Okay. Fine. So I will ask our SC&A consultants to remove those and then give me the distributions that follow from that, the numbers that follow from that in the next section.

Any comments on that section beyond the one I just said or in the next section on the findings, in particular the one that the Subcommittee worked over was on Page 5?

As might be expected, there were 2.70 findings per case, 32 percent less than the 3.98 reported in 2009. However, the distribution of impacts in this report is quite similar to those from 2009.

While this result might first appear anomalous, with the Subcommittee, we said it may reflect the fact that dominant over- and under-estimations from the first report were broad assessments not likely to present major errors. Whereas in this report, dominated by best estimates, the chances for errors are far greater. Improved assessment procedures and protocols and the percentage of high-impact findings has been kept low. That is, the two effects counteracted each other.

I mean, that's not a hard argument, right? It may be that -- and I wondered if people had feelings either of sharpening it, or making a slightly different argument or even -- it just was unexpected that we should have the same distribution impacts, but there it is.

And it may not even be worth a lot of comment. But did anybody have trouble with that, particularly any folks outside the Subcommittee or those in the Subcommittee having second thoughts? Anybody?

MEMBER RICHARDSON: This is David

Richardson. I'm on the Subcommittee, but if there's -- and so the fact that I'm on the Subcommittee means that I'll take some apology ahead of time for this statement.

But in reading through this again, I feel like there's, I mean, this has been an ongoing concern. We evaluate these samples for several reasons and from several perspectives. And one of them is reflected here in the language of what we call impact.

And at the start, we described this as low-impact on a funding decision. And so that might be one sort of scale that we could put these findings. How much do they shift under the quantitative score?

MEMBER KOTELCHUCK: Yes.

MEMBER RICHARDSON: And we say low impact means there's little impact on the score. But the classification gets muddled as we move through. We have one dimension which is impact on a compensation decision. The intermediate category is impact on a procedure.

So that becomes, it's not like a

quantitative thing, but it's a finding. We've reviewed the case, and we have a finding which is broader. It means that there's something anomalous or a disagreement of a procedure. Often it's lack of clarity in guidance to the dose reconstructors.

That may or may not be impactful in a quantitative sense on the case's score, certainly, but it may have broad implications. And then high impact is explicitly stated as either/or of these two dimensions. It could have a high impact on the Probability of Causation decision for that claimant, or it could, I think we say, it could prompt a major change in procedures that would affect many cases.

And it's almost as though we want to -- there are two different perspectives on why we're doing this review. One of them is like case findings when you investigate a case, and you're trying to kind of describe something that may be more generalized. And the other one is a sort of population perspective. It's a statistical, how we shifted the distribution.

We could make that much clearer if we would say low impact is a, you know, a change of, you know, I would say less than two percent or, I don't know.

Anyway, as an observation, I found that the reasons we're doing this could be clarified a little bit more to talk about procedural findings and individual case findings. And we might want to think about, at least in the future, kind of breaking out this classification in a different way.

MEMBER KOTELCHUCK: Yes. Well, well taken. I mean, other folks want to comment on David's comments?

CHAIRMAN MELIUS: I don't have a, I don't know exactly how to address it in the report. I think certainly going forward we can. I think it's always the tension we've had in doing the various kinds of reviews that we do do by this Board.

We obviously do much more than just, you know, individual case dose reconstruction reviews. And what we do in those reviews, the procedures to

make the Site Profiles, the SEC, have a big impact on individual cases also. So it goes in two directions in that. And how we pull that together and explain that is not easy. It changes over time.

I do have -- one of the conclusions I'm going to suggest is, you know, talking about that, at least bringing that up, that that's one of the things that we do do. But it's hard to capture. And I'm not always sure at the time that we do the dose reconstruction review we understand the full impact outside, also.

But it's only something to consider for more specification in terms of our dose reconstruction reviews, I think, as a recommendation going forward, how we classify, without getting into your 28 different letter/number combinations or whatever, to do that.

Because they are different. And I think it can be confusing. And I think it also affects how we would target our dose reconstruction reviews. And certainly if we want to streamline

the review process, I think it's important to make sure we don't overlook what may seem to be a low impact or a lower impact, a finding that may have bigger implications in other cases.

You know, it may be an issue with a procedure that only affects a small impact on an individual case, but for many other people, you know, longer work periods or whatever, could have a very significant impact on their findings. And we don't want to overlook that.

MEMBER RICHARDSON: One other observation which, it's something that has been an ongoing kind of concern of mine is about the language of saying, language of low impact.

What falls into that pool right now of low impact are many things that we call quality assurance issues. And I am happy to see, I think, that some of the, over time the nature of some of those quality assurance issues has changed. And some things have been resolved.

I'm sort of surprised, in fact, that this distribution of low-impact findings is similar in 2009 and --

MEMBER KOTELCHUCK: Yes.

MEMBER RICHARDSON: -- report, to the other report, to the recent report. But at some point, I mean, those are -- we might want to think about flavors of those, of quality assurance findings, at least, again, looking forward.

You know, to me the fact that there's, I mean, there's several things. There's kind of transcription issues, there's missing information that, you know, was found upon re-review.

You know, we're doing a very small sample, and yet we're finding observations of those and not inconsequential numbers of those. But the impact, it's different than a procedural problem, I think.

And it's something which different steps can be taken to remedy than a change in procedure, a scientific procedure. It's a QA procedure that needs to be implemented. And I think those could be highlighted.

And the language of low impact, because in the cases we have reviewed, they have small percentage impacts on changes, I don't think it

means that they should be dismissed. I think we can work towards quality improvement. And I think all organizations try and do that.

MEMBER KOTELCHUCK: Yes. I'm not sure how we move ahead on this. I look to the Chair for guidance whether that's the Methods Subcommittee or -- because these are important or rather -- Let's go on and I will --

MEMBER ZIEMER: Well, let me make one comment. This is Ziemer. I'm not sure how much of that detail we need to put into the report to the Secretary. I think internally we need to clarify that and make it very simple in the report itself.

MEMBER KOTELCHUCK: Yes. Okay. Yes?

MEMBER ANDERSON: Yes, kind of following up a bit, you know, it would seem we kind of have two issues. One, our sampling scheme really isn't representative of the overall group. But we're really making comments here on impact on the individual cases that we've reviewed versus impact this could have on, you know, the broader total population.

I mean, one thing we could think, maybe in the next time to look at, would be the percent change to impact if the assessment of score is relatively low, then a, you know, a low-impact change of three or four or five percent change in the estimate doesn't really impact the pay decision.

But when we focused on those who are right on the cusp between pay and don't pay, we may want to look at whether these low-impact things were on that group versus the broader group that we use which would be the overestimate group. It's quite different than this group.

So I don't know how we do that, but you could look at where the impact would have the greatest likelihood of becoming a significant change as opposed to using a fixed percentage to say, well, it's only --

MEMBER KOTELCHUCK: Right.

MEMBER ANDERSON: It doesn't matter as much when it's at the lower end versus or well in the compensation range to reduce it a little bit as long as it stays there. So we're kind of in a

dichotomous assessment here of pay/no pay. And it would seem, the way we're approaching it here doesn't necessarily --

MEMBER KOTELCHUCK: Reflect.

MEMBER ANDERSON: -- reflect pay/no pay impact.

MEMBER KOTELCHUCK: Yes. That's an interesting consideration. Okay, so noted. Shall we continue? And by the way, I didn't check my -- let me see what time it is. Okay, whether I should, okay, I think we're okay on time in terms of what we have.

Further discussion, we talked about the type of deficiency: A, B, C, D, lettered deficiencies. Those were interesting. We don't have much to say about them other than what findings we found.

Shall we go on to Page, the bottom of Page 6, observations? Again, I think that was just simply informational. I don't think we had anything of great substance to say other than that none of the observations resulted in a change of PoC. Because if they didn't result in a change of

PoC, they would have been a finding. And we would have gone over them.

So that's -- so let's go, if we will, to the bottom of Page 6, number of dose reconstruction cases reviewed. Here I'm very happy to say, and I had talked to the Board once before in the preliminary discussion of this report that we had only reviewed 0.86 percent of the cases that the Board had considered.

And in fact, there was an error. And I was not using the correct denominator, and folks in NIOSH and DCAS pointed it out to me. Grady, I believe, you know, said wait a minute. You're not using the number of cases in which we did a dose reconstruction which was 31,534 claims filed which required dose reconstruction.

Then, 332 cases reviewed out of those is indeed over one percent. It's 1.05 percent. And so I'm happy to say we hit our goal. And I put a little note to the Board in red in this report just to say this is very good. We certainly want to hit that one percent.

We originally, as you'll recall, we

talked about 2.5 percent back in the days when the first 100 cases for review, when we were doing a lot of the over- and under-estimates.

And now we're, of course, doing a smaller number but doing them in cases where we think we have a much better handle on errors or a much better handle on the impact of errors in dose reconstruction.

And so we're going to just take that little thing in red out. But suffice it to say we have hit our one-percent goal. And I'm happy, and I hope other Board members are happy with that finding. That is what it is. And it's a measure of success on our part, on the whole Board's part.

Unless there's comment, I go on to Page 7, distribution of dose reconstruction sites across employment sites. And that's an important one. And here we should go to Figure 2. If folks would like to just go back to the figures that we have.

And the second figure, I'm just pulling it up on my screen, which I like very much, I hope others do too, where folks from SC&A basically gave

us the number of cases reviewed in the first 100 cases, the number reviewed from each site, by the way, for the next 232 cases, and then what one percent of the total claims would be.

And so if you're looking at Table 2, there are quite a few cases where the blue bar, the goal, the one-percent goal, is higher than the sum of the other two. So just take a look on this graph. And when you see the blue bar, being the higher bar, then you know we didn't reach one percent.

And it was noted in the report that there were six of these plants were, six of these cases were very large plants. Y-12, Paducah, Gaseous Diffusion Plant -- oh, I took cases where there were 15 or more. I just said a large facility is one with 15 or more cases needed for a one-percent review. That is, more than 1500 claims.

So we had Y-12, Paducah, Oak Ridge National Lab, Oak Ridge Gaseous Diffusion, Nevada Test Site and Hanford, barely. And I also noted, we noted in the report that for the small plants

which didn't make it onto the list of sites, because were so many small ones, that for the bottom line we have far more, we were far above one percent, our one-percent goal, for the small plants that had too few people to even make it onto the table.

And that's very good, because there had been worry. And I must say, I certainly have seen comments by different persons, whether Board members or claimants or claimant representatives, that maybe we were neglecting the small plants in our reviews.

And this seems to me to say, for the very small plants at least, we've been doing a good job. And we have been covering them and not having them disappear because there were only two or three claims from that site.

I think, pretty much, if there were less than if I believe, looking at the table, if there were less than three claims for a site, it did not make it onto Figure 2, right, or less than three, less than, therefore, 30 claims. Pardon me.

Okay. Let's go back. Comments on this, or on the results, or -- I felt it spoke well

for our Subcommittee.

PARTICIPANT: My name is Marie --

CHAIRMAN MELIUS: Okay. But I'm sorry, it's not time for public comment.

PARTICIPANT: Oh, I'm sorry. Okay.

CHAIRMAN MELIUS: You're welcome to listen. There will be a public comment period later in the day. It's on the agenda, the timing. Thank you.

MEMBER KOTELCHUCK: Okay.

CHAIRMAN MELIUS: Dave, I actually -- my concern about this is that somehow, you know, that it's implying that we fail if we don't get one percent at a particular site. I mean, if we overdo some sites, since we're barely making one percent, do that. And I think we sort of need to, it goes back to what we talked about earlier, explain what our selection process was.

MEMBER KOTELCHUCK: Yes.

CHAIRMAN MELIUS: So I think the selection process must really be at one percent overall --

MEMBER KOTELCHUCK: Right.

CHAIRMAN MELIUS: -- if I remember correctly. And, you know, provide coverage at all sites but not necessarily provide one-percent coverage at all sites.

MEMBER KOTELCHUCK: Right. Well --

CHAIRMAN MELIUS: And you're sort of implying, the way you presented this, that --

MEMBER KOTELCHUCK: That's true. That's true. We wouldn't want to be egregiously below one percent on sites. But I would agree that, of course statistically, if we weren't on an average of one percent then we're not going to have one percent on every site. There's a distribution. So I accept the burden of your comments, okay.

CHAIRMAN MELIUS: Okay.

MEMBER KOTELCHUCK: Yes. And we'll try to, let's try to flag the language a little bit.

CHAIRMAN MELIUS: We have another comment from the epidemiological wing of the Board here.

MEMBER KOTELCHUCK: Right. Please, go ahead. Right.

MEMBER ANDERSON: Another way, I'll go back to, what is it here, Table 3 where you have 40 percent of the findings are the correct model, or there was a disagreement in the use of models. And then the next one are external or internal.

So that's a fairly high proportion of those. One could look at, in your one percent, are those clustered at a specific site so that if one of the larger sites there was a disagreement in the choice of the model, is that disagreement site-specific or is it, you know, by who was doing the dose reconstruction? Or why was there a disagreement on the choice, is kind of one of the questions to me.

It sort of implies that that's an area where we have disagreement. And that would be something one could work on as to why that's occurring. And if it's those 40 percent, you know, if a disagreement is the same for multiple cases at the same facility, that's one issue versus it's variable. See what I'm saying, that --

MEMBER KOTELCHUCK: I'm not quite sure I do, actually. If you would clarify.

MEMBER ANDERSON: Well, it is a system. What I'm really saying, is it systematic to the exposure circumstances so that the reviewers have had instruction, this is the model you should use, and this is a Y-12 issue and our folks, when they review it, look at, well, we don't agree systematically with that.

It would seem to me the same external model would be likely to be used, yes or no, consistent with the facility.

MEMBER KOTELCHUCK: If the dose reconstructors were not happy with one plan or one set of -- I'm not quite sure.

MEMBER ANDERSON: It's really our evaluation dose reconstructors are disagreeing with, I would assume that's what it is --

MEMBER KOTELCHUCK: Yes.

MEMBER ANDERSON: -- saying, you know, the model was either inappropriately applied or was the wrong model to use.

MEMBER KOTELCHUCK: Right. I'm not quite sure. How would we know it in the Subcommittee?

CHAIRMAN MELIUS: You know it --

MEMBER KOTELCHUCK: Pardon?

CHAIRMAN MELIUS: You know it from the dose reconstruction. It's a fairly common finding, I think.

MEMBER ANDERSON: Yes, it is. I mean, that's why I say it's 40 percent of the findings are related to the choice of the model. And to me that, I mean, that then makes it why is that occurring?

And is it just because our dose reconstructors looking at it are of a different opinion? And it's consistently used, I mean, the disagreement is consistent. Or is it differences in individual dose reconstructors?

MEMBER KOTELCHUCK: Right.

MR. KATZ: Can I just say something?

MEMBER KOTELCHUCK: Yes.

MR. KATZ: What happens in the Dose Reconstruction Subcommittee though is, as we get to these findings, just as you're speaking to, there's then this dialogue in resolving it between the DCAS folks, the NIOSH folks in other words, and

the our contractors as to, is this a systematic problem? Is this a problem with our procedures and it's being applied, can be applied elsewhere? Or is this a one-off in this case?

There's always that discussion. And where there's concern about a systematic issue that, you know, the NIOSH folks follow that up and resolve that.

MEMBER ANDERSON: That's a positive --

MR. KATZ: Yes.

MEMBER ANDERSON: -- action based on the review. And I'm not sure that's reflected here. I mean, we're just, this is very much descriptive --

MR. KATZ: Yes.

MEMBER ANDERSON: -- rather than getting into. So what was done or how did it improve the system, I think it's a positive thing. But I'm just worried that this looks like, you know, we've identified arbitrary differences here when in fact they are really all resolved.

MR. KATZ: Yes. So we don't really have analytics to speak of or statistics on those

resolutions and how that worked out. I mean, there's the record in the transcript, but that's it.

MEMBER KOTELCHUCK: Okay.

MEMBER ANDERSON: Sorry.

MEMBER KOTELCHUCK: That's okay.

CHAIRMAN MELIUS: No, no. It's a good point. And I think it's just also some of this gets lost in the fact that there's a lag in terms of the time we select the cases and what has gone on.

So we may have an SEC, a Site Profile, NIOSH may be changing the procedure. I mean, so it's always some other dynamic going on. So it's hard to sort it out in terms of a statistic. But again, I think it points to how all this is linked, you know, with all the other parts of our review activities.

MEMBER KOTELCHUCK: Yes.

CHAIRMAN MELIUS: And it's a good one to point out, I agree.

MEMBER KOTELCHUCK: And then the remaining couple of pages are really going over the graphs, the remaining graphs in the table.

I myself, in the text, rereading it on Page 8, distribution and probabilities among cases reviewed on the Figure 3, cases with PoCs between 45 and 52 percent have been targeted for selection since slight errors may have potential to change the compensation decision.

And I would like to delete the next phrase from non-compensated to compensated or to say from non-compensated to compensated or vice versa.

But from our point of view, whether it's the non-compensated to compensated or compensated to non-compensated is of no importance to us. What we're trying to do is make sure that we're not making errors, that these are proper decisions.

And that's why we're going to be doing things like blinds, et cetera. So it just suggests that from non-compensated to -- meaning a real error is that we're not compensating somebody when they should have been compensated, as if this is pointing out that error rather than another one.

So I would like to just delete that phrase because it's the accuracy of our estimates

that we're really concerned about and making sure that they are -- we've done a good job, if that's okay.

And I think just, we can go over the graph, but you've seen the graph. I think there's not a lot to say. And I'd like to maybe go on to the blind reviews which is a most important topic for the Subcommittee and for the Board, and a very important one, an important change that we've made over the years.

And as you'll -- if folks would take a look at the Table 4 in the text, Page 9 and 10, and as you'll see, we have 14 cases that have gone over. And 13 were in agreement with respect -- which is very good. That is to say the NIOSH and the SC&A folks agree on the compensation decision in 13 out of the 14 cases. And there was one, that's the Allied Chemical, that's under review at this point.

And I noted at the bottom of the table that, in fact, our SC&A colleagues have finished the next set of six blinds from Set 22. And since we don't have that many, I would love to have our Subcommittee review them and then hopefully

include them.

We have a meeting at the end of April for the Subcommittee, even though that would obviously get out of Set 6 through 13, because this represents a later set.

But the data -- this would mean that we would have agreement. I mean, it happens that six blinds have not been reviewed. But they appear to be in quite good agreement, again, before review by the Subcommittee. And if that continues, it would mean that we would have 20 cases of which 19 were in agreement. And the Allied Chemical, we are working on.

So those are very hopeful results. And I have to say for me it's quite satisfying that the number, the cases, the blinds that we've looked at that had 51 or 52 percent and were compensated. Both parties agreed; the PoC levels are in very close agreement.

And of course that is -- and for those numbers that were, as in Case 14, like in that one in Y-12 where 49.48 percent, which is so close, that when it was looked at independently by SC&A it was

49.46 percent. I mean, at least that speaks to, as I understand it, not accuracy but precision of the assessment of exposure.

CHAIRMAN MELIUS: Or somebody peeked ahead and --

MEMBER KOTELCHUCK: Pardon?

CHAIRMAN MELIUS: Somebody cooked the books on that one.

(Laughter.)

MEMBER KOTELCHUCK: I'm sure not. Anyhow, and we will of course change the absolute value of the difference between the PoCs for SC&A. And NIOSH/ORAU will recalculate that. It may not be 1.8 percent, but it is what it is.

Distribution of dose reconstruction reviews by years of employment, and no, I did not personally find any great wisdom in that other than we're having a few more cases now from the 50s and 60s.

But that reflects the fact that our report is being done in 2016, and the other one was done in 2009. And there are more people who have a chance to have worked and retired and filed claims

at the end, perhaps at the end of their working careers for those folks who got cancer and are living with cancer.

So are there any other comments? And we're coming pretty close to the end of the time that I have. Any more comments?

MEMBER ZIEMER: This is Ziemer. I have one comment --

MEMBER KOTELCHUCK: Yes.

MEMBER ZIEMER: -- on the blinds. I'm a little concerned about the possibility of putting those in that are outside this group of 6 to 13. Aren't you going to want those blinds in your next report? I mean, just because the results are good, why should we stick them in here?

MEMBER KOTELCHUCK: It's --

MEMBER ZIEMER: That's just a comment. You can ponder that. And then I have another comment after that if someone wants to discuss that.

MEMBER KOTELCHUCK: Well, just in that, I mean, that's absolutely true. I mean, and I recognize that we're not in Sets 6 through 13.

On the other hand, our data is skimpy enough on blinds, because we did not start doing these blind assessments at the frequency we're doing them now until recent years. So I'm trying to compensate for limited data. But yes, they won't be new in the next report.

CHAIRMAN MELIUS: Yes, Paul, this is Jim. I agree with you. I think we need to sort of stick with what we said we were originally going to do. And I'm a little concerned we hold up this report, you know, pending another update and whatever. We can go on updating for quite some time.

MEMBER KOTELCHUCK: Okay. Well, that's again, that's fine.

MEMBER ZIEMER: I have one other broad comment and --

MEMBER KOTELCHUCK: Yes.

MEMBER ZIEMER: -- just to repeat, you can ponder it. But we have a lot of dose reconstructions where we decide we can't reconstruct. It's kind of the opposite side of our charge to tell the Secretary that the dose

reconstructions are scientifically sound.

And we have a lot of cases which end up as SECs where the Board has decided they're unable to make a scientifically sound evaluation of the dose.

And I'm wondering if, and we didn't really have this much in the first reports since there weren't many SEC issues coming up. But now it's a pretty big thing. And I'm wondering if we shouldn't have a brief section at least that tells the Secretary how we decide that we cannot reconstruct dose in a scientifically appropriate manner and therefore decide to move to an SEC.

So that's what I was thinking about in terms of meeting our charge that, on scientific validity, that we do have many cases where we decide that we cannot reconstruct a dose in a scientifically valid manner and therefore -- and to say how we make that decision.

But that was kind of a general thought, wondering if we should speak to that. Maybe others will have an opinion.

MEMBER KOTELCHUCK: Well, yes. I

mean, for me, in drafting the first part of the report, literally I'm not, I think, qualified to comment on the SECs other than, and the process, having not been involved so much.

But that data certainly needs to be in the report, I think.

CHAIRMAN MELIUS: Yes. Paul, this is Jim again, and Board. That actually, as you'll see after the break, is one of the conclusions I'm suggesting, is that we bring some of that information into our report, again, both for context and to explain what we're doing.

And I've actually just got some data from NIOSH on some of that information on sort of Board activities and so forth. They sent it to me in the last couple of days. So I haven't gone over it in detail, and we haven't shared it with anybody. But I think it'll be helpful in that regard to try to capture that type of, that conclusion.

MEMBER KOTELCHUCK: Good, good. Okay. I'm finished.

CHAIRMAN MELIUS: Any more questions for Dave? Oh, I'm sorry. Jim?

MEMBER KOTELCHUCK: Jim.

MEMBER LOCKEY: David, going back to your previous comment.

MEMBER KOTELCHUCK: Yes.

MEMBER LOCKEY: And the Board can correct me if I'm wrong, but Henry and I were sort of talking on the sideline. When we started to pick cases, we actually did pick cases who were approaching PoC but didn't reach it.

And there was, I think, an emphasis to make sure that we were not having false negatives, especially on the borderline cases.

MEMBER KOTELCHUCK: Yes.

MEMBER LOCKEY: I don't think we ever approached it to see if there's an equal distribution of errors running both ways.

MEMBER KOTELCHUCK: Sure.

MEMBER LOCKEY: So I think your original interpretation of the report was correct. It was going from negative to positive. That's the cases that we were looking at.

MEMBER KOTELCHUCK: Right, except when we go -- we did make sure that we picked some. We

went from 45 to 52. So we have the 52 cases that can flip backward and should not have been compensated. In fact, there was one --

CHAIRMAN MELIUS: In the beginning, Jim, we really were worried about somebody --

MEMBER KOTELCHUCK: Yes, yes.

CHAIRMAN MELIUS: Jim Lockey is correct. We had done selected, initially focusing on, I forget, it was the 45 to 49 or something.

MEMBER KOTELCHUCK: Right.

CHAIRMAN MELIUS: Something in that range. And then we then adjusted that. I'm not sure exactly when to start to include cases that were up around from 52, 53 or, you know, down to below 50, so that we got a broader distribution there. I'm not so sure on what we did on the, the Subcommittee did on the blind reviews. But those were under 50 but --

MR. KATZ: No. The blind also go from --

(Simultaneous speaking.)

MEMBER KOTELCHUCK: Yes, yes.

MR. KATZ: And we've been doing this for at least a decade, I would say.

CHAIRMAN MELIUS: Some of us have been doing it for longer than a decade.

MEMBER KOTELCHUCK: Right. Okay.

CHAIRMAN MELIUS: Many of us have been doing it for longer than a decade.

MEMBER KOTELCHUCK: Okay.

CHAIRMAN MELIUS: Any more questions for -- some of us have been doing it for 110 meetings, right. Okay.

Thank you very much, Dave. That's our, yes, roast the presenter thing. Why don't we take a break. And we're scheduled to restart at 11:15, so everyone can be back then. Thank you.

(Whereupon, the above-entitled matter went off the record at 10:54 a.m. and resumed at 11:17 a.m.)

CHAIRMAN MELIUS: So what I'm going to do is briefly and in broad strokes go through sort of what conclusions and recommendations we could have for our report to the Secretary.

I'd like -- it's deliberately sort of

very general and very deliberately would like to get recommendations from the Board on other conclusions or recommendations that you think should be on this report. Not trying to write them out in detail at this point, because then we get into questions of wording and so forth, but more to get what you think we should be communicating to the Secretary.

And this is based on my review of, reading of the report. So that's where that -- so basic conclusion is, you know, I think it's generally good, for this part, that we had a very small percentage of the overall cases that had a potential for high impact on dose reconstruction outcome.

And it appears that the overall accuracy is improving versus the initial 100 reviews that we did when the program started.

So I think our first conclusion would be that we think the program is doing a good job in terms of dose reconstruction and that they have improved their dose reconstruction processes and so forth over time in this program. And that most

of the high-impact findings in the report were, in this set of dose reconstruction reviews, were based on where there was limited data available for a site or resulting in the use of estimate methods that we would use to account for that missing data.

And therefore what there would need, you know, would need to be some models developed and whatever other methods used and where, in those cases, there's sort of more room for the Board to be concerned or have concerns about the methods being used.

So I think that would be sort of the first, in my mind, the first sort of general conclusion, that we, one, we have better dose reconstructions being done and that where we do have findings that may be, say, more serious, those are generally, you know, a result of the fact that, you know, for many of these sites, or many parts of these different sites, or many time periods at many of the sites, there is not complete and comprehensive data.

And so we need to rely on other methods. And therefore there's more room for, you know,

concern or potential problems with those methods.

So I guess I'd like to stop there and see if Board members have comments, agreement, disagreements, strong disagreements on that, I guess. Okay. Yes, Dave.

MEMBER RICHARDSON: Because I can't resist having comments. Yes, I agree broadly with it. I have a couple suggestions. One is, you know, maybe one of the conclusions I was imagining coming out was there had been something like 626 findings. Identification of those had led to X number of policy changes or how many had been kicked to Procedures. Is that something that we tracked?

CHAIRMAN MELIUS: I don't think we have a strong link there, a strong enough link to really track all of those.

There's another conclusion coming up where we try to weave in the fact that, you know, in some cases in parallel, in cases as a result of these dose reconstruction reviews that we have procedure reviews.

And I do have data on the PERs which

would be, I think, including the number of cases that were changed as a result of those. But again, those relate as much to the -- they don't all come out of the dose reconstruction reviews.

So in terms of actual linking, it's hard. But I tried to capture that in a different conclusion, because I think it's important, because it's not, because I don't think we want to imply that all of our findings or all of our impact on dose reconstruction is based on reviewing these cases. In fact, I think it's probably not. I think most of them are due to SEC or findings or Site Profile changes, et cetera.

MEMBER RICHARDSON: I thought, one thing about, for the draft conclusions, I like the first two bullet points. I thought they could be written a little a bit more in parallel, so the 232 cases yielding 626 findings. And there are X number of cases or claims yielding X number of high-impact findings.

My feeling is that it's, like, 20 to 20, you know, a 20ish number of cases that yield, like, there typically aren't multiple high-impact

findings per case. But I could be wrong about that.

CHAIRMAN MELIUS: Yes.

MEMBER RICHARDSON: But if it is, maybe the word only would be struck, at least from my perspective. If there's 20 people who had high-impact findings out of a review of 232 people, that's, you know, one out of 11.

CHAIRMAN MELIUS: Yes.

MEMBER RICHARDSON: So --

CHAIRMAN MELIUS: Yes, I'll look back. That's a good point. Other comments? Yes, Gen.

MEMBER ROESSLER: Does this, by pushing this button, yes, I guess that works. You know, with regard to the overall on the report, I'd like to see an abstract.

But I think from the point of view of somebody reading it who won't read the whole report, it would be helpful to have a short abstract.

Also, I agree with what you said earlier. It needs an introduction. It certainly needs conclusions. And I think the Subcommittee

is going to have to work on the conclusions part, particularly.

But the other thing that maybe should be included is where does the Board or the Subcommittee go from here? What's the next step?

CHAIRMAN MELIUS: That's coming up. Stay tuned. And the letter, we actually talked about it at the break. There will be a cover letter that would be essentially an executive summary of this report.

We're not expecting the Secretary to read in great detail our report. So we can do that. Other comments? We can come back. Because these will suggest other things.

Again, I guess some of this is in contrast to the initial report. Now we have the blind reviews which also show good agreement with the findings from NIOSH's dose reconstructions, again, taking into account the complexity of the process and the limited data.

Because I think that's one of the conclusions that was in the report based on where there were differences in the blind reviews. And

I do get concerned when we come out too close on the blind reviews. Because I think it's -- I don't think dose reconstruction is that accurate, given those methods and given that it's just sort of one-time evaluations with that.

But I think that -- and I'm not sure this needs to be in the conclusions, but we do have the one, the Allied Chemical, the blind review that was referred for a better evaluation of the overall site data.

This is one these things that came up and so I sort of flagged when I was reading the blind reviews. For those of you that aren't on the Subcommittee, it was a site that was a very small site. It was so obscure that on the NIOSH website it was buried in the other Allied Chemical.

There's an Allied Chemical in Ohio, and there's and Allied Chemical in New Jersey. And this is the New Jersey site, and it was very small. And if you looked at the NIOSH website, they had one Allied Chemical.

And they had the reports or the available data on both sort of convoluted. There

was very little on the Allied Chemical in New Jersey. So when it was chosen for the blind review of the dose reconstruction -- and it turns out there's very little data on the site. So it was done with surrogate data, basically.

And so NIOSH came out with one result, and SC&A came out with a very different result when they did it, which again is not surprising given, you know, how little information there was on the site and, you know, one or two assumptions of that.

But I sort of felt, and I think the Subcommittee agreed with me, finally maybe, after some discussion, is that something like that needed to be -- it didn't make sense to try to resolve it as an individual case but rather that it, you know, the site needed to be looked at, particularly the use of surrogate data at that site.

It had never been really formally reviewed. And so it seemed to make sense that we, you know, like we do in other situations, we refer these out for additional review by an appropriate work group or subcommittee.

(Off-mic comment.)

CHAIRMAN MELIUS: Yes, yes. Yes, certainly is in that case, yes. I don't know, what, a 25 percent? I can't remember the number of actual claims from that site. Yes. But that would skew your statistics, Dave, that one. So anyway, a separate point.

And then I think we've talked about this before, and it needs to be elaborated. But I think we need to put, as one of our conclusions, an understanding that this -- and you can argue whether it belongs in the introduction, or in the conclusions, or where the best place to place it.

But I really think we need to say something about the overall review process of the Board. And that's why I'd asked for some data on, some initial data on SEC, we have it on the PERs and so forth from NIOSH, just to get some perspective on that.

Again, the exact links are hard to do because of the fact that this program is so dynamic and constantly changing and constantly updating the procedures and so forth.

But I think we need to at least refer to all the other activities the Board does that contribute to the accuracy and how well the dose reconstruction process does.

And that includes NIOSH's activities also of constantly updating Site Profiles as, you know, new information becomes available or they have more time and resources to sort of catch up with some of the older sites and so forth.

And so I think we should try to capture that in that, how we do that without writing a separate report. I think probably it's going to take some wordsmithing and some care. But I think we can come to an agreement on that. And I think, again, it's important to include in our report to the Secretary.

So any further comments or ideas on that?

(No response.)

CHAIRMAN MELIUS: Okay. So recommendations? Well, first of all, let's go back. What other conclusions should we -- anybody have thoughts or ideas on other conclusions that

should be included in this report?

CHAIRMAN MELIUS: Yes, Dave.

MEMBER KOTELCHUCK: It's not a new, excuse me, it's not a new conclusion. But since the 2009 report, really, we need to emphasize in the SEC section that will be written how much that has become a major activity of the Board and how that has changed the larger review process.

I mean, I think that really represents a major change. And I don't myself know why SEC suddenly became so important, that is why there were suddenly so many more, I assume, more claims. Or is it that more claims had been processed? But that is a major change from 2009, and we should say it.

CHAIRMAN MELIUS: Yes. I think it became more prominent because there were more petitions.

MEMBER KOTELCHUCK: Yes.

CHAIRMAN MELIUS: Yes. I mean, it was outside demand. And, you know, some urgency or, you know, limited time to -- urgency is probably is the wrong word to use there -- but, you know,

a time limit on getting those resolved in some way, to the extent that that could be met.

We haven't always resolved them in a timely manner, but many of them we have. And it also makes sense in terms of the whole process of the dose reconstruction because it obviates the need for many dose reconstructions. But it was obviously very time consuming for both NIOSH and for the Board to deal with.

MEMBER KOTELCHUCK: Yes.

CHAIRMAN MELIUS: Okay. Yes, Bill, sorry.

MEMBER FIELD: Yes. I guess I had a question. You have results from the review and then you have sort of a setup describing how the process works. And it's not a random sample, it's a weighted sample based on certain factors.

Is there discussion how one percent was chosen? And the only question I have for that is, based on these findings, is it the Board's view that one percent is adequate?

CHAIRMAN MELIUS: It's a good point. I think, well, let's, as we go through

recommendations, because I think that would be the key. And I'm not sure that at least what we've been talking about in terms of recommendations would necessarily lend itself to a one percent. I mean, maybe it does with the sort of competing interests here, as you'll see, and do that.

So the recommendations, one, we continue basic reviews. And I think the question there is what Bill just brought up, is that, you know, what percentage. And I don't know if we need to specify that in this report, but we certainly need to give it some thought as a Board.

And then at the same time we've talked about modifying the review process to provide more efficiency in doing those basic reviews and really more in terms of resolving those basic reviews.

And the DR, Dose Review Subcommittee, Dose Reconstruction Review Subcommittee, has looked at that. And there are some suggestions they've worked out with our contractor and so forth on doing that. We can talk about those a little bit more later. We just got a recommendation from them very recently to do that.

So one is continuing basic reviews at some level and then, you know, with some discussion probably within the Subcommittee on what the sample should be and how to go about doing that.

Secondly would be, which would be a change, is to initiate what I'm calling special reviews or focused reviews looking on the consistency of the DR process where individual judgments are critical, or where we're trying to look at where methods may not be as well documented or relied more on the judgment of the individual dose reconstructor.

And we literally, I think this week, got a, or last week, got a list of possible targets for that from SC&A. And I think we've discussed others. And I think the methods, Dose Reconstruction Review Methods Work Group needs to meet and talk about those and so forth.

But the idea is, can we focus our reviews in a way where we would be able to look at, focus very much on the consistency? Are all people being treated the same? And I think that's important, something that we really have missed up

until now.

And so some of that's knowing, understanding all of the methods that are being used, those that have been documented and reviewed for the Board and for NIOSH. And then there may be other, you know, written methods that ORAU uses and so forth, and then some that may be based on, you know, training and general instructions given to the dose reconstructors to do that.

And again, it's not saying that there's faults there, but it is certainly potentially a place where dose reconstruction may not be as good as it could be, or at least there's more room for error in doing that. And we need to take a look at that and specify what needs to be done in those cases.

And then the other is to continue the blind reviews which I think have been useful and valuable. And I think the DR Subcommittee agrees with that. And so we would do that at some level. And so I guess we're open to comments on do those make sense, and are there other recommendations that we want to make at this time relative to this

process? Henry.

MEMBER ANDERSON: I would say I'm generally in favor of, you know, a more selected set of reviews than the comprehensive ones. But I think it would be helpful if we could ask our contractor what would be the difference in the time requirement to do the reviews as we're doing them now, which they go through the whole gamut of processes versus a more selected, targeted type of review.

Would that, you know, how more efficient time-wise on their behalf would that be? Do we have any sense of that?

CHAIRMAN MELIUS: No. Well, there's sort of two things sort of mixed in there. One, for the basic reviews, what we've been talking about is are ways of making the resolution process more efficient. Because that's where we seem to get behind. Our contractor does an efficient job of doing the reviews. We're not --

MEMBER ANDERSON: So it's bringing each set of reviewers together to review them?

CHAIRMAN MELIUS: Well, no. No,

remember, they do the reviews, get the sets of reviewers together. That takes some time, but it gets done.

Then it goes to NIOSH for, you know, comment. And then it goes to the Subcommittee to resolve, you know, the difference in comments or difference in perspective between NIOSH and SC&A basically, and, you know, the Subcommittee.

And then the Subcommittee tries to resolve those comments. And that's what takes time. And I have another slide coming up that'll sort of describe what the recommendations are. So that's one issue.

The second issue is focusing on consistency in reviews where there's, in terms of the method or --

MEMBER ANDERSON: That's what I was --

CHAIRMAN MELIUS: -- something like that. And that I think is going to -- the amount of time and the sample required I think is going to depend on the specific focus of that.

MEMBER ANDERSON: Okay.

CHAIRMAN MELIUS: And I think we're

going to have to work out what's a reasonable sample on that. Because I think it may depend on how complicated the methodology is, how complicated the sites may -- how many sites are involved using that methodology and so forth.

And we've got some good recommendations from SC&A on that. I don't think that's been cleared to send out to the Board yet, or maybe it has. I can't keep up. But we'll get it out to everybody. And then we need to have a meeting of the Methods Work Group to go over that.

And that's why I think we would pull all this together in terms of what's a reasonable sample and reasonable mix of these different types of reviews.

Any other thoughts in terms of recommendations and --

MEMBER RICHARDSON: I have one just going back and kind of a reflection on what we're doing. It might be worth us revisiting again, I mean, kind of the issues of objectives, and metrics and, like, laying that out, you know, kind of specifically for us, to guide us along.

I mean, we have findings and observations. And we have some letter characterization of types of findings but maybe to step back again and say, you know, what dimensions of the program are, you know, are different tasks of reviewing.

The blind reviews, I think, are not really focused or are focused on some aspects, but not others. And we could, in that way, sort of say, you know, they're going to fill out. So we're going to have certain metrics that come off of those.

CHAIRMAN MELIUS: Yes.

MEMBER RICHARDSON: And not try and do everything with everything but just kind of get ourselves a little bit more structured. And I think that will help in the next report as well.

CHAIRMAN MELIUS: Yes. No, I would agree. And I think, and I don't think we need to do it necessarily in this report but after that.

And I think there is a question of whether we -- we've tended to focus on the resolution process, but there's also a point that

can be made, there's different ways of doing the basic reviews. And some of which would only focus on key parts of the dose reconstruction, not the minor parts I guess is the, you know, do that.

And then like you say, how we record and measure that, I think, is also important. Because that tends to guide the focus.

And unfortunately, it's all our faults, I guess, in some sense, but you set a metric to begin with which we did how many years ago. And Mark was first chairing that subcommittee.

And we've stuck with that and so forth. And I think we do need to re-look at that now and think, as the program has matured.

When we started out, there was essentially no quality assurance process from NIOSH and ORAU. I mean, they were just, they were developing it as they went along which, again, given the pressure to get dose reconstructions done, that made sense.

But, I mean, actually as part of the process -- I think I've mentioned this before -- we actually went back, and there was a Quality

Assurance Work Group that met. And it met so long ago that it was before we were actually having transcriptions of our work group meetings.

And we've never been able to -- we couldn't locate the report from that Work Group and do that. Wanda was the -- you were on it with me. And we got transcripts that refer to it and refer to, you know, submitting a report and so forth. But we've never been able to track down the report from that.

I am sure it's on a -- I have it on a diskette or something, God knows. Probably, you know, an old floppy disk or something, right. So we'll deal with that.

Yes. I'm sorry.

MEMBER KOTELCHUCK: I'm sorry.

CHAIRMAN MELIUS: Dave, yes, go ahead.

MEMBER KOTELCHUCK: You know, it might be helpful to have a little historical section in the beginning talking about that. No, I mean, and, I mean, I've learned that there is so much to change, but I also understand.

If you start a process back when the

bill was passed, that essentially you're making up your rules as you go along trying to be consistent with your scientific and technical understanding. That's an important achievement.

And in no way -- the 2009 report could hardly deal with that or didn't, anyway. I mean I've read it over. And it would be nice to talk a little about that.

And if there was some way of summarizing, I think, I certainly think we were very unsure. Folks on the Board were very careful to try to have made the correct decision for those early cases or early claims that came for us where we had to decide compensation or non-compensation.

But we resolved a lot of those problems or the uncertainties in those. And it would just be nice to have a brief discussion, maybe an appendix even. I don't know who would write that. But I certainly could not. But it would be nice to have that and would give -- because that's not reflected in either report, the progress we've made in the consistency. And in that regard, I even, your remark earlier that, in the case of the

blind reviews, when the numbers are too close, quote, it makes me nervous. And maybe that's not a direct quote.

CHAIRMAN MELIUS: Well, it's close.

MEMBER KOTELCHUCK: But it not only doesn't make me nervous, it makes me assured that, given a certain set of input data, that two different competent scientific groups are getting the same basic results.

And those results, when it comes around 50 percent, make the difference between a claimant getting compensated or not getting compensated.

So I feel like I would like to somehow have reflected that situation of the improvement of our overall process. Maybe I should leave it at that and just say if we could do that it would be an excellent thing.

CHAIRMAN MELIUS: Yes. And I think that was part of the first conclusion.

MEMBER KOTELCHUCK: Ah, okay.

CHAIRMAN MELIUS: Yes. I mean, it's that third bullet there, that we're, it's gotten better: dose reconstruction. And I think it

reflects, you know, really working on the part of NIOSH and ORAU to make those improvements.

I mean, that quality assurance report, which I can say anything about because nobody has a copy, so I can make it up here. But it is, you know, made a series of recommendations.

Tony Andrade is one of our original Board members. It was one the areas he was involved in at LANL. And he sort of led the Work Group and made a number of recommendations which were adopted by NIOSH/ORAU to do that. And I think they have a good program in place.

MEMBER KOTELCHUCK: To me it's, can we document that?

CHAIRMAN MELIUS: Yes.

MEMBER KOTELCHUCK: To some extent?

CHAIRMAN MELIUS: Yes, Yes.

MEMBER KOTELCHUCK: And if we can, I think it would strengthen the report.

CHAIRMAN MELIUS: Okay. Maybe we can find that old report finding. The archivist, Ted, will search it out.

Okay. Just briefly, because I'm going

into LaVon's time, and he usually goes on for such a long time here. But in terms of the resolution process, you know, the recommendation or thoughts have been to focus on sort of major findings.

SC&A sort of recommended that we have a bifurcated process, Type 1 and Type 2, where Type 1 would be major findings and Type 2 would be minor findings and that, you know, that we split those out ahead of the Dose Review Subcommittee resolution process and so forth and do that.

And then, as I talked about earlier, you know, do we expand that to initial review process. I think we have to give that some more thought. Because I'm a little concerned that the Board not totally give up on its need to, you know, monitor the process and stay involved.

And I think we've had some discussion. And so does this mean that when, you know, the two Board members are reviewing individual cases are they going to need to pay more attention to some of the minor findings, so to speak, which could have -- the problem, I think, as we talked about earlier when David Richardson brought it up, is

minor findings on one case can have major implications or moderate findings can.

And so I think we need to sort of think through what we focus on there. But I think it's worth, certainly worth looking into. And we should do that some more. But I think that's more -- I don't think it needs to go into this report as much. But we need to focus on it at another point in time.

So if you have thoughts afterwards, as you go home or later on in the meeting about -- and I'll get to you, Henry, in a second -- on recommendations or conclusions, let me know.

I will write out a draft, work with Dave and so forth on that. And then we will get something out and circulate it. But I'd like to get -- I'd rather not be sort of circulating something where we keep adding recommendations, major recommendations, but rather that we try to focus within those. So better if you get to a certain -- get your thoughts in early. Famous last words, right.

Henry, you had a --

MEMBER ANDERSON: Yes. It sounded as though the bottleneck is your initial reviews and discussions are with smaller groups that are dispersed, and that goes pretty quickly. Then it all concentrates on the Committee.

And my question is, could we just have the whole, have NIOSH come back to the review group, the individual, the two or three to go over it and discussion be there?

How often does the Committee make a different review process or decision than the original group did? I mean, we kind of go through and say, you know, we agree with SC&A. And then, apparently, if there's a difference and NIOSH disagrees with it, we don't necessarily hear that yet. We've read and reviewed and are kind of briefed already on it. And what's the role for the larger Committee to be on top of it, the review process?

CHAIRMAN MELIUS: That's a good question. I don't know the answer to it.

MEMBER ANDERSON: And what's the -- it's kind of --

CHAIRMAN MELIUS: Yes.

MEMBER ANDERSON: Bottom line is what's the value added by having a whole other set which is a standing committee do a review and getting back versus the --

CHAIRMAN MELIUS: Wait. The standing committee does the resolution only. So they don't re-review.

MEMBER ANDERSON: Well, yes.

CHAIRMAN MELIUS: But there is duplication there.

MEMBER ANDERSON: Yes.

CHAIRMAN MELIUS: The other part of it though is that, and maybe it's me, but I'm constantly being reprimanded or commonly being reprimanded by SC&A for my, what I consider to be an observation versus a finding or the severity of a finding.

Because they say, well, the Subcommittee doesn't want to hear those, you know, doesn't want to deal with those. They consider those to be, you know, a minor finding.

And I'll have questions on a finding,

whether I think, you know, maybe it's just, you know, because I'm exaggerating my role in this or whatever, though my other reviewer usually agrees with me.

I mean, the Committee adds something to it in terms of consistency and perspective on findings over many cases, and over, you know, the same site also.

I mean, I think it's helped that the Subcommittee now tries to group by site when they're doing the reviews. And I think that's helped with the consistency of those and the efficiency of those reviews.

MEMBER ANDERSON: Then it's, I mean, I'm just looking for --

CHAIRMAN MELIUS: Yes, yes. No --

MEMBER ANDERSON: -- that we've established this process, and we crank away through it. And it's more in a -- it sounds to me like it is a value added, and it adds something more. It's a richer approach then as it comes back for the final report here. And so I would say that's good.

But I just wanted to be convinced that, we got all these layers that were set up, that they're in fact adding to the process. It sounds like it is.

CHAIRMAN MELIUS: Yes, I think it is. I think we have to ask -- I think it's certainly, well, one, it keeps everybody, all the Board involved in the process and understanding it. And I, you know, personally again, found it valuable to participate. And I'm obviously not on the Subcommittee and doing that.

MEMBER ANDERSON: Yes.

CHAIRMAN MELIUS: But there may be other ways of thinking about that, which we should. Yes, Dave?

MEMBER KOTELCHUCK: I don't think the Subcommittee reviews or disagrees with a recommendation from a work group. I mean, when a work group said we think this is the case, or AWE recommends this, I think generally the Subcommittee accepts the particular issue that has been raised, and then we really look for overall consistency --

CHAIRMAN MELIUS: Yes.

MEMBER KOTELCHUCK: -- with other cases that we've looked at. So I don't think we spend a lot of time debating. I think we accept the value of the Work Group's recommendation, more or less --

CHAIRMAN MELIUS: Yes.

MEMBER KOTELCHUCK: -- obviously. We reserve the right to disagree, but we very rarely do.

CHAIRMAN MELIUS: Ted, you had a --

MR. KATZ: Well, I'll just say, I mean, I think Dave, Dr. Kotelchuck, is speaking to work groups of the Board but not the two-person Board Work Group, the two-person Board team that sort of pre-reviews the dose reconstruction with SC&A. So you're talking about, really, two different things.

MEMBER KOTELCHUCK: That's true. Okay, got you.

MR. KATZ: The Subcommittee never sees the input of the two-member team that pre-reviews the dose reconstruction, right. I mean, so they

do their pre-review with SC&A, and SC&A then makes revisions if they feel revisions are appropriate based on that early input. And then that dose reconstruction draft is finalized and sent to the Subcommittee.

CHAIRMAN MELIUS: You mean we've been ignored all this time?

MR. KATZ: Yes, totally ignored. No, no, I mean, you have a different --

(Laughter.)

MR. KATZ: Not the case. But SC&A, it's sort of SC&A's pre-check before they go before the Subcommittee. Are we on target? Are there things we've missed?

And that was always the, I think, intent of the original two-member team looking early before they complete their draft of the --

MEMBER KOTELCHUCK: So that's why we don't disagree.

MR. KATZ: Yes. So that's what happens.

CHAIRMAN MELIUS: Maybe on that note we can move along. Well, on that note, while we are

all laughing, we will have LaVon Rutherford give us the SEC Update. Come on, LaVon.

SEC PETITIONS UPDATE

MR. RUTHERFORD: I'm going to give the SEC Update. I'm LaVon Rutherford, the Special Exposure Cohort health physics team leader. And we give this updated every Board meeting, it gives the Board a chance to prepare for Work Group meetings and future Board meetings.

We will talk about the summary, petitions and qualification, petitions under evaluation, petitions currently under Board review, and potential 83.14s.

Currently, we've had 231 petitions. We have three in the qualification phase process. We actually have no petitions that are under initial evaluations. And we have 12 reports that are with the Board in various phases.

We have a Y-12 petition that's in the qualification. This petition has been here for quite some time because the petitioner requested a classified interview. We actually conducted that interview in January. Those notes have been

released and we are going to continue on with the qualification with this petition.

We recently received a petition for Bliss and Laughlin. The Board will remember, we actually acted on a petition some time ago with Bliss and Laughlin for the entire operation and residual period. However, we extended that residual period about three months, so we are going to have to move forward and qualify this petition, because this petition includes that three months, and perform an evaluation.

The third petition is a petition we recently received for the Pinellas Plant, and that is in the early phases of the qualification process. Our petitioner is in the house today. So those are the three petitions we have in qualification at this time.

The petitions that are under Board review that are waiting for initial Board action. Idaho National Lab, that petition is going to be discussed, I believe, tomorrow. At least a portion, a small portion of that petition.

SEC-221, Lawrence Livermore National

Lab. That will be presented to the Advisory Board, I believe, tomorrow as well.

And Carborundum is a petition that we presented, I believe, a few Board meetings ago. SC&A did get a review of that. It was sent to SC&A for review by the Board. SC&A provided us a report. We are working on addressing the findings from that report. And I'm sure we will have a further update during the Work Groups.

Argonne National Lab West is a petition evaluation that will be presented after lunch today. I think Dr. Taulbee will be presenting that.

Blockson Chemical is a petition evaluation for the residual period where we presented a meeting or two ago. And we are waiting for a report from SC&A on that one.

We have a number of petitions that have actually had Board action taken, but they have some time during the evaluation period that the Board had not made a final conclusion on: Fernald, Los Alamos National Lab, Rocky Flats, Grand Junction, Sandia, Santa Susana, and Savannah River Site.

I know there will be some Savannah River Site update tomorrow. The other sites, information is included in the Work Group coordination document, so we will be prepared to discuss them during the Work Group Updates. But if anyone, after I'm done and ready for questions, has a question, they can ask me.

Potential 83.14s, this hasn't changed in a number of Board meetings. We had a Sandia National Lab Albuquerque, early years. The Department of Labor has taken action that they have already included any cases that were received. This was the old LANL Z Division and they were actually compensated under the SEC for LANL. But with that change in designation, if we do get a claim in the future, we will be ready to move forward with an 83.14.

Dayton Project Monsanto. This is a site that changed to a Department of Energy facility. They added a nine-month period when operations shifted from the Dayton Project to Mound. We still have not received a claim that would fall into that or would be affected by that

change. When we do, we'll move forward with the 83.14 on that.

And that's about it. Questions?

CHAIRMAN MELIUS: Okay. Questions for LaVon? Okay. You wowed them again. No questions. Okay. No questions, no announcements. We will break for lunch and we will be back here at 1:30 sharp. We have an SEC evaluation presentation and petitioners may be on the line. I don't know. But anyway, we should try to start right at 1:30. So we'll see you back then. Thanks.

(Whereupon, the above-entitled matter went off the record at 12:02 p.m. and resumed at 1:33 p.m.)

CHAIRMAN MELIUS: Okay. Welcome back to the afternoon session of the first day of the 110th. I hope you all have recovered from LaVon's fine presentation. There will be a quiz later on, starting with LaVon. Okay.

So, anyway, we are having our first presentation, Tim Taulbee, and it will be on Argonne National Laboratory-West.

MR. KATZ: And as you're getting up to pitch, let me just make sure we have on the line our two Board Members who can attend, I think, by phone. Dr. Ziemer, are you on the line? And Mr. Schofield? We have Phil on the line?

MEMBER SCHOFIELD: Yes.

MR. KATZ: That was Phil, I think, right?

MEMBER SCHOFIELD: Correct.

MR. KATZ: Thanks. Dr. Ziemer, are you on the line?

MEMBER ZIEMER: Yes, I'm here.

MR. KATZ: Okay. Great. Thanks.

CHAIRMAN MELIUS: Okay. Go ahead. It's all yours.

ARGONNE NATIONAL LABORATORY-WEST SEC PETITION EVALUATION REPORT

DR. TAULBEE: Okay. Thank you, Dr. Melius. This next presentation is about the Argonne National Laboratory-West, SEC Petition Evaluation Report, or SEC, 224.

Before I get started, I want to recognize the ORAU Evaluation Team. They did a

fantastic job on this report, for those of you who have read it. This team was led by Mitch Findley. And Brian Gleckler, Jason Davis, and Mike Mahathy were the health physicists who worked on this. I have listed here in parentheses beside each of their names the different areas or facilities within the report that they were responsible for.

The whole team was supported by a great data capture support team. Bill Connell, Jennifer Warner, Art Gutzman, and Guy Babin. Together they captured around 100,000 pages of information during this evaluation, so this was a tremendous effort by this very fine team.

A little bit of an overview of the petition. The petition was received on December 4th, 2014. The petition qualified March 13th, 2015, or a little over a year ago.

Notification went to the petitioner and the Advisory Board, in June of 2015, that NIOSH would exceed the 180-day deadline due to the complexities of the site and the need for us to conduct multiple data captures.

There was a further delay in September

of 2015 due to some dosimetry records issues, which I'll get into during this presentation, between Argonne National Laboratory-East and Idaho National Laboratory.

The Evaluation Report was sent to the Advisory Board on February 24th, almost one month ago. We missed it by one day. But the Evaluation Report was then sent to the petitioner on March 8th after it cleared ADC review.

Anyway, we are proposing a Class today for the Argonne National Laboratory-West workers. And the proposed Class is all employees of the Department of Energy, its predecessor agencies, and their contractors and subcontractors who worked at Argonne National Laboratory-West between April 10th, 1951 and December 31st, 1957, for a number of workdays aggregating at least 250 work days, occurring either solely under this employment, or in combination with the workdays within the parameters established for one or more other Classes of employees in the Special Exposure Cohort.

So, how did we come to this decision to

recommend a Class? I want to remind you a little bit about the Argonne National Laboratory-West within the Idaho National Laboratory. The picture here on the right, you will see the blue boxes, these were the areas that I covered under SEC-219 about one year ago, in March of 2015.

Today what I'm going to be talking about is the green boxes. These are the areas that were Argonne National Laboratory-West. It was a separate contractor under the Department of Energy and actually fell under the Chicago Operations Office. So these were kind of separate entities within the boundaries of the site.

And just to remind everyone that the red dot there in the center is the Naval Reactor Facility. That is not covered under this program.

So, what we are going to talk about is the west area down in the lower portion of this map, and then the east area to the right-hand side, those two different green areas. They are separated by about 18 miles.

The west area was the first area, operating from 1951 to 1967. And the east area

started operating with TREAT Reactor around 1958, and that is what is today considered Argonne National Laboratory-West.

So, the major operating facilities really can be divided by this West and East site within the facility. I've listed here the full names of each of the acronyms that I'll use throughout this presentation. But the West site consisted of the Experimental Breeder Reactor No. 1, the Zero Power Reactor No. 3, Boiling water Reactor experiments, or BORAX experiments, and then the Argonne Fast Source Reactor.

Then the East site had the Transient Reactor Test, Experimental Breeder Reactor No. 2, the Fuel Cycle Facility, Hot Fuel Examination Facility, the Laboratory and Office Building, and Zero Power Plutonium Reactor.

This is kind of an outline of the facilities I'm going to go through in this presentation.

So this is the West area that consisted of EBR-I, the ZPR-III, and AFSR. And you can see it's a very simple facility during this time

period. There is not a whole lot of buildings. There is not a lot of infrastructure going on.

Down in the lower corner, just outside the fence, you will see the BORAX control room in this particular picture. So this is all that there was really from 1951 up through 1967 here at this facility. And you can see the parking lot is relatively small. This is a relatively small work force that was doing this work.

But this work was really cutting edge at the time. This is kind of the birthplace of nuclear power in the United States, and for that matter, the world.

Experimental Breeder Reactor No. 1 was the first reactor to generate electric power in December of 1951. You'll see the four light bulbs in that particular picture, that's the first time that power was ever produced out of a reactor.

In 1953, the analysis of the EBR-I fuel and the blanket around the core demonstrated the breeding concept. It actually produced more fuel than what it consumed. That was the first time that had ever been done.

The picture in the lower right is actually the blanket that goes around the core. You see the hole there in the center. This raised up around the actual reactor itself. Neutrons were absorbed in this blanket and produced plutonium. That blanket is depleted uranium encapsulated in stainless steel. These were bricks around it.

And November of 1962 was the first reactor to generate electricity using a plutonium core. So, this reactor was a first of its kind in many ways.

The radiological exposures around EBR-I were primarily mixed fission products. There was very limited actinide exposure due to the cladding of both the fuel and the blanket. So, as long as it didn't rupture, there really wasn't any potential for exposure. You'd get some mixed fission products with -- or in activation products, but other than that, there really wasn't that much exposure from that standpoint.

There was a blanket brick rupture in April of 1955. Following that, plutonium

bioassay was collected from 16 workers after that incident. We did not find any other plutonium bioassay, although there were monthly reports that indicated a couple other instances where some of these blanket bricks ruptured and they had to extract them from that pile and then send them back to Argonne-East for analysis.

In November of 1955, the EBR-I core actually melted. Obviously, at this point, you would release quite a bit of fission products into the area. And the building was evacuated and shut down for several days. This was following a reactivity test that they were doing.

The recovery from this was quite significant. They had to build a special coffin to remove the core. This is a picture of the melted core that was sent back to Argonne-East. There was some uranium and mixed fission product bioassay for some workers, not all of them, during that time period of November of 1955.

So, jumping over to the Boiling water Reactor experiments, or BORAX-I. This reactor was built in 1953 and its purpose was to determine

the self-limiting characteristics of water cooler reactors. This was a small reactor in a tank of water, is the best way to describe this. It could only be operated in the summer months because it wasn't housed in a building. And Idaho, as you know, can be very cold in the winter. And so they had to drain the tank and they really couldn't do anything except for during the summer months.

In the picture to the right, you will see where the BORAX control room is, just outside where it says the remainder of EBR-I area. The BORAX control room was roughly there. Up in the far left-hand corner you'll see BORAX-I, and then on an arc off to the right is where BORAX experiments II through V took place.

As I mentioned, BORAX-I was a reactor tank filled with water brought to criticality boiling conditions. They would test the reactivity by removing the control rods. And when they would do this, water would blow out of the reactor like a small geyser. And you see off to the right water spewing out of this open tank there in the middle of the facility.

This was a small reactor. Off to the right you'll see a worker kind of standing on a gangway of an open tank and the reactor is down in it. And so this is the basic design. It was just an earthen berm, a hole dug with a tank and a reactor inside. Again, this is the 1953 time period.

The final test for BORAX-I was conducted in 1954 and they deliberately pulled the control rods very quickly, introduced a large amount of reactivity, and the reactor exploded due to rapid steam build-up. So you had basically all the water in the tank flashed to steam and blew out the top, and blew the fuel, the control rods, other activated equipment, and scattered it across the area.

This was a test to see how the reactor would respond, back in 1954, from a boiling water experiment. We interviewed -- we were fortunate enough to interview a worker who participated in this test and he gave a detailed account of the event.

One of the things he brought up was a

photographer had to go in and get the film. That picture that you saw before, the camera was closer to the reactor than any of the people were at the time that it exploded, but they had to go back and get it. In the process, he was contaminated and he had to be decontaminated from these fresh mixed fission products.

The following days were spent rotating workers into and out of that hole, that pit, to recover gold foil so that they could determine the power the reactor had attained before it exploded. So, they had positioned gold foils around the core and then these got blown apart and scattered throughout the area. And so the workers were trying to recover these gold foils to figure out what that power was.

So, basically, workers are standing in the remains of a reactor digging and sorting through the mixed fission products and activation products. So, this was a pretty significant exposure to these workers.

So, BORAX-II was much more controlled, in a sense. At this point, they moved the location

off to the right and began to do not the large reactivity experiments, but more experiments, nonetheless, about boiling water reactors. It didn't have a turbine initially, so there was no electrical power generation. The previous one, BORAX-I, didn't have one either.

But in 1955, they did add a turbine to demonstrate that, under normal conditions, the turbine would not become contaminated and that contamination shouldn't be a problem.

BORAX-III was really BORAX-II with the turbine, is all the difference was between those two reactors. In July 1955, this was the first reactor to supply atomic-generated power to the city of Arco. Off to the right, you see the building with the turbine and then the transformers or the transmittal truck down in the lower right-hand corner that was brought in to send the power to Arco, and then the newspaper headline.

So this is kind of historic. This is the birth of nuclear power in the United States that was conducted out there by Argonne National Laboratory-West.

So, within these first two areas that I have talked about, I want to talk about the external and internal dosimetry a bit here. Because when we first started this evaluation, the Argonne National Laboratory-East had reported that they believe they didn't have any dosimetry records for Argonne National Laboratory-West personnel, that they had turned them all over to the Idaho Site.

Idaho National Lab, on the converse, reported that they believe they had all of the Argonne National Laboratory-West dosimetry. When we requested dosimetry for certain workers that we knew were involved in some of these tests, we found that INL didn't seem to have some of the dosimetry we expected them to have.

So we set up a blind test, and this was what caused that delay back in September, of 50 cases with some people we knew to have worked at Argonne National Laboratory-East before going to Argonne National Laboratory-West and some that we knew only worked at Argonne Laboratory-West.

So we then compiled that dosimetry to

see what we had. Interestingly, both INL and ANL-East have parts of the early dosimetry, but neither appears to be complete, from this experiment or this testing that we did.

What we found is Argonne National Laboratory-East in Illinois does have the individual dosimetry readings for most workers, not all, of the test case, from 1952 through March of 1955.

INL, on the other hand, only has the annual summaries from 1952 to 1957 for Argonne National Laboratory-West workers who were still employed in 1958. 1958 is when the site transitioned from a paper copy or a paper system into using an IBM system or an electronic records-keeping of the external dosimetry.

We did find that Idaho National Laboratory deidentified individual dosimetry readings from 1954 to 1957. And what that means is that the site took over around 1954/1955 timeframe. The Atomic Energy Commission's Health and Safety Laboratory out there started reading the dosimetry that they would provide back to the

site, or to EBR-I, "here is the list of readings for these badges." The names of who got those dosimetries got added after the fact. It wasn't submitted with the badge initially. So we have this deidentified data, but no way to pull it back to who it was.

Starting in 1958, we do have individual dosimetry readings for all workers up through the 2005 when the site combined back with INL. So there is a potential for an external dosimetry gap here, from 1955 through 1958, if a worker terminated before 1958. We don't really have any confidence that we would be able to get that data. And we're also not sure whether Argonne National Laboratory-East in Illinois has all of that early, pre-1955 data. We found it for most workers, but not all.

Interestingly, we found some for secretaries, that they were monitored, but then other people we knew were there, we did not get a response back from Argonne National Laboratory-East. So it's most people, but not all.

So, looking at the internal monitoring, the bioassay monitoring, there was a campaign in June of 1952, shortly after they started up in 1951, for bioassay. And it looks like a large number -- or not a large number, but a significant number of workers were monitored for gross alpha and uranium. But we have very limited, very few samples for mixed fission products prior to 1958. And no mixed fission product bioassay for the people known to have worked during that BORAX-I recovery in 1954 when they were sifting through the remnants of the reactor looking for those gold foils. We know some of the workers that did that work and we specifically looked at their bioassay and there's nothing there.

Neither ANL-East nor INL provided the bioassay of the 1955 ruptured brick or core melt that I talked about earlier. Those records we obtained from other boxes of radiological records out at the site. These had not been tied to these individual workers.

So there's the potential of the other

ruptured bricks that occurred, that there could be more plutonium bioassay out there that we don't know about.

In the absence of bioassay monitoring data, we can sometimes use air monitoring data to estimate internal dose. Unfortunately for this area, we did not locate any air monitoring data between 1951 and 1954, and in 1957.

We do have limited air monitoring data for '55 and '56, but these files appear to be in an individual health physicist's records, because they bounced around different months depending upon kind of which area he was working in. And they were limited to the reactor top, the main floor, and the basement.

After 1958, we do have extensive bioassay data available, as well as we found air monitoring data and smear data, indicating that in general the areas around EBR-I and ZPR-III were clean and very low level of contamination. There were the occasional hot spots identified, but there was cleanup afterwards and the next survey would be negligible.

We looked extensively for records for the EBR-I ANL-West complex there in this early time period. We looked both out at INL, at Argonne National Laboratory-East, at the Seattle Federal Records Center. Because the site is now a national historic monument, we looked at the Department of Interior to see if they had any records.

And then President Johnson is who designated the site as a national historic monument. We contacted the Johnson Library to see if they had any of these records for EBR-I. So we did look for these records. We believe they were taken, but nobody can seem to find them anywhere. And we really did look hard for this.

So, a summary of EBR-I and BORAX. Without mixed fission product exposure information, bioassay, or air monitoring, we really can't estimate the mixed fission product dose associated and the associated actinide exposures for EBR-I and BORAX in those early years with the brick ruptures as well as the BORAX experiments and recovery.

We also have a potentially incomplete external monitoring data issue for workers at this West site who were terminated before 1958. So this is why we are recommending adding a Class to the Special Exposure Cohort, due to this inadequate mixed fission product monitoring and potentially incomplete external monitoring data prior to '58.

So, before I leave the West site, I want to talk a little bit about ZPR-III. This was a reactor design that was two halves of the reactor. There was fuel drawers that were inserted and the two halves were brought together to attain criticality. One half moved toward the other.

And you can see this is a fairly small reactor. In this picture, it really illustrates somebody standing there on the face of the reactor and he's holding a drawer and the drawer is there off to the right. These drawers are filled with uranium, depleted uranium, enriched uranium, and sodium. They would do the mock-up of the actual reactor with these drawers and then evacuate the room, bring the halves together to achieve

criticality.

The radiological exposures were minimal fission product exposures. The reactors were operated at very low power. Zero power, basically. There is some potential for uranium exposure in handling the fuel plates and the pins, as they were only painted and not clad.

Some workers during interviews did discuss that their gloves would be blackened. They would be picking up some oxide from this uranium.

They did use some plutonium in this reactor, but the plutonium was very well-controlled and caution was used. When the plutonium elements came in, they were encapsulated. They were checked. They were surveyed when they went into storage. When they came out of storage to be loaded into the drawers, they were surveyed again, put into the reactor. After the reactor experiment, the drawers were removed. They were checked again for contamination. You see all of this in the records. So it was very tight control on these

plutonium fuel plates for contamination.

And so that covers the West site of the Argonne National Laboratory. The East area, this is a modern view of the site, and this is kind of what people think of with Argonne National Laboratory-West, is this particular picture, where you have got EBR-II there in the center of the fuel cycle facility. And then ZPPR in the foreground here and TREAT way back in the corner.

Well, TREAT was the Transient Reactor Test Facility. It started operation in February of 1959. Its purpose was to study fuel meltdowns, metal-water reactions and interactions. The transient behavior of fuels and high-temperatures. It also did some neutron radiography in the earlier years.

But whenever they were doing these fuel meltdown experiments, it was a remote operation. People evacuated the building down to a controlled area, and then before entry, health physics monitored and cleared the building before any workers could go back in.

The Experimental Breeder Reactor No.

2, this is the follow-on to EBR-I, was originally designed and operated with emphasis on demonstrating a complete breeder reactor power plant with onsite refuel processing of metallic fuel.

It achieved dry criticality in September of 1961. And by dry criticality, I mean it was just that. The control rods were pulled out. There was no coolant in there, no sodium. But it was low power, so there wasn't a lot of heat generation.

It went wet critical in November of 1963, almost a little over two years later, that was when sodium was added to the reactor.

The external dose. There was some with EBR-II, but it wasn't tremendous. The design of the reactor with sodium tended to keep the fission products, including volatiles like iodine, bound in the system, in the pool away from the reactors while they decayed. Some areas did have moderate levels of exposure.

Through interviews with workers, the major concern we heard expressed was exposure

while cleaning and removing the dross, or an oxidized tin-bismuth material around the rotating plugs used to move the fuel. This area was right above the reactor and above the argon blanket gas. There is about 18 inches of argon gas separating the sodium from air. And argon is heavier than air, so it just sat there. And the exposure is really primarily due to activation products, but some mixed fission products at that point.

The internal dose is primarily beta-gamma. For EBR-II, there is no actinide exposure without beta-gamma exposure. Thus, the beta-gamma bioassay and monitoring can be used to bound these actinide exposures.

There is urinalysis and extensive whole-body counting of the workforce. Monthly reports indicate approximately 30 to 35 workers per month were counted in the whole-body counter.

There was also other workplace monitoring. There was continuous air monitors throughout the building and on the exhaust. Routine surveys of the building, including checks for alpha contamination throughout the building,

were conducted.

The Fuel Cycle Facility began operations in 1964 and operated through 1969. It demonstrated a fully functional reprocessing facility. So, basically, elements coming out of the reactor were sent through the fuel -- or were sent into the air cell and then transferred into the argon cell where the actual reprocessing took place, where the fuel would then be chopped and cut down and melted separated from the fission products and the poisons that you have in there within the fuel elements, and new fuel elements made and sent back into EBR-II and irradiated.

The outer rooms around this annular argon cell there in the center were initially to support those operations. And I'll talk a little bit about the mold prep room there, Room 25, in a moment.

Later on, this became part of the cold line where instead of reprocessing irradiated fuel, they would take cold fuel, or fuel that had not been irradiated, fresh uranium, and make fuel elements in those outer rooms. This is before the

fuel and storage building was built.

The argon cell itself, where all this reprocessing was done, where the fuels were dissolved, was not entered until 1978. There is extensive monitoring when they did this refurbishment. There is an article in Health Physics by Jack Courtney who kind of outlines the entire process, including the actinide components that they observed when they went back into this argon cell.

Air cell entries, according to interviews, were infrequent. There was an effort to decontaminate before they sent people into the Air cell. Health physics monitored before, during and after each of the entries. There is usually air samples that were taken during the work in the cell. And, again, beta-gamma contamination levels were much higher than the alpha and dominated the exposure in this area.

There was some sub-cell work in the basement, but, again, according to workers, health physics was always present, always accompanied operations and surveyed before and after their

work.

At FCF, the radiological monitoring, there was urine bioassay and whole-body counts for the workers that worked there. Again, there was routine air monitoring in the passageways, the main floor, basement, and the roof. Routine radiation contamination surveys, including alpha, throughout the building.

For most of the work, beta-gamma always was present. Thus, actinide exposures can again be bounded by the ratios indicated in the current Technical Basis Document.

You will notice here I said for most of the work. Well, there is a couple of exceptions here, and the exceptions are work in the Mold Preparation Room 25 involved thoria prior to 1967. After 1967, they switched to a zirconium coating and so thoria was no longer used.

However, for Room 25, we do have air monitoring and routine alpha contamination surveys available, and we'll develop an exposure model using the air samples, or 10 percent of the maximum permissible concentration, which is what

the site controlled the air to.

The cold line is the other one. This is where they would be handling non-irradiated uranium and making fuel elements. There was some continuous low level alpha contamination from this work in several of the outer loop rooms. Most of the smears are less than 100 dpm per 100 square centimeters. So, very low level compared to many uranium facilities, but some smear results could be as high as a few thousand.

The air sample data is available from this particular time period and we intend to use this air data for an exposure model.

The Hot Fuel Examination Facility, or HFEF-North. This facility began operation in December of 1972 with a decon cell, and then the main cell went hot in March of 1975. And its purpose was a follow-on to FCF of examining hot and irradiated fuels. It was a larger, more versatile facility that was built than FCF.

In 1978, they added a neutron radiography facility, whereas I mentioned before neutron radiography was being conducted down at

TREAT.

Radiological monitoring at HFEF-North. Workers were again on routine whole-body count schedule. A ratio method can be used to determine the actinide exposures. They also had an extensive fixed air head sampling system. It was installed in 1976. And, again, there is an article in Health Physics describing the system by Jack Courtney.

However, we found routine air monitoring as early as 1972. So, even though the system was noted as being fully operational in 1976, we do have air sampling data back four years prior. Routine radiation and contamination surveys were conducted again at this facility.

The laboratory and office building. This one was really the first one that started operation. If you recall, the start-up of the reactors, 1961 for EBR-I, it was dry critical and it didn't go wet critical until 1963.

Well, the lab and office building was really the first facility that started hot operations there in the -- well, within the West

or the -- yeah, the East site.

The analytical laboratories contained some glove boxes to support EBR-II and the FCF operations. There were some hot cells, some junior caves, that would process small samples from the fuel cycle. And there were vaults that would store fresh enriched fuel before it went to the cold line.

Most of the exposure was beta-gamma. However, due to the nature of the activities, chemical separations, sample analysis, there was some potential for alpha exposure without, or a limited beta-gamma exposure.

The high risk areas were the laboratories and the junior caves. However, there is extensive radiological monitoring throughout the timeline, routine air monitoring and contamination surveys in these areas.

The Zero Power Plutonium Reactor is the last facility here I'll talk about. This started in 1969 and its purpose was to construct assemblies that closely resembled various fast reactor designs. It was designed much like ZPR-III,

except much larger and versatile.

And here you can see, in the photo, the floor for ZPR-I. And individual, the top of his head was about the top of the reactor. Here the top of the reactor is about three times higher. So this is a much large pile that was assembled for ZPPR.

As with ZPR-III, minimal fission product exposures. The reactor was operated at low power. Some potential for uranium exposure, again, handling the fuel plates and pins. Exposure to plutonium was again very well-controlled and caution was used, cladding and verification thereof, both when it was received onsite, when it was stored in the vault, when it came out it was checked again.

When a fuel plate was monitored and found to have contamination, or if there was some type of mechanical defect, it was warped in some way -- they had different tests that they would conduct on each of these encapsulated plutonium elements -- it was bagged and logged as a suspect fuel element. And so they kept very good control

over those particular elements back during this time period.

There were five continuous air monitors, one on each half of the reactor, one near the reactor cell entrance where workers would come in, the loading workroom, and the storage vault. Alpha contamination really doesn't seem to be tolerated. In looking at the surveys that were conducted, most of the surveys are showing less than 5 dpm per 100 square centimeters within the area, which is about 1/4 of what today's limits are.

Routine smears, as I said, indicate low levels of alpha contamination. The air samples were counted down to a point where they would be reading less than 10 percent of the MPC, or maximum permissible concentration.

Argonne is unique in the sense of how they counted their air samples. I hadn't run into this before, in that if they took an air sample, they might immediately count it. They might wait 10 minutes. They might wait a half an hour before they counted it. But then they would follow

through and calculate what the MPC was based upon the limiting isotope. In many cases, it was plutonium for this facility.

And if it was below 10 percent of the MPC, they didn't count it again. It could have been at 8 percent of the MPC, but it was never counted again.

If it was above 10 MPC, they might wait a half an hour, or might wait four or five hours, and count it again. And there would be a string of these counts until it got below, the radon had decayed off, indicating the gross alpha activity was less than 10 percent of the MPC.

So the actinide doses here can be bound based upon 10 percent of the MPC, based on what we saw within these records. And there are literally thousands of these air samples.

So, the feasibility of dose reconstruction across both the East and the West sites here. Up until 1958, the West site, or the EBR-I complex, we determined it to be infeasible due to the limited mixed fission product bioassay and potentially incomplete external dosimetry

records.

We determined the dose reconstruction was feasible for the East site as there was routine mixed fission product bioassay and air sample data indicating alpha exposures were controlled to less than 10 percent of the maximum permissible concentration.

So, from a health endangerment standpoint, some workers in the Class may have accumulated chronic radiation exposures through intakes of radionuclides at the EBR-I complex of ANL-West. NIOSH is therefore specifying that the health may have been endangered for the workers monitored at ANL-West who were employed for a number of workdays aggregating at least 250 workdays.

So, what about employees not included in the SEC that we are recommending? We intend to use the monitoring data to conduct partial dose reconstructions for individuals not part of the SEC. We recognize, even in that earlier time period, for external dose we may not be able to do a complete external dose reconstruction. If we

have records for the individual, we will include them, obviously. But if we don't, there is really no other avenue for us to try and estimate those external doses.

So, again, our proposed Classes: All employees of the Department of Energy, its predecessor agencies, and their contractors and subcontractors, who worked at Argonne National Laboratory-West between April 10th, 1951 and December 31st, 1957, for a number of workdays aggregating at least 250 workdays, occurring either solely under this employment or in combination with workdays within the parameters established for one or more other Classes of employees in the Special Exposure Cohort.

And with that, I'll be happy to answer any questions you have. Thank you.

CHAIRMAN MELIUS: Thank you. Thank you, Tim. And thank you and the ORAU staff for a very good, thorough report.

DR. TAULBEE: Thank you.

CHAIRMAN MELIUS: I'm surprised they let me on the plane with it, right? One small

suggestion. If it would be helpful if you could number the slides. I can't, you know --

DR. TAULBEE: Okay.

CHAIRMAN MELIUS: -- kid you about how many slides there were, but more importantly if we have to refer back to them during the discussion, it helps.

DR. TAULBEE: Sure.

CHAIRMAN MELIUS: So, anyway, small point. Small point for that.

DR. TAULBEE: Will do.

CHAIRMAN MELIUS: Questions or comments for Tim? Yes, Gen.

MEMBER ROESSLER: That was a lot of slides, but I think it's important to have all that background information, because there are a lot of different facilities there. And with the photos and stuff, it was interesting.

The thing I want to compliment you on is giving the bottom line first. NIOSH didn't use to do that and you used to have to either look ahead or wait and see. Because if you give it first, then as you are going through it, you will

understand it better.

So, my question is, apparently something changed in 1958 because the external dosimetry got better and the internal got better. Was there some sort of administrative change at that time?

DR. TAULBEE: The external dosimetry change that occurred was they went from a paper system to an electronic system. So, at that time, instead of just submitting the badges to the Health and Safety Laboratory, the Atomic Energy Commission operated the external dosimetry as well as did the analysis for internal dosimetry.

At that time, instead of just submitting the samples, they started submitting the names with it. And so now there is a record that came back that we have and can identify these people as having this dose coming out of the Health and Safety Laboratory.

MEMBER ROESSLER: So it was more of a technology change that --

DR. TAULBEE: Only a technology from a record-keeping standpoint that changed, from that

standpoint. With regards to the internal, that one is actually really interesting, because the Health and Safety Laboratory had been conducting, since 1955, these bioassay analysis. But the records appeared to have gone back to the site and were not retained by the Health and Safety Laboratory.

Starting in 1958, we start seeing those records as part of their complete set and incorporated into the same volumes that we saw for all the other INL workers. We would be going through and seeing CPP or TRA, and then see Argonne National Laboratory-West or EBR-I.

Whereas, in the earlier years, those pages were actually pulled out and they were sent back to EBR-I and we didn't have them. So that was the change.

CHAIRMAN MELIUS: Along those lines, was there a rationale for why they had deidentified individual monitoring? That seems unusual to me.

DR. TAULBEE: I believe what they did was they took the collection of badges, sent them over. They got the results back and then they knew

that worker, you know, John Smith had Badge 3001 and --

CHAIRMAN MELIUS: So it was a coding system?

DR. TAULBEE: So it was a coding system. And EBR-I kept those records of who had which badge to themselves.

CHAIRMAN MELIUS: Oh, okay. Okay. I see.

DR. TAULBEE: When they switched to electronic, they had to provide both.

CHAIRMAN MELIUS: Okay. And then they didn't maintain the identifiable coding or records, however you want to --

DR. TAULBEE: That's correct. Well, if EBR-I and Argonne-West kept them, we don't know where they are.

CHAIRMAN MELIUS: Yeah, that's the other possibility. Okay.

MEMBER FIELD: I was just really curious: what kind of electronic system did they have in '58?

DR. TAULBEE: They instituted an IBM

mainframe computer system for dosimetry.

MEMBER FIELD: Punch cards?

DR. TAULBEE: Punch cards, yes. But then they would get monthly printouts of what the dosimetry was. Actually biweekly for some workers.

MEMBER BEACH: So, I have a question back on, I think, Slide 20, the EBR-I. It's sort of close to what Gen was talking about. The cut-off dates are always interesting, but your third bullet says "after 1958 bioassay data is available."

DR. TAULBEE: That should say after '57, sorry.

MEMBER BEACH: That's what I thought. So I wanted to clarify that. And have you done some verification on the number of bioassay data that's available after '57 -- you may have said it -- and the percentage of what you have?

DR. TAULBEE: Within the report itself, with the Evaluation Report, you will see tallies of the number of bioassay that we have collected over this entire time period. So

there's a chart in there that shows how many bioassays there are.

CHAIRMAN MELIUS: Any other questions? Dave, go ahead.

MEMBER KOTELCHUCK: I'm just curious. I've never seen the two-half reactors that were brought together. Could you tell us a little bit about what was the function of those? What was to be learned? And the folks standing around didn't seem to be wearing much in the way of protective clothing. I assume they had badges and things.

DR. TAULBEE: That is correct. They did not wear much protective clothing because there really wasn't much of an exposure with these encapsulated uranium and plutonium. The plutonium was always encapsulated in stainless steel. And so there wasn't much of an exposure.

The drawers were actually loaded in the workroom, that's where they were taken out and put into the sequence and then loaded into the reactor.

The purpose of them was to study fast reactors. How do they fission? How do they respond? And so they can mock up different

designs, instead of building a large reactor and then trying to, you know, do the core configurations. This was kind of generic. They could come up with whatever reactor design that they wanted, and then they could put it into the drawers, bring the two halves together.

And a major part of this was verifying early reactor codes of whether or not they could follow the neutronics of achieving criticality and whether their calculations matched what they found whenever they were doing this.

CHAIRMAN MELIUS: I have one question. Where did you get those nice pictures of Brad though? I mean, you know, in his earlier, younger days.

(Laughter.)

MEMBER ANDERSON: I noticed on Slide 41 you talk about the East site and that it was-- you determined that it was feasible. I'm just curious about your justification there, that because the test results available were low, it's feasible? I mean, or were there enough individual data or --

DR. TAULBEE: Once you get to 1958 and forward, the record-keeping became a lot better, for one thing. So we have a lot more of the bioassay associated with the workers. And I guess I shouldn't say the record-keeping got better. We could find the records, let me put it that way.

As well as in addition to the bioassay, we also have the air monitoring data. And you have contamination surveys that were being conducted and we could locate that information to look at what the exposure levels were.

And so that's really the big difference. Once the East site became operational, it seems like all of the records were maintained there until 2005 when they combined with INL. And so we were easily able to find all of those records and look at these exposures.

MEMBER ANDERSON: My point was more if there's data available that you could do dose reconstruction, that's fine, but the point you make in your bullet here that it's justified because it's controlled to less than 10 percent of the MPC, I mean, that really doesn't help other

than, I mean, if you are doing just, you know, a generic, oh, you know, we have some measurements there and nothing was above 10 percent, so there are no significant exposures. That's really not dose reconstruction.

DR. TAULBEE: No, that's not what I'm saying. What we are saying here is that in most cases, for most workers, we can use the mixed fission product bioassay to estimate what the actinide exposures are.

There is a few areas where we have the thoria, where we have the cold line, where that mixed fission product tag won't estimate what the actinide exposures are. And that's where we have the air sample data that we can use.

But keep in mind how they counted their data, the actual exposure could be down around 1 MPC or a half of an MPC. But when they got that initial count and it would say at 8 percent of the MPC, they didn't count it again. So our data is all biased based upon it being below 10 percent of the MPC, is how they did their air sample monitoring, which is different than other sites.

Other sites would let it sit for 24 hours, or 72 hours, let all the radon decay, and then you could estimate what the actual long-lived uranium or thoria exposures were.

In this case, they didn't do that. This is unique that we have seen across the -- from all the other sites that we have looked at.

MEMBER CLAWSON: Tim, you were saying that the only neutron radiography was done over at TREAT?

DR. TAULBEE: No.

MEMBER CLAWSON: Okay.

DR. TAULBEE: No. There is the NRAD facility at HFEF-North, as well. Now, the EBR-I, in the early years, did have neutron beam ports, and so they would do some neutron exposures. Now, they did not do radiography, to my knowledge, at EBR-I back in those early years. It was just there at TREAT and then the NRAD facility at HFEF-North.

MEMBER CLAWSON: Okay. And when you were talking about ZPPR-III, you said that the plutonium is a sealed plutonium?

DR. TAULBEE: Yes. It is

encapsulated in stainless steel. And there is numerous surveys when it was received of them verifying that it was free of contamination. And in some cases it wasn't and they sent it back to, I want to say it was, Apollo that they got some of those from.

But so we do see those contamination surveys for each time when it was received, and then when it was put in the vault, came out of the vault, going into the reactor, tested again when it came out of the reactor and stored back in the vault.

MEMBER CLAWSON: Okay. Thank you.

MEMBER RICHARDSON: You had raised the issue of thoria exposure and having to rely on air monitoring data, I think.

DR. TAULBEE: Yes.

MEMBER RICHARDSON: And how are you going to place people into areas where you're going to have to use that air monitoring data?

DR. TAULBEE: Well, we can do this multiple ways. From one standpoint, the biggest dose that you get from that is certainly for the

bone. So, for bone cancer is when this becomes really important. We will be using that air monitoring data for sure for those particular workers if they are in that time window.

For other workers, we can, you know, basically do the same thing but setting a bounding dose. It's really not a large dose to other organs other than the bone and lung from that standpoint. So, assigning the dose to all workers really isn't a major issue, at least from my standpoint of assigning, you know, 50 to 60 millirem.

MEMBER RICHARDSON: But it goes back to Henry's point, I think, that -- let's take lung as kind of the more common claim than bone. Is the proposal that you'll just take 10 percent --

DR. TAULBEE: We would assign it to all workers. Whatever that intake is, we would assign it to all workers. Does that answer your question?

MEMBER RICHARDSON: Yes.

DR. TAULBEE: Okay.

MEMBER VALERIO: Can you hear me okay?

DR. TAULBEE: Yes.

MEMBER VALERIO: On Slide 14, on page 14, the second bullet where you indicated that, "The following days were spent rotating workers into the pit where the reactor was to recover the gold foils." Do you -- were these done in shifts, 8-hour shifts?

DR. TAULBEE: No. These workers were wearing a pencil dosimetry, as well, at least that's our understanding. And once they got to a certain exposure level, they were pulled out for the week.

We do see -- interestingly, within the records we can't find the actual person's dosimetry for that particular time, but we do see the exposure variance reports where they would indicate this person, "we want them to exceed the 300 millirem in the week, because they are working on this BORAX recovery."

MEMBER VALERIO: Okay.

DR. TAULBEE: And so that's when they were. So it wasn't like a single shift. It was up until exposure.

MEMBER VALERIO: Okay. Thank you.

MEMBER SCHOFIELD: Hey, Tim, this is Phil Schofield. I've got a question on that.

DR. TAULBEE: Yes, sir.

MEMBER SCHOFIELD: Do you know exactly what kind of protective equipment they had on? I mean, is it possible -- it talks about there being sludge and stuff. Are there any records of any of these people getting high levels of skin contamination?

DR. TAULBEE: There is certainly records of them getting high level external contamination, so I would assume skin contamination, as well. But we don't have any records indicating what those contamination levels were, for this time period, for these workers that were doing this recovery. So we just don't have any records. I'm sure they were.

MEMBER SCHOFIELD: Okay. Thanks.

CHAIRMAN MELIUS: Dr. Ziemer, do you have any questions?

MEMBER ZIEMER: I have a question, Dr. Melius. Hello?

PARTICIPANT: Yeah. I was just

trying to figure out what this is all about.

MR. KATZ: This is an Advisory Board on Radiation and Worker Health meeting you have called into. So, there is no open comment for members of the public right now.

PARTICIPANT: Oh, okay. Okeydokey.

MR. KATZ: Thank you.

PARTICIPANT: Because I was -- they were talking about dosimeters and stuff like that, rings, and badges and so on.

MR. KATZ: Nope, nope. You have the wrong number, but thanks.

PARTICIPANT: Okay. Thank you.

MR. KATZ: Take care.

PARTICIPANT: Bye.

MR. KATZ: Dr. Ziemer?

MEMBER ZIEMER: Yeah. Maybe I'm premature on this, but I wondered if the Work Group has a specific recommendation on this. Has the Work Group acted on the NIOSH recommendation?

CHAIRMAN MELIUS: The Work Group has not met to review this report. It came out a few days before our last meeting.

MEMBER ZIEMER: Okay.

CHAIRMAN MELIUS: And so it was not. So we will have to do that and follow-up with that.

Are the petitioners for the site on the line and do they wish to make comments? Not required to. We are not expecting you, but I wanted to make sure.

MR. ZINK: This is Brian Zink and I'm the authorized representative for --

CHAIRMAN MELIUS: Yeah, hi, Brian.

MR. ZINK: I do not have comment. I appreciate Tim's work and everybody's work. I know -- I believe Mr. Wolz is on the line also. I'm not sure if he wants to speak of it or not, but I have no comment at this time.

CHAIRMAN MELIUS: Okay. Thank you, Brian. Mr. Wolz, do you wish to make any comments, if you are on the line?

Okay. I guess not. Thank you.

So, next question. Bill, yeah?

MEMBER FIELD: Yeah, I had a question. Can you go over how thoria exposure is calculated again?

DR. TAULBEE: Yes. Let me go back up to that slide. Sorry, blew right by it.

In the mold prep room -- and this room was used from 1964 through 1967 -- we're going to use the air monitoring in that room. There was an air monitor dedicated to Room 25 for this particular work.

And we are going to use the air sample data that's in there, or we will bound it at the 10 percent of the MPC. We have captured the data. We haven't coded it and gone through and developed the exposure model, but we do have the air sample data for that particular room where thoria was used.

MEMBER FIELD: Okay. I guess my question is, is that dermally absorbed?

DR. TAULBEE: I'm sorry?

MEMBER FIELD: It's dermally absorbed, isn't it?

DR. TAULBEE: Dermally, no.

MEMBER FIELD: Yeah, thoria?

DR. TAULBEE: I don't believe so.

MEMBER FIELD: Well, I'd check on

that. I would check on it.

DR. TAULBEE: We will look into that, sure.

MEMBER FIELD: Okay.

CHAIRMAN MELIUS: Any other comments or questions from the Board? Any thoughts on what we should do? Hint, hint.

MEMBER SCHOFIELD: This is Phil. I think we should go ahead and vote on getting them an SEC for this time period.

CHAIRMAN MELIUS: Yeah, I'll take that as a motion.

MEMBER BEACH: I'll second that.

MEMBER CLAWSON: I'll third it.

CHAIRMAN MELIUS: You're too slow, Brad. Any further comments or questions? So it would be the proposed Class, all employees to the Department of Energy, et cetera, et cetera, at Argonne National Laboratory-West between April 10th, 1951 and December 31st, 1957. Okay. Any further comments or questions?

If not, I'll ask Ted to do the roll.

MR. KATZ: So I'll do this

alphabetically.

Dr. Anderson?

MEMBER ANDERSON: Yes.

MR. KATZ: Ms. Beach?

MEMBER BEACH: Yes.

MR. KATZ: Mr. Clawson?

MEMBER CLAWSON: Yes.

MR. KATZ: Excuse me, everybody, please use your mikes when you respond. So, so far, Anderson, Beach and Clawson have said yes, just for the record.

Dr. Field?

MEMBER FIELD: Yes.

MR. KATZ: Dr. Kotelchuck?

MEMBER KOTELCHUCK: Yes.

MR. KATZ: Dr. Lemen is absent. I'll collect his vote as an absentee.

Dr. Lockey?

MEMBER LOCKEY: Yes.

MR. KATZ: Dr. Melius?

CHAIRMAN MELIUS: Yes.

MR. KATZ: Ms. Munn?

MEMBER MUNN: Yes.

MR. KATZ: And Dr. Poston also is absent. Dr. Richardson?

MEMBER RICHARDSON: Yes.

MR. KATZ: Dr. Roessler?

MEMBER ROESSLER: Yes.

MR. KATZ: Mr. Schofield?

MEMBER SCHOFIELD: Yes.

MR. KATZ: Ms. Valerio?

MEMBER VALERIO: Yes.

MR. KATZ: And Dr. Ziemer?

MEMBER ZIEMER: Yes.

MR. KATZ: Okay. And it's --

CHAIRMAN MELIUS: And I have to repeat my yes into the microphone.

MR. KATZ: Thank you. Dr. Melius says yes again. And we have more votes than we have Members, but it's unanimous.

CHAIRMAN MELIUS: Do we have an agreement or suggestion that we refer this to the Idaho Work Group?

MEMBER BEACH: Can we task SC&A at this time?

CHAIRMAN MELIUS: Excellent idea.

MEMBER BEACH: Thank you.

READING OF LETTER INTO RECORD

CHAIRMAN MELIUS: So, tasking SC&A to review the SEC report. Okay. And refer to the Idaho Work Group.

And we also need to do the letter. It could give Ted and our counsel -- make them apoplectic if I just said "the Advisory Board, et cetera." I don't think we'll do that.

"The Advisory Board on Radiation Worker Health (the Board) has evaluated Special Exposure Cohort Petition 00224 concerning workers of the Argonne National Laboratory-West in Scoville, Idaho, under the statutory requirements established by the Energy Employees Occupational Illness Compensation Program Act of 2000, incorporated into 42 CFR Section 83.13.

"The Board respectfully recommends that SEC status be accorded to 'all employees of the Department of Energy, its predecessor agencies, and their contractors and subcontractors who worked at the Argonne National Laboratory-West during the time period from April

10th, 1951 through December 31st, 1957, for a number of workdays aggregating at least 250 workdays, occurring either solely under this employment, or in combination with the workdays within the parameters established for one or more other Classes of employees in the Special Exposure Cohort.'

"This recommendation is based on the following factors:

"Workers at this facility during the time period in question were involved in operations related to nuclear weapons production;

"NIOSH's review of available monitoring data as well as available process and source term information for this facility found that NIOSH lacked the sufficient information to allow it to estimate with sufficient accuracy the potential internal and external doses which employees working at this facility may have been subjected. The Board concurs with this determination.

"NIOSH also determined that health may have been endangered for these Argonne National

Laboratory-West employees during the time period in question. The Board also concurs with this determination.

"Based on these considerations, and the discussions of the March 23rd and 24th, 2016 Board meeting in Tampa, Florida, the Board recommends that this Class be added to the SEC.

"Enclosed is the documentation from the Board meeting where this SEC Class was discussed. Documentation includes copies of the petition, the NIOSH review thereof and related materials. If any of these items are unavailable, at this time, they will follow shortly."

MEMBER RICHARDSON: One friendly concern related to the first bullet point. Other than blowing up a reactor, I'm not quite sure these would be called nuclear weapons.

CHAIRMAN MELIUS: Related to nuclear weapons production. It's broader in there.

MEMBER RICHARDSON: Okay.

CHAIRMAN MELIUS: Boilerplate. If we come up with a better description, we will.

Before we break, I actually have one

request for NIOSH and SC&A. I just want to get on the record here and talk to SC&A. It seems to me that for Argonne-East, the Illinois facility, we have a Site Profile from 2006, it was according to the website, an update on part of that relatively recently, in the last few years, 2014.

We have an SC&A review of the Site Profile going back to 2011 -- or excuse me, 2009. And no Work Group and no resolution on that. I think we have always sort of, you know, procrastinated on this one.

And I think my question is, before we decide do we set up a Work Group, we sort of need an update from NIOSH -- and you can give this later today or tomorrow -- on what the status is of any other updates and sort of where we need to go with this site. I mean, it doesn't make sense to start reviewing an old Site Profile if it's all in the process of being updated.

So, LaVon or Jim or whoever is -- Bob, if you can check on that and let us know, because it seems to me we're starting to look at that site, at least if indirectly, in terms of record-keeping

and so forth for Argonne-West, that it may be time to, you know, address that site. And we've sort of put it off long enough, but you may be in the middle of doing something that I'm not aware of.

So, with that, why don't we take a break? Take a break and reconvene at 3:15.

(Whereupon, the above-entitled matter went off the record at 2:35 p.m. and resumed at 3:20 p.m.)

BOARD WORK SESSION

CHAIRMAN MELIUS: Okay. We have time for Board meetings and Board Work Group updates and Subcommittee updates. I remind the Board that, for those of you that are concerned about timing tomorrow when we finish, if we are efficient with our Board reports, it helps.

But let's start out with scheduling for meetings and for -- first is the location for the August meeting. I believe we had talked about going back to Idaho, since we have another site SEC issue there, related site, whatever we want to call it. And we, you know, have this nice August -- you know, the two-week window when the snow is melted.

So we will -- but I'm not sure, Denver was another one we talked about, but it doesn't look like the report's going to be ready until just before that.

MR. RUTHERFORD: Yeah, just before the August meeting.

CHAIRMAN MELIUS: Yeah, so I think that is cutting it close for that. And now that we have the Argonne-West report out, I think hopefully we can get some help and people on that from there.

So any objections, comments, other suggestions? And then we need to schedule our conference on the -- telephone conference. Ted is suggesting the week of the 23rd to the 30th of 2017, January. January, the week of January 23rd?

MR. KATZ: So if we stick to pattern, how's the 25th for folks? January 25th, that would be the Wednesday.

MEMBER ANDERSON: That's the call.

MR. KATZ: That's the teleconference, right.

MEMBER ANDERSON: It looks good.

MR. KATZ: Does that work for everyone? Okay. January 25th.

CHAIRMAN MELIUS: Going once. Going twice.

MR. KATZ: Paul and Phil on the phone, does that work for you two, January 25th?

MEMBER SCHOFIELD: It works for me.

MR. KATZ: 11:00 a.m.

MEMBER SCHOFIELD: Yes, that's great.

MR. KATZ: Okay. So that's it then, January 25th.

CHAIRMAN MELIUS: Then we have a suggestion for our next in-person meeting: the week of March 20th or March 27th, location to be determined. Anybody have conflicts with those two weeks, or have a week that is better for them?

(Off-microphone comments.)

CHAIRMAN MELIUS: The 20th is better for you? Okay.

MR. KATZ: So do we want to say that the 22nd and 23rd? Is that --

CHAIRMAN MELIUS: Anybody have conflicts on the 22nd or 23rd?

MR. KATZ: Of March.

CHAIRMAN MELIUS: March 2017. Paul or Phil, on the phone?

MEMBER SCHOFIELD: I'm good.

CHAIRMAN MELIUS: Okay. Thank you.

MEMBER ZIEMER: I'm good.

CHAIRMAN MELIUS: Okay.

MR. KATZ: Okay. Hawaii it is.

(Laughter.)

WORK GROUPS/SUBCOMMITTEES

CHAIRMAN MELIUS: Okay. Now we have Work Groups and Subcommittees. And I'm going with the Ted list, alphabetical, which is not the same as the site list, the website list, though, in alphabetical order.

AMES LABORATORY

So I'll start with Ames Laboratory. Dave?

MEMBER KOTELCHUCK: Yes. Ames Lab. I got a note from Tom Tomes this week. I'll get that straight next time. And he has responded to some suggestions from SC&A about external exposure, and also uranium exposure, internal

exposure. And he's gathering materials for the internal exposures for materials other than uranium.

I think we've come far enough along that it may be appropriate, finally, for our Ames Lab Group to actually meet. And I'm not sure whether -- I assume, we will do a teleconference first. But it seems appropriate, now that we have enough material to go over, to have one meeting. And then I hope when -- he said he will have the others finished, he hoped, by July, and so maybe in the fall we can meet again.

So maybe later this spring or early summer, I'll inquire of folks. And I will also send out Tom's letter to the rest of the Members of the Committee. I just got it the other day.

So, Ames is happening. And Tom said to me, of course, we're tasked to do many other things, and I'm well aware. And so, you know, that hasn't moved along as rapidly as anyone had hoped, but it's happening now.

So, that's Ames.

CHAIRMAN MELIUS: Thanks, Dave. Any

questions, comments for Dave? Okay. Next, our favorite site, Blockson. Wanda? I think we are waiting for SC&A report. So I didn't realize that John Mauro was the SC&A assignee there.

(Off-microphone comment.)

CHAIRMAN MELIUS: Okay. Can I suggest, John, that you move up to the front row, so we -- not that we want to put you on the spot, but it will help our transcriber here collect the information. So, thank you.

Next up is Brookhaven.

BROOKHAVEN

MEMBER BEACH: So, our work is completed except for the TBDs. And it looked like we had a delivery date for those of February 2016, and that has been postponed until, I think it is September -- or August 9th is the new date for those to be issued. So, stay tuned.

CHAIRMAN MELIUS: Thank you, Josie. Questions, comments for Josie? Okay. Carborundum, Gen?

CARBORUNDUM

MEMBER ROESSLER: We recently got

SC&A's review of NIOSH's evaluation, and I think we could have a Work Group meeting soon, but I think we need SC&A to respond, and we need NIOSH to respond to SC&A. So I don't know when that might be.

MR. RUTHERFORD: Right now, we anticipate our response to SC&A's review in April.

MEMBER ROESSLER: In April? So, once we have that, then we'll schedule a Work Group meeting.

CHAIRMAN MELIUS: When in April?

MR. RUTHERFORD: If I say mid, it's going to be either side of that, so I'll be fine.

CHAIRMAN MELIUS: Oh, yeah, yeah, that's coming close, yeah. Tax day.

MEMBER ROESSLER: The report says the end of --

MR. RUTHERFORD: The federal government wants us to pay on April 15th. We expect your report on April 15th.

MEMBER ROESSLER: Well, the report says the end of April.

CHAIRMAN MELIUS: Oh, does it? Okay.

MEMBER ROESSLER: Yeah, I thought so.

CHAIRMAN MELIUS: Does Reconstruction Review Methods I think we just talked about, and we will be scheduling a meeting of that Work Group hopefully in the next month to go over some of the new reports and information. And we'll get those out to everybody if they haven't gone out already.

So, Fernald.

MEMBER CLAWSON: There hasn't been much movement on that, as we did receive a paper out from NIOSH and, I believe, John. We've got some information back and forth on Fernald.

FERNALD

MR. STIVER: Yes. We've got the TBD for review just to make sure the updates are completed as agreed on. That is completed and is in internal review. We are also working on the uranium coworker model using the time-weighted OPOS. That is in review.

And I believe Stu had mentioned the TBD-5 update would be sometime in May, I believe. So, once that's available, then we will start reviewing it as well.

CHAIRMAN MELIUS: Questions, comments? Grand Junction. Bill?

GRAND JUNCTION

MEMBER FIELD: It's my understanding we're waiting on a report from SC&A. Do you want to clarify that? Jim, I think you had a -- there was, I guess, a teleconference last week it was discussed?

MR. RUTHERFORD: Yeah. We had a teleconference last week with Doug Farver with SC&A and there was some misunderstandings back and forth, but he is going to provide a written report and it should be relatively quickly since he has already done most everything with it.

MR. STIVER: Yeah, that will be ready in time for the teleconference in May. The 25th I believe.

CHAIRMAN MELIUS: Thank you. Hanford, do we have anything to report? We will report to Ted that you are listing is wrong. Sam's gone.

MR. KATZ: Oh. Okay.

CHAIRMAN MELIUS: Nothing like

keeping the Board up to date. But I think we do need to do -- and I'll talk to Arjun -- I think we do need to do at least a coordination call and see where everything is on that to get that back on track with Sam leaving.

Idaho, we'll hear about tomorrow.

Lawrence Berkeley, Paul?

LAWRENCE BERKELEY

MEMBER ZIEMER: Let me get off mute here. Okay. There's a pretty extensive description of where we are in Lawrence Berkeley in the DCAS work coordination document that was distributed on this. Fairly extensive. I'm not going to review all that, but I'll just read a quick paragraph which they sent me yesterday. And this was also sent to the Work Group.

And it simply says, "A large amount of Lawrence Berkeley-related air sample data has been collected in 2015 and this data is currently in the process of being entered into a database format developed into a DR approach. And overall, we are still in the adequacy and completeness evaluation for Lawrence Berkeley. The data entry part is

currently scheduled to be completed April 11th," so that's coming soon, "followed by Health Physics review and statistical analysis. These steps are projected to be completed in September 2016, depending on level of effort required and priorities."

So, basically, we are awaiting completion of that work to have the Work Group meet and do evaluations on that.

CHAIRMAN MELIUS: Okay. Thank you. Thanks, Paul. Josie, you have a string here. You've got Kansas City, LANL, and Mound.

KANSAS CITY

MEMBER BEACH: So, first, Kansas City. Thank you. We are on TBD, so we are waiting for -- I think Pete is going to start on those and then get those out to us. And the time line I had written down was June, 16th -- 2016, I mean. So unless Pete has got a better time line of -- thanks, Pete.

MR. DARNELL: I actually don't know -- this is Pete Darnell -- I do not know the schedule yet. Word just went out today for ORAU to start

working on the TBD update. I'll have to get back to you on a schedule.

MEMBER BEACH: Yeah, I just got the schedule through the DCAS website and it said mid-June. So, okay. So, TBD, and we're working on that. Waiting for NIOSH. Thank you.

MOUND

Mound. So, the TBDs are all complete for Mound except for the external. I believe I read the external was going to be done on June 20th, the occupational external. The other five were finished. SC&A put out a report for those and those are in NIOSH's hands, as well. And we don't have a date from NIOSH when they're going to be ready, because they threw Pete in on that, so he's got a little catch-up to do.

CHAIRMAN MELIUS: June 2020?

MEMBER BEACH: Did I say -- sorry. June 20, 2016.

CHAIRMAN MELIUS: Oh, okay.

MEMBER BEACH: Yeah, I was wondering why you looked so perplexed there.

CHAIRMAN MELIUS: That's why I was.

MEMBER BEACH: Yeah, I had it written down right. Okay. So, yeah, we're getting close on being able to meet, maybe within the next couple months, I would say. But, again, we are waiting for NIOSH.

CHAIRMAN MELIUS: And Mound?

MEMBER BEACH: That was Mound. What did I miss? LANL.

LANL

Okay. So, LANL, we are waiting for NIOSH on LANL. As I reported at the last Work Group meeting, SC&A and NIOSH went out and now we're just waiting on NIOSH's report for what they found. So unless -- yes, if you have something?

MR. RUTHERFORD: Yeah. We've pretty much got all the data that we need from LANL from our last visit, and from also discussions with some of the staff at LANL.

One thing we are working on is we're having internal discussions for all the sites for this 10 CFR 835 period. So, once we come to resolution, which we have a meeting next week to discuss, we will kind of be able to give you a

better date of when we will be able to complete it.

Our hope is that we can complete a report sometime in late summer. And if we can, earlier before the Board meeting. But that's the plan. And that will be the same for this site as well as Sandia.

CHAIRMAN MELIUS: Okay. Thanks, Josie. Anybody have any questions for Josie? Okay. Brad, Nevada Test Site?

NEVADA

MEMBER CLAWSON: We just -- SC&A and NIOSH have been discussing. We've got an up-to-date matrix on it. It's mainly all TBD issues. And I believe that's in SC&A's hands now for when we'll be able to set up a meeting.

MR. STIVER: Yeah, there're still a few things that need to be finalized about the resuspension factor issues that we respond to, some of Mark's concerns, and provide some clarification on that. But I don't expect that to take much longer, maybe within three or four weeks.

MEMBER CLAWSON: Okay.

CHAIRMAN MELIUS: Okay. Thanks,

Brad. Gen, on Oak Ridge, X-10?

OAK RIDGE

MEMBER ROESSLER: Dr. Taulbee, can you help us on this one?

DR. TAULBEE: That should be Lara Hughes now. I have been reassigned off of that and Lara Hughes -- I think she sent you an email. I'm not sure. I was cc'd on that. Did you get a copy? Okay. He's got an email on the update for it. Dr. Lara Hughes is the new lead for that one, for that site.

DR. NETON: While you are waiting for that, I think I can give a brief update on that. There are some issues with validation of these bioassay cards that we found that weren't necessarily -- the database that we had from the site didn't match up with the bioassay cards, so we're doing a validation sample of the bioassay cards. And that may be done sometime around mid-June, I think.

Then there's a separate issue related to iodine dose reconstruction, completion of iodine. And we're looking into that and maybe

sometime in the end of April that might be completed. Those are the two outstanding issues right now.

CHAIRMAN MELIUS: So, Ted will update his March listing to include Lara. Pacific Proving Grounds, Jim?

PACIFIC PROVING GROUNDS

MEMBER LOCKEY: I think everything was in -- everything was finalized. There was something in abeyance about the calendar, but I think that was resolved, too, if I'm not correct, Ted. So, I think, as far as I know, we are finished with that.

MR. RUTHERFORD: We've got a minor update. We have tasked our contractor to revise the Site Profile. And as soon as we have a good completion date with that, we'll get to Dr. Lockey and the Work Group.

CHAIRMAN MELIUS: Pantex, Brad?

PANTEX

MEMBER CLAWSON: Okay. We're dealing with mainly TBD issues on Pantex. And NIOSH had delivered, around February 2015, I believe it's in

SC&A's hands, isn't it, John? I remember seeing something from Jim.

MR. STIVER: Actually, we delivered our updates, or our responses, in February.

DR. NETON: I can add a little bit to that. This is Jim Neton. SC&A did respond and it's -- principally the last remaining issue had to do with the coworker model for neutrons that we developed at Pantex. SC&A's review of that model had a question about sort of a rapid decline in the neutron exposure during a year period.

And we went back to the site to get information on that and we're having a little difficulty getting feedback from them. I think the person or contact either retired, or something happened. He's no longer available. We're working that. We have been told that we should get something soon.

Once we get that question answered, we can get back and respond to SC&A's comments on the coworker model, which we think we're in substantial agreement on. If you remember, Pantex is an SEC for that entire time period,

except the early period. And the coworker model for neutrons, we decided not to use the N/P ratio, but just take the data we had and develop a standard coworker. I think we're in pretty good agreement on that.

PORTSMOUTH-PADUCAH and K-25

CHAIRMAN MELIUS: Thanks. Thank you, Jim and Brad. Pinellas we'll hear about in a little bit. I don't know if there is anything new on, Phil, Portsmouth-Paducah and K-25? No?

MEMBER SCHOFIELD: Nothing new there on -- there still is some neutron question on K-25 and Portsmouth. And we still haven't reviewed the updated TBD for the occupational metal dose -- medical dose, excuse me, for K-25.

MR. RUTHERFORD: I'll add that we are working on a neutron TIB that we expect to be completed in June and that affects the gaseous diffusion plants.

ROCKY FLATS

CHAIRMAN MELIUS: Okay. I think Rocky Flats was sort of covered already. Dave, do you have any more to --

MEMBER KOTELCHUCK: No. Really, we're just work -- I mean, the last item which was not closed is the Critical Mass Lab, and there's been just delays. LaVon has been working on it and getting information, but it's still now not going to be out until perhaps July. And then I hope we move very quickly to close and to make a decision in the fall.

SANDIA

CHAIRMAN MELIUS: Okay. And Sandia? We don't have -- Dr. Lemen isn't here. I don't know, LaVon, you sort of mentioned it.

MR. RUTHERFORD: Yeah, I mentioned it. We have been collecting a lot of the post-1994, which I call the post-835 era. 10 CFR 835 kicked in, and so we have been pulling in data for that and we have been working on our approach.

As I had mentioned earlier, we have a meeting -- it's not next week; it's two weeks from now -- to kind of define our criteria, how we are going about addressing unmonitored workers and so on during that period. And as soon as that approach is finalized, we'll be able to move

forward with Sandia just the same way that we are moving forward with LANL.

CHAIRMAN MELIUS: Okay. Thank you, LaVon. Santa Susana, Phil?

SANTA SUSANA

MEMBER SCHOFIELD: So far, we haven't met in a while. One of the big issues still is trying to figure out a coworker model, because people went back and forth between all the different sites that are there, and so trying to put people where they were and when they were is still giving them a headache, unless Jim has come up with something new on developing a coworker model. They also have some bioassay data, but they don't know where it came from.

DR. NETON: Yeah, there are a couple of issues here. The bioassay data has to do with the fact that Santa Susana, for a lengthy period of time, commingled bioassay data from multiple sites, and it's not possible for us to identify which site, for certain years, for a number of years where the data came from.

And so that definitely complicates the

coworker model. This is thrown in the middle of the stratification issue that we're trying to deal with on coworker modeling. So, we're wrestling with that.

On top of that, there is a number of these sites that pieces and parts have already been added to the SEC.

So, we are looking at that single issue. And then there is also the coworker model issue, in general, which is how we are going to deal with it. So, we're struggling right now with it. You know, we've had a massive effort to code all of the data. If you remember, a year or so ago we got this disk drive of all the monitoring data that was ever collected there. We thought that would be the solution. It turns out it might not be. So we're still looking at our options. That's the status of that.

CHAIRMAN MELIUS: It seems to me an option is an 83.14.

DR. NETON: Well, that's certainly one of them. I'm not saying that is the option, but --

CHAIRMAN MELIUS: Well, I'm not asking you to say it is, but it's hard for me to think how you can do it otherwise, but that's without looking at it.

DR. NETON: Well, I have some ideas, but we'll see. We're working on it.

CHAIRMAN MELIUS: I won't comment on your ideas on the record.

DR. NETON: Oh, thank you.

CHAIRMAN MELIUS: No, no, I understand.

MEMBER BEACH: Is there a timeline on that, by any chance? Any --

DR. NETON: I can't give you an exact timeline, at this point. Sorry.

CHAIRMAN MELIUS: Science Issues, David?

SCIENCE ISSUES

MEMBER RICHARDSON: Not a lot to report. There is, on the issue of energy dependence of the kind of biological effectiveness of energy dependence, there's supposed to be a report, but I have been waiting and waiting for

this from NCRP and that should be coming out very shortly, which will hopefully give us something to proceed with.

CHAIRMAN MELIUS: So it's really in their hands. Okay. SEC Issues? I don't think there is anything pending for that Work Group now.

Subcommittee on Dose Reconstruction, I think -- I don't know if you have anything to add beyond what we talked about this morning.

MEMBER KOTELCHUCK: No, I don't think so. Just to say our next meeting is April 28th, Thursday, April 28th. And we will get back to Sets 14 through 19.

CHAIRMAN MELIUS: Back to work.

MEMBER KOTELCHUCK: Yes, sir.

CHAIRMAN MELIUS: Okay. Subcommittee on Procedures, Wanda?

PROCEDURES SUBCOMMITTEE

MEMBER MUNN: Nothing new to report. As you may recall, we had to cancel our meeting scheduled in August and the rather extensive meeting that we had scheduled for February failed for lack of a quorum. And we have had a difficult

time trying to identify the proper time that both crucial staff and our current Members could meet.

Ted looks as though he is right on the verge of resolving that for us.

MR. KATZ: Yes, I'll just say -- well, I have actually everyone's replies, but one. So I'm just waiting on one person to reply and then I can schedule that.

MEMBER MUNN: We anticipate about a month. Thanks.

CHAIRMAN MELIUS: We will -- I'll ask you on the record, Wanda, but I think one of the problems, I think, we are having with the quorum is we only have three people on the Subcommittee and we may need to add a person to that. So we will just circulate and look for -- let everybody know and see if we get volunteers for that. And I think we should, so that might help. It shouldn't interfere with the next meeting if we can. Yeah, okay.

MEMBER MUNN: It sure can't hurt.

CHAIRMAN MELIUS: Yes. TBD-6000, Paul?

TBD-6000

MEMBER ZIEMER: Yes. I will report very briefly. First of all, TBD-6000, Appendix BB, which is General Steel Industries, the Revision 2 to the Appendix BB has been, I believe, completed by NIOSH and is in internal review. Dave Allen reported that they estimate completion in June of this month. Completion in -- or June of this year for completion of the internal review for Revision 2. I assume that following that there would be a PER for General Steel Industries.

And the other item under TBD-6000 is Joslyn and currently DCAS needs to get some MCNP Library material and work with that to understand something about the issues raised by SC&A on that. They estimate completion date of the Joslyn issue in, I think, December of this year. So that's down the road a bit.

And so the Work Group will be awaiting that material and that will be off a way. Those are the only two items under TBD-6000.

CHAIRMAN MELIUS: Okay. Thank you, Paul. Questions, comments? Okay. Uranium Refining, Henry?

URANIUM REFINING

MEMBER ANDERSON: Yes. We have two sites under review. The W.R. Grace Site, we just got an update on and we are still waiting for some more data. We are looking at finishing that up probably later this spring or early summer, depending on there was supposed to be some more data delivered last week or this week.

And then United Nuclear site is also one that they -- that you indicated is now ready to finish up. So we are looking at a committee meeting probably late spring or early summer.

SURROGATE DATA

CHAIRMAN MELIUS: Surrogate Data. We may have a referral from the Dose Reconstruction Subcommittee. I think I need to talk to NIOSH and SC&A to see. It's just this Allied Chemical, the New Jersey site, whether -- I'm not asking for a commitment now, but I don't think there is any formal Site Profile on that one, if I understand.

And I think the question -- it's based on a TBD if I remember right. Jim, do you want to --

DR. NETON: I believe you are talking Allied Chemical and Dye, which is in New Jersey. And that site there is no Site Profile. I believe it is one of the templates that are used, but the issue of surrogate data has to do with radon dose reconstruction.

I think we used the Florida Institute of Phosphate Research paper on -- to estimate the radon, because it was very low levels. And you are right, that's a surrogate data and it may fall, rightfully so, under the Surrogate Data Work Group to review.

CHAIRMAN MELIUS: I guess my question is do you think that it makes sense just to have SC&A do a -- go directly to SC&A. Does NIOSH want to formally apply the criteria --

DR. NETON: Oh, I see.

CHAIRMAN MELIUS: -- to the site? I mean, who gets first shot, I guess, is the -- and you can think about that.

DR. NETON: Yes, I'll think about that.

CHAIRMAN MELIUS: It's --

DR. NETON: I think we can do that.

CHAIRMAN MELIUS: Okay.

DR. NETON: It wouldn't be that difficult to look through.

CHAIRMAN MELIUS: Okay. Yes, and I don't think it's a long thing to do.

DR. NETON: No.

CHAIRMAN MELIUS: And it's just --

DR. NETON: We will take that on.

CHAIRMAN MELIUS: Okay. Okay. Good. And as I pointed out earlier, it's Allied Chemical and Dye, which was also the name used in the report on the Ohio site, too. They never thought that this program would exist and that you would need to have different names to be able to refer to these sites.

Weldon Spring, Dr. Lemen is not here. I don't know if we have any update on that. So and Worker Outreach, I don't believe?

MEMBER BEACH: No.

CHAIRMAN MELIUS: No?

MEMBER BEACH: We still don't have a path forward from when I reported last year.

CHAIRMAN MELIUS: Okay.

MEMBER BEACH: Or it has actually been 2014, so not at this time.

CHAIRMAN MELIUS: We've got a cheering section there or something. Okay. Did I miss any Work Groups or something that -- okay.

I don't think we have any correspondence. Ted? None that -- other than public comments to be read tonight.

PUBLIC COMMENTS

We do have a set of public comments which I will briefly go through based on the spreadsheet setup that is in the -- that the Board Members all received and you also have transcript backups to those if you are looking for more details.

So the first set of comments, one through three: one has to do with some questions on Lawrence Livermore. And that was basically referred back to the Work Group on that.

And then there is some general questions about how cancer of the Appendix is handled, which is really a DOL issue, not a NIOSH

issue directly.

And then there was how will NIOSH consider the new core mortality study by David Richardson? We responded we never heard of him. So no, seriously, it's that -- again, that is referred back to Lawrence Livermore.

Yes, but that was a first, so, you know, public comment period is referred to, you know, Board Member studies, so you should -- some things are notable there. Okay.

Then we have a set of comments from Dr. McKeel, the STC issue on Madison, the PER issue which I thought we had taken care of, the -- some further comments on General Steel, all that were -- really have been dealt with. I think there are still some -- he still has some issues about some of the dose reconstruction reviews.

Go to Number 9, again, a further comment about General Steel Industries. Again, referred back to the Work Group and what has been done.

Then Numbers 10 and 11 there are referring to claims related -- a claim related to

Pinellas and then regarding the petition. And I think the response there was that the petition was under review at the present time and I think LaVon updated us on that today.

There is a question about a specific, Number 12, a specific document related to Blockson, which I think has been followed up by the NIOSH staff that were involved there and referred back to DOL, also involvement.

Rocky Flats, comments about the progress on the petition review there. And there is a number of comments, 15 through 20, was really based on a written submission from the Blockson petitioners. That was the Blockson residual-period petition we had just talked about earlier today in terms of the Work Group activity. And really all those of -- most of these were factual comments or notes that have essentially been referred to the Work Group and to SC&A for -- and NIOSH in terms of follow-up at that site.

Again, another set of comments on 21, 22 on Blockson. And again, essentially referred in the same way to that.

Comments Number 23 to 28, Terrie Barrie regarding the Rocky Flats site and again, these mostly refer to LaVon, that group is following up on.

And then some comments for Ted that have been followed up on.

Again, another comment 29, 30, again, related to Rocky Flats.

And then I believe finally, almost finally here. Yes, it looks like I have another page here.

So, you know, they all -- so comments Numbers 31 through 40 were comments from Wayne Knox regarding the Kansas City Plant and, again, these were essentially all referred to NIOSH and I think were addressed in our actions at that last meeting.

So I don't know if anybody has any questions, comments or have concerns about any of the referrals? If you want to -- if you do, if you need to follow up, we can talk briefly about it tomorrow. All right.

So I think that takes care of our Board Work Session issues, unless I missed anything. I

don't think we have any correspondence. So it's a little after 4:00. We scheduled the Pinellas Site update at 4:30, so we will take a break until 4:30 when we will start promptly at 4:30.

And then for those of you that are in the audience and wish to make public comments, if for some reason we finish our update prior to 5:00, we will go right into the public comment period, so maybe we'll get started a little early, maybe not. We will see, but at least without delay.

So if you haven't signed up already, please, sign-up, because that gives us an opportunity to go in order.

PARTICIPANT: Can we sign-up over the phone?

MR. KATZ: People on the phone don't need to sign-up. Just join us probably 4:45 or so, so that you can be on the line whenever we get ready for folks on the phone.

But folks in the room, anyone who has joined, the sign-up book is outside on the desk. The young lady sitting outside this -- these doors here for you to sign-up.

CHAIRMAN MELIUS: And actually if you come back on the phone at 4:30, you will be able to hear the Pinellas update, which may be helpful in terms of your comments.

So back online at 4:30.

(Whereupon, the above-entitled matter went off the record at 4:03 p.m. and resumed at 4:30 p.m.)

CHAIRMAN MELIUS: If everyone will get seated, we will get started here.

And we will start with an update on the Pinellas review and John Stiver is going to be giving that.

PINELLAS PLANT SITE PROFILE REVIEW

MR. STIVER: Good afternoon, everybody. I'm John Stiver with SC&A and I'm going to give the review of our Pinellas Site Profile Review and all the activities that have taken place, kind of a historical background and the development of the resolution of the different findings and so forth over this relatively long period of time.

Now, the first thing that jumps out at

me is that meeting was not held on March 1st, it was March 10th. Now, I went through this several times and I never caught that. At least I got the March 23rd date right.

But let's go ahead and start out with some background. The original version of Pinellas TBDs we reviewed were prepared in the 2005-2006 time frame. So we are looking at, you know, 10 to 11 years ago.

And we did our review in September of 2006, so you've got to look in the rearview mirror 10 years and, you know, realize that the program has matured considerably in that period of time as far as development of coworker models and so forth and so on.

Having said that, we identified 11 primary issues and 8 secondary issues that were kind of subsidiary to the primary issues. Subsequent to our review, there were six Work Group meetings held and one set of worker interviews.

The first being June 11, 2008 and this is where, basically, the issues were kind of discussed in kind of broad brush strokes, trying

to get some ideas of, you know, how are we going to proceed? What's the best way to move ahead with that?

The following year, SC&A prepared this gigantic issues matrix. I think it must have been 60 pages long and just laid out everything, but it was kind of cumbersome to deal with. Nonetheless, that was discussed, some progress was made. NIOSH basically used that, the discussions in that matrix, to develop a set of TBD updates that took place in the 2011 time frame for the most part. I believe one of them carried through to 2012.

But by the time we had another Work Group meeting in October of 2011, all but the TBD-3, the occupational medical dose basis documents, had been revised.

Based on that discussion and NIOSH's presentation of the updates, we had some remaining concerns and felt that the best way to address these was to carry on a set of worker interviews to kind of focus in on some of the areas that we felt still needed to be run to ground. Those took place in January of 2012 here in Tampa.

We had another Work Group meeting, a teleconference on November 19th of 2012 where we went through and discussed those issues.

And then there was kind of a cessation of Work Group activity for about three and a half years. And a lot of this centered around the development of this stable metal tritides model that NIOSH was developing. And there were some issues with that. I guess it took some time to resolve. So during that time, there was really no Work Group activity.

And in December of 2015, NIOSH released their updated stable metal tritides model, which we promptly reviewed.

And then we had a meeting again in February of 2016 where we discussed that model.

On March 10th we had another meeting where we tried to tie up some of the loose ends on a couple of the remaining issues.

So with that background, we can kind of -- what I would like to do here is just go through each of these primary issues one at a time. There is only like a total of 17 slides, so it would

probably be better for me just to go through and talk about them and then take questions at the end, if that's okay with the Board?

CHAIRMAN MELIUS: Yes.

MR. STIVER: The first issue is this idea of reconstructing doses when you have an incomplete set of data in early years. This was this whole idea of back-extrapolating. If you have a good set of data, which we see in a lot of the sites, in later years, you know, can you take that and then make some assumptions that the working conditions were basically unchanged to the early years from the late years and then, you know, back-extrapolate the data that you have got to cover the early years.

And this was discussed kind of in general terms in June of 2008. There were ideas, you know, should we do a complete analysis of, you know, kind of a classic completion, yes, the completion and adequacy analysis for the data set. And NIOSH indicated at the time that well, you know, they are still in the process of collecting references or still doing data capture, and so that

would be kind of putting the cart before the horse if we did that.

And so it was determined that, okay, we will go ahead and let NIOSH complete their data captures and use that as kind of the basis for updating TBD. And then we will take a look at it beyond that. And once the references have all been collected and decide whether we really need to do kind of a vertical in-depth analysis like we do on some of the big SECs.

And then on the October 2011 Work Group, we -- after NIOSH had presented their findings, I believe they had another 600-and-some additional references, we decided that it would be good, at least the Work Group decided, for us to go ahead and take a look at those to make sure they are really relevant to the issue of reconstructing doses in the pre-1980 time frame.

And so we went ahead and did that. And then in November 2012, you know, we had basically committed to have, in the memo format, kind of a memo update, you know, some of these initial taskings. And this was one of them. And we

decided, you know, let's put this before the Board really or before the Work Group. Is it really worth the resources that would be required to do a complete in-depth analysis?

Now, this was something that I know the petitioners raised at the March 10th Work Group meetings, you know, hey, you know, you guys, you know, we are going to do this, this analysis and a completeness analysis and we never saw any report, at the end of the day.

And the reason being is that, you know, we did the preliminary kind of a macro overview of the updates, you know, in this November -- and reported this out at the November meeting. And, you know, based on the TBD update, the TBD-6, specifically Attachment B, which looked at the external doses, external modeling that would be applied basically from '57 up to '95. And also our initial review, kind of the 10,000 foot view of the additional references, we determined, the Work Group determined that an in-depth analysis probably, you know, wouldn't justify the expense and the resources for the small amount of value

that they added.

So we decided that there are extensive -- references are extensive and, basically, I think it is Table B-1 in the TBD-6 update that kind of lays out all the data that were used to reconstruct this whole-body coworker dose, coworker model during that time period.

Having said that, we believe that the coworker model is claimant-favorable. They assigned the 95th percentile of all the data on a yearly basis to unmonitored workers. And based on those discussions, this issue was closed out at the November 2012 Work Group meeting.

Primary Issue 2. This was really the long pole in the tent. This was the potential doses from insoluble metal tritides. We call stable metal tritides, SMTs, that has not been sufficient addressed in our opinion. This was also discussed extensively at the June 2009 Work Group meeting. And it was determined to be in progress, based on concerns over dose reconstructability. And the updates to the TBDs were forthcoming.

In April 2011, those -- the updated internal TBD model was released that proposed a new approach of the tritide dose assessment, yes, dose assessment.

And at the November 2012 meeting again, there were some issues related to the model and its applicability and comparison to a similar model which the Board had approved for Mound, which was based on swipe samples and, well, we will be getting into that here in a minute.

And so, you know, NIOSH wanted to go back and validate, basically, some of the sample preparation methodology and protocols, and also the source data to see whether this was going to be a tractable problem. So this was about a three and a half year process.

And then in December 2015, as I said, they released a new model and we reviewed it. There were five key aspects. It is kind of hard to read this. There is -- I apologize for the small print here.

Basically, five aspects:

One was the re-suspension factor from

contaminated or assumed contaminated surfaces. NIOSH adjusted that by a factor of 50 from one times ten to the minus sixth per meter to five times ten to the minus fifth per meter to bring into alignment with the Mound model.

The second aspect relates to the available data. In the Pinellas model, NIOSH uses the highest tritium contamination measurement from 1957 to 1973 time period, based on the highest observed value in these monthly health physics monitoring reports. And this was a bit different than the Mound approach. The Mound approach, they had literally thousands of swipe samples taken over numbers of years which were then used to develop a coworker model. Not really coworker model, but a tritide model applied to the tritium workers.

Three was kind of the long pole in the tent here. This was the technical adequacy of the method to detect tritium. It is bound to a particulate metal. And this gets to the approach of the sampling, the protocol and -- which was significantly different from the Mound model.

At Mound, they basically took the swipes, counted them in a PC-5 proportional counter. And so, you know, even though you are pretty sure that most of the contamination was tritiated water, I mean, if there were some tritides there, they would be counted in some proportion, some unknown proportion of that total count for that sample.

Whereas here, we have kind of added a new layer of uncertainty or one, I guess, degree of freedom removed from the Mound model and that is that the -- at Mound or at Pinellas, the approach was to take a cotton ball and they would go ahead and swipe the surface and then they would rinse it into a cup with deionized, DI deionized water, filter it through a Whatman Number 1 filter and then count that rinsate in the liquid scintillation counting.

And so our concern was, well, what happens if all the particulates are trapped in the cotton ball and never make it into the accounting cocktail? You might have contamination there that you are not going to detect.

And so that was kind of an issue. And luckily there was a health physics paper from the 1970s where they looked at, you know, the amount of particulate material versus tritium gas that was kind of evolved from these -- from the matrix on the tubes.

And they found that basically on the new tubes that hadn't been actually used out in the field and discharged, that the tritiated gas component was about a factor of three higher than the particulate component. So that, you know, even if you had all your tritium particulates or the tritide particulates trapped in the cotton ball, there is still the kind of indirect measurement based on the HTO that would then be counted in the cocktail, which would give you a bounding value.

And so we felt that, you know, in combination with the health physics protocols that were in place at the time, that that would probably be okay as a modeling technique.

I'm kind of getting ahead to the next slide, but let me go back to Number 4 here. The

other was the magnitude and extent of potential for tritide contamination at Pinellas. And really this is kind of similar to Mound. The SMTs were only handled in areas where tritium was handled. And all the tritium workers were monitored via urinalysis.

So this isn't really a coworker model that applied to unmonitored workers. Really it is a model that could only be applied to the tritium workers. And so they are going to get a component based on bioassay and they are going to also get a second component based on the metal tritides model.

Number five was the choice of solubility type for the tritides present. The model assumes all intakes are either Type M or Type S, depending on which organ is going to be most claimant-favorable to the individual claimant.

Typically, it would be Type S for lung doses, but for other organs, Type M might actually result in a higher working dose.

SC&A's White Paper response. This is available on the DCAS website. Most of you, I

hope, have read it. We released that February 4, 2016. We basically had seven observations and one finding related to the hours worked per year.

It turns out that that was a typo in the NIOSH report. They were using 2600 hours per year and that's what we recommended in that finding, so that finding was withdrawn.

During our Work Group meeting in February 2016, let's see, the discussions focused mainly on the applicability of the sampling methodology, this is Item Number 3.

And then also the documentation that supported prompt cleanup of spills and contamination, which is, in our opinion, evidence to a strong health physics program. That was related to Observations 4 through 6 in the report.

SC&A and the Work Group concurred the NIOSH model is sufficiently accurate and claimant-favorable. The Work Group accepted the model and motioned to put Issue 2 into abeyance until TBD-5 was revised.

There was one remaining loose end here that we raised, a concern, actually this was

brought up, I believe, back in 2008. And this related to how this model would be applied or how were -- is NIOSH going to address organically bound tritium?

And NIOSH's response is that OBT basically behaves more like an insoluble particle than tritiated water and so it could be subsumed into the SMT dose.

However, they did indicate that the next TBD revision is going to include a discussion of how intakes of tritides, OBT and HTO are addressed individually.

Issue 3, Primary Issue 3. This was, this concerns regarding kind of a sparse data set of plutonium bioassay, I believe, collected in the late 80s, and it's about the uncertainties in the measurements that we felt were inadequately addressed.

At the time that this finding was made, potential exposure to plutonium could not be ruled out. This was discussed in June 2009 and October of 2011 Work Group meetings.

And it became clear from those

discussions and NIOSH's follow-up that the, really, only source of potential intake was from handling these newly received triple-encapsulated radio-thermal generator sources. And these were the actual heat sources that went into the RTGs itself, which also included an insulation component and stainless steel containment.

So the problem is the surface contamination was shown to have never exceeded 200 dpm, which is the rejection level. If that amount of contamination was discovered, and also these were decontaminated in a fume hood, and so that limit was never reached in the entire time from 1975 to 1990.

And NIOSH actually did some calculations and I believe it was Brian Gleckler that showed that even to get a 1 millirem dose, annual dose, you would have to handle literally thousands of these things per day. And so it was just -- was a situation where there is no apparent exposure potential, yet in the TBD revision, there was a big discussion about the tritium or, excuse me, the plutonium data, the MDCs, the quality of

the data and so forth that kind of lead you to believe that, you know, we're going to use this in dose reconstruction.

And the point being is NIOSH made a big case, a pretty strong case there is no exposure potential and yet, when you say, well, if we get somebody who has a bioassay, you know, we will handle that -- a positive bioassay, we will go ahead and handle that on an individual basis.

And our position is well, you can't really have it both ways. I mean, you have made the case, a pretty strong case there is no exposure potential, so, you know, there is really no point in having all this discussion of plutonium in the TBD.

And if you do ever find evidence of a positive exposure, then you are going to have to develop a dose reconstruction methodology. And so that's really what happened: the TBD was then updated. The plutonium information was taken out. And so this is the situation.

If there is ever a discovery of plutonium intake, then NIOSH is going to have to

develop a methodology to address it.

Issue Number 4. This is kind of related to Number 1 and also 6 and 7. And this is this idea of, you know, again, data completeness. And, you know, during our early review, our concern was that, you know, look, you've only got about 20 to 30 percent of the work force being badged here.

So we were kind of concerned that, you know, maybe you have a situation where you are doing cohort badging, where you are taking one person in one worker group, giving them the badge and then assuming that everybody else is getting the same basic dose. And that was a concern of ours.

The more we looked into this, it was clear that the health physics program monitored those people with exposure potential and there just was not -- that all the workers really were working with radiation or these devices. And also, you know, it's not like some of the other sites where you have kind of residual elevated background from contamination that is accumulated over time.

At Pinellas, basically, you either have an exposure or you don't. It's a yes or no situation depending on when the neutron tubes are being tested. And so we felt that, and basically, this is the June 2009, that one had pretty well been resolved and could be closed out.

Primary Issue Number 5, problems with personnel dosimetry. Back in June, we voiced concerns that we felt that the limited detection for the film badges, the external dosimetry to film badges, and TLDs later on, needed to be -- have a scientifically based limit of detection that was claimant-favorable.

The TBD revised in 2011 included Table 6.9 that had the additional T -- LOD information in it. So we actually came up with a sub-issue related to this. In the original version, Landauer Films in the 1975 to '79 time frame were given an LOD of 20 mR, but this has been revised down to 10 mR. And so we were kind of concerned that we've got a situation where, you know, a film badge, in particular, is going to be more sensitive to low-energy photons than higher-energy photons.

And for people who are working with these RTG sources, which were triple-encapsulated in nickel and tantalum, there would be a certain amount of spectral hardening of the emissions from the plutonium-238 and daughter products that built up over time.

And so you have more of a high-energy gamma field that these people would be exposed in and maybe 10 millirem might not be claimant-favorable or maybe the film badge itself might not be able to detect such low doses reliably.

In the February meeting, we had a lengthy discussion on this and we held a technical call based on discussions with a recognized expert in film badge dosimetry that actually helped develop the DOELAP Accreditation Standards. And that took place on February 26th.

And based on that, we learned that the -- for high-energy gammas, optical density was converted according to a step function. Basically, one click on a densitometer, so about .01, corresponded to about 6 millirem of

high-energy gamma. So basically, you have steps of 6, 12, 18 and so forth.

And Landauer had kind of a policy in place that they had a minimal reportable dose. And that was set at 10 millirem. It wasn't defined by statistics, rather it was a convention that any dose less than 10 millirem was not significant. So 9 millirem or less was treated as zero, 10 to 14 as 10, 15 to 24 as 20. So we have these steps, increments.

And the guidelines, the DOELAP Accreditation Guidelines for LOD were controlled such that Type 1 and Type 2 error rates were both set at 5 percent. So a film for high-energy exposure would have an LOD of say 12 to 14 mR, so 95 percent of the time you're going to get a 10 or 20 when exposed to 12. And this is really what we were looking for, a good technical scientific basis for that 10 millirem, what they call the minimum reportable dose.

Based on the foregoing, we recommended that this Issue 5 be closed. And at the March 10th meeting, the -- the Work Group motioned to be close

Issue 5.

Primary Issue 6, this was about again data completeness during the D&D period, decontamination and decommissioning. We felt that at the time we did the review that that was not sufficiently addressed. Again, this was first discussed in earnest at the June 2009 meeting.

November 2012, we had done interviews with -- this is one of the things we wanted to look into when we decided to do the worker interviews in January of 2012. And in those interviews, we got a lot of good information about D&D.

One of the subject matter experts indicated that all the employees, including the contracts and subcontractors, were monitored by Pinellas Rad Safe before, during and after the D&D operations. However, the issue remained open pending NIOSH closing a loop on any D&D monitoring records from Albuquerque.

Fast forward to February 2016, NIOSH had captured over 5,000 additional references, including those requested from Albuquerque.

And there is just one last thing there which was finding aid from Sandia National Laboratories that was to be delivered. That was delivered in March. Unfortunately, the finding aid was not found to be useful. There was nothing in there about monitoring during that period that would have been of any use.

However, you know, based on NIOSH having run this to ground, having captured all these records and the subject matter experts' recollections, we felt there was a strong weight of evidence, argument that DR is feasible during D&D and we motioned to go ahead and close Issue 6 at the March meeting.

CHAIRMAN MELIUS: And, John, you've got four minutes left.

MR. STIVER: Okay. Let me try to go through. The next ones aren't going to take much longer.

Missed internal dose estimation methods for unmonitored workers, this was another concern early on. I remember this was back before coworker modeling had evolved to the level that

it's at now.

The internal TBD updates addressed our concerns. NIOSH has this whole-body dose, coworker dose. It includes the tritium components in addition to neutron and external gamma, assigned to the 95th percentile.

Given the fact that there is no documented plutonium exposure and also the Secondary Issue Number 2, regarding nickel and carbon-14, felt that that adequately addressed the other aspects of Issue 7 and it was closed.

Issue 8. This was a concern that the tritium storage beds, the stainless steel beds that contained DU were cut open. We have found some information about contamination levels. However, it turns out that the cutting of the beds took place at the GE x-ray facility in Milwaukee and not at Pinellas. Therefore, there was no evidence of DU exposure potential at Pinellas and the Work Group closed that issue.

Nine through 11 and Secondary Issue 1 all related to TBD-3, occupational medical dose. These are all documented in detail in the issues

matrix. I'm not going to go through all of this.

Suffice it to say that we reviewed the revisions to the matrix or to the TBD-3 after the October 2011 meeting. We felt that the updates addressed all of our concerns and so in 2012 all of those issues were closed.

Secondary Issues were all based -- were all subsidiary to the Primary Issues. Number 2, inadequate descriptions for certain plant operations. That was addressed in the updates. Three and four are the same. They were put in abeyance in June 2008, but the TBD updates addressed those concerns. Five and six related to plutonium issues. Those were resolved with Issue 3. Assumptions regarding unmonitored workers, this related to Primary Issues 4, 6 and 7.

And then Secondary Issue 8 was also addressed, the treatment of LOD in the external gamma, occupational external TBD.

So Summary Conclusions. We -- SC&A and the Pinellas Work Group agree that all of the Primary and Secondary Issues raised in our Site Profile have been adequately addressed.

Primary Issue 2 is in abeyance until NIOSH delivers the revision of the internal dose TBD. And so the Work Group recommends closure on the remaining issues.

And that's all I have to say. So I'll entertain any questions you might have.

CHAIRMAN MELIUS: Board Members have questions? We've got a couple minutes here. David?

MEMBER RICHARDSON: You said that part of the work force was monitored, starting with external exposures, was monitored for external exposure and part wasn't. Could you characterize kind of the size of those proportions or what percentage of the work force?

MR. STIVER: Anywhere from about 20 to 30 percent of the work force was actually monitored. And these were the people that actually were working in radiation environments at the time, the tritium workers were working with the x-ray tubes in a way that they would have a higher potential.

So it wasn't a situation where, like I

said, we didn't have cohort monitoring, which is what we were concerned with. We might have people who were being missed that had undocumented exposure potential that might be higher than the monitored workers.

So we pretty well put that to rest through the research that went on during that extensive review cycle.

MEMBER RICHARDSON: And you can put it to rest because you believe that the health physics judgments about who to be issued a badge and who not to be issued a badge were correct?

MR. STIVER: Correct.

MEMBER RICHARDSON: And then for internal monitoring, is the proportion of the work force that was internally monitored similar, 20 to 30 percent? Is it lower?

MR. STIVER: The tritium workers were a smaller fraction of the total, so I don't have that number off hand. Maybe Pete can provide some more details on that. Fifteen to 25 percent. There you go.

MEMBER RICHARDSON: And is this --

MR. STIVER: So it's not significantly less.

MEMBER RICHARDSON: Are they on -- what would the frequency of monitoring be for that 15 to 25 percent?

MR. STIVER: I believe it was monthly.

MR. DARNELL: This is Pete Darnell. The frequency for a long-term worker with tritium was monthly. Otherwise, it was as needed. You had a lot of projects that went on at Pinellas where the workers would be assigned for a short time, they would get their monitoring, then it could be months or years later before they were monitored again.

MEMBER RICHARDSON: Okay. So what's your thought on the ability of a monitoring program for something like tritium, which has a relatively short biological half-life, to detect an episode of intake if you are only collecting urine on a monthly basis?

MR. DARNELL: I didn't question their ability to be able to find the tritium in the workers that were working month-to-month with

tritium, specifically because Pinellas had basically a demonstrable radiological program. Any time they had an incident or an amount of contamination in a work area, I think it was 2E to the fifth dpm for tritium if they were in cleaning. They kept track of the program. They kept track of where the radioactive material was located and kept track of the workers that were in the monitoring program.

MEMBER RICHARDSON: I mean, I only ask because I -- some people I have talked to have said that tritium is notoriously difficult to --

MR. DARNELL: I'm sorry?

MEMBER RICHARDSON: Yes.

MR. DARNELL: I missed what you said. I apologize.

MEMBER RICHARDSON: Well, that it's often difficult to work with and to control and that there may be situations where --

MR. DARNELL: We had no indications of that in the Pinellas records.

MEMBER RICHARDSON: That's remarkable. Thank you, though.

PUBLIC COMMENT

CHAIRMAN MELIUS: Any other quick questions? We may have time to come back and have further discussion tomorrow on this, but I want to get going with the public comment period, since we have people waiting.

Ted, do you want to do your --

MR. KATZ: Yes. Just a note for everyone making public comment. These meetings are all transcribed, so verbatim, so everything that you say is captured in the transcript and put on the NIOSH website for all of the public to read.

So anything you say about yourself personally, however personal that might be, that would be you are publicizing that.

On the other hand, if you talk about other people, friends, family, any other people, when you give information about other people who are not actually speaking for themselves, that information will be redacted, in other words edited, to the extent necessary so that those people's privacy will be protected, since they are not speaking here. So we do do that.

And we just want you to be aware that

we do that.

That's it. That's fine.

CHAIRMAN MELIUS: And we will start with people that signed up for public comment. If you did not sign up, it would be helpful if you did go out and sign up. It just helps us keep track of people and call them in the order that they got here. And we will focus first on the Pinellas Plant and then we will come back to people that wish to make comments about some of the other sites.

And the first person I have listed is Kathy Ludwig Talbot.

MS. TALBOT: Hi. My name is Kathy Ludwig Talbot and I am a claimant and also the petitioner of the new SEC that has been filed on the Pinellas Plant.

Before you, you have a booklet just of some information that we would like to draw attention to at the Pinellas Plant. I'm going to keep it short, because I was told to keep it short and I don't know how to do that so -- in my life.

But some of the things that we want to bring to your attention are actually some of the

things that John has mentioned in his discussion of closing these issues on the Pinellas Plant.

First and foremost, I would like to draw to your attention the time lapse, the time lapse in this information. This program started in 2000. The Site Profile '04, '05, '06. Technical Basis Documents changed, revised, not approved by the Board, okay, total rewrites of Technical Basis Documents.

We did a data-capture spreadsheet, you will see it in your book, okay. You didn't have the data then. You talk about the sparse data. We are not going to do another data search. We can't afford to do another data search. That data search that you just did was redundant.

Okay. What I want to say to you is you didn't have the data back then. You don't have it now. And Phil Schofield made a presentation at the Board meeting on the seventh and eighth of December in '11 and every single item that was open, it's ongoing. It needs to be extended.

We are waiting on NIOSH. Okay? I need for you all to answer a question. How many

people have to pass away that can't speak for themselves? You are talking about a ten-year time frame and you are trying to convince the Pinellas Plant workers, their survivors, that you have the data to do these dose reconstructions when, in fact, your own people say the data is sparse. We don't have it. We can't find it. We don't want to look for it. We are going to use the surrogate site only when it is good for that surrogate site, not when it is good or positive for the Pinellas Site.

I want you to review some of these things that are in these Work Group meetings. These are hundreds of pages and I've just quoted a few. And what you see in front of you is Issue Number 1. That doesn't include any of the other issues.

So I stand here firmly by saying how long do these people have to wait for information? We have over 500 people passed away at the Pinellas plant alone. I understand it is like the red-headed stepchild. We are not a Livermore and we are not a Sandia, but we did the same exact --

we did the prototype for the generator, for the tubes.

My father worked there 36 years. I know exactly what he did. Okay? We also have classified metal tritides that you guys won't talk about. If you don't know the quantities, how can you do a dose reconstruction? And you are only talking about tritium. You are not talking the heather.

You are not talking about the other tritides. And I'm going to close with this. Okay. You want to talk about corrupt information, okay, you are using a coworker model of 100 millirems per year and that's the public dose. The public dose is 100 millirems. Thank you.

CHAIRMAN MELIUS: The next person I have is Donna Hand.

PARTICIPANT: Donna Hand. Come on, Donna. Donna? This girls, is that Donna Hand? Maybe she is not going to get on there.

MR. KATZ: Excuse me, folks on the phone, while people are giving comments, please, don't make any noise and it would be even better

if you would mute your phone while we are listening to people give presentations. You can press *6 on your phone to mute your phone. Press *6 again to take it off of mute, but that way you won't be interrupting the person that's trying to talk. Thank you.

MS. HAND: I would like to clarify some documentation data. In the 2008 first report, Work Group report, Brad brought up what about the data integrity. What about the data validity? Have we checked that out yet? They said no. The data came from the claimants that had filed. They verified they did not have electronic data set in 2008.

The tritium bioassays, a worker would give it on a Wednesday, it would not be read until Friday. They were told if it was high to drink beer and go home. So you have a time frame there before the tritium bioassays were ever read.

If you are giving the dose to wherever tritium is, if you look in the red packet, Department of Labor has a Site Exposure Matrix and in their Site Exposure Matrix, they list tritium.

Building 100, 104, 106, these are all areas in Building 100. 112, 113, 125, 126, bioassays weren't done.

There is five pages of the areas that the tritium was handled. This is the same information that DOE gave to the Department of Labor that you should have had.

Also in the blue -- in Ms. Ludwig Talbot's booklet, you will see where there was 28 radioisotopes confirmed by DOE with four of them being over the curie limit. Plutonium was one of them. Uranium was one of them.

When I filed for the SEC in 2009, they listed that as hazardous substances. They did not recognize it, that it was the radionuclides. Department of Labor also confirms about 15 radioisotopes. So how come, you know, the dose reconstruction is not accounting that? The radiating generating devices, people worked with the x-rays to look and see the metal strates, zero dose given to the worker.

And then at the very end, because you can read these, I have the very first thing is my

concerns for the issues and they are all numbered. The information that I have concerns with, I have documentation, because after the SEC did not qualify, I requested the entire records of the Pinellas Plant used by NIOSH.

It took two years for them to redact it and I got over 4,000 documents. So -- and they sent -- the last one was sent last year. But anyway, what it said in November 19, 2012, Stiver, we are still concerned about the mixture of the photon dose, neutron dose and tritium dose, you know, and about the coworker model.

In 2008, Darnell discusses that the monitored worker -- we had some cases where you got 500 and some cases where you got up to a rem and a half, but most of them would be very low.

The report that they are using about 20 percent came from the Atomic Energy Commission report and that report also said it was less than one rem. How much less? It did not say.

Dr. Neton then went on talking about discussing this. I mean, if we find one and we don't have it, then Peter Darnell later on, that's

a very large misunderstanding with the workers down there. Relying on the work force for a heavy amount of -- is of concern. We should always listen, but we should understand their weaknesses in knowledge.

You are talking about the ones that actually did the product, the processes, the Q clearances. Then you go on and there are basically capers loading a bunch of doses on a worker, but the 99th or 95th percent dose is what we assigned, Gleckler says. That is after the CAT interview. So again, you don't have the data. What you are using is what the claimants have filed that is in their records.

And we will then will talk about the coworker model. It is done differently at Pinellas than the other sites. Coworker models was to be the missed dosimetry dose and the dosimetry dose for every year and the highest one. Worst-case application.

No, no matter what year you worked, whether you worked in '57 or you worked in '96, you only got 100 millirems. And Darnell admitted in

2008, from '83 to '93 it shows the highest worker exposure ever was 550 millirem.

Again, my issues of concerns with the matrix response and having them closed out. My concerns with the partiality and prejudgment is not based on facts nor documentation and to make a reasonable estimate is to find in the regulations as being based on facts and logical, scientific, valid assumptions.

So I looked at the same 1957-95 data. There was a lot of zeros there. 1990, [identifying information redacted], the health physicist, got in trouble by the Tiger Team saying the dosimetry records were not adequate.

Lara Hughes, when reviewing the SEC, said this would qualify, but we didn't qualify.

Mr. Rutherford said the SC&A issues would qualify, but we didn't qualify.

Dan Stempfley said we qualified, but we didn't qualify.

A hundred and eighty days when the Board received -- when NIOSH receives the petition, you are supposed to have SEC. If you

don't have the data, you don't have it. Give us an SEC. Thank you.

CHAIRMAN MELIUS: Next is David Vaughn.

MR. VAUGHN: Hi. My name is David Vaughn and I worked at the Pinellas Plant 30 years and one month.

What I would like to talk about first of all is, when I first started to work there, the building environment rivaled this facility, a big building, turned out to be about 800,000 square feet, but most of it was all in one building, Building 100.

That building had a few offices around -- along the front and a couple of mezzanines, other than that, it was just a big open building. Everybody basically was in the same room, if you want to look at it that way.

Now, there were some gyp board partitions that were about eight foot high, but there was another eight or ten feet above that where there was nothing. So basically, we were all breathing the same air. We were all basically

in the same environment.

I worked in -- I wasn't one of those people who actually worked with tritium, okay? I did the analysis for -- I worked in the engineering labs for 12 years and I was in Area 8, Area 157, Area 158.

Now, the time I spent in Area 8 was approximately three or four years of that time where I actually did hand-on analysis of the tritium. Now, basically, the people who bring me the flask to do the analysis on would hand them to me and I would take them and put them on the machine and do the analysis bare-handed.

I didn't -- there wasn't any real concern about security. There was nothing about wearing gloves or anything like that, so I did those analysis. Initially, they were in quart flasks. They were painted on the bottom with red, black, mixed half-red, half-black, depending on whether it was tritium, deuterium or -- anyway, tritium or deuterium.

So occasionally, these things would break. Later on we changed -- there was change to

stainless steel. I think it was 316 stainless steel flask which we did the analysis. I still handled those with my bare hands.

At the same time I was doing analysis in Area 157 and 150B with a mass spectrometer. The analysis there was on two component parts of the -- basically, they were targets and sources and these were punched out, put into a metal jar, heated up and it would drive the gas out of them, find out how much tritium, how much deuterium was in that particular part.

Now, something that has been discussed, there is something called flakers. These targets when you punch them out, sometimes you would find there wasn't anything there. It was there originally, but something happened to it. It just flaked off, came off and we didn't know where. Sometimes it was on the floor. Sometimes it was on the bench. Sometimes it was in the area. Occasionally it would -- they would have to bring people in to clean the place up.

Now, one of the coworkers that I worked with died with leukemia. Now, I could mention his

name, but you say you don't want people's names mentioned, but everyone knows who he is. He was 40 years old, a black belt in karate. He spent his weekends on vacations in the high Sierras hiking, so he was in pretty good physical shape.

Well, the general consensus was that he sniffed a flaker. Now, there has been some discussion, I guess, about the size of the particles, but these things, the particles, sometimes are just like a powder, dust. The air conditioning or lack of air conditioning, the fans, things that we had could have distributed this stuff in the air.

So I'm sure that that's what happened to him. Everyone else seemed to think that's what happened to him.

During that time that I was there, I also was assigned to work operating an accelerator. We had an accelerator in Building 100, a linear accelerator and the purpose of this accelerator was to produce neutrons. We would evaluate different substrates for the level and efficiency for producing neutrons.

During that time, I was taken off the bioassay program, but I was still doing tritium analysis half-time. So I wasn't monitored at all during that time. The -- that was for the first 12 years I worked in the engineering labs. The last 18 years I worked in the security operations, that's basically I was involved in everything regarding security. It didn't include guns, guards and gates.

That included a lot of things. I had to write them down, because I can't remember everything I was involved in, but there was OPSEC, technical surveillance countermeasures, tempest. And I was an NMC -- NMR, nuclear material control and accountability representative for the plant for a couple of years. I was also involved in COMSEC, intrusion detection systems and I was responsible for frequency-dependent programs.

Now, this took me to a lot of sites within DOE. As a matter of fact, I probably went to most of the weapons facilities within the complex at one time or another during that 18 years.

Something I would like to go back a little bit, because actually during that time as well, not going back, but during that time I was also responsible for setting up the monitoring system in Building 400 where the RPGs were created.

And I spent several weeks out there. And during that several weeks, I was never monitored. And I noticed something that -- if someone walked through our portal, once it was set up, you could actually detect their presence because it would cause an imbalance between the simulators, and we would get a spike in our recordings.

So that tells me that there was something being produced there that their body was interacting with or keeping one of the simulators from seeing. So at the time I supposed it was gamma from the RPGs. I'm not sure what it was, but I think that maybe that is what it was.

I was one of the people that was interviewed in the FBI Field Office here, so during that interview, I didn't receive the results of that interview, by way of a transcript, for four

years. I got it recently in the mail, but it was actually 2012, if I remember right, is when it was -- when it occurred. It was January 25th or something like that.

So I just received that and one of the things I noticed was they did a pretty good job with the transcript, but the classified portions of the discussion were basically rephrased so they wouldn't be classified.

So the result of that was, like I said, I didn't get it for several years. So my memory is not as good as it used to be. I did a little calculation. I left the plant in December -- July 23, 1997. I started work there July 3, 1967. It was 49 years ago. It has been 19 years since I was last at the plant.

So most of the people that I used to work with aren't there anymore. As a matter of fact, they aren't anywhere anymore, because we keep a database somewhat, it's not very accurate, because a lot more people have died than we know about, but we have over 500 names on that database today. And I send a list out periodically to the

people that are still around. I've got about 150 names on a distribution list.

So I don't have anything else to add, except that I believe there is a lot more to the story than what you get from some of the testimony you have heard here today.

CHAIRMAN MELIUS: Okay. Thank you, Mr. Vaughn.

MR. VAUGHN: Thank you.

CHAIRMAN MELIUS: Donna Kroll, I believe, is the next person that signed up.

MS. KROLL: Good afternoon. My name Donna Kroll. Mine is going to on a personal basis, so if there is emotion involved, please, forgive me.

I lost my mother in 1991. She worked for the Pinellas Plant for 10 years. She was subjected to different radiation and different chemicals during her employment, because she worked on the assembly line.

NIOSH recognized that the employee was exposed to various sources of radiation during her employment at the Pinellas Plant. However, they

said that the dose was not large enough for it to be conclusive that she was definitely exposed to -- that it definitely caused her renal cell carcinoma.

Now, I understand that the -- during these past few years that I have been following, because all I do is follow, I have noticed that there is definitely inaccuracies in the reconstruction and that the -- with it being, with the dose reconstruction being inaccurate, how can they give you an accurate reading as to what was she -- what she was definitely subjected to.

My mother carried a Top Secret security clearance and she was capable of working in various areas of the plant due to her expertise.

In the end, she was working in an area that exposed her, I believe, to beryllium and it was -- she had a severe reaction to it to the point where she was taken out of the office and taken out of the -- I mean, not out of -- was taken out of the assembly area and made to work in the accounting office for the last two years that she was alive.

When they diagnosed her cancer in 1988, they -- it was subjective, but then after the cancer reoccurred in 1990, General Electric sent my mother to Johns Hopkins. And they sent her there for experimental chemotherapy. This did not work and she died a very terrible death, very terrible. It started out as renal cell carcinoma and it metastasized into the body itself, not into the organs.

It came out as tumors all over her whole body. It took her three years to die. Tough, because I cared for her the whole time. What I need to understand is they denied the claim because my brothers and I were over 18. Three years after my mother died, my father died from the same identical cancer.

My father slept with my mother every day. So please tell me if it was any radiation that possibly was transferred from her to him.

I have an issue with her not being informed in the beginning when she worked at the General Electric Plant where the issues -- where the -- what she was going to be subjected to in the

form of radiation. Never told.

She was told that once a year she would have a chest x-ray along with her annual physical. The staff doctor was the one that pulled her from the assembly line and put her into accounting because of the condition that she was in. Her face swelled four times its size. She had a very hard time breathing. They had to do two or three different procedures in order to bring her back into control, that's when they took her out.

This is something that I would like to reopen, because when I -- when they denied it, they said that the dose reconstruction stated that it was not great enough to be like to -- it was shown that the employee's renal cell carcinoma did not meet or at least likely. But now if your dose reconstruction is not accurate, how can they say that?

Over the last 10 years things have changed. More things have been brought to light and there are more inaccuracies and more lack of data than there was before. I do believe that this really needs to be addressed. I didn't need to

lose her at 61. She didn't even have a chance to retire. That's sad.

I wish and I hope that NIOSH takes the time to take a look at this plant seriously and take a look at the people that have done the work for the country and I hope that they are compensated for it, because right now, they are not. Thank you.

CHAIRMAN MELIUS: Thank you. The next person I have on the list is a Larry Von Soy. Is that the right pronunciation?

MR. SOY: Yes, sir.

CHAIRMAN MELIUS: Okay.

MR. SOY: I worked at Pinellas Plant for nine years. I worked in the data processing department as a senior systems analyst. Now, most people would consider that to be a very safe job at that plant. My responsibility was to put in a time and attendance system and I also worked with the Health and Safety Department.

Now, putting in a time and attendance system, I was everywhere in that plant. And as the other gentleman said, where the RPGs were, very few

people ever got in there, but I did on a regular basis because of putting in this new computer system.

Now, I am a claimant. I have chronic beryllium disease and with that, I have no way of getting my records to prove anything for other parts of the claims like a Part B. I got a partial set of records and it said I was denied because [identifying information redacted] never signed the document. Well, it came from the record department that was left of the documents that were inside the plant.

Now, as an employee, I never had a dose pack, but I went through the whole plant and nobody ever said, well, hey, you have the possibility of getting some type of radiation exposure. But today, I do. And with chronic beryllium disease, it's never going to go away. And I'm at a loss because nobody can ever prove exactly what I got and how I got it. But it's all inside Pinellas Plant.

So thank you.

CHAIRMAN MELIUS: Okay. Thank you,

sir. Robert Shepard?

MR. SHEPARD: My name is Robert Shepard. I worked at the plant for 27 years. I began my employment in July 29, 1968 until April 20, 1995. And I was a technician that required to calibrate all of the product testers before any product could be run.

The government required us, since they was the contractors that every six to eight weeks, a tester had to be calibrated. And I was in every area of the plant.

I wasn't trained as a radiation worker and I worked in Area 126, Area 108, 200 and 400 Building. In Building 200 where they did the destruction tests, the generators tubes, when the customer got ready for the shipment, we were directed to test that generator. And we would take the tube and take it into a room and the tester would fire it and me and another technician, we would take debris and pick it up and put it in a container. The only thing that we had on was a face covering and gloves.

And so when I worked in the 400 Building

also doing product testers, see that the plutonium tube was that the system were accurately read what was -- the radiation that was in there. So we used to take the tubes and before we, me and some of the workers that was in there, used to take the tubes and just hold them in our hand just to see what they would do.

If you move a plutonium tube around, it's to get warm. It's to get hot. We used to take them and just hold them and see how long we can hold them in our hand. You know, sometime we carry them in our pockets. Sometimes we take them -- we had a little cafeteria we used to take them in there and show them around to other employees, you know, what would happen to a plutonium tube when you move it around, because to us, this was fun. But we didn't know that we were being irradiated, we were being exposed.

And so during this particular time or the years that I was there, I had prostate cancer and in 1994 Dr. Baca sent me to Mayo Clinic, and I had an operation there.

And then the prostate cancer came back

and in 2001, I think it was, I was sent to Moffitt and I was irradiated every day for nine weeks. And so in order to try to not having surgery again, because it was -- he didn't -- he wanted to try a new procedure and that procedure was radiation.

And I had a thyroid condition. It got to the point where I was losing weight and I couldn't sleep at night. My heart was palpating fast, beating real fast and so I went to the doctor and he gave me a pill to try to slow it down. And that wouldn't work. He said we don't have a pill here in our country that will reach a certain level that will bring your thyroid down to a normalcy.

So if I give you another pill, it's going to destroy it. So I had to sign off on that. And said if I don't do it, the same thing, I will have a heart attack or die. The heart would beat itself to death.

And so every day I have to take a thyroid pill. And I have diabetes and high blood pressure. I had moles removed from my body and so the older I get, which I'm 74 years old, it seem like all these things start occurring to my body,

the older that I get.

And so I filed for compensation and every time I filed, I get a letter back saying no. And they only gave me 25 millirem and I got a letter saying that was too much. So I guess they wanted to take that back.

And so that's where I am. This where I stand. And so I was hoping that someone would look at our situation and take it more seriously, because what we do -- we're working with at the plant was making tubes to make our country safe. And I know a little something about radiation; you do, too.

Think about what would -- happened in Japan about 70 years ago. Those people was bombed at Hiroshima and Nagasaki and those people are still dying, having children being deformed and all of these is still -- they are still getting sick.

And I was in that plant every day for 27 years just like walking in the smog. Anybody have driven down the highway in the smog there? The smog get on you if you get out of your car. It

would get on you. It will contaminate your whole body, even your clothes.

And so, you know, I can't see why we are -- we did our job. We did our job. It seemed like somebody don't want to do theirs. Let us -- take care of us. Let us do the right thing, you know, that's all we need to do. The funds are there for us, that's why Congress allocated that fund, those funds for us to give it to workers like me.

Now, I have to prove, the burden of proof is on me. That shouldn't be that way. The burden of proof should be on you, because you know what was there. I don't. I'm not a scientist. I'm not a physicist. All I was a patriotic American doing my job.

I served in the military, too, you know. And so I don't see what the problem is. So I wish everyone well who have gotten sick, who have sick and if you are not being compensated, maybe time will tell that someone will come and come to our aid. Thank you.

CHAIRMAN MELIUS: Thank you, Mr. Shepard. Is there anybody else in the audience

that wishes to speak to the Pinellas Site? Well, please, step up to the mike and identify yourself.

MS. STRICKLAND: Hi. I'm Margaret Strickland and my [identifying information redacted] also worked out at the plant. I think he was there for almost 37 years. I was there for 12 or so. But I do know for a fact, I worked with RTGs when I first started my employment and we handled them. We chem-cleaned them in the Chem Clean Department.

We were never told about the dangers. We were never -- we didn't wear anything to measure any dose. We were never -- we didn't even receive really exam -- a physical every year. Sometimes we did, sometimes we didn't.

But I'm just here to say that there were a lot of things that were overlooked, I think, at the plant. I don't want to say intentionally, I know it wasn't intentionally, but I just don't know. I see people that have died. I mean, we lost several people back then that were in their 20s and 30s and I really -- I don't think this is fair. I don't think -- I'm not just out after the

money. It's a matter of taking care of your own.

We did our job just like the gentleman before me said. And I think now it is time for the government to step up and do theirs. Thank you.

CHAIRMAN MELIUS: Thank you. Anybody else wish to make comments on the -- relative to the Pinellas Site? Okay. I also have a Mr. Warren on the phone.

MR. FESTER: Yes.

CHAIRMAN MELIUS: Go ahead. How are you?

MR. FESTER: My name is Josh Fester. I'm an attorney here in Hardeeville, South Carolina. I'm speaking for Mr. Warren today, basically, reading his comments, his email to the Board.

You know, we need to move forward with the expanded SEC for the Savannah River Site to other thorium time periods. You will no doubt remember that the original SEC petition, where I was representing [identifying information redacted], was consolidated with the petition for construction trade workers, [identifying

information redacted] petition 103. The Board voted to include all workers from 1953 through September of 1972 because of possible exposure to thorium.

I'm afraid the Board has been diverted from the thorium exposure because it was assuming thorium exposure after September 1972 was minimal. See Taulbee's presentation with graph by year of thorium inventory, dated 2014. We now have over 1300 additional documents formerly marked Secret which are the FOIA Responses that have been redacted and declassified in February and March of 2012 regarding requests for information on thorium at the Savannah River Site, which responses show thorium inventory data sheets and other information about thorium at the SRS.

In addition, SRS processed 240 tons of thorium before 1978. See Savannah River Plant, E.I. du Pont deNemours and Company, D.A. Orth., SRP Thorium Processing Experience, Aiken, South Carolina, June 1978, as reported in an article by R. Alvarez on page 56, Managing the uranium-233 stockpile of the United States, Science and Global

Security, 21:53-69, 2013.

Another factor that the Board Members are undoubtedly aware is that and this is quoted in that article, thorium is more radioactive than uranium and requires additional safeguards. The surface dose rate from a 55 gallon drum is approximately 60 millirem per hour, about 13 times higher than a similar sized drum of uranium. A worker spending time inside a thorium storage facility could expect to encounter dose rates of 60-100 mR/hr, reaching the US occupational exposure limit of 5 rem in just over 6 days, and that is on page 57 of that article.

In a memo dated November, 1982, M.H. Tenant, 773A, discusses inventory reductions of enriched uranium, depleted uranium, plutonium, neptunium, thorium and others and the lack of personnel to dispose of these uncommon items. He also says that, quote, in the last few years approximately 800 kilograms of depleted uranium material have been buried each year, and he foresees problems in the future because of a lack of documentation for excessing, shipment, and

recovery. See T. Taulbee, et al. dated, date collected was January 12, 2012, Site Box Number M270-11117-68, and the document date is April 19, 1982.

The data sheets are not in chronological order, but are screenshots of usually beginning inventory plus receipts or removals into minus removals equal ending inventory, and that is cited at, I think it's Mike Mahathy target data thorium inventory, folder title Thorium/U-233 Inventory screen prints.

First, that shows in January 1976, the inventory report shows an ending inventory for thorium as 6,939.8 kilograms despite information from NIOSH that after September 1972 that there were negligible amounts of Thorium at the Savannah River Site.

In December 1977, the ending inventory for thorium is 7,872.7 kilograms. That's screenshot at page 474. The beginning inventory, BI, for January 1978, is the same after receipts and removals, as expected, and that's at page 488, but February 1978, the beginning inventory is

blank and removals into and from 244-H storage leave 400 kilograms of thorium as the EI, or ending inventory at page 488 with no accounting for the beginning inventory of 7,872.7 kilograms which should have been listed but wasn't.

Number Three, because the selected screenshots are not a complete set of data sheets, one wonders why the normal chronological numbering is not used consistently on the data sheets. In fact, some pages have the same number but list different data: 1979 on page 532 and 634 of that document and in 1990, page 463 and 167; in 1995, page 117; and in 1998, unfortunately there is a page missing in that document.

The pages of the responses are not in order, but 1300-plus pages definitely show thorium shipments to, and in some cases from, Savannah River Site after 1972. This FOIA information was uncovered by Dr. Taulbee's team in the spring of 2012 so you should be able to see this information in a non-redacted form. I have no idea that SC&A ever saw this material, but it seems to me to be important for the Board to have it regarding the

ending year for the SEC at the Savannah River Site.

Also, we have received handwritten SRS thorium inventory accountability data from 1976 to 1998 showing over eight tons, 8,730 kilograms, of thorium in storage at the Savannah River Site in April 1998 before the word, in quotes, missing is entered in the blocks 5 and 6 indicating the months May and June 1998. See Mike Mahathy, target data thorium, microfiche, folder title: Matrix of Thorium Accountability Data. These data apparently are separate from the inventory data screenshots as there seems to be no correlation between the two databases.

Lastly, a deposition was taken in a South Carolina workers' comp case where the head of the radiation safety program at the Savannah River Site testified that, at one time, there was a thorium oxide process room that was contaminated at least once with thorium on the walls and floor. Also, he talked about no bioassay data to detect thorium, in contrast to Dr. Taulbee's presentation in 2014 which advocated using thorium bioassay data to reconstruct thorium exposure which appears

impossible in light of Mr. Hadlock's testimony, and you can see the deposition of Dennis Hadlock, Lee v. DuPont, et al., WCC file No.: 5200002.

And some of his comments include, Dennis Hadlock says that ''radiation, if you're not looking for it, is, you can't find it.'' And that is on page 139, lines 16 and 17 of that deposition. He states that prior to 2000, the Savannah River Site did not have a bioassay program to detect thorium for Savannah River Site employees as, ''one did not exist,'' and that's on page 135 and line 18 of that deposition.

He also said in answer to a question concerning exposure to thorium and SRS' having no way of detecting that exposure through bioassay that, ''through bioassay that is correct for thorium,'' and that is page 136, line 4. He also testified that there was a thorium process area or room in the 300 area of the site. That's pages 126-127, line 25-1, page 131, lines 12 and 13. And there were several places -- there was thorium in several places, rather, in the 300 Area and it was shipped to 773 and 777, and that's on pages

116-117, lines 19-25, and line 1 on 117.

He also testified that he had records of four pallets of thorium slugs that were going from 313 to 100k in February 1968, page 107, lines 13 and 14. He testified further that he did not know of any formal testing for intake for thorium prior to the early or mid-2000's, page 95, lines 13 through 17.

The Board has not been given the correct data for thorium exposure at the Savannah River Site and should expand the SEC at the SRS to 2007. With no detection program for workers both CTW and nCTW exposed to radiation from thorium, there is no reason not to expand the cohort, making many more workers and their survivors eligible for benefits from the DOL program before they die.

Thank you. That's all I have.

CHAIRMAN MELIUS: Thank you.

MS. COATES: Can I speak for the Pinellas Plant, please?

CHAIRMAN MELIUS: Just a second. We need to finish up here, please.

MS. COATES: Okay.

CHAIRMAN MELIUS: So if you could send in those comments. I believe you sent in an earlier version of those comments?

MR. FESTER: I believe so.

CHAIRMAN MELIUS: Yes, if you could send in the final version, I think it would be helpful to make sure our transcriber gets the references correct.

MR. FESTER: Yes, sir. Thank you.

CHAIRMAN MELIUS: Well, thank you.

MR. KATZ: Yeah, and if you would address them to Ted Katz, just so that I make sure -- so that we can be sure the Board gets them, as well. The program will get them as well.

MR. FESTER: Address them to who now?

MR. KATZ: Ted Katz. T-E-D, K-A-T-Z.

MR. FESTER: Okay. Thank you.

CHAIRMAN MELIUS: Thank you very much.

MR. KATZ: Thank you.

CHAIRMAN MELIUS: All right. Now, does anybody else on the phone wish to make public comments?

MS. COATES: I would, please.

CHAIRMAN MELIUS: Yes, go ahead.

MS. COATES: My name is Donna Coates. My husband, Al Coates, worked at the Pinellas Plant from '58 to '94.

MR. KATZ: Ma'am, I'm sorry, ma'am, I'm sorry to interrupt you, but we can't hear you. Can you speak more directly into the phone and start from the beginning?

MS. COATES: You can't hear me?

MR. KATZ: Now we can hear you. Yes, thank you.

MS. COATES: I'm sorry. Okay.

MR. KATZ: Thanks.

MS. COATES: My name is Donna Coates and my husband Al Coates worked at the Pinellas Plant from '58 to '94. He passed away in 2013 with lung cancer.

I'm wondering, after hearing all these people, why is this plant so dangerous for some, but not all? They all worked all over that plant most of them. I don't understand it.

We had -- we went from -- in 2001, a man called from Dirwell asking my husband a bunch of

questions and wondering if he could give them some names that he knew worked there, and he did.

My son was told in 2013 to get three people to write a letter that worked with my husband and we would stand a better chance to get compensated for him and it helped. It worked.

I grieve for these people that have -- are not getting any help from anybody. I don't understand it and I really feel bad for them. I think that SEC would be the best thing in the world you guys could do. Thank you.

CHAIRMAN MELIUS: Thank you, ma'am. Anybody else on the phone wish to make public comments?

MR. FROWISS: Yes, Mr. Chairman.

CHAIRMAN MELIUS: Go ahead.

MR. FROWISS: This is Albert Frowiss in California.

CHAIRMAN MELIUS: Okay.

MR. FROWISS: [Identifying information redacted]. I'm an advocate and the Lawrence Livermore petitioner and -- but I wanted to speak today about the SLAC Site, Stanford Linear

Accelerator Center.

I have never -- I have been watching these meetings for years and I have never seen a SLAC Working Group and I'm wondering if there is a SLAC Working Group and if they have ever had a meeting? That's one of my questions.

The second is, there was a Tiger Team report on SLAC in 1991, which identified a whole range of deficiencies in health and safety practices that occurred during the -- from 1960 through the '70s, at least.

And all that info on deficiencies and health and safety practices is presumably available to your Board and NIOSH. And I would seem to recall about two or three years ago, Dr. Ziemer mentioned that he heard a rumor that there was an SEC petition of some sort for SLAC that was in the mill.

There is nothing in -- nothing on your website about any 83.13s and I just wonder whether there has ever been an 83.14 considered by the Board or by NIOSH? That's my comments.

CHAIRMAN MELIUS: Okay. Thank you.

Anybody else on the phone wish to make public comments?

MS. COLLEY: Yes, me.

CHAIRMAN MELIUS: Okay. If you could identify yourself and make comments.

MS. COLLEY: Okay. Yes, my name is Vina Colley and I am a sick worker and co-founder of National Nuclear Workers for Justice. And I am the president of PRESS, Portsmouth --

MR. KATZ: I'm sorry, ma'am. I'm sorry to interrupt, but you said your name so quickly, we couldn't understand it. Can you try again?

MS. COLLEY: Vina, V-I-N-A, Colley.

MR. KATZ: Holly?

MS. COLLEY: C-O-L-L-E-Y.

MR. KATZ: Okay. Thank you.

MS. COLLEY: Okay. And I was a sick worker and co-founder of National Nuclear Workers for Justice and President of Portsmouth-Piketon Residents for Environmental Safety and Security.

I am from the Portsmouth Gaseous Diffusion Plant in Ohio. And this is not just our

problem, it's a national problem that is left going on with these workers.

We were the group that broke the story about the plutonium being in the piping plant at the same time it broke in Kentucky. I would like to put -- we are saying that our government continues to put us in harm's way 16 years after this bill came in effect.

I had a couple of questions. Why is trichloroethylene, asbestos, plutonium, beryllium and other toxic substance found in the soil on the site, but most workers are not given credit for the same exposure? Most employers give credit to asbestos solely. Most employers are giving credit to asbestos solely to building materials, meaning the buildings they worked in have asbestos, but not enough exposure credited to the linked illness.

Skeletal cirrhosis, according to your FIM database, it's not linked to any toxins on the site. It can cause -- it can be caused by fluoride exposure, NHF. It is like arthritis, so I'm sure no one wants to admit it, because possibly most of

us -- most have medical records that can support the diagnoses.

Comments on job titles. An escort is excluded, but would be just as exposed as a guard. Very few job titles are given credit for exposures like COPD when in fact airborne toxins doesn't discriminate. FIM is used to exclude not a set of claimants.

Neuropathy is an example that I'm looking at right now in the FIM database for the electricians we have. The electricians that we have -- hold on just a minute. Somebody just knocked.

Okay. Neuropathy is another example that I am looking at right now in the FIM database. So as an electrician, we have been exposed to certain chemicals and radiation. My doctor agreed your FIM base -- well, I was turned down-- hold on.

I was turned down for neuropathy and my doctor was asked to prove the legacy period. The Cleveland office is asking for the doctor to show the legacy period of neuropathy or research to show

--

MR. KATZ: Excuse me, ma'am? I'm sorry to interrupt you again, but with the dog barking and --

MS. COLLEY: Well, I know the dog --

MR. KATZ: -- the phone quality, it's very hard to hear what you are actually saying.

MS. COLLEY: Okay. Hold on just a second.

CHAIRMAN MELIUS: And I believe all of your questions so far have -- are referred to the Department of Labor program and issues there. This is the -- this Advisory Board deals with cancer issues related to Subtitle E of the Act.

MS. COLLEY: Well, we were one of the first SEC sites along with Paducah and Oak Ridge.

CHAIRMAN MELIUS: That may be, but all your questions so far are related to chemical and other -- or other diseases. Chemical exposure.

MS. COLLEY: Well, it has to do with the FIM database.

CHAIRMAN MELIUS: Well, that is Department of Labor.

MS. COLLEY: Okay. One second.

CHAIRMAN MELIUS: You have the wrong--

MS. COLLEY: The FIM database is not working, we have had multiple chemical exposures that they are not giving us credit for, multiple chemical exposures nor do they even call the workers to see what they actually did work in and what they might have been exposed to that has not been calculated in their exposures.

I cannot get them to give me any neutron exposure for any exposure that I have.

And I have another question about a petition that was filed by Gay Oglebee and myself and it was given to one of your persons. I'll have to go in and get the name, but the petition was 0011 -- 00011 for Hanford workers that Gay Oglebee turned in and she has passed away. We started the petition in 2000 and we got a number sometime like in 2007 and I haven't heard any more about that petition.

CHAIRMAN MELIUS: Okay. Thank you for your public comments. Does anybody else on the phone wish to make comments?

MS. COLLEY: Is there a way I can get an answer to the question about the petition and the fact that --

CHAIRMAN MELIUS: We will follow up on that last question. The others we can't answer. You should talk to the Department of Labor.

MS. COLLEY: I thought you were talking about the FIM database all day today earlier.

CHAIRMAN MELIUS: I don't think so.

MS. COLLEY: This is affecting all the workers all around the United States right now, the FIM database. This is how they are getting turned down for their exposures and for their illnesses.

CHAIRMAN MELIUS: Yes, but I believe the Department of Labor has another advisory board that is addressing issues related to that program. And this is -- we don't. This Advisory Board does not address those issues.

MS. COLLEY: Okay. Could someone send them to me or my name in?

CHAIRMAN MELIUS: Well, if we have the contact information, we will, if we could

understand it with the dog barking.

MS. COLLEY: Okay. If you --

CHAIRMAN MELIUS: Thank you.

MS. COLLEY: -- I'm sorry.

CHAIRMAN MELIUS: Yes, that's fine.

MS. COLLEY: I'm sorry that I just got company. I have been sitting here all day and no company until I got on the phone.

CHAIRMAN MELIUS: Okay. Is it --

MS. COLLEY: My phone number if they want to text it to me is [identifying information redacted]. And I want to ditto that your workers in Florida have said that this is a national problem and it's happening everywhere.

CHAIRMAN MELIUS: Thank you.

MR. KATZ: Yes, ma'am, that's [identifying information redacted], correct?

MS. COLLEY: [Identifying information redacted], correct.

MR. KATZ: Okay. Thank you.

CHAIRMAN MELIUS: Now does anybody else on the phone wish -- I'll get to you in a second, sir. Anybody else on the phone wish to

make public comments?

Okay. If not, go ahead, sir, please, identify yourself.

MR. JEWETT: My name is Billy E. Jewett, J-E-W-E-T-T. I have two claims. One for my brother, who has since died from radiation exposure, and also for myself. My tracking number is [identifying information redacted]. I don't know my brother's tracking number.

The plant that you -- we were just talking about, it was built in the early 1950s. And me and my brother helped build that plant. And what the young lady was talking about was that this is a worldwide problem. This is just not local here in the United States. It's worldwide.

It destroys our water system. It's not a clean energy. It destroys our water system and human life has to have clean water. As we speak, China is getting tankers full of water from our Great Lakes because they have no water, potable water. So this is a worldwide problem. This is not local.

But getting back to the plant, the

Piketon Diffusion Plant, I live -- my brother and I both lived about 10 miles downwind from that plant. They have had many leakage problems and many people in that area have died from radiation exposure from that plant.

As we speak, they have saw fit to close, stop the cleanup of that plant and I would like an answer on why this governor of the state or anyone would sit still for stopping the cleanup at that plant site. It's the same thing at Paducah. It's the same thing at most of your plants around the nation.

They are not taking care of the radioactive waste. Radioactive waste doesn't have a yearly shelf-life. It is eons. We let the genie out of the bottle and there is no putting it back. But this is a problem worldwide and it's untold millions that have died from exposure to radiation. It's not a clean energy like they try to tell you. It's not a clean energy.

But anyway, does anybody know or can you give me an answer where are they putting the radioactive waste today? The last I heard from

Paducah many years ago, they were putting it in refrigerator-sized cubes, putting it in ceramic and wanting to put it in salt mines in Michigan and Michigan would have had no part of it.

Now they said off the coast of -- out in the Pacific there is a soft bottom where they are dumping it and it's supposed to stay okay there. But where is a safe -- is -- there is no place safe in the world here for radioactive waste. Thank you.

CHAIRMAN MELIUS: Thank you. Ted, we have one other additional comment. Ted, do you want to read?

MR. KATZ: Yes. All right. So I have comments that were submitted in advance by Dr. McKeel, because he couldn't attend to present them himself, which I'll read.

To the Advisory Board on Radiation and Worker Health from Daniel W. McKeel, Jr., MD, SEC co-petitioner for the General Steel Industries, GSI -- excuse me, sir -- Dow Madison in Illinois and Texas City Chemicals AWE, EEOICPA sites. Co-founder in 2005 of SINEW, the Southern Illinois

Nuclear Energy Workers Advocacy Organization.

I have requested that Board DFO Ted Katz read this document into the official meeting transcript record of the Public Comment session during the 110th ABRWH face meeting, which is to be held on March 23, 2016 in Tampa, Florida at 5:00 p.m.

The following comment is an extension of my Public Comment at the 108th ABRWH meeting in Oakland, California on November 18, 2015. New information has emerged that is especially disturbing. The implications deserve immediate scrutiny and actions by this Radiation Advisory Board, by NIOSH-DCAS and DEEOIC/DOL.

My remarks should be considered a formal complaint concerning the manner in which the Department of Health and Human Services, HHS, and the Department of Labor, DOL, DEEOIC are handling three matters pertaining to the GSI Illinois site. These EEOICPA part B programmatic matters include the following issues:

One, flawed dose reconstruction reworks for 42 of 100 cases under GSI PER-057 with

PER Probability of Causations, PoCs, over 50 percent. DCAS employees and health physicists David Allen and Dr. James Neton issued PER-057 for the GSI Illinois site on March 11, 2015. PER-057, quoting from the abstract of the document on the DCAS website, quote, Determines the effect of Revision 1 to the GSI Appendix on previously completed claims, end quote, and further states, quote, NIOSH will request the return of the 100 claims that would now result in a Probability of Causation greater than 50 percent, end quote.

John Vance, acting for DEEOIC Director Rachel Leiton, in an e-mail to Dan McKeel dated January 29, 2016, quoted the following statistics he obtained from the DOL Cleveland District Office that pertained to the list of 100 PER-057 claims with new PoCs greater than 50 percent based on Appendix BB Rev 1 issued June 6, 2014.

Mr. Vance replied by e-mail to Dan on January 29, 16 as follows, quote, I asked to the Cleveland District Office to report out manually on the status of the claims. Here is the information provided -

- There were 100 total cases

- 52 mod orders to reopen previously denied cases with new recommended decisions issued

- 12 cases where survivors were not located, parenthetically he says, working with [identifying information redacted] to get contact information. He is working one-on-one with the assistant director in CLE on the matter, close parentheses.

Four cases are presently with NIOSH and we're waiting for the NRs.

One has a newly deceased employee working to get survivor claim. One case under development for referral to NIOSH checking the status as to delay. One case was -- were denied by RD dose reconstruction was 49.02 percent. I did have our HPs validate the results and he was unable to identify any change to outcome.

15 cases had no covered employment and were incorrectly identified for consideration as part of the PER.

15 cases had RD without mod orders as they were new claimants, end quote.

I replied to Mr. Vance asking for several clarifications of these puzzling data on the 52 -- on only 52 reworks instead of 100. The dates, the 12 deceased claimants died before March 11, 2015, question mark.

How 15 cases could possibly be new when based on the CDC FOIA 15.490, McKeel obtained with PRE and PER total dose and PoC information on all 100 cases that showed all 100 total doses and PoCs below 50 percent prior to/before PER-057 was issued on March 11, 2015.

I also sought clarification for the jargon terms mod and NR. I was told I must file a FOIA in order to obtain answers to these questions.

NIOSH use of erroneous employment at GSI for 15 PER-057 claims is the most worrisome aspect of these data since DOL is supposed to verify employment status before cases are referred to NIOSH for initial dose reconstructions. None of the 100 PER-057 cases with PER -- PoCs greater than 50 percent could be new, since all 100 had recorded pre-PER PoCs less than 50 percent. I

verified this fact unequivocally via my CDC FOIA 15.490.

Two, the extreme delay in HHS and the three-Member AR review panel making a final determination on the GSI SEC 105 administrative review submitted to HHS by petitioners on April 17, 2013, the full ABRWH voted to sustain NIOSH's recommendation to deny GSI SEC 105 on a nine yes to eight no vote on December 11, 2012. The Board forwarded their recommendation letter to NIOSH Director John Howard and to HHS Secretary on January 31, 2013.

HHS Secretary Sebelius denied GSI SEC 105 in a letter to Congress and the GSI petitioners dated March 3, 2013. HHS Assistant Secretary of Health Howard Koh then approved the GSI SEC 15 AR on May 17, 2013.

Subsequent events have been cloaked in utter secrecy as outlined in my public comment at the November 18, 2015 ABRWH Oakland meeting.

Section 18.18 of the Act that governs SEC ARs needs urgent reform.

The new related development was the

Hooker SEC HHS Panel recommending reversing the SEC denial based on NIOSH's faulty employment of surrogate data. This was a specific error among 44 of the GSI SEC 105 petitioners cited in their AR submitted to HHS on April 17, 2013.

The fact raises the distinct possibility that GSI AR Review Panel may also recommend reversal of GSI SEC 105 denial to the new HHS Secretary Sylvia Matthews Burwell. Ms. Burwell replaced Ms. Sebelius on June 9, 2014, and made the determination to concur with the HHS AR Review Panel and approve the Hooker SEC.

Secretary Burwell will decide the ultimate SEC 105 fate.

My point today is to reinforce the urgent need for more openness in processing SEC administrative requests. The outcome may and has recently influenced ABRWH decisions as in the recent Hooker Electrochemical SEC case.

Three, the excessive delay in NIOSH issuing GSI Appendix BB Rev 2 and its related PER by the NIOSH Division of Compensation Analysis and Support (DCAS), Stuart Hinnefeld Director. At

the ABRWH 108th face meeting on November 18, 2015, Dr. Paul Ziemer, former Board Chair and current Chair of the TBD-6000 Work Group, made a presentation stating that all outstanding GSI Appendix BB Rev 1 issues had now been fully resolved. The full Board concurred.

I am unaware that DCAS or the TBD-6000 Work Group have announced any progress on issuing a second revision of Appendix BB, Rev 2 or issuing a new Program Evaluation Report for Rev 2, or for holding the next TBD-6000 Work Group meeting. All of these activities are necessary follow-up activities to the 100 percent resolution of the SC&A matrix issues concerning Appendix BB Rev 1 that were still open in June 2014 when the revised GSI profile was issued after a seven-year delay.

I ask again for NIOSH and the Board to take immediate action on all of these GSI matters that merit urgent attention. A new PER issued under pending Appendix BB Rev 2 might result in additional GSI denied claimants being paid. For example, GSI betatron operations would now receive credit for additional external gamma photon dose

from radium-226 sealed sources during the GSI radium era 1952-1962.

I urge the Board and DCAS/NIOSH to take a more proactive position when exorbitant delays threaten and subvert the EEOICPA mandate for the Board and the implementing agencies to perform their duties in a timely manner. The 42 of 100 GSI cases at issue from PER-057 that are in jeopardy, see issue 1, for not being paid represent $6.3 million in benefits not counting medical benefits.

For the record, it has been impossible for me to gain the full GSI administrative record by making FOIA requests. My CDC FOIA 14-00573 made April 10, 14 for the GSI SEC-105 information NIOSH and the Board provided to John Howard and HHS Secretary Sebelius and ASH Koh is still not complete. One part of this subdivided FOIA remains with the DOE Legacy Management 23-plus months after submission. Thank you. Respectfully submitted, Dan McKeel, March 19, 2016.

ADJOURN

CHAIRMAN MELIUS: Thank you, Ted.

That actually concludes our meeting and we will reconvene tomorrow morning at 8:15.

(Whereupon, the above-entitled matter went off the record at 6:20 p.m.)