United States of America
Centers for Disease Control
National Institute for Occupational
Safety and Health
Advisory Board on Radiation and
Worker Health
128th Meeting
Wednesday
April 17, 2019

The meeting convened at 8:30 a.m., Eastern Daylight Time, in the Pittsburgh Marriott City Center, 112 Washington Place, Pittsburgh, Pennsylvania, Ted Katz, Designated Federal Official, presiding.

Present:

Ted Katz, Designated Federal Official
Henry Anderson, Member
Josie Beach, Member
Bradley P. Clawson, Member
R. William Field, Member*
David Kotelchuck, Member
James E. Lockey, Member
David B. Richardson, Member
Genevieve S. Roessler, Member*
Phillip Schofield, Member
Loretta R. Valerio, Member*
Paul L. Ziemer, Member*

Registered And/or Public Comment Participants:

Nancy Adams, NIOSH Contractor
D'Lanie Blaze
Zaida Burgos, NIOSH
Grady Calhoun, DCAS
Kirk Domina
Eloy Giron*
Rose Gogliotti, SC&A*
Kirk Grimes*
Stu Hinnefeld, DCAS
Lara Hughes, DCAS

Michele Jacquez-Ortiz*
Deb Jerison
Josh Kinman, DCAS
Greg Lewis, DOE
Mark Lewis, ATL
Megan Lobaugh, NIOSH
Vernon McDougall, ATL
Matt McFee, ORAU Team
Jenny Naylor, HHS
Charles Nelson, DCAS
Jim Neton, DCAS
John Palastro*
Rich Palastro*
Rick Reefer
LaVon Rutherford, DCAS
Hugh Stephens
Tim Taulbee, DCAS
Marissa Thomas, CDC

*Participating via telephone

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Proceedings

(8:35 a.m.)

Welcome and Roll Call

Mr. Katz: We have a lot to do this morning, so I'm going to get started, first with some preliminaries. For everyone, particularly for folks on the line, welcome everyone. This is the Advisory Board on Radiation and Worker Health. This is our 128th meeting, and this is our first time in Pittsburgh, so we're glad to be here.

We're here in Pittsburgh because later, at the end of the day, we're going to be talking about Superior Steel, which is here in the area, and it's an opportunity for people who have some relationship with that facility, whether they worked there or are survivors or what have you, to see the Board, hear the Board, and also comment to the Board if they want, because we're doing an evaluation of a Special Exposure Cohort petition from that site, which is underway and you'll hear about that in the end of the day.

So also for everyone on the line, the agenda and the materials for this meeting are posted on the NIOSH website for this program, and that includes all the presentations that are going to be given are there posted, and the background papers for those presentations too for more context.

We do have also, and it's listed on the agenda, a Skype connection, and that would allow you, for folks on the line, to be able to follow the presentations as they're being given in real time. But at the present time, we're struggling with that Skype system.

So I'm not sure whether it will be ready first thing or not, but again just to remind you folks on the line, the presentations are all posted on the website, so you could pull up those presentations as they're being given and follow along even if Skype, we don't get the Skype working. So that shouldn't be a calamity.

Let's see. So I mentioned we're here in part because Superior Steel is here and that we have a petition from there that we're evaluating. So there will be a public

comment session and that will begin at, let's see, at 6:00 p.m.

So people who are listening in and want to -- are particularly interested in Superior Steel or another petition or just want to comment, 6:00 p.m. Please be on the line at that point, because we never know how long the comment period will go. It just depends on how many commenters we have.

All right. We have -- let me just speak to conflict of interest for the Board Members, instead of having them deal with that directly. We don't have a lot of conflicts for this meeting.

We do have for a session on Sandia National Lab SEC petition we have two Board Members who have conflicts and will recuse themselves for that session, and for that, for Sandia it's Phil Schofield, who's here in the room, and Loretta Valerio who will be on the line, or she's probably already on the line. But we'll go through that, go through roll call for that.

And otherwise, Idaho National Laboratory in the afternoon. We have Brad Clawson here. He'll recuse himself from that discussion, and that takes care of all the conflicts for the day, so pretty simple.

So, roll call.

(Roll call.)

Mr. Katz: Right. So welcome all of you, and that's a full Board, so we have our quorum and more, which is great. Okay. At this point, before we get onto -- we have a NIOSH Program Update that starts at 8:45, we've got some minutes before and we have something to do beforehand.

We have two members of the NIOSH team, the Director, Stu Hinnefeld, and the Associate Director for Science, Jim Neton, who are -- this is their last meeting in person. It's the last meeting period for Jim, and I think Stu will still be here for the teleconference?

Okay. So we don't even get him for that. Okay. So we're, all right. So Jim has been with the program since the beginning of time of the program, and Stu came not long

afterwards. This is a big body blow to lose them. They've been dear to us. They've done enormous things with this program, in developing this program.

So we have some sentiments from the Board to start with, and more to do. So Paul and Gen, if you want to take it up at this point.

Member Roessler: Okay, I turned off my mute.

Mr. Katz: It's okay. I think maybe Paul starts with Stu or either way. The order doesn't really matter but --

Member Ziemer: Yeah, Ted. I need to pull up and maybe Gen can go ahead and go first.

Mr. Katz: Oh that's fine, yeah.

Member Roessler: Okay, I'm ready. Can you hear me?

Mr. Katz: You're a little faint. I don't know if we can increase the gain on you or -- why don't you say something more Gen so we can hear.

Member Roessler: Okay. Well let me move the phone a little bit. Does that get better?

Mr. Katz: That is better, yeah.

Member Roessler: Okay. I'll try and hold it still. So if you're ready, I'll begin.

Mr. Katz: Yeah, thank you Gen.

Member Roessler: Okay. This is a salute to Dr. James Neton. The Advisory Board on Radiation and Worker Health extends its congratulations and best wishes to Dr. James W. Neton upon his retirement as Associate Director for Science, Office of Compensation Analysis and Support, National Institute for Occupational Safety and Health, NIOSH.

For the past 19 years at NIOSH, Dr. Neton, Jim has provided scientific excellence, integrity and leadership as the principal scientist, author and mentor of the many technical strategies used by NIOSH to reconstruct the radiation dose history of workers in the U.S. nuclear weapons complex.

During his years of service at NIOSH, Jim's responsibilities in the Office of Compensation, Analysis and Support included health physicist in the health-related energy research branch, where he conducted retrospective external and internal radiation exposure assessments for use in epidemiologic research study.

Technical program manager involved with supervising a multidisciplinary team of technical, administrative and contract personnel to support NIOSH's activities related to the Energy Employees Occupational Illness Compensation Program Act of 2000, EEOICPA. Associate Director for Science with responsibility for the overall scientific development of dose reconstruction methods and risk models under the EEOICPA provision.

In all of these activities, the Advisory Board Members have observed Jim Neton's devotion to his work, his care in dealing with claimants and his fairness considering all aspects of the science and technology involved. He has been an effective communicator of dose reconstruction concepts and issues not only to the Board and the support staff, but also to members of the general public.

Throughout his time at NIOSH, Jim Neton made sure that the dose reconstruction program was developed on a sound scientific basis. He carried out his responsibilities in what was often a politically charged environment, and he did it very well.

As Jim Neton retires from his years at NIOSH, the Advisory Board on Radiation and Worker Health offers him its gratitude for what he has done in developing and advancing dose reconstruction methods. We wish him and his family the best in all he does as he enters the next phase of his life.

Mr. Katz: Thank you, Gen. And Paul, are you ready?

Member Ziemer: Yeah, and I'm pleased to present this salute to Stuart Hinnefeld. The Advisory Board on Radiation and Worker Health extends its best wishes to Stuart L. Hinnefeld upon his retirement as Director of the Division of Compensation Analysis and Support, DCAS, of the National Institute for Occupational Safety and Health, NIOSH.

For the past 16 years at NIOSH, Stuart Hinnefeld, Stu,

has provided strong and steadfast leadership in building the NIOSH portion of the Energy Employees Occupational Illness Program Act, on a solid, scientific and technical basis. He has always administered the program fairly and with compassion, and he's shown dedication to the claimants that are the program's -- or the claimants that the program served.

During his years of service at NIOSH, Stu's responsibilities have included dose reconstruction team leader who provided leadership and technical guidance to a team of health physicists in preparation and review of radiation dose reconstruction reports, including the development of strategies and techniques for performing dose reconstruction, technical program manager and responsibility for all health physics activities.

This included the technical solutions team that developed and utilized database systems and computer applications used to support claims tracking and dose reconstruction efforts. Interim director and subsequently Director of the Division of Compensation Analysis and Support, with the responsibility of providing leadership and guidance to scientific, professional, administrative, technical and support staff.

This included program planning and policymaking activities. In all of these activities, the Advisory Board Members have observed Stuart Hinnefeld's dedication to the program, his sensitivity in dealing with Members of the Advisory Board, his courtesy and fairness towards claimants, and his respect for the science and technology involved.

He and his staff have been effective communicators of dose reconstruction concepts and issues to all of the program's stakeholders. Throughout his time at NIOSH, Stuart Hinnefeld performed his duties with the highest level of integrity and ethics.

As Stu retires from his years at NIOSH, the Advisory Board on Radiation and Worker Health offers him its gratitude for all of his contributions in developing and leading the efforts at NIOSH for the dose reconstruction program. We wish him and his family the best in their future endeavors.

Mr. Katz: Thank you, Paul. We also have some commemorative objects to present to Stu and Jim. If you want to come up and Josie and Andy will take care of that.

(Applause.)

Mr. Katz: Okay then. We're on to a NIOSH Program Update from -- Stu has to follow that. Yes thank you, and thanks so much Paul and Gen for doing the honors.

NIOSH Program Update

Mr. Hinnefeld: Okay. Well thank you all for that. I guess it's a little bittersweet because I feel that because of the affection and respect I feel for all the Board Members, it's something -- it's one thing to do this as your job. It's quite another thing to be a member, a special government employee, a member of the Board who participates in this because of dedication to the program.

So I just wanted to say thank you to all of you for your continued service. I know some of you have served very long. I'll also comment that it was particularly nice to have Dr. Ziemer read my acknowledgment. He may not want me to admit this, but we met each other in 1977 when I showed up at Purdue as a graduate student in Health Physics and I was lucky enough to have Paul as my major professor.

So before I'm sure some of my staff were born, that's when I met Paul. So anyway, thank you all for that. One last time I'm going to do this, this presentation. So you said hit enter. Well, that's worked. Okay. Do I have to go back?

Okay, well the first line is just what we talked about. The first line I skipped right past is about Jim's and my retirement. Jim's last day of employment is next Friday. My last day of employment is June 21st.

I was going to say it was the last day I was going to work, but it's a little questionable about how much work I'll actually be doing on June 21st. But my last day of employment is June 21st.

There was -- there were competitive promotions for opportunities for our understudy positions, and we decided I think I mentioned in December that we would

be pursuing understudies for our two positions, based on the competitive hiring process, Grady Calhoun is now serving as my understudy. His term started Monday I believe as my understudy.

Tim, for a little bit longer than that, has been the understudy for Jim. You both know them very well. They're both very familiar with the program, and I don't envision a lot of hiccups or a lot of need for phone calls back to me because I think Grady knows everything I do anyway. So that's the news on the personnel front.

In terms of upcoming events, outreach, we've had a slow period through the winter. We haven't really done any outreach since December, but we're making up for it this spring with several things coming up.

In May, we have the Department of Labor sponsoring an outreach meeting that they've asked us to attend with them for Brookhaven National Lab. That's in the Middle Island, New York.

So one of us, some of us will be -- somebody will be there mainly to answer questions probably. In June, the DOL is sponsoring the fourth of their authorized representative workshops, which they've done around the country. They've done one in Jacksonville, Florida, one in Kennewick, Washington. We hosted one at our facility in Cincinnati, and this one will be in Las Vegas in June.

We go and present a couple of -- a module multiple times because they do breakout sessions for that workshop, so we will be attending that. The DOL Ombudsman has told us that they intend to sponsor outreach meetings at the Fernald site, which is right by Cincinnati, and also at Columbus, I guess for Battelle.

So we will also attend those. Those will be relatively straightforward for us to get to. Those are in June, and we're going to Oak Ridge for a couple of different reasons. There is a town hall meeting that DOL sponsors associated with the expansion of the Class there.

You recall that action was taken last Board meeting. That Class was effective at the end of March, and the Board -- DOL typically does outreach town hall meetings when a good-sized Class is added. This is probably a pretty good size Class that's added at Y-12.

And then finally with our outreach contractor, ATL, we are conducting a one day DR and SEC workshop in June in Oak Ridge as well. ATL puts on a portion of that workshop and we have a speaker who puts on a portion also.

Now I actually have some other news this time. I guess, I don't know if everyone knows. Most of you probably know that one, I think it was January 22nd, the Tuesday after Martin Luther King three-day holiday, we came into our offices and found that the sprinkler line had frozen and broken right above our B1 conference room.

So I think most of you have been to our facility and you probably, if you may have a vague memory of the conference room where we did our briefing. That's the conference room. The sprinkler line was right above the fake ceiling there, and there's a lot of water in a fire line.

When it started running, it actually smelled like fire. The water, since it sat in the pipe so long. And so when the engineering staff, NIOSH maintenance staff got there said it smells like fire, they didn't turn the sprinkler off and waited for the fire department to show up to turn the sprinkler off. So the water flowed for a while as well. It flowed all through our offices, out the hall, into the hallway. That was in our B1 area.

Now directly below that is our B2 area which we also occupy, where we have our claimant communication staff and where we used to have -- thank goodness we don't anymore -- tons and tons of paper records. Now we have digitized all those records, so the paper's all thrown away. So fortunately there was no paper down there.

There was some penetrations in the floor, and certain spots in B1 also got soaked. So we were out of our offices until last week, right? So from January 22nd until last week, we didn't have use of those offices as they took out the flooring, took out some of the drywall, repaired the ceilings and they moved us back in last week.

We were on what we call emergency telework. All of our people were teleworking full time, and we do have some offices that people could come in. If they needed to come in, there were offices we could find for them to use. So but people were on emergency telework for almost three months because of that. But things seemed to keep

moving, so I guess the credit to people's ability to work at home I guess.

Also since December, the RFP has gone out. Proposals have been received and we're in the evaluation process for our dose reconstruction contract. ORAU is the current holder of that contract. They have been since the start of the project, but every five years, we recompete it.

And so it's in the recompetition stage. The contract was scheduled to end at the end of March, right? But the award wasn't going to be made and so the contract has been extended through June. So ORAU is the contractor through June, and we believe we are late in the selection process.

We have done a lot of our portion, maybe all of our portion of the selection process, and we believe we're late in that and we believe a selection can be made by June, but it's really in the hands of our programs and grants office. It's not in our hands. So chances are there will be a new -- well, we are hoping there will be a new contract in place on July 1st. It may be a new contractor, it may be the existing contractor.

Now this next item is a technical change that affects what we do, a few things quite difficulty, most stuff not very much or it can be addressed very simply. ICD is the International Classification for Diseases. It's a way to put a number on a diagnosis, and number nine, ICD-9 was the ninth version of that, and that was the version that was in effect when this program started.

So we've written into our regulations references to ICD-9 and ICD-9 codes. In the dose reconstruction rule, there's a table of ICD-9 codes and possible primaries, if you've got a secondary and you don't know the primary. Well that all has to be changed to ICD-10.

Now this is strictly a technical change. We're not really changing anybody's requirements except us. The reason that it had to change is because the world -- by the way when I say the world, I mean the Center for Medicare and Medicaid Services who kind of sets the rules, because everybody goes along with Medicare.

They adopted ICD-10 a couple of years ago and for a couple of years they have maintained this crosswalk that

they would translate them, and DOL has relied on that translation of ICD-9 and ICD-10 to keep using ICD-9 and sending us ICD-9 codes, which is what we've been using.

Well CMS, the Center for Medicare and Medicaid Services, is going to stop doing that in October. And so that prompted us, well now we have to change. We have to get all our paperwork up to date to ICD-10. We're writing our internal procedures to do that and making sure we can do it that way, and we are revising our regulation through an interim final rule.

That's what it's called right, interim final rule. It's strictly a technical change and that process is in place as well. As far as I know, there are no difficulties and that's going to happen.

And then one final item, I've been talking a lot about low dose radiation research, which is kind of funny because through most of my career, let's see, it was just kind of accepted. I mean it was going on and didn't really seem to affect much. Now all of a sudden there's a lot of interest in whether low-dose dose models are really being appropriately determined and our rules based on those, are those the right regulations we should have.

So there's a certain amount of debate about that, but and so there have been a number of discussions at national meetings, and this next one is sponsored by the National Academies of Science in Washington in May. It's on the future of low dose radiation research, and it's a symposium at the National Academies of Science, and we will have people attending that as well.

So we're trying to -- we want to keep our ear to the ground. We don't really do radiation research in our program. We want to make sure that we're knowledgeable of what's going on. It could in fact affect what is done in this program in terms of the risk model and modifications to the risk model, so we will be attending that as well.

Member Anderson: What's the date on that?

Mr. Hinnefeld: The dates of that symposium are May 7th and 8th I think, 7th and 8th. It's the Wednesday and Thursday of that week of May, the first full week of May. So and I believe it might be webcast or something, is that

right?

There may be a way to watch it remotely as well. But it's in D.C. at the National Academies, right there right on the Mall essentially. Okay. I am already over time. I -- well, I did something wrong.

Okay, okay. So the case statistics are in the handout. I would propose that I not run through them since I've taken so much time with announcements and things. If there are questions about them I'll be glad to answer, or questions about any of the other things, anything I commented on or anything I didn't comment on. I'll be glad to try and answer those.

Mr. Katz: Right. So any questions from Board Members?

(No response.)

Mr. Katz: Not in the room. How about on the line?

(No response.)

Mr. Katz: Okay. Then thank you Stu. We should zip -- oh, go ahead.

Member Richardson: I'm sorry. I knew there was a question that was in my head and I was searching for it to come back. The issue of the ICD codes --

Mr. Hinnefeld: Uh-huh.

Member Richardson: And you had mentioned previously you had been receiving codes from Center for Medicare/Medicaid?

Mr. Hinnefeld: Labor. Labor got them.

Member Richardson: Labor was receiving those.

Mr. Hinnefeld: Labor got the translation and sent them to us.

Member Richardson: The other way that a claim could come in would be for a deceased claimant, and how -- I'm trying to think. I mean when that transition happened with the coding, with different organizations have taken up using ICD-10 going back to around 2000 I think was actually the date of the transition.

Mr. Hinnefeld: Right.

Member Richardson: And in fact, I'm just thinking about this process, that's always seemed a little confusing to me that there was a cite to an ICD-9 when you could have claimants filing who had deceased under the ICD-6, 7, 8, 9 and 10. Is there -- and the cross-walk gets more and more complicated as you span all those revisions of the ICD. So how has that -- how has that been operationalized?

Mr. Hinnefeld: Well, I think that might be a question for the Department of Labor, because they send us an ICD number associated with the diagnosis, you know, because they verify the diagnosis and things like that. So they send us an ICD and up to now they've sent us ICD-9 codes, and they will be sending us ICD-10 codes.

So whatever translation has been occurring from earlier diagnoses, Labor has done that up to now anyway.

Member Richardson: And they're going to continue to do that, but they're not going to go from 10 to 9? Is that the issue? Because you are -- you still could be getting 6's, 7's and 8's?

Mr. Hinnefeld: Yes. Presumably, they will take those to 10's now, and they will send everything as 10's.

Member Richardson: Well that seems -- it's actually impossible to do that. So I don't know what they'll do.

Mr. Hinnefeld: Okay. Well, I really don't know how, what they're planning to do.

Member Richardson: Okay.

Mr. Katz: Yeah, and because the Board advises NIOSH on rulemaking, EEOICPA rulemakings, we'll have this in August I think, right? In August, right, we'll have this because of the interim final rule.

So it is effective immediately so that we can put it to work, but it also allows opportunity for comment and the Board, we will be getting the Board's comment, such as we have for all rulemaking we've done in this program, even though this is just a technical change, maybe that's another opportunity to get some information from DOL

about this.

Mr. Hinnefeld: Yeah. I'm just not very familiar with their part of the operation and how they do it.

Mr. Katz: Okay. We should go on. We're quite behind, and we have an SEC petition to discuss this morning. So I would just -- I hate to do this, but I would ask -- DOL's up next I believe on the line.

Mr. Hinnefeld: I'm not sure I can get their presentation up. I'm not --

Mr. Katz: Okay. Why don't we switch? Why don't we then have DOE come up.

Mr. Hinnefeld: Labor's is up now.

Mr. Katz: Oh Labor's up. Okay. So Frank, are you on the line?

Mr. Hinnefeld: Or was.

Mr. Katz: Crawford?

Mr. Crawford: Yes sir, I'm here.

Mr. Katz: Okay. So I'm going to ask you -- I hate to do this, but given the time constraints that we have an SEC petition, to just try to be very efficient in this presentation, and leave the Board time for questions. They have the materials of the presentation.

So details they could probably ask you about if they have questions about from having the report. So go right ahead.

Mr. Crawford: I'll be happy to do that.

Mr. Katz: Thanks. It's Chris Crawford from DOL.

DOL Program Update

Mr. Crawford: Good morning. I understand from Stu that Mr. Grady Calhoun will be changing the slides, so let me know if they're ready to go?

Mr. Calhoun: I might try something completely different here, because this isn't working. Let's do that.

Mr. Crawford: Couldn't quite hear that.

Mr. Katz: He's just -- he's almost ready, but not quite ready.

Mr. Calhoun: Okay, yeah. Now I'm there.

Mr. Crawford: Great.

Mr. Katz: Okay, he's there. Okay.

Mr. Calhoun: You may not be able to see this via Skype though.

Mr. Crawford: Okay. Thanks for doing that for us as usual. All right. Let's go right to the second slide. It's a very short slide. I think the gist of it is we have just over $16 billion in total compensation and medical bills paid in the history of the program, with 206,526 cases filed to date. Next slide, please.

Mr. Calhoun: There. Go ahead.

Mr. Crawford: Some information here. We have 51,000 plus cases referred to NIOSH for dose reconstruction, of which 49,500 roughly have been returned to DOL from NIOSH. The differences are in cases that were withdrawn without a dose reconstruction. There's only 1,744 cases currently at NIOSH by our count, 500 of which roughly are reworks. Next slide, please.

Mr. Calhoun: Okay.

Mr. Crawford: This one shows the number of cases with dose reconstructions completed and final decisions. We see that there's about a 35 percent acceptance rate with final approvals of almost 12,000 and final denials of about 22,500. Next slide, please.

Mr. Calhoun: All right.

Mr. Crawford: We show this slide each time also. This is Part B cases filed. I think the most interesting thing here is -- the thing that needs explanation is other includes the beryllium sensitivity cases, chronic beryllium disease, chronic silicosis.

Of the rest, 15 percent of the cases were SEC cases never sent to NIOSH. NIOSH got 35 percent of the cases

referred to it, and another 12 percent of the cases were sent to NIOSH that were SEC cases, but with usually multiple cancers that required a dose reconstruction. We have a small amount, RECA cases, at nine percent. Next slide, please.

Mr. Calhoun: All right.

Mr. Crawford: Top four work sites. Nevada Test Site, Y-12 Plant, Hanford and Savannah River Site generating the greatest number of cases for the last quarter. Next slide please.

Mr. Calhoun: I think we went out of order there, Chris. Which slide are you looking for?

Mr. Crawford: Out of order?

Mr. Calhoun: Yeah.

Mr. Crawford: Which slide are we showing?

Mr. Calhoun: Well, the last one was Part B cases with a final decision, and the top four sites were after that so --

Mr. Crawford: Yes, yes. Sorry. Perhaps I didn't tell you to switch. But we've now finished Slide 7. Let's move on to Slide 8, which is the SEC petition sites.

Mr. Calhoun: Okay, there you go.

Mr. Crawford: So we'll be dealing with these sites today. Sandia National Laboratory has 4,000 cases filed at present, of which almost 700 have been returned already. We have final decisions on almost 1,900, with approvals on 1,262. That's Part B approvals. We have 1,162 Part E approvals. Often those are joint approvals.

The Area 4 Santa Susana Field Laboratory, we have about 1,100 cases filed. 265 have been returned by NIOSH with a dose reconstruction. We have 536 final decisions, 259 Part B approvals and 247 Part E approvals.

The Idaho National Laboratory, another large site, 6,325 cases, of which NIOSH completed a DR for almost 2,000. We have 2,800 final decisions, 1,000 Part B approvals, 1,300 Part E approvals.

And finally later today, Superior Steel in Carnegie,

Pennsylvania. We have 52 cases. This is an AWE of course. NIOSH has done a DR on 35 cases. We've had final decisions on 48 cases, with 19 Part B approvals and no Part E approvals because it's an AWE.

Next slide, please. These are standard slides, the next two, on DEEOIC outreach events and the Joint Outreach Task Group. I won't go through this in any detail because I think most people are quite familiar with it and it doesn't change.

So next slide is the Joint Outreach Task Group, and then let's move along to the next slide, which is the upcoming outreach event. We have a town hall meeting in Oak Ridge, Tennessee April 24th of this year.

Next slide, please. We have another town hall meeting in Middle Island, New York, May 2nd, 2019.

Next slide, and the next outreach event is the town hall meeting in Las Vegas, Nevada June 4th and 5th, 2019. That completes the presentation as such. There are more informative slides which will be found on the website.

I just want to say it's been a pleasure working with Stu and Jim since 2004 in different capacities, and I'm happy to see them going off to a very well-earned retirement. Thanks to you both. Any questions?

Mr. Katz: Thank you, Chris. Questions from Board Members?

Member Ziemer: Ted, this is Paul. I have a question for Frank and maybe I could also ask a similar question of Stu. But as you look back, did the government shutdown have any noticeable impact on the output of your program?

Mr. Crawford: Answering for DOL, I don't believe so. But DOL was fully funded, one of the agencies that were fully funded. We, as far as I know, didn't experience any slowdown.

Mr. Katz: It's the same Paul for the entire EEOICPA program continued to have funding. It was all -- there were actual appropriations for HHS and Labor.

Member Ziemer: So it didn't impact our contractors then

either?

Mr. Katz: Neither contractors nor employees, right. Everyone was funded.

Member Ziemer: Great, okay. Thank you.

Mr. Katz: You're welcome. David.

Member Kotelchuck: Hi. My question has to do with the top four work sites. Maybe my memory is not good. I was surprised to see Nevada Test Site appearing as the top on this list in this iteration of these slides. Has that been the case and I've missed that for a while?

Mr. Crawford: Actually, I'm trying to recall myself. It is a very large site. I know there's a tremendous amount of data out there and over the years. So it doesn't surprise me, but I don't know if there's been a sudden surge at the site in cases filed.

Mr. Katz: Greg's coming up to help with this, I think.

Mr. Lewis: Yeah. This is Greg from DOE. We have noticed, you know, I don't know if I want to characterize it as a huge surge, but you know, Nevada is typically one of our larger sites. I'm not sure if they're always in the top four of claims, but they're a large site.

For whatever reason, they have seen a bit of an influx of claims recently. We're not really sure what to attribute that to, but we're adapting and fulfilling those claims. I don't know that I would consider it a huge surge. They are a large site. It's not uncommon to see them in this top four.

Mr. Katz: Other questions?

(No response.)

Mr. Katz: Okay then, Greg. You're already halfway up here. Greg Lewis from DOE, welcome.

DOE Program Update

Mr. Lewis: While Grady's getting my presentation up, first I just want to echo what everyone else has said and congratulate Stu and Jim on their retirement, and also on Grady and Tim on their new roles. We look forward to

working with them and we look forward to hearing from Stu and Jim how it is on the other side. Sounds very nice. I'm sure their golf game will improve, or get worse. But they'll be having fun either way, yeah.

And I'm going to keep this very short, but I'd be happy to take, you know, as many questions as you have. I know we're running a little behind schedule and there's a full agenda today. I think the one thing I was going to note, I'll go over our stats just a little bit, but we did see slightly fewer overall records requests last year compared to the --

Sure. So again, I'll skip through our role. I think everyone knows our role is to provide records to NIOSH and to the Department of Labor so they can adjudicate claims and work on projects like Special Exposure Cohorts or Site Exposure Matrix, things like that.

Looking at our -- so our stats. Again, we did about 16,849 records requests last year. That's from NIOSH and DOL. That's down slightly. I think we were at 17,500 I think in the previous fiscal year, somewhere around there. So we are down slightly. We're not sure if that's a long-term trend or just a blip, but something to note.

And our on time rate was 98 percent, and we consider on time anything returned in under 60 days. So last year, last fiscal year our response rate was 98 percent on time, which I think is a new high for us. In fact, the previous fiscal year we had been much lower than usual because of some funding issues and a record center move over at Y-12, which it had a significant impact on us.

But this fiscal year, we were back up around 98 percent. We're very proud of that and we work very hard to get those claims back in under 60 days. You'll see. I just sort of noted a few sites that were, you know, with a 98 percent on time rate. Most of the sites looked similar, but I just picked out a couple that had a particularly good record.

Legacy Management, zero late out of 1,300; Savannah River, no late claims out of 1,200 and Nevada, zero late out of 950 requests. And then with -- of course we're supporting the records research projects from NIOSH, as well as DOL but primarily NIOSH.

The one thing I wanted to note was the Savannah River Site. We had, you know, we talked about this probably the last couple of Board meetings. There had been some difficulty, you know, ORAU and the Board and SC&A and the various groups had been requesting documents and Savannah River had sort of been falling further and further behind on the classification review as the, you know, the volume of documents requested kind of stayed steady and we were falling behind.

It was becoming a problem for NIOSH and we were trying to figure out how to deal with it. We were able to work with Savannah River. They had hired a few new Classification reviewers. They came up with a project plan and started working, you know, trying to reduce this backlog.

I think as of a couple of months ago, we pretty much completely eliminated the backlog. Obviously there's new documents coming in, but we are -- we believe we're keeping up with those documents. We've eliminated that backlog and, you know, we hope you all have the documents you need to do the work you need to and make the decision on the SEC.

I think, you know, most of this is my standard slides. Of course both Chris and Stu have mentioned the upcoming outreach events. We'll be attending those as well. I'll just mention the Former Worker Medical Screening Program which is the other program that's run out of my office.

I encourage anyone who is applying to the program or has worked at a DOE site, you know, if you haven't already looked into the former worker screening program, please do. You can also feel free to tell other folks that worked at the site or people you may come in contact with.

So with that, I think that was a very quick review. But again, I'd be happy to take any questions you have and hopefully this is getting you guys back on track a little bit.

Mr. Katz: Thanks so much. I feel a little sheepish for having asked you guys to cut it so short, but it's working. Questions from Board Members.

(No response.)

Mr. Katz: Or Board Members on the line for Greg?

(No response.)

Mr. Katz: All right then. So now thank you very much Greg, and now we have an SEC petition to address. This is Sandia, and we will not have a petitioner commenting after the presentation. But we do have a statement from, we expect from Senator Udall. So his staffer, after the presentation and discussion of the presentation, will make -- provide those comments.

Mr. Giron: Excuse me Chairman?

Mr. Katz: Yes.

Mr. Giron: This is Eloy Giron. I am the petitioner from Sandia.

Mr. Katz: Oh okay. I was informed that you wouldn't be attending, but I'm happy that you are. So after the presentation then, you will have the opportunity to comment. Okay, thank you.

Mr. Giron: Thank you, yes. I'm also here with Kirk Grimes and [identifying information redacted].

Mr. Katz: Okay. So anyway, we'll register you in right after -- first NIOSH is making a presentation, and then they'll be some discussion from the Board, and you'll be up next. Thank you so much.

Mr. Giron: Thank you.

Sandia National Laboratory, SEC Petition No. 188 Evaluation Report Addendum

Mr. Nelson: Okay, good morning everybody. My name is Charles Nelson. I'm going to be presenting the Sandia National Lab. This is Addendum No. 2 to SEC-00188. Okay. Originally, the Petition SEC-00188 qualified for evaluation on October 21st, 2011, and the petitioner proposed a Class for security inspectors and many other security folks for the period of January 1, '63 through May 21st, 2011.

And NIOSH proposed a Class to be added based on that SEC Evaluation. What it doesn't say here it was actually

both SEC-00188 and 00162 where we added Classes and there for the -- hold on. I think we skipped a slide here. Okay. I didn't touch a button but it went a slide forward.

Okay. So it was a Class added for all personnel that worked in any area of Sandia National Lab in Albuquerque, New Mexico for the period of January 1, '49 through December 31st, 1994.

We'll go to the third slide now. Okay. The basis for this Class from '49 to '94 was due to insufficient monitoring data and information to reconstruct the internal doses for that period of time. We were lacking some program monitoring documentation, some monitoring data and we did in those Evaluation Reports conclude that we could reconstruct external doses including medical X-rays during the period of '49 through 2011.

So that was covered in SEC-00188. We've looked at our portions of the external dose evaluations and we have the same conclusions that we can reconstruct dose. So we haven't found anything that contradicts that.

Okay, Slide 4. Summary of the SEC-00188 addendum. So we had an addendum last year July 26, 2018, whereas we added a couple of years onto the SEC. Again, it was all personnel that worked at Sandia National Lab Albuquerque from January 1, '95 to December 31st, 1996.

And again, the basis here, they were developing an internal monitoring program. There was many changes. They were going from bioassays over to breathing zone air sampling, and we recognized that and we also saw a lot of procedures being developed and changes being made.

It appeared to us that a lot of these things didn't get totally formalized until '96 or '97, so we did add those two years, '95 and 1996. So the focus of this presentation then is SEC-00188 Addendum 2. So that's the remaining years that we're evaluating, from January 1, 1997 through May 21st, 2011.

And again, we're going to look at the suitability of the monitoring program. We did look at it, and the data deficiency and if you read the Evaluation Report, we did a pretty good write-up, I believe, on the security guard's

concerns.

Okay. So yeah, we looked at several data sources during this evaluation. There were 21 people or actually 17 people interviewed, with 21 interviews themselves. Since the last addendum, we did do a site data capture to capture some additional breathing zone or personal air samples.

We had four written data capture requests and since SEC-00188 in 2012, we've also captured over 900 more documents relevant to this period. So that gives us a total of about 5,500 total documents in our Site Research Database. We look at internal procedures and memos, 10 CFR 835 compliance and self-assessments. We looked at facility and process information, radiation work permits, incident reports, air monitoring and some internal/external audits.

We also looked at the site's reporting system that they used for reporting dose. It is called WebDose, and they created us an extract from that and we went through all of that as well. Looked at internal/external monitoring records and really the focus of this presentation, we really focused on breathing zone monitoring and air sample records, and a mechanism for tracking DAC hours.

So what do we have? We have available internal urine bioassays. This is straight out of WebDose. So from '97 to 2011, we're talking about a 15 year period. There were 2,020 non-tritium urines, and if you look at the next column over it's persons sampled. If you add those up, they're not going to total 317 because some people were sampled year after year. The tritium sample results were 7,209 with 362 people.

Okay. Also, internal monitoring data. We had whole body counts and thyroid counts, 1,115 on 207 people. Breathing zone samples. We captured these. Most of these came from the internal dosimetry group. Any time they wanted the internal dosimetry group to evaluate a breathing zone air sample, determine if there was any actions and perhaps maybe even a need for bioassay, they were sent over to the internal monitoring group.

So we believe this to be a good catch, because we believe these to be the highest results. If you look at the number,

it actually says -- the title of the slides is "data sheets," and over there it says "results." It's really BZ sheets. So it's sheets of data and we'll see later that that total number of BZs is actually about 4,400 that we have, our breathing zone samples.

Okay. So as an overview of their monitoring program, as I've mentioned before, they shifted their internal monitoring program from reliance of the use of bioassay to the use of breathing zone sampling. So that was the primary method of monitoring internal exposures to individuals.

It was the Sandia's position that no individual was likely to receive internal exposures of 100 millirem. Having stated that in their Technical Basis Document and it was also concluded in some external assessments performed in 1996 and 1999 by a pretty renowned health physicist.

They used a confirmatory bioassay monitoring program, meaning that was their mechanism to see if the controls in place were adequate. But the primary method again is breathing zone air sampling.

Okay. In that change, like I mentioned before, they were doing bioassays. They moved to personal air sampling, and that was a change to the program. They had methods for dose tracking that and they also had requirements for recordkeeping and retention on those.

We looked at some evidence of the implementation of this. There's a couple of memos I wanted to highlight, because they kind of give you a good discussion or indication of what was going on in the field. The first one was that on February 3rd, 1998, at the Rad and Mixed Waste Management Facility, they had a safety committee discussion and the discussion surrounded the need for routine bioassay.

The discussion was well, rad techs are all on routine bioassay. If there's any trends that indicate internal doses, those people at the job site would be asked to submit special bioassays to determine the scope of the problem. In other words, if they see trends and there's an upset condition, then they would require some bioassays.

Those things such as elevated air concentrations increase surface contamination. Then they also went on to discuss

that specific job-specific RWPs [radiation work permits] are going to require some bioassays for other individuals. A lot of times the waste handlers, not only the RCTs but they were also required to leave bioassay. Certainly, if they were working with tritium they would leave bioassay.

Another memo a couple of years after that, really three years on May 30th, 2001. It was documentation on the routine bioassays for RCTs in Technical Area V.

It went on to say that the current schedule calls for annual whole body counts and semi-annual urine for uranium, thorium, americium and plutonium, and again they said the bioassay program is confirmatory in nature. In other words, it confirms that the results and effectiveness of the contamination control and other protection activities are adequate.

Then they went on to say, you know, they were discussing the fact that RCTs were on the routine monitoring program, and they said because they were present at all work activities there's a possibility -- where there was a possibility of meaningful intakes, their bioassays serves as a good proxy indicator for other personnel.

We looked at captured RWPs in planning documents, and we looked for -- we wanted to see what the airborne levels were in the areas, whether they required respiratory protection and BZ monitoring and bioassay. What we found in those RWPs, we saw many of the areas that required respiratory protection, and we found breathing zone sampling results tied to those RWPs.

Okay. So this next slide is an example of an upset condition that might lead to bioassay. So we, for instance, there was a puncture wound that led to a bioassay sample, unusual odor and you'll notice later down there was a -- later down in the slide, there was a few instances of elevated breathing zone air samplers that resulted in bioassays and in one instance a whole body count. So we found some indications of that.

So what did we do? We looked at the breathing zone data that we had on hand, and we looked at the activities on the filter, and from that activity we calculated committed dose equivalent based on the stochastic ALI [annual limits on intake] for each of the limiting radionuclides.

We took that data then and we'll go to the next slide here, and we looked at the individual work activities and the work days, and so if you're looking at this slide, these were focusing on this one on the gross alpha activity. So the total for those years is 4,400 BZ results that we do have.

And based on that data there, we developed a graph and determined what the median dose for an event, an event characterized by a work activity or working in a day. What we found out was that about a half a millirem per event. Just to note, this right here is the actually the breathing zone, the lapel samplers, the filter activity outside, if an individual is wearing a respirator or in many cases in some of the activities they wear bubble suits.

These results aren't corrected for, you know, that respiratory protection or any other PPE provided. This is the gross data as if somebody were standing right beside them, and they weren't in all this PPE.

Member Richardson: But let me confirm. These are -- this is -- these are the results for a calendar year that you plotted?

Mr. Nelson: Those are the total results, the 4,400 data results that we do have.

Member Richardson: So for example the -- this is the distribution over all time, all workers, all breathing samples and this is what you're plotting?

Mr. Nelson: Yes, correct.

Member Richardson: Okay.

Mr. Nelson: All right. We did the same thing for gross beta and gamma, and in this case there was the same 4,400 samples, the same work activities and we got a median dose of .001 millirems. So very low, and again this is with no respiratory protection, as if somebody were working alongside of these other individuals. In which case most of these people were in respiratory protection for this data that we do have. Certainly all the upper tail.

Then we did the same thing on some tritium BZ results. So this is particulate. So we assume that to be insoluble stable metal tritides for that, and the results of that was

0.007 millirem as a median dose, so quite low.

So I mentioned before WebDose. That's their reporting mechanism to say how much dose that the site received over this 15 years. I'll draw your attention to the far right column, the total. There was a total of 77 millirem assigned for all individuals for all years, internal dose.

I do have a couple of typos there under urine and thyroid. We had to put zeros in this and somehow zeros got down there. The urine should have been, it looks like 42 and the thyroid should have been five millirem. So that's the dose of record.

So feasibility of dose reconstruction. Now based on our review of the radioactive material use at Sandia and the associated radiation protection plan, NIOSH has concluded that intakes for unmonitored workers who have access to the controlled area were unlikely to have resulted in a committed effective dose equivalent of 0.1 rem or 100 millirem per year.

And that's not based on a 10 CFR 835 requirement, but it's based on a review of our exposure monitoring records, with employees involved in radiological activities we feel with the highest risk at the site during the period that we evaluated.

So as I mentioned before, the internal monitoring records for individuals are available within WebDose. And internal doses for unmonitored workers or individuals monitored solely by breathing zone sample can be bounded using this 100 millirem presumptive exposure.

So as mentioned before, and this is kind of a wrap-up conclusion summary for feasibility. The dose, assigned dose, the total assigned dose committed effective dose equivalent for all employees for the 15 year period, as I mentioned earlier, is 77 millirem.

Looking at all the breathing zone, bioassay data that we do have, the median quantity of radioactive material available for uptake to individuals, as I mentioned before, are located alongside personnel performing high risk activities would correspond to an internal dose of 0.5 millirem per work event.

And again, that's assuming they're working right next to

the workers. They have all this type of personal protective equipment and in most cases respiratory protection. And if you look at that 0.5 millirem, it would take 200 events in a year to get to 100 millirem in a year.

Then as previously -- as I mentioned earlier, as previously identified in SEC-00188 Evaluation Report in 2012, and with SEC-00162 in 2011, NIOSH finds it feasible to reconstruct medical and principal external doses, including exposures to beta, gamma and neutron radiation at Sandia National Lab Albuquerque with sufficient accuracy.

And as previously identified in SEC-00188 Evaluation Report, the principal sources for this internal radiation for members of the proposed Class included exposures to plutonium, tritium, uranium, americium, and fission and activation products. So based upon the analysis of the available resources, NIOSH finds no part of this Class under evaluation which it cannot estimate radiation doses with sufficient accuracy.

So in conclusion, for internal all radionuclides, we feel dose reconstruction is feasible and the external dose beta, gamma, neutron and occupational medical X-rays, we feel radiation dose reconstruction is feasible and we see no health endangerment.

Mr. Katz: Thank you Chuck for a nice, clear presentation.

Public Participant: Hello Ted.

Mr. Katz: Hello. That's Michele?

Public Participant: It's really difficult to hear. During the presentation, it was cutting in and out.

Mr. Katz: Is that Michele or Loretta or who am I speaking with?

Public Participant: I'm a member of the public.

Mr. Katz: Okay, okay. Because you are super-clear, so I'm glad we can hear you well. But okay. So people, everyone please speak with your mouths close to the mic to help with that audio issue. So now I have questions from the Board Members. Josie.

Member Beach: I have a couple of questions. First one on your Slide 14. You talk about the RCTs being on a routine bioassay program. My understanding with RCTs, with my work experience, is they generally stand back while the workers are kind of hands-on. Any other routine bioassays besides the RCTs?

Mr. Nelson: Yes. A lot of the material handlers were also on the routine bioassays.

Mr. Katz: Chuck, can you speak into the mic for us?

Mr. Nelson: Yeah. Also, a lot, many of the material handlers are on routine bioassays, and at many times the radiation work permit would specify certain workers to do it based on the hazards present.

Member Beach: Okay, and I have two other questions. Can I ask those?

Mr. Katz: Yes, of course.

Member Beach: Okay. On talking about the mixed waste handling facility, it's my understanding that in '88, looking at the Evaluation Report, that they -- it took them from '88 to '95 to build the new facility?

Mr. Nelson: Correct.

Member Beach: Where was waste being stored in the interim?

Mr. Nelson: I'm not really sure about that, to be honest with you. That facility was made to repackage waste and get it ready for burial or shipment.

Member Beach: It wasn't until '95 that it went online --

Mr. Nelson: Right, that's correct.

Member Beach: So that's why I was kind of wondering where all that stuff was.

Mr. Nelson: Yeah. There was a landfill, so I don't know if material was stored there. I don't have that knowledge.

Member Beach: Okay, then lastly --

Mr. Katz: Tim, were you trying to respond? One sec.

Dr. Taulbee: Yeah. I just wanted to point out that '88 to '95 is part of the current SEC.

Member Beach: Right, okay.

Mr. Nelson: Okay, thanks Tim.

Member Beach: I guess this is after. Thank you, yeah. So then the other one, it talks about the internal dosimetrists, that the program participation was by individual department managers. It doesn't really give a time frame of what type, what time frame that might have been. That was also in the Evaluation Report under 7.1. I don't -- right here.

I was just wondering. It said it changed at some point, but it didn't really say when.

Mr. Nelson: Okay. What you're referring to is prior to about 1995, that individual managers would determine who were assigned bioassay and so forth. I think some of that still did happen, and my understanding is that, you know, there was consultation with the radiological program leads at the facilities.

Member Beach: So in the '97 to 2011 time frame, you think that was still potentially going on or --

Mr. Nelson: I would perhaps. I'm not 100 percent sure about that, other than I know that radiological program, they all had radiological experts in their areas, and they oversaw the program when they communicated with the internal dosimetry group. It was much more formalized as time went forth, and we saw a ton more procedures beginning in 1995 as they were trying to implement 10 CFR 835 requirements and really beefing up their program.

Mr. Katz: Brad.

Member Clawson: I was just looking at your sampling. In 2003 and 2011, you have zeros.

Mr. Nelson: We have no breathing zone samples for those years. That's not to say they didn't occur. This is just what we have captured ourselves. So we have captured 4,400 breathing zone samples and the majority of those are the ones that were sent over to the internal dosimetry group.

Member Clawson: But so you're not saying that there weren't --

Mr. Nelson: No. This isn't inclusive of all breathing zone samples, absolutely not.

Member Clawson: Okay, thank you.

Mr. Katz: Other Board Member questions in the room? David.

Member Richardson: Thank you for the presentation, and it's really interesting. The part that got me thinking was this description of a philosophical change in the internal dosimetry program, from a program that was aimed at estimating intakes, internal doses to what they describe as a program which is with an emphasis on radiation protection.

And the bioassay program really serving in a confirmatory role that they were in compliance with their radiation protection objectives. That makes complete sense from a worker protection standpoint. But I think it poses challenges for a dose reconstruction program, because it's not targeting the same, let's say, latent variable anymore, the unknown construct, the dose which actually the worker had intake.

You pointed to some of the challenges there. They may be wearing a respirator. They may have -- it may have worked correctly, it may not. There's many more uncertainties at that point.

Mr. Nelson: Yeah. The use of breathing zone air samplers though actually is a great mechanism for monitoring dose in a work area. It would have indicated an upset condition. It would show any activity on the filter outside of that, and it would be actually a really good indicator.

Some radionuclides that you really do need to use breathing zone samplers because you will not see at the level that you need to see with bioassay.

Member Richardson: Again, I'm not questioning that.

Mr. Nelson: Okay.

Member Richardson: I'm talking about this philosophical

change from what they were trying to estimate, the implications for a compensation program which wants to estimate the dose that was taken in for a subject. It seems like I'm a little bit hung up on that, just on that change.

You could -- you sort of -- you're receiving a signal which is indicating compliance, and they've got some action level that they would like to comply with.

One other question was you described what they called "field implementation," which were triggers for them to conduct bioassays. Those were described in terms of trends. I'm having a hard time reading, I'm sorry. But they say a trending contamination, I think it's like a trend over time or other sorts of trend indications.

They don't really describe what those are, and the examples which are provided don't look to me like trends. They seem like incident reports basically, where there was a puncture wound.

Mr. Nelson: Yeah that --

Member Richardson: So it doesn't suggest a trend overall, over time in a work area or how you would -- how that signal would be flagged. It's not clear if it's a trend within subject or over the workforce. Could you clarify how that's happening?

Mr. Nelson: Yeah. I think what you're referring to as a trend was identified on Slide 14, am I correct?

Member Richardson: Yep.

Mr. Nelson: Okay. That was actually quotes from the site facility in a safety committee discussion. They were basically saying if there were trends that developed such as elevated airborne levels, increasing contamination levels, then special bioassay would be requested.

So we were just quoting that as something that we saw that provided us some evidence that, you know, what we were reading we were finding in some memos that were documenting, you know, the internal dose monitoring program and how it worked.

Member Richardson: So are there written procedures

other than incidents for, that would target or activate a bioassay program?

Mr. Nelson: Yes.

Member Richardson: And those are different than these, a trend developing indicating internal doses?

Mr. Nelson: It would be a similar type wording to that. That's not out of a procedure. That's out of a memo from a meeting minutes.

Member Richardson: And are those procedures, are they within subject trends or are they workforce trends?

Mr. Nelson: They're more programmatic documentation provided by the rad protection program.

Member Richardson: So on the aggregate level, not on the individual levels.

Mr. Nelson: I'm not 100 percent sure I'm following you at this point then.

Member Richardson: I mean you could, you could have -- you could have repeated samples on a person and you could say oh, it looks like levels are going up for that person. Or you could say over time, you're seeing more evidence of contamination in an area. Those would --

Mr. Nelson: I guess an example might be, you see a work area and actually I think you might have mentioned it there. You're seeing increased contamination levels. Certainly if they're not expecting that something they might do is say okay, we're seeing these increased levels.

We didn't really anticipate them, and so one of the indicators that we saw that sometimes had happened and they sent somebody for bioassay or maybe the work crew for bioassay.

Member Richardson: Okay.

Mr. Katz: Other questions from Board Members and Board Members on the line as well?

Member Roessler: Ted, this is Gen.

Mr. Katz: Hi Gen. Yeah, you're perfectly clear, thanks.

Member Roessler: The audio on my phone and I actually switched phones, is actually okay, I can hear people on the line but I agree with the member of the public. It's difficult, was difficult to hear the person at the podium. I could hear Josie and Brad. I think the person at the podium could speak into the mic and be consistent about it.

Mr. Nelson: How's this Josie? Is that any better? Oh Gen, sorry.

Member Roessler: A little better.

Mr. Nelson: A little better? I'm pretty close right now so --

Member Roessler: Yeah, I don't know. The mic seems different than the others in the room.

Mr. Nelson: Maybe we need some work on this mic then. I wonder if we can move that one up here.

Member Roessler: Okay, thanks. I don't have any questions though.

Mr. Katz: Oh okay, okay. Thanks Gen. Other questions from Board Members on the line?

Member Richardson: Could I just ask one last question? What's the decision currently for using what looks like the median of a log normal distribution, as opposed to some other quantile of the distribution?

Mr. Nelson: I'm going to let Mr. Taulbee answer that one, because I know he's worked with that quite a bit with coworker studies.

Dr. Taulbee: I'm going to turn this on. Is it on? Okay. At this time, I mean we -- as far as using geometric mean or the 95th percentile, in this particular case this is a low dose facility. So what we're trying to demonstrate is that we can bound the dose here. So we're just putting out the median for that purpose.

So median would be something you would assign to people who are not routinely exposed, whereas people who are routinely or have a potential for exposure, that's where we tend to go to the 95th percentile. So these data

were just to show that this really is a very low dose facility, compared to some of the other sites we deal with.

Mr. Katz: Other questions from Board Members? Jim.

Member Lockey: David, I wanted to pursue what you were asking about exposure reconstruction and dose. If you have rigorous exposure data, breathing zone data, can you not use that to inform what a person's dose is? I mean, I do that routinely in the studies I do, so I wasn't sure I understood where you were going with that.

Member Richardson: I -- and, again, I said I just think that there was a change and it makes it more difficult to estimate the dose, than if you actually have a biological sample of an intake. So they went from a program of sampling to taking bioassays, to ambient monitoring, you know, near the breathing zone.

Member Lockey: Yeah, but if you have good ambient monitoring data.

Member Richardson: It doesn't make it impossible, I agree. You just, there's a whole other set of things that are related, right, related to breathing rates, lung capacity, the use of respiratory protection between the sampler and the mouth and nose. All those become --

Member Lockey: All that you'd have to take under advisement. Yeah, I would agree with that.

Member Richardson: Those are large factors for some of those respiratory protection factors.

Member Lockey: Then your dose would be even reduced in relationship to the exposure levels.

Member Richardson: Yeah.

Member Lockey: Right, so it would --

Member Richardson: Assuming that the person's wearing the respiratory protection. So we have --

Member Lockey: If they weren't, you would have an exposure level that would be reflective of what most likely that dose would be. So in anything, if they're wearing respiratory protection their doses would be less rather

than higher.

Mr. Katz: LaVon.

Mr. Rutherford: I think the key here is that if we are assuming --

Mr. Katz: Is that mic on? Wait, hold on. Your mic's not on.

Mr. Rutherford: Yeah. I think the key here is we assume no respiratory protection at all.

Member Richardson: Yeah, well I understand that. Again, all I was saying is there was a change, and the change is towards trying to estimate something like compliance, and now we're going to try and back calculate from that to get to what we would have had had we had a bioassay program.

Mr. Katz: Other questions from Board Members?

Sure, Brad. I think your mic's not on yet.

Member Clawson: Okay, I would just -- when you're calling these BZ zones, these are actually breathing zones. This is lapel samplers --

Mr. Nelson: Yeah. For the most part it's lapel samples. Now there may be some air samplers in the area that they call the breathing zone, but to my knowledge, from what we saw, they were lapel samples.

Member Clawson: Okay, thank you.

Mr. Katz: Thanks, Brad. Other questions from Board Members?

(No response.)

Mr. Katz: Okay. Well so I heard we do have the SEC petitioner on the line, and this is an opportunity now for you. If you'd please introduce yourself before you get started clearly, so that we get your name and all, and then you have ten minutes to summarize your comments.

Mr. Giron: Chairman, good morning. My name is Eloy Giron. Can you hear me?

Mr. Katz: Yes. You're pretty clear, thank you.

Mr. Giron: I'm also here with Kirk Grimes and [identifying information redacted]. Good morning Members of the Board, and I had something summarized here to write up right away, but the first thing I want to say is those questions from the Board were spot on right now. So you guys have been able to read that report, and I really thank you for those questions.

I have to disagree with this report. We just received this report last Thursday. I haven't had --

Male Participant: Friday.

Mr. Giron: Friday. We haven't had that much time to go over this. I feel real bad. I wish we had been able to work a lot closer with Chuck Nelson on this. I had no -- no interactions at all on this. We can beat this horse to death, but I'll just go straight to some of the bullets on this.

On your Addendum No. 2, on your third bullet, it says address security guard's monitoring concerns. This report does not address bullet number three. Nowhere in the report does it mention our concerns. We expressly told NIOSH that none of our officers were ever put on internal or personal air monitoring program.

Mr. Nelson just a little bit ago reported that all workers wear PPE, bubble suits, respirators, and this data was provided to the Advisory Board. With our security posture, nowhere -- with our security -- nowhere and at no times were we ever -- wore bubble suits or respirators.

Mr. Nelson reported that it would take 200 events in a year to receive a certain dose, I don't remember that. But that was an attainable goal within six months, within four, five, six months with most of our officers. So we dispute -- I can go through this report line by line and dispute a bunch of it, just because the way our security posture was set up, and it appears the reporting from Sandia to Chuck Nelson was -- the reporting from Sandia to Chuck Nelson under 853, we were all doing work a certain way with PPE, respirators, bubble suits. But none of our officers were working in that capacity. Some of the information from 2003 and another year were not provided. So I mean how can we do honest and credible dose reconstruction?

Again, I want to thank those Members of the Board that

went over this report. It means a lot to me because I was running out of steam, banging my head against the wall. When you guys asked those questions, it put wind back in my sails. So thank you guys for asking those questions.

I know I'm all over the map right now, but we've requested to be involved in this process with all the players, and we have not -- I mean none of us, not -- none of us in this room have been involved. Again, we received this report last week.

I mean I don't know how many pages it is, it's a bunch of them, but we barely had enough time to go over this, and it makes us look like we're not doing or being involved, engaged in this, but we really want to be engaged in this. That's about as much as I have right now. Thank you, Chairman.

Mr. Katz: Thank you for your comments and --

Mr. Giron: Also, I think there may be some more in this room. I haven't looked at it, but they might want to engage also in this. Kirk Grimes and [identifying information redacted] are in here also.

Mr. Grimes: Mr. Chairman?

Mr. Katz: Yes. Please, are you Kirk Grimes?

Mr. Grimes: Yes. Kirk Grimes. I'm president of the Security Police Association. Okay, a couple of things. It was stated -- I believe I heard Chuck say a while ago -- it was stated the new philosophical change that took place that was implemented in 1997. I think there's an assumption that's being made that because of a philosophical change there that the program became robust overnight.

We actually have -- it took us a month -- it took us a month to get it, but we actually have information that we got earlier this week, sir, where we know for sure that in 1997, '98 and '99, there were still incidences going on here at the labs, at least in those three years, where 835 was not being followed.

Sandia was actually being cited and receiving penalties because of not -- for being out of compliance with 835, okay. That information, the information we do have is

public record information we're willing to -- we'll check, but we should be able to be willing to share, okay.

There's some information we can't because it's protected information the Laboratory is protecting. But the vast majority of the information we do have now. We received it Monday of this week, and the reason we were asking for that information is because those are the time frames that we knew for sure that there had been some incidences that took place, where Sandia had been cited and fined for.

Like I said, it took us a month to be able to get it. We were trying to get it earlier. That's part of it right there.

The second thing is it's taken a long time for this report to be put together, and we would like to have ample time to be able to respond to it. So what we would like -- we would like to know who we need to contact in writing, how to contact them so that we can submit our response in writing, because we would like to have time to go through this report and respond to it appropriately, comprehensively, and also concisely, sir.

Mr. Katz: Okay. So are you finished, Kirk?

Mr. Grimes: Yes. The reason we want to send it to the Board because we'd like for the Board Members to be able to see that --

Mr. Katz: No, absolutely. We understand. This report came out very late, but this was on the agenda, and we wanted to get this presentation out. This is the beginning of our process at this point with the Board, since they've just received this report not much before you.

But so in terms of contacting NIOSH, I think you have an SEC petitioner, Josh Kinman. Your petitioner will have contact information for him and certainly any information you have that you want to provide in response to this report absolutely provide to Josh. He can direct you.

If you need conversations with the HPs involved, Chuck or other, I think Josh can make arrangements for that as well. So we're happy for you to be engaged absolutely, and please you can follow through that way. You're welcome.

Mr. Grimes: Appreciate it. Thank you, sir.

Mr. Katz: Sure thing, sure thing. Before -- well unless Board Members have questions for the petitioner, we need to go on to -- we have comments from Senator Udall's staff person. So if you have questions for the petitioner, go ahead. But -- no. Josie? Okay, all right.

Member Clawson: I do.

Mr. Katz: Oh wait. Brad, go ahead.

Member Clawson: I just want to make sure the petitioners realize that many of the Board Members also have security clearances. So any of those that can't be discussed in public, if we know about it then we can take care of that.

Mr. Katz: Yeah, absolutely. All right then. So --

Mr. Giron: Chairman, this is Eloy Giron again. We could not hear that question.

Mr. Katz: Okay. So let me just summarize what Brad's just said. Our Board Members, a number of our Board Members have security clearances, as well as the staff, the staff that support the Board independently of the NIOSH program also have clearances.

So it's not an issue with them being able to see Classified information and so on, that might be germane to this evaluation. So just -- just wanted to reassure you of that. Thanks, Brad.

Mr. Giron: Thank you.

Mr. Katz: So now Senator Udall has a statement, I believe. Senator's staff person Michele, are you on the line?

Ms. Jacquez-Ortiz: Yes, yes. Thank you. Can you hear me okay, Ted?

Mr. Katz: Yeah. You're very clear, and if you would just introduce yourself, and then take it away.

Ms. Jacquez-Ortiz: Well first, Ted, I want to thank you for all of your information and your really focused efforts to make sure that we're in the loop and the questions that -

- the many questions you've had to answer from our office. You've been extraordinarily helpful, so thank you for that.

I do want to reiterate, there are significant -- almost to the point where I think the public is a bit at a disadvantage. There are significant audio issues associated with this call. That last question from Brad is a beautiful example.

There wasn't even one word that came out just from our end that we could hear, and that's been happening throughout Chuck's presentation. It's almost as if their microphone is muffled and every fifth word goes into silence for about three or four seconds, and it's literally impossible to make heads or tails out of what's stated.

So I don't know if that can be corrected for the rest of the call. But just on behalf of the public that's engaging by telephone, certainly out here in New Mexico the petitioners, I think, this information, this type of a presentation is so important for them to be able to hear.

There are not resources to go out to the East Coast for this meeting. So I do hope that there is something that can be done to address that. And I apologize for having to point that out, but it's significant audio problems.

I am grateful that you all can hear me. I'm going to very quickly read a statement into the record on behalf of United States Senator Tom Udall.

Thank you, Members of the Advisory Board on Radiation and Worker Health, for the opportunity to submit a statement into the record. In addition to some of the concerns the petitioner just shared, I note that petitioners and my office are still waiting for information that NIOSH agreed to provide us during the December 2017 Advisory Board meeting, information necessary to Sandia National Laboratory's SEC petition.

It's difficult for petitioners to adequately make its case before the Advisory Board if NIOSH does not provide relevant information and under-communicates. Last fall, NIOSH recommended and the Advisory Board approved an addendum to the SEC through December 31st, 1996. A number of questions were raised by petitioners and in Work Group meetings, and NIOSH was tasked with

responding to these questions.

The report presented today attempts to answer some of the questions, but also firmly concludes that the petition should not be extended past the 1996 date. However, petitioners have shared with my office SNL's non-compliance and federal oversight reports with dates well past 1996.

A May 2005 report by the U.S. Department of Energy Office of Independent Oversight identified systemic safety deficiencies at SNL and pointed out that for many deficiencies, limited progress has been made or corrective actions have not been effective in addressing the root causes and preventing recurrences of deficiencies.

As a result, a number of aspects of worker safety are still not adequate to provide a level of assurance consistent with DOE expectations. The injury and illness rates at SNL are among the highest of the 27 DOE contractors performing research-related activities. That's a direct quote from that 2005 report.

It's not clear how NIOSH can conclude that it's able to accurately reconstruct dose past 1996, given the systemic problems identified by the DOE in 2005. Petitioners just received the NIOSH report a week ago, and they deserve the right to sufficiently review and respond to it, and for the Advisory Board to consider petitioners' response before reaching a final decision on the SNL SEC petition.

Thank you for your service on the Advisory Board and for considering my statement. Tom Udall, United States Senator.

That's it, Ted.

Mr. Katz: Thank you very much, Michele for those comments from the Senator and also -- and if you would email those to me, that would be great, so I can make sure that they get recorded correctly.

Ms. Jacquez-Ortiz: Yes, yes and I apologize for not getting it to you. We were -- it was being edited up until last night, but I will email it to you.

Mr. Katz: No, no. It's no trouble, no trouble. There's

plenty of time for that. So no trouble. And thank you about the audio issue. We've heard of that a couple of times this morning. It is the mic, and I think it is just a matter of the speaker being close to the mic in all these cases. But so I think the machinery actually is okay. But we'll check on that with the next presentation.

But so at this point, Board Members, we have a petition that's been presented, an evaluation that's been presented, and we've had some dialogue about the comments and where do we go from here?

Member Beach: Can we task SC&A to review this Evaluation Report and --

Mr. Katz: Yes, yeah, and I already asked Joe Fitzgerald from SC&A to familiarize himself, so that we'd be -- have a good head start in getting to that, so because I expected we would want to have that as a next step.

We do also have a Work Group, and I would just mention also with the Work Group, if we have -- if we have Classified issues and we need an additional Board Member to help with reviewing Classified, we can take care of that in real time as we see what we're dealing with in terms of information. But SC&A can consider itself so tasked.

I don't know if there are any specifics you want to put together with just the general tasking to evaluate the supplement, the addendum, but if there aren't, then go ahead. Andy.

Member Anderson: Well, I would -- I guess the only thing I would add would be if they could specifically focus on -- I would have the focus or at least some mention on the group of the security guards issue, specifically where the data here is really generically for everybody, and again looking at the initial document review I see there's internal data was only four percent on some of the claimants. So I think it would be useful to take a look at some of that.

Member Beach: Can I add one thing? It might be useful for us to pick out some interviewees as well. That may be helpful. Just to keep that in mind.

Mr. Katz: Okay. Any other comments? How about the Board --

Public Participant: Hello, Ted? Hello, Ted?

Mr. Katz: Yes.

Public Participant: This is a member of the public. I think it is a mechanical issue. It keeps, like Michele said, it keeps going in and out, and it's -- can't hear a thing.

Mr. Katz: So you mean you can't hear me or --

Public Participant: I can hear you, but I can't hear anyone else in the room. I can hear them, and then it blocks out.

Mr. Katz: Did you -- so Andy, who just spoke, Henry Anderson, did you have a problem hearing him?

Public Participant: Yes. He was in and out.

Mr. Katz: Okay. So I'm just -- we have a technician in the room, and he's going to work on that then. Thank you. Thanks for telling us. Okay. Do we have more comments from Board Members?

Member Kotelchuck: Yeah, Dave Kotelchuck. Did you, can you --

Male Participant: Ted.

Member Kotelchuck: Can you report to them what Henry asked because it was an important question.

Mr. Katz: Yeah. So Dr. Anderson requested that there be a specific focus on the petitioner group, the security folks, their experience since they have sort of a unique role and experiences at the site compared to other workers, and SC&A will do that. We'll look with a focus as they would normally, I think, on that group.

Member Ziemer: Ted, this is Paul. I didn't have any problem hearing Henry's remarks. I'm wondering if some of this is generally transmission of phone calls anyway because I didn't have any breakup in what I heard Henry saying.

Mr. Katz: Okay. Did you earlier though? Did you have difficulty also? Well Gen did with hearing Chuck, or was that also --

Member Ziemer: I didn't have any trouble hearing Chuck,

although his volume was down from what others were in there. I think that's a closeness to the mic issue.

Mr. Katz: Okay, yeah.

Member Ziemer: The breaking up of things, that may be -- and I'm on a cell phone. It may be the carrier issue. Sometimes we have that, sometimes we don't just on regular calls. But so far I haven't had any problems this morning.

Mr. Katz: Right. Thanks for raising that point. For everyone who is on the line, I mean do recognize as well it's a sort of two-to-tango issue with audio and connecting by phone. So sometimes people are on speaker phone and that doesn't work so well, or some people's cell phones aren't so great.

So, but we will do the best we can here to make sure that we're improving the quality and certainly having people speak closer to the mic. Thank you.

Member Field: Ted, this is Bill. I agree with what Paul said. I'm hearing things fairly well.

Mr. Katz: Okay, thank you, Bill, and you're clear too, super.

Member Ziemer: Ted, this is Paul again. Can you give us the status on Skype? I have Skype up, but I'm not seeing anything except a list of people who are on it.

Mr. Katz: Okay. So we had Skype working earlier. I don't know if it has broken. But we'll work on getting that back online, I guess. We'll work on that, okay.

Member Ziemer: Thank you.

Mr. Katz: Sure. Thanks for telling us.

Okay. So if Board Members --

Member Ziemer: I have another question.

Mr. Katz: Oh, go ahead, Paul.

Member Ziemer: Can we assume that the petitioners, after they have a chance to review this report in detail, will provide their comments to the Work Group before the

Work Group meets next?

Mr. Katz: Right. So SC&A is going to take a while to review this addendum, and in that interim, absolutely we've asked the petitioners if they would submit comments. They can do that through Josh Kinman, and they know Josh, I think they already have a line with Josh, and they'll get that done.

Certainly that will -- whatever comes in from the petitioners will come to the Work Group as well as to SC&A to look at, and NIOSH will be looking at that as well.

Member Ziemer: Thank you.

Mr. Katz: Sure.

Mr. Giron: Excuse me, Chairman, this is the petitioner again.

Mr. Katz: Yes.

Mr. Giron: I want to be clear on this. So after we review this report, you want us to forward everything to Josh Kinman?

Mr. Katz: Well get in touch with Josh. Josh will let you know who to communicate with, with whatever it is that you might have to communicate. So I think it depends on what you want and who you want to speak to and so on. But Josh is sort of your portal for speaking with NIOSH about issues, okay? All right.

Mr. Giron: Thank you, Chairman.

Mr. Katz: You're welcome, you're welcome. Okay then. So SC&A has been tasked, and they have some specific instructions as well, and I think that takes care of this session. So I have 10:20.

We have a break until 11:00 a.m., so we're on break. Please get here five minutes early or so for the next session, which is also an SEC petition, so we can start on time for that. Thank you.

(Whereupon, the above-entitled matter went off the record at 10:20 a.m. and resumed at 11:00 a.m.)

Mr. Katz: Okay, all right. We're about ready to get started

again here in the room. I heard a little earlier, Loretta, you were on the line and ready way ahead of us, and, Paul and Gen and Bill, you're on the line still?

Member Roessler: I'm on.

Member Ziemer: Yeah. This is Paul, I'm here.

Member Field: Yes, I'm on.

Mr. Katz: Super, super, thank you. And so without further ado, we have the Santa Susana Area IV SEC petition, No. 235, and we have had out an Evaluation Report since I think November from NIOSH, and at this point we're having the evaluation review, review of the Evaluation Report by SC&A, and Bob Barton's going to do that.

Bob, please speak very close to the mic so that everyone has good audio quality, and off we go.

Mr. Barton: Great. Thank you, Ted. Can the people on the phone hear me okay?

Member Ziemer: I can hear you just fine. This is Paul.

Mr. Barton: Okay, great.

Member Roessler: Yes, I can hear you well, Bob. Keep going.

Member Valerio: This is Loretta. I can hear you as well.

Santa Susana Area IV, SEC Petition No. 235

Mr. Barton: Wonderful. Well good morning, everybody. My name is Bob Barton. I'm with SC&A, and I'm going to be presenting the Santa Susana Field Laboratory, SEC Petition 235. Before I get started, I just wanted to point out the significant efforts of Milton Gordon, who worked with me on this and really did a lot of the heavy lifting as far as research, and was also co-author of our report, which is available on the NIOSH website.

So a little bit of background on Santa Susana. There are actually three SECs already in place for Area IV, all for periods prior to 1989. There is SEC 93, which covers January 1955 through 1958, and that was based on the inability to reconstruct both internal and external exposures.

Now a quick note on that is the recommendation to the Secretary said both internal and external, but in actuality NIOSH had determined that external dose was feasible during that period. So it was really just for the internal doses.

SEC-00156 extends from January 1959 through December 1964, and that was also based on the inability to reconstruct internal doses. And then SEC-00234 extends up through 1988, and this got a little bit more specific in it was the inability to reconstruct internal exposures to americium and thorium specifically.

The original petitioner requested definition for SEC-00235 was all employees of North American Aviation, to include corporate successors and subcontractors who work at Area IV, the Santa Susana Field Laboratory, SSFL, from December 31st, 1964 through the present.

The Class evaluated by NIOSH was all employees of the Department of Energy, its predecessor agencies and their contractors and subcontractors, who worked at Area IV of the Santa Susana Field Laboratory in Ventura County, California from August 1st, 1991 through June 30th, 1993. We'll see in a second why that Class definition is very different than what was requested by the petitioner.

One note on SEC 234. That was the SEC that was accepted up through 1988. In that Evaluation Report, NIOSH had stated NIOSH has not identified any data that suggests the possibility for significant operational thorium or americium exposures after 1988. They cannot be bounded. Therefore, NIOSH has established an end date of December 31st, 1988 for this SEC Class.

So recall that that SEC was based solely on the inability to reconstruct americium and thorium, and during that evaluation NIOSH determined that that exposure source did not continue as an infeasibility after December of 1988.

NIOSH evaluation for SEC-00235, as I pointed out on the last slide, is for approximately a two-year period from mid-1991 into mid-1993, and it's really based on the bioassay contractor at the time, which was called Controls for Environmental Pollution, which I'll refer to as CEP during this presentation.

CEP had been implicated in data falsification with their bioassay results. This is actually, I believe, related to Sandia National Laboratory. But obviously if bioassay data is invalid there, it's going to be invalid for any site. So all that bioassay data for that two year period can't be used either in an individual dose reconstruction or to formulate any coworker intakes.

NIOSH released its original Petition 235 evaluation in May of 2017, and just to summarize what those feasibility conclusions were in that report, no issues had been identified with the reconstruction of external exposures or medically-related exposures. Those would be occupational X-rays.

External dose to unmonitored workers can be reconstructed using coworker doses, and those were detailed in the document OTIB-0077. As I said, the in vitro or bioassay data was disqualified for that CEP period, that two-year period in the '90s.

However, they also had a whole body count program that was valid, and it was in use during that time. Also, once it was discovered that the CEP data for that two-year period couldn't be used and the contract with that vendor was cancelled, they performed follow-up bioassay to see if they could measure any intakes that might have occurred during that two year period, and it showed no measurable internal exposures.

Finally, the internal coworker intakes have been developed for bioassay results that were during the operational period which ended in 1988. So coworker intakes have been developed for uranium, plutonium, and fission products, and those are proposed to be used not only for the CEP period, that period in the '90s, but for all periods after 1988 for which there's no SEC coverage currently.

So the ER was discussed back in December of 2017, so roughly a year and a half ago, and really there were two items that came out of that discussion as issues that really needed to be vetted further before any action could be taken.

The first item was really to go and look at so me of the air sampling data during that two year window when we

can't use the bioassay data.

The reason you want to do that is you can take that air sampling data, compare it to the operational period for which we have coworker intakes, to try to get a feeling for whether those operationally derived intakes would be either representative or sufficiently bounding of any intakes that might have been experienced after 1998 during that CEP period, when the bioassay data is invalid.

So that's the first item. The second item is related to the americium and thorium. As I said SEC 234, which ends in 1988, was based on the inability to reconstruct americium and thorium. That was also the end of the operational period, but the question obviously remains what happened after that, you know. Is there -- they're doing remediation activities and D&D activities and things of that nature.

Is some of that material still there in process piping, glove boxes, and things of that nature, and how will that be accounted for? So NIOSH delivered two White Papers addressing each of these issues back this past November, and they were discussed a month later in December with the Work Group.

At that time, SC&A was tasked with reviewing those two new White Papers and the new information. We delivered our review of the two White Papers in a single document titled Review of Remaining Internal Dose Topics Related to the Evaluation of SEC-00235 at the Santa Susana Field Laboratory. That was delivered at the end of February.

So SC&A's review approach with those two White Papers. Obviously, where we always start is the Site Research Database, which is pretty much the compendium of all related EEOICPA documentation that NIOSH has to make these determinations. There are over 2,700 total documents just for Area IV, but only a subset of that would obviously be related to activities occurring after 1988.

The second facet of the review is the Boeing incident database. This was provided by the petitioner, CORE Advocacy for Nuclear and Aerospace Workers, back at the December meeting in Redondo Beach. So we were going to go through that and look for incidents that were

occurring after 1988 that would be relevant to this discussion.

The last thing was to evaluate, as I said before, the air sampling data. Again, for purposes to be able to make a meaningful connection between this two year period when the bioassay data is invalid and the operational period for which we have coworker intakes developed.

So starting with the SRDB review, again the purpose we're looking at those two facets. One, is there any reason to think that there's an exposure potential to americium or thorium that can't be feasibly reconstructed, that would represent an SEC issue.

The second one is, again, look specifically at that two year window when there's invalid bioassay data. What sort of activities were being done and how would that affect the use of coworker intakes that were developed during the operational period.

That's just some of the document types that we reviewed that are contained on the SRDB. These are pretty standard, but you have your air sampling, general area, and breathing zone. There are contamination surveys because this is part of a general remediation period and D&D. There are significant environmental monitoring evaluations and reports.

There's also the accident incident reports that were already on the SRDB. Some of them are contained in the Boeing database as well. The D&D evaluations, because that's the type of work they were doing, and any other planning or occurrence reports.

In addition to those documents, there were two interviews that were performed as part of this SEC review, with workers who certainly had knowledge of the type of radiological operations that were occurring after 1988, and these are two significant quotes we felt. I'd like to read them into the record.

As the various ETEC activities were terminated, the potential exposures to alpha emitters reduced significantly. As mentioned above, the primary isotopes of concern became cesium-137 and cobalt-60. While alpha emitters were also part of the source terms in Building 20 and the RMHF, these were at very low levels

and were not routinely found in the contamination surveys of these locations.

So that was the first interviewee, and the second one states it is my opinion that americium-241 and thorium would have been minor contributors, if any, to internal dose. It is likely that this rationale is why there are relatively few bioassay requests made historically for these radionuclides. If americium-241 and thorium had been a significant internal dose contributor in the workplace of SSFL or De Soto, then it would logically have also been a potential environmental contaminant.

This is not the case as demonstrated by the U.S. EPA. The U.S. EPA Area IV Radiological Study which occurred from 2009 through 2012. So neither americium nor thorium are or were an environmental issue.

One could arguably extrapolate back and imply that it was also not a workplace issue at SSFL or at De Soto, or at least less so than uranium, plutonium, and mixed fission products, for which we had more than adequate bioassay data.

I'd just add that uranium, plutonium, and mixed fission products are all part of the operational coworker model. So SC&A concluded, based on this SRDB documentation review, while we do not find any significant events or operations that involve thorium or americium, these might have been potentially if, for example, they were ripping down a glove box or some ventilation lines and they found a significant amount of americium or thorium, but we simply did not find any evidence of that.

And then the second facet is we didn't find evidence that operations, and when I say operations I really mean remediation activities and D&D, during that two year window when we don't have valid bioassay data, that they were decidedly different in a way that would preclude the use of coworker intakes that were developed as part of operations.

Moving on to the review of the Boeing incident database. Again, the purpose is the same. We're looking for incidents possibly involving americium or thorium after that 1988 period. And then also again looking specifically at that two year window with invalid bioassay data,

identify radiological incidents and see how they compare to incidents that occurred during operations and also before and after that two year window.

In the review of that database, there are 71 incident files that were related to Area IV after 1988. That's roughly ten percent of the entire incident database provided. Nineteen of those involved the detectable spread of contamination. Specific to that two-year window, there are ten incident files in that Boeing database, and only one of those involve detectable spread of contamination.

Most of the incidents were generally related to things like radiography, operations that were done in the field and maybe a worker wandered into the wrong zone, that sort of thing, which would obviously be an external dose issue.

So conclusions, based on that review of the incident database, we did not find any incidents involving thorium, though we did find one single incident involving americium in that post-1988 period, it involved the cleaning of a smoke detector, which as many of you probably know radiological smoke detectors are often used, as they're a little more efficient than any sort of heat-based smoke detector.

A worker was cleaning one with an alcohol solution, and low level contamination was spread to the worker's hands, which was detected immediately and immediately removed. They performed a contamination survey of the area and did not find any contamination as a result of this cleaning operation, and nasal smears were also taken on the affected worker, and they were negative.

With regards to that CEP period, we didn't find any incidents that would lead us to believe that there was a significantly different exposure potential during that two year window, that again would preclude the use of coworker intakes that were developed as part of the operational period.

The third facet of our investigation was the air sampling data, and this was something that NIOSH also looked at. So what we wanted to do is take a look at what we had was general area summary values, by quarter for the operational period, where we're using the bioassay data to assign coworker intakes to that later period.

If we can compare those two data sets, the operational and the CEP period, and see how they compare, we can make some determinations as to how representative the radiological environment was for the two periods.

So this first graph we're looking at, these are the maximum gross beta air sampling results, and again they're by quarter. This is really more of a sort of a visual element, but as we get further into the presentation, there will be some more quantitative numbers here. But as you can see, I've circled on the left vertical axes the maximum permissible concentration, which is one times ten to the minus nine microcurie per cubic centimeter.

And what -- the real takeaway here is if you look at that operational period, which is on the left side of the graph, in general those values are higher at the maximum levels than what you see during the CEP period, which is that small period bounded by the two red lines.

So that's the maximum gross beta. Looking at the average gross beta, once again just a visual inspection sort of shows that during that operational period, particularly in the earlier years of the operational period, it appears that the average values were bounding compared to the CEP period.

Moving on to the maximum gross alpha, again these are general area samples, and once again visual inspection you have from roughly 1982 to 1987 or 1986, you have higher values at the maximum, and this sort of drops down a little bit. I think that just sort of is reflective of the changing site mission and sort of the closure of actual operations, and then moving towards a more D&D and remediation style activities. So that's the maximum.

And then here's on average, and as you see, I love the earlier values. They're all right at one times ten to the minus fourteen. But again, a visual inspection shows that for most years during operations are bounding compared to the CEP period. And also what's noticeable is how much lower they are than the maximum permissible concentration.

So just looking at some numbers based off those graphs, if we're looking at the average of the average essentially. So we have these quarterly average values. If we were to

average them over the operational period and then average them over the CEP period, how do they compare?

So as we show here, gross beta, you have your maximum permissible concentration of ten to the minus nine. The operational period was three orders of magnitude less than that, compared to the CEP period which was another two orders of magnitude less than the operational period. So clearly bounded in that metric.

Gross alpha was a little bit closer. But again, both operational and CEP were three orders of magnitude less than the max permissible concentration, with the operational period being about a factor of three to four higher than the CEP period.

That was the average of the average. This is the average of the maximum quarterly air samples. Once again, during the operational period the maximum samples were actually quite a bit higher than the maximum permissible concentration, but again these are the maximum over the entire quarter.

And again, the operational period was about three orders of magnitude higher than the CEP period, that two year window in the '90s. And similar for alpha, once again the operational period is three orders of magnitude higher than the CEP period.

So conclusions based on this air sampling evaluation, at both the maximum and average quarterly levels, it seems to corroborate the notion that the operational, general operational radiological conditions are bounding when compared to the CEP period when remediation and D&D activities were occurring. Also of note is that when you look at both the maximum and the average for the CEP period, they're all less than the maximum permissible concentration.

So SC&A did not identify any evidence in the air sampling data that suggests that internal exposure potential for the radionuclides of concern would not be bounded by the operational data. Again, that would be for uranium, plutonium, and fission products.

So to summarize SC&A's review, again it's the two facets. There's the thorium and americium, and then there's this two year window when the bioassay data is invalid. For

thorium and americium after 1988, we did not find any evidence that there were thorium exposures or exposure potential or americium exposure potential that couldn't be feasibly bounded.

In other words, we do not see the same situation post-1988 during this remediation period as was found prior to -- well, 1988 and before, when there's a SEC in place because of an infeasibility to reconstruct americium and thorium. But what does this really mean for dose reconstructions?

Well, current methods assign what's known as an ambient or environmental intake, and these are actually based on stack emissions. Now, what is an ambient or environmental intake? These are really developed for workers who never really entered radiological areas. They'd be office workers or other administrative-type workers, not rad workers. But, since they were onsite, there is the chance for an elevated exposure above background.

So that's what those are used for, but they are not really appropriate for operations workers. So what SC&A suggests is that NIOSH go back and try to develop an occupational model, and you could do it a couple of different ways. But, generally, you could use either available breathing zone data or administrative limits on what was allowed, the max permissible concentration, or some fraction of that as appropriate.

So NIOSH has agreed to go back and investigate whether such a potential model could be put together to account for occupationally exposed workers, rather than, like I said, those who fall under the ambient or environmental category, which are really the non-rad workers.

With regard to the CEP period, again, August 1991 to June 1993, we did not find any evidence in the air sampling data, the SRDB, or the Boeing database to suggest that internal dose reconstruction would be infeasible using the current coworker approach, which, again, utilized operational bioassay data to develop intakes.

So the Work Group for Santa Susana and DeSoto met at the end of this past March, and the Work Group determined at that time that the Advisory Board -- or they

recommended that the Advisory Board accept NIOSH's evaluation and recommendation not to designate an additional Class for SSFL under SEC-235. As you can see there, that was the evaluated Class Definition.

There have been some additional developments since SC&A put out its report and the Work Group met. CORE Advocacy provided two additional documents right at the Work Group meeting on March 25th of this year. And so I'm going to go over those two documents briefly, because it's important that we look at those and vet those.

The first document was a list of buildings at Santa Susana that were associated with thorium, americium, and some other nuclides. The underlying references here are historical site assessments. So they're retrospective looks at what was done in the different facilities.

The reason they did this is for remediation reasons. They wanted to be able to know what they should be testing for in the soil, what radionuclides should they look for to see if they need to be cleaned up.

But we point out that dose reconstructions are not building-specific at this site. So, if you have covered employment at this site, it doesn't quite matter which building you necessarily worked; it doesn't affect a dose reconstruction. However, the Site Profile should be updated to reflect this information so that it's comprehensive and accurate.

The second document certainly caught our interest. It was another historical site assessment, from 2011, but it indicated the potential for TRUMP-S operations, which stands for Transuranic Management by Pyropartitioning Separation. I think I got that right. I had to practice that one in my hotel room a couple of times.

But there were some indications that there might be some operations involving that material, which can be plutonium/americium, obviously a big one, uranium and neptunium, and there were some indications that that might have occurred even in 1989, which would obviously represent an operational type activity and not simply remediation or D&D.

So we went to that document, and also the underlying

documents that supported it, and did some additional research. What it looks like, from what we could gather, is there were definitely preplanning activity, lots of meetings designating who would do what kinds of work, starting to develop procedures before the actual activity might have taken place.

In February 1990 they were still trying to get their license modified with the NRC to actually do the work with the TRUMP-S material. We found a newspaper article in 1990 that noted that the operation had actually been moved to the University of Missouri, and it was due to "the heat of public challenges to the company getting the project licensed by NRC." The TRUMP-S material was eventually shipped from where it was being stored at Santa Susana to the University of Missouri in September of 1990.

So, basically, what it looks like is they were trying to get the project licensed to be performed at SSFL, but it just didn't work out and they ended up sourcing that project out to the University of Missouri. So we just -- we did not find any evidence that TRUMP-S activities actually ever occurred after 1988.

In addition to those two documents, the petitioner, CORE Advocacy, had notified NIOSH at the end of January of this year that nearly 1,500 boxes of DOE records with potential relevance to SSFL and other sites there, like DeSoto, had been identified.

The exact contents and relevancy of the boxes, specifically to this petition, but in general, are not currently known, at least by me. But, per information supplied by CORE Advocacy, the boxes were supposed to be made available no later than the fall of 2019. But, even at the most recent Work Group meeting, it appeared that maybe those boxes already were available and possibly at a DOE facility in Cincinnati.

So, what about these boxes? Well, the first thing that I guess we'd note, and this was discussed during the Work Group meeting, is that NIOSH is routinely notified of any new and relevant information made available, and they evaluate it accordingly. This is just their standard process. Also the petitioner can separately request the records via the Freedom of Information Act.

This last bullet, I just wanted to point out that the SEC evaluation can always be reopened by NIOSH via the 83.14 process. That's when they determine their own infeasibility, and so start the SEC process on their own. Or the submission of a new 83.13 petition, which would be externally generated by a petitioner.

The only reason I mention this is, if there are actions taken today, it's important to remember that it's not closed and gone forever. Any time there's new information, it can be evaluated and the discussion reopened.

That concludes my presentation. I would be happy to answer any questions.

Mr. Katz: Thank you, Bob. That was very nice and clear and extensive. Board Members in the room, do we have questions for Bob?

Member Lockey: I have one, Jim Lockey, one question. That means that you will go through the boxes no matter what, is that correct?

Mr. Barton: I guess I'd defer to NIOSH on that question. At this time, I don't believe SC&A has any tasking.

Member Lockey: That's what I meant, NIOSH.

Mr. Katz: Lara's coming up to the mic. I don't know if that mic is live yet. It should be on. There you go.

Dr. Hughes: Yeah, it was not on. So what typically happens is, if we have an open investigation, an open SEC petition, and there's issues to be resolved, there will -- we will get notified if they get new information at the records facility in Cincinnati, and then a data capture team will go out and look through the boxes and collect what they -- what we think is needed.

So, with regards to those boxes, we contacted them with this box list to see what was available. And they were kind of bogged down in cataloguing and they weren't really giving us the information, saying, oh yeah, we have all those, but they were going through the numbers and were saying, oh yeah, it looks like we have this information here.

So, and as they catalogue the stuff they get from Boeing, they notify us if they see any of those key words that we typically look for, such as bioassay, air data.

Recently, that's been a lot of investigation into DeSoto records, and in this case they will be collected. We just collected like something on the order of 4,000 documents in the early part of this year. I hope this answers your question.

Member Lockey: Well, no, it partially answers the question. So, suppose this SEC is closed off today. Will you still go through the information, the boxes? It could be reopened. That's what my question is.

Dr. Hughes: Yes, we do. We would not necessarily go out and look for evidence of -- evidence of thorium/americium operations during this CEP period, because that would be a closed issue. However, if we came across something, we would certainly, you know, take it into account and say, how does this affect our previous decision? Does that answer your question?

I mean, nothing is ever closed. However, you know, if something is closed, we will not actively work on it until we find something.

Mr. Katz: Tim, is there something you want to add?

Dr. Taulbee: Yeah. Let me give a shot at trying to answer the question here. What's going on is DOE has received these records and they're currently inventorying them. We've given them a list of key words for them to look against. And so, as they run into something, they notify us and we go over and we send a team and we look at it.

And, just like we do with all of the other sites, if there's something that comes relevant that we didn't know about at, not just SSFL or some other site, we would consider that and does this impact any of our previous decisions. And if we have to, then we will open up a new petition if we run into some kind of infeasibility.

But, right now, all that is happening is they're being inventoried, we're being notified and then we're sending teams out to look at it. So it's an ongoing process until we get the entire set inventoried, and then we will look at the final listing across all the sites, really. Does that help?

Member Lockey: It does. I guess, would there be a difference in the -- if the SEC is closed, would your approach in relationship to this additional information be different than if the SEC remains open?

Dr. Taulbee: No.

Mr. Katz: Right. So, in other words, your key words would capture something anyway, irrespective, that would be relevant for this topic.

Dr. Taulbee: That's correct.

Mr. Katz: That's what Jim was trying to get at, I'm sure.

Member Lockey: That's what I was trying to get at.

Mr. Katz: Yeah, thanks.

Member Lockey: Sorry. I wasn't quite clear on that, but I was --

Mr. Katz: No, that's okay. But it's clear now, which is what's important. Yeah, thanks. Other Board Members with questions? Josie.

Member Beach: I mostly just want to thank Bob and SC&A for jumping on those two documents that we got on the 25th and giving us a report on them today. I appreciate that. I want to ask Tim, is the key list for those documents, is that word list already given to them? You did indicate that?

Mr. Katz: Lara's coming back to the microphone.

Member Beach: Sorry, Lara.

Mr. Katz: It's okay.

Dr. Hughes: I'm sorry?

Member Beach: The list of key words, has that been given for that box of documents, the set?

Dr. Hughes: Yes.

Member Beach: Okay. Are thorium and americium on that list of key words?

Dr. Hughes: Yes.

Member Beach: Okay.

Mr. Katz: Good. Other Board Member questions?

Member Roessler: Ted, this is Gen.

Mr. Katz: I'm sorry, we can't -- is that Gen?

Member Roessler: Gen, yes.

Mr. Katz: Yeah, go ahead.

Member Roessler: I have a question on Slide 9. I don't have any question about your conclusions, but you interviewed two people. Were they radiation workers, or who were the interviewees?

Mr. Barton: I'm not sure how much information we can give in a public forum. I will say that they were in a position to have knowledge of what was going on there at the site, to the point that I think their statements certainly have merit.

Mr. Katz: Thank you, Bob. Thanks --

Member Roessler: They were workers?

Mr. Katz: Yeah. They were, right.

Member Roessler: Yeah, okay. That was supportive of your other information. I just wondered. Thank you.

Mr. Katz: Other Board Member questions?

Member Kotelchuck: Yes here.

Mr. Katz: Yeah, so David, Dave Kotelchuck.

Member Kotelchuck: On that same slide, I didn't have a chance to look back at the SRDB, but roughly how many people were interviewed? Are these selected quotes from a large group?

Mr. Barton: Well, I believe there are a number of interviews that were conducted as a part of the previous SEC investigations, which have bearing here. These two, I believe, occurred after the submission or the acceptance

or the evaluation of SEC 235.

So, specific to this one, they were interviewed after that petition was received. But there are a number of interviews on the SRDB related to SSFL that were done as part of the previous SEC investigations, but obviously are relevant to the full onsite operations.

Member Kotelchuck: Are they? I mean, are they relevant in terms of -- do they cover, are they trying to cover -- in the earlier SECs, are they trying to cover that period, this period of time?

Mr. Barton: A lot of them are not directly relevant, because these guys obviously wouldn't be asking questions directly relevant to SEC-235. So I would say that those two workers had questions directly related to this, whereas the other workers would be more incidental information provided.

Member Kotelchuck: Yeah.

Mr. Barton: So, really, those two are main interviews for this SEC.

Member Kotelchuck: Right. I mean, there can be -- they may well be many different perspectives. Can I ask, are they part of the petitioners? Are they among the petitioners?

Mr. Katz: We can't really get into identifying people so --

Member Kotelchuck: Okay. Well, petitioners are a larger Class I thought.

Mr. Katz: Well, no. There is one petitioner. Are they -- you mean are they members of the petitioning Class?

Member Kotelchuck: Yeah.

Mr. Katz: Oh, I don't know if -- we probably don't even -- couldn't tell you that off the bat. Can he?

Mr. Barton: I don't know that.

Mr. Katz: Lara, do you know?

Dr. Hughes: So you're asking if the persons that were interviewed for SEC-235 are members of the --

Member Kotelchuck: Of the Class that's petitioning, in effect.

Dr. Hughes: Petition Class.

Mr. Katz: Do you know that?

Dr. Hughes: I would think so. They were individuals who worked at the site for a long period of time and who are very knowledgeable about the radiation safety program.

Mr. Katz: At that time period?

Dr. Hughes: Yes.

Mr. Katz: That makes sense.

Member Kotelchuck: Okay.

Mr. Katz: That makes sense, right? I mean, they are speaking to the period that's being petitioned for.

Member Kotelchuck: That's the best. That's the best we can get. That's not -- there are other questions, but since we can't identify people, I'll stop, leave it at that.

Mr. Katz: Other Board Member questions? Dave. David Richardson.

Member Richardson: Thank you. And thank you for the presentation. So, I'm trying to put together the, let's say, threads or lines of evidence that are being used to make the argument. There's one which we just had a discussion about, which is unattributed quotes of opinion, and that's one category of information.

The second set that you put forward were incident reports, which were very small in number, and in fact you said N equaled one case report. Typically, I've set those aside sort of like case observations or something. Again, it's going to be very hard to make a determination based on the incident reports.

The third category seemed to be the one where you were providing some quantitative evidence, and I wanted to try and better understand that. The White Paper that was provided, this third line of evidence had to do with air sampling data. And it describes that -- I mean, here we're talking, I believe, the periods 1991 to 1993, and the

White Paper points to a partially overlapping, but not completely overlapping, time period of 1988 to 1992, during which it says air sampling was the primary assessment method for worker exposure.

And it goes on to say that this is predominantly general air sampling, with breathing zone samples in localized areas for very specific tasks. So those seem to be the exception.

So, first, I guess my first question is just to understand what is on the slides as the presentation of, for example, average values.

These are average values over a year of general air sampling results? Or are you averaging breathing zone and general air sampling?

Mr. Barton: It would just be general air.

Member Richardson: So, pretty much the presentation, this third line of evidence, is hanging on either maximum or average value of general air sampling results?

Mr. Barton: That's correct.

Member Richardson: Okay. And that's the basis for us to understand the comparability of worker exposures during that period to the other periods?

Mr. Barton: Yes. I'd say it's one piece of evidence. Again, when we first started discussing this, the NIOSH Evaluation Report, we had noticed that there was some air sampling data that had already been captured. So we said if we're trying to make this connection between the operational exposures and this two-year window, and we have some air sampling data to make that comparison, I think that we should go in and use it and that's what we did.

Is it an absolutely conclusive piece of evidence? No. But it is one piece of evidence in, I guess, what you would call a weight of evidence argument.

Member Richardson: Yeah. And the thing that particularly got me hung up was the average of the averages, which I think suffers what's called, you know, regression to the mean. It's not at all surprising that, you know, as you

average averages, you pull closer and closer to not seeing an any signal at all.

And so it's almost -- I would discount that line of evidence as well. So I'm not left, so far, with very much with which to understand this issue.

Mr. Katz: Tim.

Dr. Taulbee: May I elaborate a little bit, and hopefully help clarify some of this, Dr. Richardson? Keep in mind that we're not using that air sample data for dose reconstruction. It was simply for a comparison type of purpose. We've got a coworker model that's based on bioassay. So what we were looking for is during that time period where we can't use the bioassay, where we're relying on the coworker, do we see an increase in airborne activity at the site? Do we see something that is out of place?

The information that Bob just presented, even though it is averages of averages, which would go toward a mean, it's several orders of magnitudes difference that's not showing this huge increase in airborne activity that would tend to point to the invalidity of a coworker model that was developed during the operational period.

So the coworker model is what we're using from a dose reconstruction standpoint. This was a comparison of does it continue to carry through that time period.

Member Richardson: Yeah. I appreciate that. I'm just sort of thinking about it's almost as though you have a tool which, you know, a flashlight that doesn't have batteries and you don't see anything, so how reassured are you? I mean I feel like, you know, average values from general air sampling, I'm not even sure how sensitive that would be to the detection of whether there was a problem during some of the activities that they describe, like this SNAP, pulling apart the SNAP building.

You know, what information have we been given that potential problems that somebody might have encountered there? That's an aside. I mean that was just in general, what, how helpful is that evidence? I'm not sure it's very helpful.

Mr. Katz: Do you have other questions David?

Member Richardson: No.

Mr. Katz: Board Members on the phone, do you have questions?

Member Ziemer: This is Paul. I do have a question.

(Pause.)

Mr. Katz: He's there. He's just formulating I think but -- there he is. Paul?

Member Ziemer: Yeah. Can you hear me?

Mr. Katz: Yeah. I guess you're -- just whether some other -- your phone must have broken up, because we didn't hear you.

Member Ziemer: Okay. Let me try again. So I'm going to -- I have it on speaker. I'm going to take it off speaker. Maybe it was echoing or something. If we vote to accept the recommendation, it would be to vote not to have an SEC for this period. If we voted not to accept the recommendation, does that carry with it the fact that or the implication that it therefore becomes an SEC? That's one part of my question.

The other part is if we don't vote at all, doesn't that have the same effect for now of voting to accept?

Mr. Katz: Okay. So let me take that in parts. So if you vote to not accept, it does not result in a Class, because you have to formulate a Class and you need a justification for adding a Class, and you still don't have that.

Member Ziemer: Right so --

Mr. Katz: Yeah.

Member Ziemer: So not, not voting in favor of the recommendation leaves things at the status quo, which has the same effect of not voting at all?

Mr. Katz: Yeah. I mean that's true. I am not encouraging of that, because I don't think the Board should just table things basically on the shelf.

So I think the Board has a duty to act on a petition once it's done its homework. So either in favor or there needs to be more research, or against. But I don't think we should just sort of pocket veto or whatever an action as you might describe it.

Member Ziemer: Well, I wouldn't suggest that we do that. I was trying to determine the effect of it, and also we certainly are expecting to take a look at these new boxes and determine what impact they have.

Mr. Katz: Right.

Member Ziemer: Either way, I guess.

Mr. Katz: Right. There are these boxes. I mean it hasn't been typical for the Board to, because of a floor request for records or records that are undescribed when we've already done our analyses, it's not typical for the Board to wait on additional records.

I mean there are additional records at all of these sites that we haven't gone through. Every single site that the Board can cover for every petition, and we would -- frankly, the program, you know, will take years and years to get through reviewing every record at every site that could be germane for something related to dose reconstruction. But so that's my suggestion to the Board about that.

Member Ziemer: Thank you.

Mr. Katz: Sure. Gen or Bill or Loretta, do you have questions?

Member Roessler: No further questions.

Member Field: No questions, Ted.

Mr. Katz: Okay, okay, let's go on then.

Member Valerio: Ted, Ted?

Mr. Katz: Yes, Loretta.

Member Valerio: Ted, this is Loretta.

Mr. Katz: Yeah.

Member Valerio: I have a question. In the White Paper that was issued in February of 2019, the review of Remaining Internal Dose Topics, on page 17 the last incident report, if I'm reading it correctly, that incident overlaps the previous SEC period and the SEC period we're looking or considering now.

I'm just wondering the air samples that were found in a file cabinet, were those alpha or beta? Do we know?

Mr. Barton: I don't -- this is Bob. I don't recall necessarily whether they were designated as a specific gross alpha or gross beta. I know that, I believe that incident in particular spawned a whole operation to search the entire facility, to make sure that wasn't happening and it wasn't a widespread problem.

So they actually went through essentially every drawer to see if there were more air samples there. I believe with that incident, while there were air samples that were in a drawer, there was no associated contamination, if I remember correctly, on the outside of the packets essentially that these samples were in.

Mr. Katz: Thanks Bob.

Member Valerio: Thank you.

Mr. Katz: Loretta, is that it? Okay. David, Dave Richardson.

Member Richardson: I had one related question. There's something which was sort of punted, which was the evaluation was going to allow for the use of an available coworker value, and that's what NIOSH is proposing to do. Are there in fact two, two coworker models on the table right now?

There's the ambient environmental coworker model and the one which you are proposing, which is based on breathing zone data perhaps, albeit limited, or what is that coworker model?

Dr. Hughes: There's currently an occupational coworker model that is based on bioassay data. That was developed several years ago based on, yeah, based on urine data. There is also an environmental approach that is used to assign ambient doses for workers on the site. It's not so

much a coworker model; it's just the ambient model that we use in the Technical Basis Document.

Member Richardson: So what's SC&A's proposal about that, and how does it relate to the proposal which is here, because it was raised as a recommendation at the end of this presentation?

Mr. Barton: Right. This is Bob again. I think, so there's a couple of different facets to this. When we talk about the traditional coworker model, which was developed based on the production values, that's for plutonium, uranium and fission products.

When we talk about maybe developing occupational intakes using breathing zone, that would be for assigning americium and thorium occupational values, rather than the uranium, plutonium and fission products. So there's essentially in this remediation D&D period, there are two occupational models.

There's the urine-based one for uranium, plutonium, fission products and then there's -- NIOSH is going to look into developing an air sampling based one for americium and thorium, which is currently on treated with the environmental intake model.

Member Richardson: I see. Thank you.

Mr. Katz: Thanks, Bob. Other questions? Okay. D'Lanie, we have now the petitioner for this petition for her comments. Thank you D'Lanie for joining us again.

Ms. Blaze: Is this one? Are we live?

Mr. Katz: Are we live? Can you hear D'Lanie on the phone?

Ms. Blaze: Hello? Can you guys hear me out there?

Mr. Katz: I think so.

Member Roessler: Just barely.

Mr. Katz: Yeah, okay. Oh just barely.

Public Participant: We have background noise from maybe a TV in the background I think.

Mr. Katz: So let me just before you get started, for people on the phone, everyone except for -- well everyone for that matter, please mute your phone. If you don't have a mute button, press *6. That will mute your phone for this line, so that we have good audio.

This will help you hear the petitioner as well, so as well as our Board Members who are on the line who need to be able to hear this. But please mute your phone, mute button or *6 to mute your phone. All right. Why don't you give it a shot D'Lanie?

Ms. Blaze: Okay. I'm D'Lanie Blaze, the SEC petitioner. I'd like to thank the Board, NIOSH and SC&A for the ongoing efforts on the SEC petitions at Santa Susana and the DeSoto facility. As we are aware, Santa Susana, Canoga and the DeSoto facility are considered to be the same entity operationally and contractually.

NIOSH uses the same Site Profile to conduct dose reconstruction for workers that are affiliated with all three of the work sites. 1988 is the beginning the site remediation period, and remediation workers are covered under this program. So today, I want to talk a little about some documentation that has been submitted by CORE Advocacy that I believe it's relevant to both work sites.

I don't think it's been adequately reviewed, and I also think it's being selectively interpreted and applied. In 2016, CORE Advocacy provided NIOSH and SC&A and the Board with proposed corrections for the Site Profile, and remember that's used for all three work sites, Santa Susana, Canoga and DeSoto.

That submission was based on EPA's 2011 Area IV radiological characterization study, which is the study that SC&A has been referencing. From here on, I'll just call it the EPA study. In their study, EPA identified at least 50 additional radiological facilities at Santa Susana Area IV that had operated over the course of 50 years.

They had all been excluded from the Site Profile, along with all corresponding environmental data. This has resulted in a Site Profile that does not provide an accurate depiction of site operations or worker exposure risk. To date, NIOSH has not incorporated any of the suggested additions or corrections and it does not appear that the

EPA study has been adequately reviewed amidst this SEC evaluation process.

This is actually apparent, since it appears that the interviewees of Boeing misquoted the EPA study and NIOSH appears to have taken these assertions at face value, rather than fact check the statements against the actual EPA study. So basically EPA identified americium and thorium to be among the radionuclides of concern that were associated with all 50 of those locations.

The majority of those locations were considered to be Class 1 under the Multi-Agency Radiation Survey and Site Investigation Manual or MARSSIM, which is a manual that defines the reasonable potential for residual radioactive contamination. A Class 1 MARSSIM rating refers to an area that's found to have to have had prior to remediation a high potential for radioactive contamination based on the site's operational history, or known contamination that's based on previous radiation investigations.

So EPA identified the 50 radiological locations that never made it into the NIOSH Site Profile. NIOSH has not added the information after it was provided. EPA identified americium and thorium at all 50 of those locations, which were mostly Class 1 MARSSIM areas, indicating high radioactivity potential that was based on established site history and previous investigations.

EPA reviewed over a million historical facility documents to reach their conclusions, and to date it does not appear that NIOSH has made any effort to rely on the EPA study or to acquire the same documents to conduct their own review. It should be noted that most of those locations where EPA identified americium and thorium were not torn down until 1995 or after, which is well after this proposed SEC period.

And again, site remediation workers who are covered under this program are likely to encounter these materials during their site remediation processes. But moreover, if NIOSH and SC&A are going to use that EPA study to find reasons to limit this SEC, shouldn't NIOSH be using it to update the Site Profile by adding all those 50 sites that are missing?

I continue to be impressed by the thorough work that is

performed by SC&A, but I'm frustrated because it does not appear that they are being given all of the relevant information. It seems that NIOSH only provides SC&A with enough information to result in an unavoidable conclusion that meets with NIOSH's desired outcome.

Case in point, NIOSH has been in possession of the Boeing incident report database since at least 2008. So why did CORE Advocacy have to provide SC&A with a copy of that database at the last Work Group meeting? Further, with respect to the TRUMP-S program, if the EPA study had been adequately reviewed, it seems that their assessment of Building 4023 would have been noted.

This is where EPA describes TRUMP-S research taking place, and that location is among those where EPA identified americium and thorium among the radionuclides of concern. I've provided EPA's excerpt of Building 4023 gosh, I think a year ago, but I also provided it at the last Work Group teleconference.

Further underscoring the need for an SEC Class is Boeing's response to the Santa Susana SEC expansion to 1988. The contractor has countered by now withholding personnel and radiation records, often making it impossible for workers to establish their work locations and their exposures.

In 2018, we verified that Boeing withheld and altered radiation data and incident reports for an employee of Santa Susana and the DeSoto facility. That alone is a basis for an SEC. As usual, we've covered a lot of ground in a short period of time, but I believe we have established the presence of americium and thorium in Area IV after 1988.

We've also demonstrated that the current Site Profile is so deficient that we cannot conduct dose reconstruction with sufficient accuracy, and as such dose reconstructions based on that Site Profile are likely to have been dramatically underestimated, based on a downplayed depiction of site operations and exposure risk.

I respectfully urge the Board to find that SEC-235 is necessary for Santa Susana, and as always it's a privilege to address the Board. Thank you.

Mr. Katz: Thank you, D'Lanie. Do we have questions from

Board Members? Josie.

Member Beach: Not for you D'Lanie, but for SC&A, refresh my memory, Bob. Has SC&A reviewed the EPA study that D'Lanie's discussing?

Mr. Barton: Yes. That's available on the SRDB, and also with regard to the comments with the TRUMP-S, that was specifically part of the presentation. What happened is as they were going back and looking at these different buildings, including Building 4023, they were looking for historical evidence of what operations were going on there.

They found documentation that there were plans to have TRUMP-S activities performed in that building in 1989. So we obviously took that very seriously, and but in digging further on, they were having problems obtaining a license to actually perform the work, and eventually that project was scrapped and sent to the University of Missouri.

Member Beach: Oh okay. So not regarding TRUMP-S. I understand that, but the EPA study in light of the two individuals that commented, have you looked at it for that aspect of --

Mr. Barton: Well certainly americium and thorium would be part of the list of contaminants of concern, just given the site history out there. So they would obviously be part of any analysis there. We didn't see anything in that EPA report that would lead us to believe there was an exposure source that was comparable to what was happening during the operational period that prompted SEC-234.

So we agree that americium and thorium could be out there, especially in things like drain lines and HVAC systems, which is really why we proposed that NIOSH go back and determine an occupational dose assignment or at least see if that's feasible to do beyond just the environmental ambient exposures that are currently assigned.

So we agree that americium and thorium are there, but we have not to date found evidence that it was to the level as the previous period that prompted the SEC.

Member Beach: Thank you.

Mr. Katz: Other Board Members' questions?

(No response.)

Mr. Katz: And Board Members on the line, questions? Yes, Andy.

Member Anderson: This is more of a process question for NIOSH. I mean you raised the issue that there's a lot of -- or the EPA report information that's out there that isn't summarized or part of the current Site Profile. The question would be if we now end the SEC portion here, will that update or can we have a commitment about an update of that, or is that in the works or what's the status of that? If we're not working on something, then my concern would be it's going to drop off the --

Ms. Blaze: Can I just interject? I didn't get a chance to respond to the question that Josie raised, and this could be relevant too. It is true that the TRUMP-S program was scrapped and sent offsite to some, I guess, site in the Midwest. But EPA does provide the documentation showing that the research began at Building 4023 and the materials were used there.

We're continuing to find documentation of the TRUMP-S program. In 1990, Rockwell International was still interested in making the TRUMP-S program the only continuing to function program at the site. Those 1,463 boxes, there are several of those boxes that contain information that's specific to the TRUMP program, and that's listed in the box inventory that I provided.

Mr. Rutherford: As for our processes, as soon as the close out of an SEC, our standard process is that Site Profile revisions take place. All new information that, information that we've brought forth in an SEC evaluation through the Board, petitioner and such is all evaluated and updated in our Site Profile.

Mr. Katz: Can I clarify though LaVon, because you only add to the Site Profile information germane to doing dose reconstructions. Isn't that right or not?

Mr. Rutherford: Well that's true, but what we're doing is -- I mean everything we've learned from our dose reconstruction process is updated in the Site Profile. So you know, not only if we -- you know, our infeasibilities

that we define, but if we've learned that possibly that, you know, not in this case that we needed to update a dose reconstruction method based on what we learned, we would update that.

So everything as part of the evaluation process is taking into consideration do we need to update it in the Site Profile.

Mr. Katz: Right. No, I just wanted to be specific to D'Lanie's issue, I think, because it doesn't mean necessarily, you're not committing to putting anything about the EPA report in the Site Profile unless there's something there that's germane for doing dose reconstructions; is that correct?

Mr. Rutherford: That's correct.

Mr. Katz: Okay. I just want clarity on that.

Ms. Blaze: Could I respond?

Mr. Katz: Yes.

Ms. Blaze: It's my understanding that a Site Profile's purpose is to provide an accurate portrait of a site's operational history, and that is to also include environmental data of releases and incidents, the types of materials and operations that took place, the amount of materials that were kept onsite.

This is the type of information affiliated, associated with these 50 missing locations that have been excluded from the Site Profile. I think that would be germane to completing an accurate dose reconstruction, is understanding what the workers faced when they were at the site every day.

We had 50 additional radiological facilities that functioned for up to 50 years, including a radioactive waste incinerator.

Mr. Katz: Yeah. I just wanted to be clear for you D'Lanie.

Ms. Blaze: I got it.

Mr. Katz: It may be, it may be that it characterizes stuff that goes on on the site, but if it's only if it's relevant and

germane to dose reconstruction that they would include it. That's all with any information, but so it's not a total picture of operations at a site or even what materials may be residing there. Board Members? Any other questions? Or on the line? Any questions?

Member Ziemer: This is Paul. I'm trying to resolve the difference on whether or not the NRC license was required for the TRUMP-S program? It sounds like D'Lanie said they had actually started it, and I think -- I think the SC&A report said they never did get the license.

Ms. Blaze: We've got difficulty --

Member Ziemer: Can we clarify that issue?

Mr. Katz: Bob.

Mr. Barton: Yeah. Hi Paul, this is Bob. Based on our research into that, they were certainly gearing up for the operation. They were having pre-planning meetings. They even had outfitted a glove box for it. But yes, they were having trouble getting their license amended to perform that work with NRC, and as I gather they were under immense public pressure about actually doing that program out there at SSFL.

Based on what we know, we did not find the evidence that they actually started it up there. Again, they were gearing up for it. There's plenty of pre-planning meetings. There were even procedures written. But we didn't find any evidence that it actually got off the ground, and that they actually got the license amended to do that work.

In fact, if that evidence is out there, then that certainly would be a game-changer.

Mr. Katz: Jim.

Member Ziemer: I think D'Lanie mentioned this particular building where they had actually started. Did I misunderstand that?

Ms. Blaze: No, you didn't. It's Building No. 4023 or Building 23 they call it.

Mr. Barton: That's correct.

Member Ziemer: And so you're saying that they actually started it? I mean they were handling the materials at the building?

Ms. Blaze: According to my understanding of the EPA's review of Building 4023, TRUMP-S research and materials were underway, actually took place at Building 23.

Member Ziemer: Hmm.

Mr. Katz: Well so Paul, I mean, I guess part of the question is can you actually handle the radiological materials without an NRC license to do so?

Member Ziemer: Well under NRC, you can't even possess the material until you have a license.

Ms. Blaze: I guess that was one --

Member Ziemer: So if a license is required to possess it, unless there's different rules on that.

(Simultaneous speaking.)

Ms. Blaze: We have records of shipments of materials for TRUMP-S.

Mr. Katz: Jim, did you have a question?

Member Lockey: That was my question.

Mr. Katz: Okay, you covered it. Okay. Paul, do you have other questions?

Member Ziemer: No. That was the issue concerning, that there's a conflict between the SC&A report and what the petitioners reported on that TRUMP-S material.

Mr. Barton: Dr. Ziemer, I'd just -- I'd add that this particular issue with Building 4023 wasn't actually part of our report. This kind of came to light at the last Work Group meeting. So SC&A really did sort of an ad hoc review of that issue, both that document, on the EPA document that identifies Building 4023, but also the reference documents that they were using to determine whether TRUMP-S activities happened there.

And again, there seems to be some conflicting evidence as to whether the project actually got started, or whether

it never really got off the ground. Ms. Blaze is correct, that they did receive shipments of TRUMP-S material. We have records of that, and we have the records of them then shipping it to the University of Missouri in 1990.

Ms. Blaze: Can I ask you a question?

Mr. Katz: Yes.

Ms. Blaze: Is it possible to task a review of the TRUMP-S documents that are in the boxes at DOE?

Mr. Katz: Yes. It's possible to task just about anything, yes.

Member Beach: I have a question related to the shipments. How long was it onsite Bob, if it was shipped to Savannah or Santa Susana and then shipped out? Do you know how long it was there?

Mr. Barton: I don't know the exact dates off the top of my head. I believe it got shipped there in the late 1980's, and I know it was shipped out in September of 1990.

Ms. Blaze: Those shipments arrived to the DeSoto facility, and they were transported to Santa Susana.

Mr. Barton: I'm just not sure of the date.

Mr. Katz: So 1990 you said to 1990 shipped out?

Mr. Barton: No. I believe, I believe it came some time in the late 1980's, and then was shipped back offsite to the University of Missouri in September 1990.

Mr. Katz: September 1990.

Member Beach: It seems like there's some questions that still need to be resolved on this issue.

Mr. Katz: Jim?

Member Lockey: Did SC&A look at the EPA document?

Mr. Barton: Yes.

Mr. Katz: SC&A looked at the EPA document and the underlying documents that the EPA document sort of referenced. So again, you've heard it, that the -- well, I'm

not going to summarize, because it's been summarized for you. Tim.

Dr. Taulbee: May I make one additional comment, or one small comment here, is that you know, Bob was talking about the material being, the TRUMP-S material being shipped out in September 1990. The time period of question from the CEP bioassay is 1991 to 1993. That was what we were initially focusing on here.

Mr. Katz: Prior, you mean prior -- it was shipped out prior to the SEC period?

Dr. Taulbee: That's correct.

Mr. Katz: Well that, okay. That seems like an important fact, but --

Ms. Blaze: Although we'll -- I mean we were talking about operations after 1988, so I guess it would probably be relevant.

Mr. Barton: This is Bob. Yeah, the question came up in the Work Group back in December of 2017 as to well, we have this SEC here for americium and thorium, and then we have a cutoff date and then there's nothing. So that was one of the things we were tasked --

Originally NIOSH was tasked with looking at, is there significant potential for exposure to those two contaminants after that SEC period? So while SEC-235 is concentrated on that two year window in the early 90's, as part of NIOSH's and eventually SC&A's tasking we were looking at basically americium and thorium potential after 1988.

Mr. Katz: I see. That's not a helpful clarification. Thank you, Bob. Phil.

Member Schofield: Yeah. What level of new evidence would it take for you guys just to reopen it instead of just adding it to the site database?

Mr. Katz: So these, the documents that are relevant are going to the Site Research Database, right, that whatever they capture that's new, because there has been some -- a number of these documents that are at the Cincinnati facility they already have. Even though they're part of this

boxload, they've received it previously. Is that what you're asking about?

Member Schofield: Well, kind of. I'm really wondering at what point it triggers that no, we need to maybe reopen that SEC petition because of this additional data?

Mr. Katz: Oh, oh. I mean at whatever point that NIOSH receives new information that raises an issue about the ability to reconstruct doses is when they would pursue an 83.14. Yes, Jim.

Member Lockey: Yeah. One question, Bob. So TRUMP-S would have been americium and thorium, is that right, or something other?

Mr. Barton: I don't believe thorium is usually part of those programs, but americium certainly.

Member Lockey: Okay. So I thought I heard you say that when they did sampling, when they did in the residual period they didn't -- they found little americium or thorium; is that correct or have I --

Mr. Barton: Some of the measurements, again soil samples, did find small amounts slightly above background. So it's out -- it is out there, which is to be expected since they handled transuranic materials throughout its operational period. So it would still be there onsite. The question really is what is the exposure potential to it during this period after 1988, and can we come up with a reasonable method to bound that dose?

Member Lockey: And how about Building 23? Do you remember anything about that?

Mr. Barton: Yes. That's -- it's towards the end of my presentation. That was the second document provided by CORE Advocacy at the last Work Group meeting, and again looking at the references that were supplied and also the underlying references and we did a little bit more research on top of that, even digging up that newspaper article that indicated it never really happened, but it might have. We just simply don't --

Member Lockey: Was there any EPA sampling, residual sampling in Building 23?

Mr. Barton: That I do not recall offhand.

Member Lockey: Okay.

Ms. Blaze: I think EPA sampled at Building 23.

Member Lockey: They did?

Ms. Blaze: Yeah. I submitted the excerpt of Building 23 to our Work Group.

Member Lockey: And was the background levels of americium different than what they're finding in the rest of the site?

Ms. Blaze: I don't know.

Mr. Barton: It's also a question of when those potential activities would have occurred. If the TRUMP-S program, they were doing those activities prior to 1989, that exposes -- is already covered by an SEC. So it's really a question of what were they doing after 1988, and if they were still doing TRUMP-S activities that would obviously be a very important operation that we would have to get our head around.

And like I said, we looked into it and I guess based on our evaluation, again since the last Work Group meeting, it looks to us like they tried to get the licensing for it. They tried to have, be their really last experiment, the last hurrah so to speak, and they just couldn't get it done between public pressure and the NRC license issue. So eventually, I guess they found more fertile ground in Missouri.

Mr. Katz: But you also said just a moment ago in clarifying that the materials that they had for TRUMP-S were shipped out before --?

Mr. Barton: That's correct. They were shipped out in 1990. The evaluated period is from August 1991 through June 1993. But again as part of this whole evaluation, we were tasked with looking at specifically americium and thorium after 1988, which will include any TRUMP-S activities that might have taken place.

Member Lockey: So Ted, what I was trying to get at is if they were doing TRUMP-S activities in Building 23,

perhaps the americium contamination in that area would have been different than the rest of the site in the early 90's. That's what I was trying to get at.

But we don't, you don't have that data, or you don't -- you're not aware of what that was.

Mr. Barton: Well, I'm not aware of it, but again we're not trying to claim that americium exposure potential didn't exist. In fact, that's our recommendation, is that we need to have some sort of framework in place to be able to assign occupational exposures to americium, because americium projects did occur at that site, but maybe not in this post-'88 period, which is an important distinction.

Mr. Katz: Tim.

Dr. Taulbee: Again, this petition is from 1991 to 1993. If during this document review we find that they did do TRUMP-S material there in Building 23, that would require a new petition. So we would open that under an 83.14 type of purpose.

So it's not like this is going to completely go away. These 1,400 boxes are still being reviewed. They're being indexed. We are looking at them from that standpoint. But this particular petition is from 1991 to 1993.

Mr. Katz: Well further, they can't do the TRUMP-S activities in '91 to '93. If they shipped the materials off in '90 but --

Dr. Taulbee: That is correct. But if they did, then we would open a new petition from the 1988 period forward.

Mr. Katz: Right.

Member Richardson: But I'm back to these three lines of evidence. We had an SEC which went through 1988 and was premised on the argument that that was the end of operations. Now there's a suggestion, I guess it's an open question, were there activities going on after 1988, because we have this vacuum here or this gap in the information for the period which is, I agree, we all agree, we're discussing.

And the argument is that based on anecdotal evidence, incident reports and area sampling of area air sampling,

we can make an informed decision about whether the activities during that period were comparable to neighboring activities.

But if there's uncertainty about what was happening, then I think now we have -- because I find those three lines of evidence weak for making that determination, and it's all sort of premised on that there was nothing, that there were no operations going on.

So I think it is -- there's some relevance to it, because we're trying to build some argument about what happened in a period where we have very little information about what happened.

Mr. Katz: Brad.

Member Clawson: Is this on?

Mr. Katz: It's not on. No, there's a button up there. Yeah. Josie's mic.

Member Clawson: I'm broke. My question is as this information comes out on the 1,400 boxes, is that only being sent to you, NIOSH, or is it being -- because you know we look at information a little bit different. My question is SC&A available to see any of the printout that they get?

Dr. Taulbee: Absolutely, absolutely, yes.

Member Clawson: I was wondering if it was updated to them?

Dr. Taulbee: Everything that we've been getting from the Department of Energy, based upon those key word searches, is uploaded to the DSRB. So SC&A has full access to that.

Member Clawson: Okay. That's what I wanted. Thank you.

Mr. Katz: Okay. Paul or anyone on the line, other questions?

(No response.)

Mr. Katz: If we don't have other questions, so thank you D'Lanie.

Ms. Blaze: Thank you again everyone.

Mr. Katz: So we have from the Work Group a motion on the table to agree with NIOSH that dose reconstruction can be completed. So we don't need to have that put forward, but let's have some discussion then, of where we want to go from here.

Member Schofield: Right now --

Male Participant: You have to speak in the mic.

Member Schofield: After what I'm just hearing right now, I'm kind of inclined to say let's not take a vote today. I'd like to have a little more information before we put a vote out on it, just because there's, you know, there's some question in my mind that I'll admit at the last Work Group meeting I did not have, but now I do.

I'm a little, and get it reopened or getting it to the point it's an 83.14 I think is a higher hurdle. If we can just keep it open at this time.

Mr. Katz: Other Board Members, comments, discussion.

Member Beach: I guess in light of what you just said --

Member Ziemer: Well, this is Ziemer.

Mr. Katz: Go ahead, Paul or --

Member Ziemer: Just as a matter of procedure, I think a recommendation from a Work Group automatically is a motion that requires no second. So we actually have a motion on the floor, isn't that correct?

Mr. Katz: That's correct. That's what I, that's how I put it. We have a motion on the floor, and we're just discussing that motion now.

Member Ziemer: So if we don't want to act on the motion, we would need a motion to table or to postpone the vote, and that's not a debatable motion once that's made.

Mr. Katz: Correct.

Member Beach: Okay, and in light of that, what I wanted to direct to Phil is what exactly we need to accomplish in order to move forward or I just want it more defined.

Member Schofield: Well, my big concern right now is the whole question of the recent rule. We've got people coming up from DeSoto too, so at what level do we know who was in and out of that particular building? Were there any hot spots around there? I mean I did look at some of the EPA stuff, several years, a couple of years back and I realized a lot of that is low background.

But I'm still a little nervous about the americium, just because it's really nasty stuff if, you know, people get into it. That may just be me. I mean maybe I'm just being a little over-worried about it, which you know, in that case I would go ahead and say let's go ahead and take the vote, and we could always, if we have to, task them.

If there's more information comes up, to take a deeper look at the question about the americium.

Mr. Katz: Okay. So I need another -- this so from -- if I'm understanding you correctly Phil, we don't really have a -- you're not putting on the table a focused review of anything in particular. I mean the hot spots and so on don't really relate to this per se, this petition evaluation.

But maybe other Board Members want to direct this in one way or another, because we absolutely need an action.

Member Lockey: Ted, can I ask one more question? Bob, where are you?

Mr. Katz: Bob.

Member Lockey: So this is following up on David. I think as -- really what David was asking, from '89 to '91, there's no data; correct?

Mr. Barton: No. It's actually from August of 1991 through June of 1993 when the data is invalid, the bioassay data's invalid.

Member Lockey: No, I understand that. But looking at your air sampling data, the air sampling data stops at '89.

Mr. Barton: Right. We used basically what had been captured. So it was already available for analysis, so we used it as one tool.

Member Lockey: And so what about '90? Was there any air sampling data for '90?

Mr. Barton: Not currently captured. That's not to say it's not out there somewhere, but it was not available to us.

Member Lockey: And '91 early, same there I guess?

Mr. Barton: Yeah.

Member Lockey: There is some?

Mr. Barton: I used what we could find on the Site Research Database, which again is not necessarily exhaustive of what's out there possibly in these records in Cincinnati or elsewhere.

But again, sort of the idea there was that well, we're trying to use this coworker model for a different period. How do we try to get a way to match the two periods, to see if it's actually going to be representative or even better bounding?

Member Lockey: I understand that.

Mr. Barton: They said well, we have this air sampling data. Let's see what we can do with it.

Member Lockey: Okay, thank you.

Member Schofield: Do we have any data from the stacks? The building would have to have had ventilation and stuff. I assume, and this may be a bad assumption, that they had to monitor the stacks and report those numbers. Do we have any of that data available?

Mr. Barton: Yes. There's certainly periodic environmental release reports that SED was require to do. In fact, I believe those documents were what formed the basis for the current ambient environmental model, which is again for non-rad workers.

So they use the stack emission data to develop intakes of americium and thorium. But again, that sort of approach is not really appropriate for a rad worker, which is why SC&A recommended that NIOSH look into developing an alternate dose reconstruction method specific to americium and thorium.

Member Schofield: My only question about is if you're saying this, if any of that data is showing release, then you know it's got to be in the building getting out. If those numbers look good, that gives me a little better feeling about potentially what may be inside.

I mean like you said, they're going with the breathing, you know, the breath analysis and things like that and bioassays. But if they're showing that coming out of there, then I don't think you can say coworker data is going to work on that, if you take some coworker that hasn't been working in that building and try to apply their data.

Mr. Barton: Well I guess we run into that problem really at a lot of sites where try to create a coworker model to encompass everybody, and use a sufficiently high percent value from that cover that sort of uncertainty. As I said earlier, the dose reconstruction method at Santa Susana is not building-specific.

In other words, we're not looking at a claim and say they work in this building, this building and this building, therefore they get A, B and C dose assigned. It's a single sort of one-fits-all model for all the buildings at Area IV.

Ms. Blaze: Since we're on the topic of Building 23, I just went ahead and pulled it up, the EPA. That building was also used for the Rocky Flats Plutonium Recovery Project in 1987, and in 1989 reports appear to indicate that Building 23 served as a support facility for the transuranic management by pyropartitioning separation operations or TRUMP-S in Building 4020, which was the hot lab.

Atomics International requested DOE's approval to utilize the facilities for a two year period that began in July 1988 for the Kawasaki Heavy Industries, KHI and the Central Research Institute. I can -- I've sent this excerpt before on TRUMP-S, but if you want it sent, I can just send it to you. You can disperse it to the Board.

Mr. Katz: You're welcome to send it. I'm not sure whether that's on -- but wait. But we need some suggestion from the Board as to if we're going to continue to evaluate, about what we're going to evaluate.

Member Clawson: I'll tell you what. Dealing with Santa Susana for all these years maybe is a -- it is a mess. But

what I would like to do, and I know that SC&A has done some of this, but they just got these reports. I'd like them to evaluate the EPA process of this.

I just don't feel comfortable with it, Bob. I'm not saying that you guys didn't do diligence. It's just too short a time period for you to be able to evaluate it. I really hesitate about trying to make a decision on this.

Mr. Katz: So, do you want them to evaluate the EPA report information?

Member Clawson: Right, a little bit more in-depth, and also the TRUMP-S part of this is something that's -- it's just convoluted, and I'm just not feeling very good.

Mr. Katz: Okay. So the EPA report information and whatever information we have on the TRUMP-S attempt or whatever they did something, whatever it might be.

Member Clawson: Right, and also, you know, we're coming up with new stuff in these boxes and stuff. I would like you to just kind of monitor that as that comes out in these -- you guys do get that information, right, that they're talking about, that 1,400 boxes that Tim just talked about?

Mr. Barton: Well, I think it's maybe a little more nuanced than that. We certainly have access to everything that NIOSH receives and uploads to the SRDB, which can be accessed by the Board Members.

For example, I don't know that we're necessarily in the loop as far as communication between the DOE records facility and NIOSH, and when new documents come in and when new documents are posted. I mean we can check periodically, do something like that.

Mr. Katz: Well, I think they could do better than that because I think in this case NIOSH can affirmatively inform SC&A if any documents come in that are germane on these topics. That's easy to do. I know you're not in the process, but... D'Lanie, we're really -- we're trying to at this point, we're trying to get the path forward.

Ms. Blaze: The last thing. The location wasn't remediated until 1993, and all the materials were taken to the RMHF at Santa Susana. So we might expand our view beyond

Building 23, to include the waste handling site.

Mr. Katz: Thank you.

Ms. Blaze: Thanks.

Member Richardson: Can I ask about the process of that? I'm wondering whether there would be the opportunity for SC&A to add to the list of words, so that it's not just NIOSH notifying SC&A when something germane happens, but that they could have, make some contributions to the definition of what is germane.

Mr. Katz: We do that all the time with documents searches and so on. So certainly SC&A can be made aware of the key words and so on, and you can add to them. Thank you, David. That's an "as might be needed."

Member Richardson: Yes.

Mr. Katz: Thank you.

Member Field: Ted, this is Bill. In regards to Dave's concerns about them using means of means for the air monitoring, is the data in such a form that it could be looked at in other ways, rather than taking the means of means?

Mr. Barton: This is Bob. I believe what we have are just the quarterly summary reports that provide the average and the maximum for each quarter. I don't believe that we have necessarily the raw data underpinning all of those reports. That's not to say it's not out there.

Member Field: But it's something that may be -- it may give you a little bit more information. You could actually get some information on what the max is for.

Mr. Katz: You have the maxes actually, right?

Mr. Barton: We have the maximum per quarter. I don't believe we have maybe location data or how many other samples there were that were close to the maximum. Again, we have a maximum and then an average value for gross beta and alpha by quarter.

Mr. Katz: Right.

Member Lockey: So I need -- I'm not sure what we're

assigning to be done here. You've gone through the EPA report; is that correct?

Mr. Barton: Yes.

Member Lockey: And so --

Mr. Barton: What we haven't really done is a specific write-up to address concerns about it, which includes the TRUMP-S documentation, which we've had discussion on today. Again, we saw that, petitioner provided that to us at the end of March at that meeting.

And so I sort of rushed around and tried to pull together what I could. And again, our read at this time was that we don't believe it actually got off the ground, but there could certainly be more work done on that to flush out that position, and if it's deemed not enough information at this time, then obviously the option always is to go and specifically look for, I guess, TRUMP-S documentation in the remaining boxes and perhaps at other records locations.

Member Lockey: So if we assign, if we assign SC&A to focus on the EPA document and the TRUMP-S documents, and then answer questions that have been raised today, is that doable in a relatively short period of time?

Mr. Barton: I believe so. I think we've already done a lot of the leg work on that. Other questions might arise as we write it up, but I think it's really a question of just documenting what we found in that EPA study. The TRUMP-S part of that is really an extension of that same report.

It's really a whole series of reports developed for site remediation and their historical site assessment. So they're looking back at what products were done in different buildings. But again I remind you, it doesn't necessarily mean those projects were done after 1988.

Member Lockey: Right, yeah.

Mr. Katz: Andy first. Andy had --

Member Anderson: We've had an interesting set of discussions here, and what I would propose is that we make a motion to table the motion that we already have,

and that will just keep it open. But it also keep the current review of the committee.

Member Beach: And I'll second that. Does it need a second?

Mr. Katz: Yes.

Mr. Katz: Okay, so and, but David, Dave was trying to get in a word too.

Member Kotelchuck: Yeah. No, no. I feel very comfortable with that choice, and what I would also add is that for myself as one Board Member, there were a number of issues raised today that I did not understand so well, and I would like some time just to look at the record and look more carefully again at some of those issues.

I feel like I could personally make a much more informed decision. So if there's an appropriate task to be carried out, and that will delay and allow us also as individuals to look things over, that would be very good. So I support the motion.

Mr. Katz: Well that's -- yeah, and that's always fine, Dave. I mean whenever you feel like you are not ready to take action, you should voice that because we want the Board Members to be prepared to act whenever they act, so absolutely.

Member Kotelchuck: Okay, yeah.

Mr. Katz: That's perfectly valid. All right. So we have a motion on -- that's been seconded, and it's -- I don't think we need, although there's the option of course for discussion since we have this motion, and it's been seconded. I think we've had a lot of discussion. Is there any more discussion about this before we take a vote?

Member Ziemer: A motion to table is not debatable.

Mr. Katz: Okay, it's not -- okay, good. Thank you.

Member Ziemer: Under Robert's Rules. You can't debate whether the --

Mr. Katz: Bless you Paul for keeping me on Robert's Rules. So we have a vote, and I'll run down the line for

the vote to table this and to pursue the further evaluation that we just discussed. I think it's very clear to SC&A at this point. So Anderson.

Member Anderson: Yes.

Mr. Katz: Beach.

Member Beach: Yes.

Mr. Katz: Clawson.

Member Clawson: Yes.

Mr. Katz: Field, Bill?

Member Field: Yes.

Mr. Katz: Kotelchuck?

Member Kotelchuck: Yes.

Mr. Katz: Lockey.

Member Lockey: Yes.

Mr. Katz: Richardson.

Member Richardson: Yes.

Mr. Katz: Roessler.

Member Roessler: Yes.

Mr. Katz: I think I heard a yes. It's very quiet.

Member Roessler: Yes.

Mr. Katz: Phil?

Member Schofield: Yes.

Mr. Katz: Loretta?

Member Valerio: Yes.

Mr. Katz: And Ziemer?

Member Ziemer: Yes.

Mr. Katz: Okay unanimous, and it passes, and a very good

discussion. Thank you all for the thoughtfulness that went into this, and I think that takes care of this session, and we are on break. We'll take this up, I'm expecting we'll be taking this up then in August, when we meet in August to complete our considerations.

Thanks, and you can take the mics off of line. Thank you Board Members, and we'll be back at -- after lunch, two o'clock.

(Whereupon, the above-entitled matter went off the record at 12:36 p.m. and resumed at 2:01 p.m.)

Mr. Katz: Okay, then. We are just back from lunch break. Let me check on the line first, and see if I have my Board members on the line. Paul, are you there, Dr. Ziemer?

Member Ziemer: Yes, I'm here.

Mr. Katz: Yep, and thanks. And Gen Roessler?

Member Roessler: I'm here.

Mr. Katz: Super. Bill Field?

Member Field: Online.

Mr. Katz: Great, and Loretta Valerio?

Member Valerio: Yes, I'm here.

Mr. Katz: Super, okay. So we have our whole Board. David Richardson's not here at the table yet, but we have a quorum, and Jim Lockey is also not in his seat yet, but he's on his way. Good, and so now we have an SEC petition again.

This time Idaho National Lab, Petition No. 219 for the period of '63 to '70, and this is a petition that was taken up quite some time ago and has gone through a lot of deliberation by and work from NIOSH, SC&A and the Board. SC&A is reporting out now. Bob, welcome.

Idaho National Laboratory, SEC Petition No. 219

Mr. Barton: Thank you, Ted. Like I said, my name is Bob Barton. I'm with SC&A and we'll be talking about SEC-00219, which is for the chemical processing plant at Idaho National Lab, and specifically the verification and

validation study that was done.

So getting into a little bit of the background here, going way back to July of 2015, NIOSH had released Revision 1 of the SEC-00219 Evaluation Report, and actually they released a Revision 2 in February of 2017, but essentially the Class definition remained the same.

It was split into essentially two periods, you know, the period from January 1st, 1963 to February 28th, 1970, and then the period from March 1st, 1970 to December 31st, 1974.

So that Class definition specifically reads as "All employees of the Department of Energy, its predecessor agencies and their contractors and subcontractors who worked at the Idaho National Laboratory (INL) in Scoville, Idaho and who (a) were monitored for external radiation at the Idaho Chemical Processing Plant (CPP) (at least one film badge or TLD dosimeter from CPP), or between January 1, 1963 and February 28, 1970."

Well, I skipped a little bit there. So there's Part A is essentially you need to have CPP-specific dosimetry badge to be included as part of the Class, along with the requisite 250 days.

Part B, again that's for the second period, that's from March 1970, December 1974, all you need is an INL-specific dosimetry badge, which could be really from any location at INL. It could be from Test Area North, Central Facilities, etcetera.

In March of 2016, the Advisory Board recommended that the second part of that Class definition, which is from early 1970 through 1974 be accepted, and again that's the section of the Class definition that only requires an INL-specific dosimetry badge, not a Chemical Processing badge.

Concerns remained at that time about the requirement for the specific CPP badge, because that's obviously a higher bar to be set. Some preliminary investigations with NIOSH and SC&A, we determined that the temporary and visitor badges were not being appropriately included in the Energy Employees Dosimetry File. That is, when Department of Labor or NIOSH makes a request to DOE, you would get dosimetry results.

But if it was a temporary badge and specifically a temporary badge that had not registered a positive dose, those were not being correctly attributed to the claim, which is obviously problematic if your Class definition depends on that information.

So in response to that, INL and DOE began a very significant coding effort, because all of these temporary badges and visitor cards are still located in hard copy form at the site. So it was a question of properly coding and indexing them, so that now when requests were made for a given individual's dosimetry file, all of the correct temporary badges should be included.

Despite this, the INL Work Group still had some concerns remaining about the implementation and the effectiveness of such a massive coding effort, and really it stems from these visitor cards or temporary badges. They really represent the same thing.

They're handwritten on small index cards, you know, about the size or the area of a matchbook, and since they're handwritten, you have legibility issues. You could have some name misspellings or name variations.

Sometimes they would use nicknames as opposed to the full claimant's name, or sometimes they would actually use the middle name as if it was the first name, and any other types of human error that would be involved in taking a handwritten record and coding and indexing that so they can identify it at a later date.

Here's an example of one such card. This is actually the front and the back of the card. So on the left side is the front of the card and as you can see, it just says "Visitor Exchange." It has "CPP Area" stamped on it. All the other entries are obviously redacted, but you can tell that they are handwritten.

The back of the card actually contains the result. In this case it was zero. The date, presumably the date it was read, but it could also be the report date. We're not entirely certain on that, and then that last alphanumeric sequence at the bottom, we don't necessarily know what that means.

So the Work Group tasks SC&A with developing and then executing a verification and validation study, to sort of

test this coding and indexing effort, to see how effective it is. We delivered our proof of principle in September 2016, and it was first discussed in May of 2017.

At that time, the Work Group requested that we expand what was essentially a proof of principle to a larger section of the claimant population before we actually went and executed any of this proposal.

So we expanded it and presented that to the Work Group in August of 2017. The full proposal included a total of 228 potential candidates, and nearly 1,800 temporary badges. The Work Group because that's obviously a very onerous task, the Work Group elected to begin the process with 30 claims that we at SC&A had categorized as likely being the most beneficial to this study.

Essentially, they had a larger number of badges that we could check. We also wanted to look for diversity of employers, subcontractors and different job categories. So NIOSH began submitting the request to INL to have these updated dosimetry files sent in the fall of 2017, with a cover letter that basically said what we were doing here.

It said, "This case is part of a group of 30 cases that are being reviewed, in order to evaluate a concern raised by the Advisory Board on Radiation Worker Health. Although INL previously provided dosimetry responses for this EE, we are requesting that INL perform a new record search and provide a full radiological record for this EE in order to completely address the ABRWH's concern. It would be extremely helpful if the full dosimetry/radiological record were provided."

And the purpose of this cover letter, it turns out, was the staff in INL who was doing the research was commonly making the mistake of they saw that research had already done for the claim, but were sending the old file, which didn't include all these temporary badges which had been recently coded.

But based on the first few claimant dosimetry records we got back from the site, it was pretty evident that there was a problem with the whole process, and it was not being correctly implemented. So DOE/INL was notified of the issue and a second round of requests were made last spring. In July of last year, we provided a status

evaluation. We had 18 of the 30 claimants with updated dosimetry records.

So rather than wait for the full set of 30, we decided to go ahead and look at those 18 as sort of an interim analysis. It was evident that two of those 18 claims that we were able to evaluate, that the system really was still not functioning properly.

One case had been missing all 31 of the visitor badges that SC&A had identified, and the other case only had 6 of 49 of the temporary badges we identified correctly included in their file, which is about 12 percent.

So NIOSH resubmitted a request for a third time for these two claims, along with requests for the remaining 12 that we had not yet received records for, and we got all of those for all 30 claims as part of the V&V proposal by mid-October, and that's of last year.

So here are the overall results. In total, we looked at 671 total visitor badges that covered those 30 claims who were in the first part of the V&V study, and 634 of those 671 had been correctly included in the updated dosimetry files, which is between 94 and 95 percent.

Half the claims, so 15, had 100 percent of the visitor badges that SC&A had identified correctly included in their updated dosimetry records.

In an update on those two cases that I had mentioned from last July that were clearly problematic, the one case that had none of the badges included improved from none of the 31 to 30 of the 31, which is roughly 97 percent, and the other case improved from 12 percent inclusion to 96 percent inclusion.

Another thing we did besides just checking badges based on the name and the employer, where you want to have an exact name match and an exact employer match, we were noticing some name variations, and that was one of the concerns as I mentioned that the Work Group had, when you have a handwritten record and someone's writing down a name. Did they spell it correctly? Are there variations?

So among that group of 30 claimants, we actually had 51 additional badges in which we had seen what we felt were

name variations, where it seemed potentially or likely that that was the actual claimant, but with a name variation; would those still be included correctly in the file?

And only 15 of those variations, 15 of the 51 that SC&A had defined were actually included in the updated files, which is a little under 30 percent. However, we also took the view from the other side and said okay, we identified some name variations. Some of them weren't included, but what about other name variations that are in there that we hadn't identified, that DOE when they did their research and sent the record, they identified and included? In other words, how much leeway do we have when they go to select which records are actually attributable to the claims?

We found that additional name variations in 22 of the 30 V&V claims that again, SC&A had not identified but DOE had, and so that was 66 variations in total. One interesting thing in this last bullet on this slide is that sometimes the name variation, you have the same name variation for multiple badges.

For example, if you had John Doe and one of the -- two of the John Doe badges didn't have H in the first name. One time it might be included and another time it wouldn't be included so it wasn't necessarily consistent. So even when you had the same name variation, it wasn't always either included or not included. There's a mix in there.

So I guess in summary, for the V&V analysis, again for the 671 badges that we had identified exactly by name and employer, we had -- they were correctly included in the file 94.5 percent of the time. The average if you look at just the claims, so the average among the 30 claims, the number's almost identical at about 94.3 percent are correctly included.

And again as I said, half the claims had 100 percent inclusion of their identified temporary badges. The two cases with significant issues identified in July improved from 12 percent to 96 percent, and zero percent to 97 percent.

And again, the name variations identified by SC&A showed that about 29 percent of those variations were included. But we also identified 66 additional name

variations that we hadn't identified, and some of these were likely not identified because they weren't actually on CPP badges. But they were still included in the file. So we wanted to note that there is sort of some expansion when they go search for these records, to include some of name variations.

And this final bullet, all 30 cases had at least one CPP badge during the period of interest, again talking about 1963 through the early part of February 1970, which is the criteria for inclusion.

The workgroup met this past March, March 25th. If you were paying attention to Santa Susana, it was also the date of that workgroup meeting, so it was a pretty busy day for me. Part of that discussion, you know, was what happened here? We had to have these multiple submissions to really get to these numbers in the high 90s.

What NIOSH had determined is that early issues with the implementation were really related to staffing turnover that was going on at the time. They were understaffed and also some key pieces that are part of that team that researches claims were moving on to different jobs. So they determined that it wasn't really a systemic problem, but really an issue of staffing.

And they also mentioned or discussed that when we're talking about the chance of missing a monitored worker who also spent 250 days of covered employment inside the facility is very unlikely. The workgroup generally agreed with that.

So the workgroup recommended that the Advisory Board accept Part A of NIOSH's proposed Class definition, and that's again, that's for workers who are monitored for external radiation at the Idaho Chemical Processing Plant. At least one film badge or TLD dosimeter from CPP between January 1st, 1963 and February 28th, 1970 and obviously as I mentioned, Part B of that definition has already been accepted. Are there any questions?

Mr. Katz: Board Members in the room, questions?

Member Ziemer: Bob, this is Paul. I have a question. So it took a lot of persistence and multiple requests to get up to the 95 percent or whatever it ended up being at the

right end of things. But you're now pretty confident that in this, I'll start with the Department of Labor, wanted in the requesting part, we're pretty confident that we're going to achieve those kind of results now on regular, single requests?

Mr. Barton: I can really only comment on the tests that we've put it to. So these 30 claims, I guess as far as the nuances of what the site is doing now as far as record requests and how they've sort of filled in what was clearly a deficiency in the implementation of it, and over to you Tim. I think you probably have more information on it.

Dr. Taulbee: This is Tim Taulbee.

Mr. Katz: Is that mic live?

Dr. Taulbee: Is it live?

Mr. Katz: Okay.

Dr. Taulbee: Dr. Ziemer, what ended up happening with those two particular cases was during a staffing, we kind of changeover of more inexperienced staff. They relied on what they had submitted before instead of going back to our original request of develop the full record again, which is what we had requested.

And what they weren't quite aware of is that in doing so, those temporary badges would be picked up. So by kind of repeating what they had done before for us, that was why those were missed. At least that's what we can discern from that particular exercise. But then when we re-requested it, that's when we got the 96 and 97 percent.

Member Ziemer: Right. I understand that. I'm just going forward in the future, part of this then is the training of the people who have to provide the records? Is that, is that part of the issue, or is it a manpower issue?

Dr. Taulbee: It's actually, and I guess in my sense neither from that standpoint. The training is certainly, you know, always an issue whenever you have new staff. But in this particular case, this was add-on to their existing system. So this was a case of them not going back to that original system and pulling the index.

Member Ziemer: Got you, okay. I just wanted to assure myself that there's confidence now that we'll capture all these records in the future, and I think you're saying yes. We have a pretty high level of confidence that this is a thing of the past now?

Dr. Taulbee: Yes sir, and one of the other things that I wanted to point out, and I believe Ms. Beach brought this up during the workgroup meeting, was you know, is it possible that we could miss, you know, some again from this particular standpoint?

What I want to kind of walk through a little bit here is the actual process. When a claimant files a claim with the Department of Labor, they're going to request from the Department of Energy, did this person work at CPP?

If they go through this records review and say they missed the CPP badge from that standpoint, the next step for that claim is to be forwarded to NIOSH, where we get the full workup again. So there is actually a built-in second check here from that standpoint.

Member Ziemer: Yeah, I got that.

Mr. Katz: Thank you, Tim.

Member Ziemer: Thank you.

Mr. Katz: Josie, did you have a -- or I couldn't tell. Or David or anyone.

Member Beach: I was going to ask about those checks and balances, and Tim beat me to it. So thank you, Tim.

Mr. Katz: Thanks. David, did you have a question?

Member Richardson: Yeah. I guess I'm thinking about different parts of this, because you described, I've made like a 2 by 2 table, where SC&A and the lab's response both agreed. You said there were 634 of those. SC&A said there were 671 total, so that meant that there were 37 records where the site didn't identify those but SC&A had.

And then there were 66 records where the site said that it was a name match, and SC&A said it didn't. So I mean, one way is to talk about, you know, run across either the row or the column and say well, in total 94 percent of 671

are identified. But like the -- where you both agreed that a record occurred was 634, and there were 103 where at least one of you disagreed.

Mr. Barton: Almost. There's sort of two different tests this was put on. There was the group of the 671 where it was an exact name match and exact match to the employer of the claimant. We were fairly certain that that badge represented that claimant. As a secondary analysis, we also identified additional badges that had name variations on them, and that's where that 66 number comes in. So it's two, two separate analyses.

Member Richardson: But the 37 of the 671 were not returned to you? They returned 634 of the 671?

Mr. Barton: That's correct.

Member Richardson: So if we're going to take yours as the gold standard and there's agreement on 634 of those, they omitted 37 and they returned another 66. I mean, I'm just trying to get the number. It's basically one-sixth of them are not agreed upon by both.

Mr. Barton: I don't think it's appropriate to mix the name variation study with the 671.

Member Richardson: Well, but that's -- you posed a question. These are the workers; return to me their work history, and that is the information which would be returned. That's what the idea of the exercise was, right?

Mr. Barton: Right.

Member Richardson: So we believe that 66 of those were -- let's say at least you were not taking a strict kind of gold standard of the truth on those?

Mr. Barton: I think the number you really want to look at is at 94.5 percent, because those are the ones where we're certain that that's the claimant, and they did not return five-and-a-half percent that we had identified.

Member Richardson: So that would be the sensitivity, and my question is about the specificity. That's another part of the -- of characterizing the accuracy of the test. I mean I just -- and I'm just working my head through.

Mr. Barton: Sure.

Member Richardson: Oh, and another question. Is this -- there's been a huge effort to computerize this information, and we've been focusing on information about area or location of the worker, which will be derived from this information. Does this change the dosimetry information for the site? Were these doses included previously for workers? Are there recorded doses? Have they been computerized, and how is that getting integrated?

Mr. Katz: Tim?

Dr. Taulbee: Sure, I can answer. I'll answer that one. All of these temporary badges that got added under this coding effort were all zero doses from that standpoint, zero external doses. All of them that had positive doses had previously been coded, and we had always been getting those. It was this group of zero doses that the site didn't initially code.

Mr. Barton: So you could essentially be talking about missed dose wasn't being included?

Mr. Katz: Other Board Member questions? Yeah, someone's typing on the phone. Someone is typing on the phone. If you would mute your phone, star six, then that wouldn't interfere with everyone else's hearing please. And you're still typing unmuted. Again, mute button, star six to mute your phone. Thanks. They stopped typing, okay.

So if there are no other questions, the workgroup has a motion, which doesn't need a second because it's coming from the workgroup, to add this Class to the SEC as recommended by NIOSH. So is there further discussion about that motion before we take a vote?

Member Lockey: Mr. Chairman, I mean Ted, one question. Is it 220? Are you talking about 220 people? Is that what it is?

Mr. Barton: When we expanded the proposal, what we basically found is we could identify 228 people from among the 28 or from among the temporary badges. We selected 30 of those 228 as what SC&A felt were going to be most beneficial as far as the number of badges to

check. So a higher number of badges and also a diversity of employer and job category.

Member Lockey: Okay.

(Off-microphone comments.)

Mr. Katz: Yeah, absolutely, Josie.

Member Beach: So just a quick question I think maybe for Tim. Saying this goes through today and we pass this, and we find later that individuals are not -- they said I worked there, but their TLD didn't get found in the system. What kind of -- what would the process be at that point for that individual? Because it would be one or two people, I would say.

Dr. Taulbee: Well first, we would look at their dosimetry in total.

Member Beach: So but how would they let somebody know? How would we know that there was an issue, because I mean 96, 97 percent is great, but that still leaves those, that four percent. So how would that person be recognized is what I'm looking for?

Dr. Taulbee: Since we would need for that person to identify. So I guess during the CATI for one. But if it's a survivor, there's no way for them to let us know from that standpoint. We do hve all of these records in the SRDB, and so, by the way, they're organized, if they can narrow down a time period we can go through manually and look at every single one and see is there just like name mismatch or something along those lines during the dose reconstruction process to verify.

So if they put into their CATI that they worked at CPP, we could go to those CPP temporary badges and then go through and look for them, to see if there is one of these name variations or something that did end up getting missed. But that would be the way I can see that happening.

Mr. Katz: And just to clarify, the four percent is four percent of the badges, but not four percent of the individuals. None of the individuals were missed by this process.

Dr. Taulbee: Right. If I can expand upon that, keep in mind that we have printed copies for all of the routine workers that are there, so there isn't any of this handwriting potential issue. These badges apply to the temporary workers. These are the people who didn't routinely work at CPP.

So these are your visitors that come in, and that's this group that we're getting 95 percent of the badge readings correct on with the visitors. The others, like I said, they're printed, hard copy printouts from a computer file, and those are very easy to read and very easy to identify.

And again, the Class definition only requires one badge over this whole time period. Most of these badges are for a few days, a week, up to about a month is the maximum. So to get to 250 days in CPP, which we're not requiring. We're requiring 250 days onsite as a visitor, but the likelihood of us missing 12 at CPP for one person is very unlikely.

Mr. Katz: Any other discussion of the motion?

(No response.)

Mr. Katz: Okay, then. I'm going to roll call vote. So the motion is to add the Class per the NIOSH definition. Anderson?

Member Anderson: Yes.

Mr. Katz: Beach?

Member Beach: Yes.

Mr. Katz: Mr. Clawson's recused. Field?

Member Field: Yes.

Mr. Katz: Kotelchuck?

Member Kotelchuck: Yes.

Mr. Katz: Lockey?

Member Lockey: Yes.

Mr. Katz: Richardson?

Member Richardson: Yes.

Mr. Katz: Roessler?

Member Roessler: Yes.

Mr. Katz: Schofield?

Member Schofield: Yes.

Mr. Katz: Valerio?

Member Valerio: Yes.

Mr. Katz: And Ziemer?

Member Ziemer: Yes.

Mr. Katz: It's unanimous, with one recusal. The motion passes and thank you very much. The Class is added, and this will make a real difference for quite a number of folks at INL. Thank you.

The next session is the SEC Update, and I think we can just roll right into it.

(Off-microphone comments.)

Mr. Katz: Welcome back, Brad. Yes, I see you've come back. We missed you.

(Off-microphone comments.)

Mr. Katz: Are you ready LaVon?

Mr. Rutherford: I am ready. I'm just not working --

Mr. Katz: Grady's still not ready.

Mr. Rutherford: He isn't quite ready yet. See, Zaida and I are both playing with this at the same time.

(Laughter.)

(Pause.)

Mr. Katz: Do you want me to go to some other business while you're -- does this look like it's a long road? Okay. Let's take care of some other business while we're awaiting. So, because the next session after this, I mean,

LaVon's presentation is useful for part of what we had to deal with.

Oh, wait. Are we there? Yeah, there it is. Okay, good. Sorry. Back to LaVon.

SEC Petitions Status Update

Mr. Rutherford: All right. I'm LaVon Rutherford. I'm going to give the SEC update for NIOSH.

Mr. Katz: Does Zaida need to give you control?

Mr. Rutherford: Yeah, I think so.

Mr. Katz: Someone just ask Zaida to pass the baton.

Mr. Rutherford: This is the hardest I've ever had to do my presentation.

(Off-microphone comments.)

Mr. Rutherford: Okay. We routinely do this presentation at every Advisory Board meeting. It helps the Advisory Board prepare for future Work Group meetings and Board meetings. We're going to talk about petitions and evaluation, area qualification under evaluation, currently under Board review, and potential 83.14s.

Next slide, please. To date, we've had 251 petitions. As you can see it, we have no petitions in the qualification process at this time, and we have two petitions under evaluation and 149 complete and 10 petitions with the Advisory Board.

Next slide. Okay. One petition under evaluation is Lawrence Livermore. This is actually a continuation of an existing SEC. We reserved the period 1990 to 2014. We have been doing data captures and reviewing data. We anticipate completing this addendum later this year, in November.

Thank you. Y-12 Plant. This is a new petition, 1977 to 1994. This actually qualified based on the basis where we added the Class up through '76. We just recently got this petition and we qualified it -- actually, we provided the basis to the petitioner to qualify this petition.

We've been working on this evaluation. We anticipate

completing this in July of this year and presenting it in August, at the August Board meeting.

Next slide, please. Okay. Petitions under Advisory Board review. These are Hanford. This is SEC-56. We are still reviewing documentation to determine whether prime contractor's radiological control program were meeting bioassay commitments. We've been doing a lot of activities with Hanford recently. The Work Groups met. We've gone through the issues matrix, identified -- we've narrowed that down. We've been doing data captures and we're putting forth a lot of effort to get this one moving.

Savannah River Site. We've been putting out some documents, coworker documents, and other White Papers. I think there's going to be a lot of activity on this as well this year.

Los Alamos National Lab. We recently issued a White Paper on NC ID 484 and our assessment. We are also working on our path forward, mixed fission activation products and exotics, and we'll be prepared for a future Work Group meeting.

Next slide. Sandia National Lab. We just heard that presentation.

Idaho National Lab, we just heard that presentation as well.

Argonne National Lab West, we are working to resolve issues raised by SC&A and the Work Group.

And Area IV Santa Susana, we just heard that recently today.

Next slide. Metals & Controls. A lot of activity going on here as well. We've been working on papers on petitioners' issues, thorium, a thorium paper, welding and thorium welding paper, and those reports are coming out very soon. We're also going to work on, once we've met with the Work Group and kind of get agreement on a path forward, we are revising our Evaluation Report as well.

DeSoto Avenue Facility. We're working to resolve issues raised by SC&A and the Work Group.

And Superior Steel we will be discussing a little later.

Okay, next slide. Now, this actually used to be in a big table format and it made it easier for our 508 compliance to kind of change that. This actually is the sites and the years. These are sites that have had some kind of Board action, but have action time period remaining to close out a petition.

For example, Hanford. We've had a number of Classes added at Hanford, but we still have this question of '84 to '90 for the primes. Savannah River Site, 1973 to 2007. Los Alamos National Lab. Again, we've added up through 1995 and we've got to address the '96 through 2005. Sandia National Lab, again, we discussed earlier '97 to 2011. INL, this will change a little bit after our recent -- just this past discussion.

Next slide, please. Lawrence Livermore National Lab. Again, this is the remaining period on that evaluation, 1990 to 2014.

Argonne National Lab West. There actually has been no real action on here, but this is the entire time period, 1958 to 1979.

Area IV Santa Susana is the '91 to '93.

Metals & Controls, this is the residual period. The operational period was already added.

And DeSoto Avenue Facility of 1965 to 1995.

Okay, next slide. All right. We are working on an 83.14. We do plan to present this one at the August meeting. This is for the West Valley Demonstration Project. We're looking at the AWE period of 1966 to 1973. We have a residual period that follows that 1973 period.

We do have questions that we have sent -- prepared a letter to send to the Department of Energy concerning whether some of the operational years should be included -- or some of the residual years should be included in the operational years.

If we move forward with this one, complete it, and ultimately at some point the Department of Energy comes back and adds years, we'll just do another 83.14 and add those years. And that's it. That's all I've got. Questions?

Mr. Katz: Thank you, LaVon. Josie.

Member Beach: Thanks, LaVon. Did you mention Argonne East? I see West mentioned twice, but --

Mr. Rutherford: We don't have an active petition for Argonne East.

Member Beach: So we're just looking at --

Mr. Katz: Yeah, Site Profile work.

Member Beach: Oh, okay, thank you.

Mr. Rutherford: Yeah, correct. Ultimately, if the Site Profile during that review identifies something, we'll move forward.

Mr. Katz: Yeah. Other questions for -- he's running away, but do you have any other questions for LaVon before -- from any of the Board Members on the line?

(No response.)

Mr. Katz: Okay, then, thank you very much. Okay. We have quite a bit of time, and I would suggest we just plow right into the work session and take a longer break with whatever time we have left over, unless anyone needs a comfort break now.

Someone does? Okay. So let's take a comfort break, sorry. So why don't we just go ahead and do that right now, and if we can get back here in ten minutes, and then you get another break after the work session. Thanks. So, ten minutes.

(Whereupon, the above-entitled matter went off the record at 2:43 p.m. and resumed at 2:56 p.m.)

Board Work Session

Mr. Katz: Okay, welcome back. Short break, and we're moving right into the Board's work session.

Okay. So, first things first. We have scheduling, scheduling issues. We have both -- we need a location for August, and then we need to set dates for a year out for teleconference and Board meeting. So let's talk about locations first. Hold on one second.

(Pause.)

Mr. Katz: Yeah, that's what I have in mind actually.

Member Beach: Where?

Mr. Katz: So it hasn't been set yet, Josie. Hold on one sec.

(Off-microphone comments.)

Mr. Katz: I need to bring up my notes. Okay.

So, again, this is a Board work session, and folks that are on the line, please mute your phones, by the way, because that will be better for you too. Press *6 to mute your phone if you don't have a mute button on your phone. *6. That will mute your phone for this conference line.

Okay. Locations. So, I went through a number of things as to possibilities. LaVon mentioned a couple of that would make sense in the way we think about these things. So he mentioned that Y-12 is going to be ready for consideration by the Board in August. That's an 83.13.

So that's Oak Ridge, and that makes a certain amount of sense then to go there and be able to hear from folks associated with that petition, who would be affected by that petition. There's also an 83.14 that he mentioned for West Valley. So, that's the Buffalo area. We haven't been up there in a while.

I mean, I guess, between the two, my only thought about that is, between the 83.13 and .14, it makes a little more sense to be somewhere for 83.13, maybe, in terms of being able to get information from people related to the petition, since there's a petitioner involved.

Okay. So, beyond those, the ones I looked at and didn't think they were ready for prime time, INL we just addressed adding the Class. That was sort of a major thing in our lap. There's other work to do, by all means, and there's been some more work, for example, related to the Burial Grounds that's been considered by the Work Group. But there's nothing that seems ripe for getting public input or what have you related to INL for the summer, even though it's a great place to go in the summer.

Okay. Hanford. Hanford there are a number of significant issues, but they don't seem to be ripe for August, from what I've heard from the staff at least. And, Joe, if you have any different thoughts about that, Joe's sort of the SC&A -- yeah, he's shaking his head, so he's in agreement about that.

LANL. I thought about LANL. The issue there is that we haven't yet had, and couldn't, because we're not ready to have the Work Group meeting to deal with a major -- well, there's two things. There's a report that's being reviewed by SC&A. The major thing is this air monitoring data that is thought of as a path forward for that. And there's a plan getting developed for that that should be delivered shortly. It hasn't been delivered yet, though, so we haven't had the Work Group meeting yet. And then once it's delivered and we have a plan forward, then there's the time it requires to actually execute that plan.

(Off-microphone comment.)

Mr. Katz: Are you trying -- it doesn't sound on.

Mr. Rutherford: Hello?

Mr. Katz: There you are.

Mr. Rutherford: Okay. Yeah, and I will say we are initiating some data capture efforts right now. And Los Alamos has indicated that they will give us a date on May 3rd when they will have those data captures ready for us to go review data, and I will make the Work Group aware of that. So I don't anticipate August being good either.

Mr. Katz: Okay, okay. That's what we wanted to ascertain. Thank you, LaVon.

(Off-microphone comment.)

Mr. Katz: Okay. But at least we'll have -- we'll see progress there. Savannah River Site's another one I thought about. Not so much to collect information; we've been there many times back in the past for that, because now, at this point, what we're trying to wrap up is the analyses related to making decisions on Savannah River Site.

And the issue there is that SC&A is working on reviewing

material as rapidly as they can as it's coming out from NIOSH, and they are looking at the coworker models already. And there's another document that's important related to this, another issue related to the data underlying coworker models that's coming out from -- it hasn't come out yet from NIOSH, though.

And while NIOSH would like to address SC&A's review as quickly as they can, when they can't it's sort of hard to predict the steps forward in terms of how quickly that will happen. The timing is like --

(Telephonic interruption.)

Mr. Katz: Hello. Someone's not on mute that should be. But, anyway, the bottom line is that it would be cutting it right on the edge there, and we'd rather not do that. That doesn't make much sense. So, and Augusta in the summer is warm. Living in Atlanta, I could tell you that much. Okay.

So, those are the sites that I've given thought to. If Board Members have other thoughts about other sites, I guess that's what I want to hear from first, and otherwise let's talk about the two that I think make the most sense.

Okay. So, again, we have Y-12. That's an 83.13. and we have 83.14 for West Valley. That's Buffalo area. So what are your thoughts about between the two?

Member Beach: I think Oak Ridge myself, the 83.13.

Member Clawson: Oak Ridge.

Member Schofield: Have we been to Buffalo?

Mr. Katz: We have. I mean, not recently. We had a lot of AWE work in Buffalo some years ago. So we've been up there quite a bit, but we haven't been there in a while. But it's an 83.14, so the presumption is that we're adding it.

So I'm hearing nods in the room. And how about on the line, Paul and Gen and Bill and Loretta?

Member Ziemer: This is Paul. My preference would be Oak Ridge.

Member Field: Oak Ridge sounds good.

Member Roessler: This is Gen. I say Oak Ridge.

Mr. Katz: Okay.

Member Valerio: This is Loretta. I say Oak Ridge as well.

Mr. Katz: Okay, okay. Oak Ridge it is. Okay, Oak Ridge in August, and the dates right now are the 21st and 22nd. And my guess right now is that it will probably be a little more than a day.

I'll just remind you about a couple of things. One, we need every year our ethics training, so that will be when we will get that done. And then we also have, as I mentioned earlier, the rulemaking related to the shift of ICD codes.

So we'll need to take that up, even though I don't expect that to be a very difficult session, because, -- as presented, it's largely a technical issue. But just the same, we need to have a session on that. Yes?

Member Kotelchuck: But I hope to have a draft of the Secretary's Report.

Mr. Katz: Right, and that's the other thing, is that Dr. Kotelchuck has been working on the Secretary's Report, another interim report on dose reconstruction reviews, and that should be -- we will have a Dose Reconstruction Subcommittee meeting before August in May.

Member Kotelchuck: May 23rd.

Mr. Katz: May 23rd. So we hope if that goes well that we'll have a draft report ready for the Board. So, yeah, it's sounding like more of a day and a half meeting, and we'll also expect to have Santa Susana SEC again. Then we may also have DeSoto ready then. So there are a number of sessions ready.

Okay. So, that's it. And then scheduling dates. So, teleconference. We're looking for the next teleconference, which is as yet unscheduled. That's February of next year. So, February, the week of February 17th is what we will be looking at.

Member Ziemer: February 17th.

Mr. Katz: Folks on the line, there's some people talking who should be muted. Please mute your phone. Press *6 to mute your phone if you don't have a mute button.

Member Beach: So, February 18th? Is that what you're suggesting, Tuesday?

Mr. Katz: So any Wednesday, Tuesday. Wednesday, all good, whatever your preference is.

Member Beach: Either.

Mr. Katz: So the 18th Josie just suggested, is the 18th good for -- is the 18th bad for anybody?

Member Kotelchuck: That's a Tuesday, right?

Mr. Katz: That's a Tuesday. Does that work?

Member Kotelchuck: Yeah.

Member Beach: Maybe we should do Wednesday. He has a hard time on Tuesdays.

Mr. Katz: Okay. We don't want Brad to have a hard time. We'd like to have Brad to have a hard time, but not this kind of hard time. Okay. So the Wednesday, that's the 18th.

Member Beach: The 19th.

Mr. Katz: Oh, 19th? Sorry.

Member Beach: Yeah.

Mr. Katz: Exactly.

Participant: That's a conference call, right?

Mr. Katz: February 19th teleconference, 11 o'clock. Okay. And then for the face-to-face meeting, the approximate date is around the week of April 20th. So I think the 20th's probably a Monday. So we usually shoot for -- so the 22nd to 23rd. How's that for people, April 22-23?

Member Kotelchuck: Okay. Yeah, 22-23. No, I was thinking about tying it up with the weekend, but we don't usually do that. 22-23 sounds good.

Mr. Katz: And folks on the phone, does that sound all right, April 22-23?

Member Ziemer: Just before we decide, do we know when Easter and Passover are next year?

Member Beach: I just checked. I was just looking. Palm Sunday is on the 5th so --

Mr. Katz: Easter's the 12th.

Member Kotelchuck: Right, and make sure we don't do Passover.

Member Beach: So that would be clear.

Mr. Hinnefeld: Ted, this really doesn't affect me, but by our calendar there's a NIOSH lead team meeting that week.

Mr. Katz: Oh, that's all right.

Mr. Hinnefeld: All right, that's okay?

Mr. Katz: I don't mind.

(Laughter.)

(Off-microphone comments.)

Mr. Katz: Are you saying the 15th and 16th would be better? Is that what you're saying? Well but I can just raise it. Let's see. What about the April 15th-16th? How does that look on people's schedules?

Member Kotelchuck: Tax day.

Participant: Yeah, that's not good.

Mr. Katz: Don't pay your taxes.

(Laughter.)

(Off-microphone comments.)

Mr. Katz: Okay. So maybe that's not so good.

Member Kotelchuck: It's not a good time.

Mr. Katz: All right. Going, going, gone. April 22nd-23rd.

Okay, thank you for all that.

Okay. So let's go to Work Group reports, and then I'll do wrap with the public comments after that. So I think I will officially get through some of these without help, because I know nothing is reportable yet.

So, Ames, nothing reportable.

Argonne East, nothing reportable yet. Blockson, nothing reportable yet.

And, by all means, contradict me if I'm mistaken. But, Brookhaven National Lab, nothing's reportable yet.

Carborundum. The Work Group wrapped up with the Board. There is some work ongoing there. I can just save Dr. Roessler the trouble of -- there is some work undergone. SC&A's looking at, if you recall, there's some modeling getting done, very technical work. And SC&A, Bob Anigstein's looking at that now and should be reporting out by the end of the month. So we'll be having a Work Group meeting some point after that, and hopefully we'll wrap up the Site Profile work on Carborundum.

Okay. Dose Reconstruction Review Methods.

Member Kotelchuck: Nothing.

Mr. Katz: Nothing there, right.

Member Kotelchuck: Nothing planned.

Member Beach: Ted, did you say Brookhaven or did we just skim by?

Mr. Katz: I said there was nothing to report yet but is --

Member Beach: There's supposed to be a TBD review out on 6/26/19.

Mr. Katz: Right.

Member Beach: So I guess that's the only thing, keeping that all plugged in there.

Mr. Katz: Thanks. Okay. We've retired several Work Groups. We've finally retired formally Fernald, and Grand

Junction was already retired.

Hanford, there's some work ongoing. Brad.

Member Clawson: Yeah. Actually, they're doing some data capture this week, and I believe next week, and they're supposed to be getting us a report out fairly soon.

Mr. Katz: Okay. And I think there's a lot of interest in trying to move forward on Hanford.

I know we've talked about briefly, but is there anything more anyone wants to mention, Phil, on INL than this?

Member Schofield: Not at this point, no.

Mr. Katz: Okay. Lawrence Berkeley. Paul?

Member Ziemer: Let's see. Am I on hold?

Mr. Katz: No, you're open. I hear you.

Member Ziemer: I'll just report that the Work Group had a teleconference earlier this month on April 5th. We are working through a number of issues from the SC&A review of the Site Profile. We made pretty good progress, but there's still a number of open issues we'll be dealing with as we move forward.

I'm not going to go into any detail now. Perhaps at the Oak Ridge meeting we'll have some additional detail. I don't think we'll give a full report until we've gotten all the issues closed. But we made pretty good headway earlier this month.

Mr. Katz: Thank you, Paul.

And LANL we've talked about.

Metals & Controls. Josie, is there more you want to add about that? There was a little from LaVon on that.

Member Beach: We've got the write-up, the questions that you submitted. So, we got that at the end of March, and we are expecting the thorium and welding White Paper at the end of this month, actually on the 25th. The response to the petitioners isn't expected until June. And then I think the dates may be incorrect. They say the final ER draft is expected in May, but I really don't think we'll

see that until after the Work Group finishes up. So, is that correct?

Mr. Katz: Here comes LaVon.

Mr. Rutherford: The June date's incorrect. That paper's much farther along than that. But you are correct. The Evaluation Report would come out after those papers.

Member Beach: Okay, yeah, because your website's --

Mr. Katz: So you're saying May, a May ballpark?

Mr. Rutherford: Yeah, I will -- as soon as I get an updated date, I will pass that on to you, Josie.

Member Beach: Okay, thanks.

Mr. Katz: Okay, and then we'll be having a Work Group meeting. Okay. So that means also very likely we'll have Metals & Controls on the agenda for -- well, I can't presuppose what's going to be in the reports, but it's a good chance we could have Metals & Controls on the agenda for August. It will be a busy August maybe.

Member Beach: Yeah.

Mr. Katz: Mound.

Member Beach: Mound, we're just still waiting for that external TBD, and the new date is 4/4 but we're past that. So there's no update on that date at this time.

Mr. Katz: Okay, and Nevada?

Member Beach: None forthcoming it sounds, it looks like.

Mr. Katz: Nevada Test Site.

Member Clawson: We're still waiting.

Mr. Katz: We're still waiting for a little bit to get wrapped up between -- who's the lead for NTS? Mark. But what did the Board coordination report say about NTS in terms of --

(Off-microphone comments.)

Mr. Katz: Yeah. SC&A did a review and we're waiting on

one piece of that, at least, to be responded to.

Mr. Rutherford: Yeah. Currently, we're still working on that response. I don't have a date right now on that.

Mr. Katz: Okay, all right.

ORNL, X-10. Gen?

Member Roessler: I've heard nothing new on that. Maybe if Lara's on the phone she can respond.

Mr. Katz: Lara is right here in the room. Thanks, Gen.

Dr. Hughes: Yeah. That's correct. We don't have any update right now. We're still working on the responses to SC&A comments on Report-90. This will take a few months to develop, because they were rather extensive.

Mr. Katz: Okay, good. Okay, and then we have a number of retired sites, and we are on to -- well, Portsmouth, Paducah, K-25, we're still awaiting some piece there.

Rocky Flats.

Member Kotelchuck: LaVon informs me that the folks at Rocky -- the folks at NIOSH are going to be looking at the last four boxes of data at LANL about Rocky Flats, which is very good. And remember we had that earlier discussions where there were a number of things that hadn't been looked into.

I'm happy to say that, after we made the decision, NIOSH followed through and looked at the boxes and has gone through nearly all of them. One more trip, I hope, and that will be done.

Mr. Katz: That's super. Thank you. Okay. Sandia we've been on that.

Santa Susana, we've done that. Savannah River Site, I chatted about that. Is there -- there's nothing much more to say. There's been -- there's a lot of work that's coming to fruition, so there will be Work Group activity and so on. Probably Work Group at least. There will be Work Group activity very likely before the Board meeting. But, if not, closely after the next Board meeting, which is great to see that coming forward.

Science Issues. Oh, this is our time now. So, just to remind everyone from the last Board meeting, we had a discussion about DDREF, and a presentation by Stu -- or a discussion by the Board Members. And after that, as we discussed at the Board meeting, Dr. Richardson, who leads the Science Issues Work Group, distributed a memorandum with findings. And, David, you could take over from here.

Member Richardson: Thank you. Yeah, just to very briefly go through the chronology, the Oak Ridge Center for Risk Analysis developed a fairly lengthy report on the topic of dose and dose rate effectiveness factors in support of calculations of Probability of Causation for this program. And so that came out in 2017. We've had discussions of those drafts, as well as presentations of the content, an earlier discussion of it.

And surprisingly for such a technical issue, the topic has generated a lot of attention recently in the peer-reviewed scientific literature. And what we've ended up with is a draft memo that was circulated to the Working Group, and I believe is --

Mr. Katz: The whole Board.

Member Richardson: The whole Board. Would you like me to read that in, the text of that?

Mr. Katz: Yeah, if you would. And just to note that all of the Board Members responded individually on this. There wasn't discussion, of course, the discussion happened at the Board meeting. But just to indicate their support for what's in this memorandum and summary of findings.

Member Richardson: Okay. So I'll read the text. "The Advisory Board on Radiation and Worker Health is submitting comments pertaining to use of the Dose and Dose Rate Effectiveness Factor, DDREF, to support calculations for determining Probability of Causation (PoC) under the EEOICPA.

"Board Members bring a range of experiences and expertise to this task, and we were able as a Board to assess the approach used by NIOSH and described in detail in Coker 2018 and the report by Oak Ridge Center for Risk Analysis." What follows are eight points.

"Use of the DDREF is currently implemented in NIOSH's approach to determining Probability of Causation and is represented by a distribution of values. The report prepared by the Oak Ridge Center for Risk Analysis proposes a similar but somewhat shifted distribution of values. That report concludes that the available evidence is uncertain with regards to DDREF.

"This distribution in the report by the Oak Ridge Center for Risk Analysis has been discussed in the literature, and other distributions have been discussed in recent literature associated with work by the International Commission on Radiation Protection.

"We agree that the literature on low dose protracted radiation-associated cancer risks are evolving and encompass a range of estimates. The report by the Oak Ridge Center for Risk Analysis proposes a distribution with a mean and median that are closer to one than the current distribution used in the program.

"The literature suggests uncertainty between lines of evidence, and may suggest a model for uncertainty that reflects a mixture of distributions. NIOSH aims to use the best available science and methods to address determination of PoC.

"The Board notes a difference between compensation and protection decisions and radiobiological research. NIOSH has recommended postponing implementation of a revised DDREF distribution to allow for additional information based on ongoing studies, and to allow for a concurrent update of IREP risk models and assumptions.

"The Board agrees with NIOSH's recommendation and suggests that this issue should be monitored for future consideration. The ABRWH appreciated the opportunity to comment on the report and its proposed revision of DDREF as used in determining PoC. Sincerely."

Mr. Katz: Thank you. Thank you. So, that's entered into the record. And I don't think it requires any more discussion, unless any Board Members want to say anything more. But everyone concurred with that memo.

Member Kotelchuck: Right.

Mr. Katz: Okay, then. Thank you very much, Dr.

Richardson, for that.

Member Richardson: Just for the record, one comment I received was to add an additional citation to the draft of the memo, that Paul Ziemer suggested, and I've added that, and I'll circulate that with the updated reference list to you.

Mr. Katz: Thank you. Yeah, which thankfully you didn't go through the reference list, but that will be included in the record, too, so that's that -- and I think we'll just take this memo also and put it on the NIOSH website separately, so that you don't have to go to the transcript to find out what was said. So we'll get this up on the website shortly.

Okay, then. Let's see where we are now.

Okay. Andy is the Chair of SEC Issues Work Group, but there's been no action there to talk about.

And next we go to Dr. Kotelchuck with the Subcommittee on Dose Reconstruction.

Member Kotelchuck: Well, we will begin meeting again on May 23rd, and basically we're going to go over the number of blinds that have been completed. I think it's like 25. And then there's a new set of dose reconstructions for us to go over, Set 26. And I hope to, as I noted, I hope to submit a draft of the report to the Secretary at the May 23rd meeting.

Mr. Katz: Terrific, thank you. And on to Procedures Review. Josie.

Member Beach: Okay. I have three pages written up, but I think I'm going to shorten it just a bit.

The Subcommittee met on February 13th. We had four carryover items, none of which were officially closed. So I'm not going to go into those. I think I'll go into these, the ones that we ended up closing.

We had ten new reports that were submitted to the Subcommittee by SC&A. Of those, I think we closed out about four, but most of those were the Subtask 4s. The OTIB-0086 internal dosimetry for coworker data completion test. SC&A had no findings with that. They did have three observations. The first one was variables can

be set by the user. The second one, original data set terms confusing to the reader. And, of course, these are abbreviated; the full transcript is available. And the third one was an editorial edit error. NIOSH agreed to make the changes the next time the procedure is reviewed, and the Work Group agreed with that and closed all those observations.

The second one was PER-0076. It was a Subtask 4 at a uranium rolling facility and Aliquippa Forge. SC&A reviewed one case that was impacted by the changes to the TBDs for internal and external dose in the residual period. There was no findings or observations.

The Subcommittee accepted that report and we closed that officially. Those should all be updated in the BRS also.

So, the PER-0081 was also a Subtask 4. That was a Hooker, Revision 3. SC&A reviewed two cases with no finding and two observations for that. The first one was on external. It wasn't wrong, but it was unusual in the way that dose conversion factor for the skin, usually used as a 1.0 according to OTIB-0017. Normally or -- they normally use the OTIB-0017. In this case they used IG-001. A lot of discussion on that.

The second observation is why the dose went up. Intake increased, yet dose decreased from the original dose reconstruction. Again, that was discussed and the Subcommittee was convinced by that discussion and we closed that Subtask 4.

Mr. Katz: Josie.

Member Beach: Yes.

Mr. Katz: Let me make your task easier, I think. Because for document reviews that are like Site Profile type documents and so on, after the Procedure Subcommittee closes them, they'll have to be reported out to Board in more full fashion, and everybody will understand it, and understand how that review was closed.

Member Beach: Okay.

Mr. Katz: For the PERs, I mean, these details about the case reviews really, unless you've read the whole PER and

the case reviews --

Member Beach: You wouldn't know.

Mr. Katz: -- it's hard to follow. So I think you don't need to report out those.

Member Beach: Okay.

Mr. Katz: Just which ones, which procedures have been put to bed by the Procedures Review, and any new ones that are coming on. I think if you tell the Board that information that will keep them up to date with how we're doing.

Member Beach: Okay, all right. So I think I'll carry that over to the next time then, since new --

Mr. Katz: Yeah, sure.

Member Beach: But I do want to report on my last item, is NIOSH, they updated the BRS to capture findings that may arise after the Subcommittee completes their review and presents their findings to the full Board. The BRS now is capable of capturing and distinguishing between both the Subcommittee findings and the full Board findings and issues.

So that is something that was just updated after our last meeting. I looked at that. It was a good point to bring that up and capture the differences between the two groups.

Mr. Katz: Right.

Member Beach: Okay, thank you.

Mr. Katz: Right. In fact, in some cases we've already been recording the Board action, yeah, so that's a great improvement and thank you to the Board for helping get that improvement made, and, of course, to NIOSH for doing the work.

Okay. TBD-6000, that's Paul.

Member Ziemer: Right. I don't have anything to report on TBD-6000.

Mr. Katz: Right. We do have some work underway that

will go before that Work Group, but that work isn't ready yet.

Member Ziemer: Right.

Mr. Katz: That Work Group will be meeting at some point this summer, I expect.

And then the Uranium Refining AWEs, which Andy is the Chair, but there's no report, I could say, for that.

Then Use of Surrogate Data, that is also Paul. I don't believe there's anything to report, but Paul if you want to correct me.

Member Ziemer: No, I have nothing to report.

Mr. Katz: All right, and that takes care of the Work Groups. Thank you, everybody.

Okay, then. Now I will run through public comments.

Public Comment

Mr. Katz: So these are public comments from our December Board meeting.

Okay. We had comments related to Santa Susana Area IV and DeSoto, in part related to Boeing's record responses and DOE responding about trying to work out issues with Boeing, and NIOSH is supporting DOE's effort in that.

Okay. We had a -- I think I addressed this, actually, at the meeting. I did, so I don't need to address it now. It was a Hanford discussion about expediting matters at Hanford, and we are working on that.

Okay, and we had Rocky Flats. We had a comment about -- okay. We've already heard a report about that. It relates to the boxes that were to be reviewed, and we heard they're down to their last four boxes on that. Dr. Kotelchuck reported on that. We also had a comment, which I think I addressed it in real-time, about petitions that don't qualify.

Okay. Savannah River, we had a comment, which was also addressed in real-time, about extending the petition. Stu had addressed that, because the petition had been specific to construction workers. Okay. Another comment

about Savannah River related to hoping to see progress, and we've talked about that. And I have spoken with the commenter about this, who's keeping in touch with me about that.

And then, similarly, about LANL and Sandia. We've talked about those. They're looking for progress. That's from the person we heard from on behalf of Senator Udall, Ms. Jacquez-Ortiz, hoping just to see as rapid progress as possible and we know where we are with that.

Hugh Stephens had commented -- I think I addressed that in real-time; I did, yeah -- about Superior Steel getting assigned to a Work Group, which we did, we had done. And some other comments he had made in person had been addressed at the meeting related to breathing zone samples.

Metals & Controls, a number of comments. The summary about Metals & Controls from the petitioner, those are getting addressed. There's going to be a whole White Paper addressing the petitioner's comments related to that. So that will be directly responsive to the comments. And, yeah. That takes us to the end of the comments. Any questions from Board Members on any of these?

Okay, then. I do believe that takes us through all of our Board work sessions. We have Superior Steel updates. That begins at 5:15, and let's try to get here five minutes ahead of that so we can deal with that in proper time. In the meantime, we are in recess.

(Whereupon, the above-entitled matter went off the record at 3:36 p.m. and resumed at 5:14 p.m.)

Mr. Katz: All right. Before we get started on our last session before the public comments, which is Superior Steel SEC, this is an update. It's not a conclusory session here. We're just getting caught up. And, also, this is an opportunity for people in the Pittsburgh area to learn about what we're doing here related to this local site. So, it's in progress.

Before we get to that, let me just check and see that we have our Board Members on the line. So --

Member Ziemer: Paul Ziemer here.

Mr. Katz: Thank you, Paul.

Member Field: Bill Field.

Mr. Katz: Thanks, Bill.

Member Roessler: Gen here.

Mr. Katz: And Gen, thanks.

Member Valerio: Loretta here.

Mr. Katz: And Loretta. You sound like -- Loretta, you sound like you're in the room. Thanks. And then, Andy, are you on too?

Member Kotelchuck: No, Andy is away.

Mr. Katz: No, I know. He was going to join us -- I traded emails with him. He was going to get on by phone from the airport. Okay, I don't hear him, but I wanted to make certain we had a quorum, and we do. And so --

Mr. J. Palastro: This is John Palastro.

Mr. Katz: I'm sorry?

Mr. J. Palastro: John Palastro.

Mr. Katz: Oh, okay, thank you.

Mr. J. Palastro: John Palastro.

Mr. R. Palastro: Rich Palastro.

Mr. Katz: Right. Thank you very much. And, for the petitioners, let me let you know that we're going to have a couple of presentations here to bring you up to date with what's going on with this petition evaluation, and then you'll have an opportunity to comment as well.

But, like I said, you may not have been on the phone, but this is really an update session today, to let everybody know where we are, and to hear whatever comments you might have to the petitioners and their representative. So, carry on. Thanks.

Superior Steel Company, SEC Petition No. 247

Dr. Lobaugh: Hi, everyone. My name is Megan Lobaugh, and I'm the HP from DCAS that worked on the Evaluation Report for Superior Steel, SEC-247. So, can everyone hear me on the phone?

Mr. Katz: I think so.

Member Ziemer: Yes.

Dr. Lobaugh: Great. So, this is just going to be a quick recap of what I presented in December. In that presentation, you found out that we evaluated this SEC petition and found that dose reconstruction is feasible. But I'll just go through a quick summary of what we talked about in December, and a quick summary of the Evaluation Report.

The Superior Steel Company site is nearby here in Carnegie, Pennsylvania. It's a series of five interconnected buildings that you can see here in this picture on the right. They were contracted with the AEC to do uranium rollings, specifically for reactor fuel elements, and their covered period for our program is broken into two sections.

So, the AWE period, which is the operations period when their contract was valid or active, January 1st, 1952 through December 31st, 1957. And then there's a residual radiation period from January 1st, 1958 through the present, and that's through the present because no full-scale remediation has occurred at the site.

These two pictures show the processing areas, just in schematic form. Again, as I said, they did uranium rolling specifically for fuel elements of reactors, and the processing starts on the right side of the picture with the salt bath and progresses all the way to the left.

So the top picture is more general and points out some areas that are discussed in some of the source documents that we used, and then the bottom specifically shows the uranium rolling process. So, starting with the salt bath where the uranium was heated up, then a run-out table and roughing mill, roughing roll, through a brushing station where the salt was brushed off, and then finishing sands. So this is just a quick schematic of how that

processing would go.

Some specifics for the SEC-247 petition. It was a 83.14, or Form B, petition that we received May 1st, 2018. The petitioner requested class was all workers who worked in any area at the Superior Steel Company facility in Carnegie, Pennsylvania during the period from January 1st, 1952 through December 31st, 1957.

So this coincides with the entire operations period, the entire AEC contract period. There was an F-1 basis that radiation exposure is potentially incurred by members of the proposed Class were not monitored, either through personal monitoring or through area monitoring. We qualified that petition on July 19th, 2018 with the qualified Class given there.

There are several pieces of information that we at DCAS need to do a dose reconstruction, and the first one we are interested in is exposure time. So this would be the contract period or the amount of time that radioactive material was onsite, and then also, you know, the time per day that a worker would be exposed.

So the information that we used, typically, is contract information. So these first two, first three bullets, actually, kind of go over some of the contract information we have, just a quick summary. So, we know the contract number. Unfortunately, we don't have a copy of the contract. But we know that their contract was awarded around the same time as Metals and Controls. So Metals & Controls has kind of become a surrogate contract for several evaluations that have been done for this AEC contract that was written for Superior Steel.

We do know the effective date is June 27th, 1952, and we know that contract ended September 30th, 1957. One note that I have here is there is evidence that the fission material accounting station -- something AEC uses to account for the amount of material onsite -- that authority wasn't withdrawn until the end of November 1957.

So, even though their contract to do rolling ended in September, they could have had material onsite through November. So this is, I would assume, part of the reasoning why DOL goes through the end of 1957 as that operations period.

This contract was a cost plus fixed fee contract. So what that means is it was intermittent work. There wasn't, you know, daily uranium rolling done. It was on demand and, as AEC needed and had a need for them, they would send uranium to be rolled.

We have information about the payments, the annual payments from 1952 through '57, and we have a total payments made to Superior Steel through '57.

So we used that information. I'm not going into the specifics of our proposed DR methodology in this talk today, but we provided some information in the Evaluation Report about how we would use that information.

The CATI information that we have from the dose reconstruction claims that we've already worked tells us that overtime work was very common at the site. So that's another assumption that we would make in any proposed DR methods that we have.

So, aside from exposure time, we need to know about the radiological sources that were present onsite. The majority of the rolling that was done for the AEC was natural uranium metal. We have evidence of one AEC rolling campaign that involved some enriched uranium, and that was actually six slabs amongst a total number of slabs that day that included natural and enriched uranium. But we know of six slabs of enriched uranium, enriched at about 1.5 percent, that were rolled as part of one of the campaigns.

One other thing to note is that, since this uranium rolling occurred after 1952, one of the default assumptions that we make is the uranium metal could be recycled. So what that means is there could be other radiological contaminants within that material, and we account for that in how we assign the dose.

The thorium, I'll talk a little bit about this and try not to for too long, but we found evidence that the AEC awarded Superior Steel a license to have, transfer, and use thorium metal.

The initial request for this license by Superior Steel requested 700 pounds of thorium to be used. That initial request, I think, was in the March timeframe of 1956, if

I'm correct, and they had actually a license amendment, again, another request for unlimited amounts about a month or two later.

And we have seen no evidence of thorium being shipped to or shipped from Superior Steel. So we don't think that a commercial, large-scale rolling activity occurred, and we don't see any contamination in the radiation surveys that were done as part of remediation, potential remediation efforts post the operations period.

So, in the 1980s up through about 2015, 2016, remediation surveys -- radiological surveys were done for remediation purposes and they don't show thorium contamination onsite. So that's what leads us to believe that there was never large scale thorium rolling onsite.

But because of the initial license amendment saying 700 pounds, and then the request for unlimited quantities mentioning test rollings that were done with thorium, we assume that at least 700 pounds of thorium were rolled.

So, that's the radiological sources that are present. So, what about the levels that are possible? There we used monitoring data. So, what monitoring data do we have available? For internal exposure, we know there's no in vitro or in vivo results, and there's no evidence of an internal dosimetry monitoring program for Superior Steel.

But there are four campaigns of air monitoring that the Health and Safety Laboratory from the AEC did during uranium rolling that they were performing for the AEC. So there are four dates where HASL went out and took some air samples. The two campaigns in 1955 including breathing zone samples as well. The two in '53 were general area samples.

For external exposure, there is again no external dosimetry results and there's no indication of an external dosimetry monitoring program onsite. We also don't see any indication of area monitoring that was done.

So, in these cases, NIOSH relies on the process information that we have. So, what processes were done, what source material was onsite, which this information for us is coming from the AEC contract information that we have, the radiological material licensing that we have, the processing that we know was done onsite, and the

type of material.

So we have information for all of these, from all of these sources that will feed into our assumptions for dose reconstruction.

Member Richardson: Just to clarify, I thought you didn't have the contract.

Dr. Lobaugh: We don't have the specific contract, but we have the surrogate contract for Metals & Controls, which was awarded for the same time -- for the same type of work that was done.

Member Richardson: Okay.

Dr. Lobaugh: And we have an analysis of that contract for other remediation purposes, FUSRAP and Army Corp of Engineers analysis of the contract as well. I will say, too, sorry, we have the licensing contract information. So we have material licensing information for the site too.

So, for dose reconstruction feasibility, NIOSH has sufficient air data and process information to bound internal and external doses from the uranium rolling from the AEC contract. We have sufficient information, process information to bound internal and external dose from the small-scale commercial thorium metal rolling operation.

What I didn't mention in this presentation now, but I spoke about in December, we do not have specific data to thorium. But what we propose to do in that case is a mass loading approach, where we would take the -- we would calculate the mass that was loaded on the air samples during the uranium rolling, which would have been very similar to the processing that was done to the thorium rolling, and we would convert that to a thorium activity in order to assign intake from thorium.

And this is very similar. This is the same approach that was done at Bridgeport Brass, but at Bridgeport Brass we are actually reducing that number based on the throughput of thorium versus uranium metal rolling that was done. In this case, we're proposing just to do a direct comparison.

Given the information that we found and evaluated during this Petition Evaluation, the Site Profile for Superior Steel

will be updated with this additional information that we've captured.

To speak specifically to the petition basis that we received for internal monitoring, the petition basis was a quote directly from the Site Profile for Superior Steel. And this was, individual uranium urinalysis data are unavailable for Superior Steel workers and none are known to exist. When personal internal monitoring data are unavailable, NIOSH uses air monitoring data from worker breathing zones in work areas. This is in accordance with our implementation guide.

For Superior Steel Company, we have sufficient site-specific air monitoring data and process data to calculate estimates of worker internal uranium doses with sufficient accuracy. And, as I mentioned before, the airborne mass loading calculations, we can perform airborne mass loading calculations using the available uranium process air data to estimate worker internal thorium doses.

The petition basis for external monitoring again came from the Site Profile for Superior Steel. And this quote was, "No external dosimetry results are available for Superior Steel employees. When personal and area external monitoring data are unavailable, NIOSH uses workplace information." So the source term information, the process information that I spoke about, we use all of that information to estimate dose in accordance with our implementation guide.

So, specifically, we have sufficient applicable site-specific information using the methods that we've laid out in Battelle TBD-6000 to model the potential external uranium exposures. For thorium, we would also model these exposures in accordance with that Battelle TBD-6000. So we would use the methods and assumptions and defaults in TBD-6000 to model the thorium exposure.

Here is just a summary of our feasibility findings. With that, I'll take any questions.

Mr. J. Palastro: You're using -- this is John Palastro. You're using --

Mr. Katz: Excuse me, John. At this point what we do is we have Board discussion, and we will get to petitioner comments after that.

Mr. J. Palastro: Okay.

Mr. Katz: But we actually have another presentation, and then we'll have petitioner comments.

Mr. J. Palastro: Okay.

Mr. Katz: You're welcome. Before we get to that, let me just ask Board Members. Do you want to hear from Rose, SC&A's update on where they are with their evaluation first, and then do both Megan and Rose at the same time with questions? Or is that --

(Off-microphone comments.)

Mr. Katz: Yeah. So why don't we hear from Rose, and then we'll have questions from both of them, and then we'll go on to the petitioners. Rose, are you on the line?

Ms. Gogliotti: Okay. Yes, I'm here. I'm trying to get control of the screen here.

Mr. Katz: Okay. Right now, Rose, you're not even a mouse squeak of volume.

Ms. Gogliotti: Can you hear me now?

Mr. Katz: That's better, yeah.

Ms. Gogliotti: I'm sorry. I'm losing my voice. and I'm normally soft spoken, so I'm going to do my best here.

Mr. Katz: Yes, you are soft spoken.

Ms. Gogliotti: All right. When I put this together, I didn't realize Megan was going to give her presentation. and she did a great introduction and summary of what I wanted to talk about. But some of these slides are going to be a little redundant, so I will move through those a little quickly.

My name is Rose Gogliotti. I am a health physicist at SC&A and --

Mr. Katz: Rose, you're really light.

Ms. Gogliotti: I've got my hand speaker on and -- okay.

Mr. Katz: That's better.

Ms. Gogliotti: Can you hear me now?

Mr. Katz: That's better, thanks.

Ms. Gogliotti: My name is Rose Gogliotti, and I'm a health physicist with SC&A. I'm in charge of the main evaluation for SC&A in this process. As mentioned and introduced, we're talking about Superior Steel here, and it's located in Carnegie, Pennsylvania, so not far from where you're currently meeting.

It was a metal processing facility and the site was selected among three principal contractors involved in AEC's initial fuel element development program, and that was to fabricate strip and plate steel elements for reactors. They had a cost plus fixed fee contract for intermittent, on demand rolling.

What that means is they were paid a fixed price per rolling mill hour, and only performed rolling when it was requested of them. The site had roughly 100 employees at any given time, and the covered period extends from 1952 to the end of 1957.

Megan went over these dates, but I will call out that the main reason the petitioner has requested this result or this evaluation was that there's no urinalysis data and there's also no dosimetry data. The petition did qualify for evaluation and they were qualified based on almost exactly the same language as requested.

NIOSH put out their Petition Evaluation Report in November of 2018, and discussed it at the Board meeting in 2018, in December. At that time, SC&A was tasked to do review. We are in the process of finishing up our review now, and so I can't give you final review details. However, I will highlight some of the main concerns that we have throughout my presentation. I hope to have that out by the end of the month, but it just depends on editing schedules currently.

In order to do our review, we reviewed documentation in the Site Research Database. We read quite a bit of documentation, but I will call out some of the most important things that we found. The Health and Safety Laboratory, the HASL monitoring studies, there's four of them. There's also the U.S. Army Corps of Engineers, a preliminary assessment study, as well as several other

pre-remediation studies to quantify exactly how much residual contamination remained on the site. And there's also the thorium licensing communications.

We did review 100 percent of CATI reports. The vast majority of those were conducted with survivors rather than actual employees. We also reviewed the Superior Steel TBD, and that's the current revision. NIOSH has indicated that they will be revising that documentation, but it's helpful for background information. And we reviewed TBD-6000 in the context of this report That's the general AWE uranium TBD.

Now, the source term at Superior Steel, there were two main areas of source term. The first is the biggest one, and that's the uranium. And we know, based on the contracting, that they performed some variation of salt bathing, rolling, brushing, shaping, cutting, stamping, and coiling of uranium metal.

The records indicate that this was predominantly natural uranium. There was one small campaign that Megan mentioned of six slabs of enriched uranium that was processed onsite. Also, based on the time period, it was likely recycled uranium, and that is accounted for in the NIOSH documentation.

As I mentioned previously, there was no internal or external monitoring for uranium that was done onsite. However, we do have the four HASL studies. Two were done in 1953 and another two were done in 1955. These studies have roughly 17 breathing zone samples and 144 processed air samples, and these are relied on extensively to quantify the source term.

Additionally, during the course of the SEC evaluation, it was discovered that there was some thorium processing done onsite. The initial TBD did not mention thorium at all, but during the course of discovery it was found that there was a single thorium processing that was done onsite, and that was included.

This is thorium processing that was done for a commercial client, Babcock & Wilcox, on March 27th of 1956. The site applied to receive licensing for thorium, and this was a short-term license to do exploratory thorium milling. Shortly thereafter, the site applied to have an amended

license to include forging, rolling, finished rolling, and cutting of unlimited quantities of thorium, and that was granted on April 30th of 1956.

In that communication, they mentioned a test rolling. So we do know that some rolling was done, but we don't have a lot of details beyond that. The site was licensed to possess up to 700 pounds of thorium, which correlates to four ingots of material. In the initial licensing application, it was indicated that they intended to only use one of the ingots; however, they wanted four just in case.

So it's likely that they used less than 700 pounds, but NIOSH goes ahead and assumes that they used the maximum 700 pounds for that rolling. Despite them requesting an extended licensing, we don't see any evidence of additional rollings that were done. We don't see receipt or shipping of materials or work orders that would support thorium work in a more commercial scale.

Additionally, there's no evidence of thorium contamination found during the remediation efforts to quantify how much material was onsite at the time.

So, because I think it's really easy to get lost in the dates, I put together a timeline. So, the contract was awarded on June 27th of 1952, so roughly seven months after the covered period begins. And it was terminated on September 30th, 1957. So, three months or so before the close of the covered period. And this is fairly common with covered periods, only because it allows for, as Megan mentioned, material coming onsite before the contract and material leaving after the contract. They did have their fissile material station authority withdrawn in November of 1957, so we do believe at that time uranium was not present onsite.

The other dates I want to highlight are the two 1953 HASL monitoring air samples, and then also the two 1955 HASL monitoring air samples. What's important here is only that they were done prior to thorium coming onto site.

Now, in evaluating this SEC petition, there are a number of challenges. Obviously, the biggest one would be that there is no worker monitoring, and that's the reason that the petitioners requested this evaluation. So, there's no internal or external monitoring.

Air sampling was only done on a few limited occasions, those four dates that we mentioned. The original contract documentation was destroyed. And then there's minimal information regarding thorium onsite. So, despite that, NIOSH has their approach for reconstructing internal dose for uranium.

In order to do this, they make a number of key assumptions. The first, which I believe is the most important assumption, is the length of time that was spent milling per year. Now, we know that the site performed demand milling, but the exact amount of time that they spent milling is not documented anywhere.

And so NIOSH approached this problem through the use of annual contract billing. Megan mentioned they do have the amount that was billed per year, and from that information they try and back into the number of milling hours that were performed.

The challenge with this approach, however, is that contract documentation was completely destroyed, so the cost per milling hour is unknown. In the absence of a known milling rate, NIOSH assumes a milling hourly rate of $132 per milling hour, and that is the Vulcan Crucible & Steel or Aliquippa Forge hourly milling rate in 1948. Using that, they result in 414 milling hours per year, and NIOSH rounds that up to a more claimant-favorable 500.

Now, I think this is important for several reasons, the first being, to SC&A's knowledge -- I queried John Mauro, who's our AWE expert extensively on this -- the bounding source term has not been done based on contract billings in combination with another site's billing rate data in the manner that it's being done here.

We understand the rationale for doing this, but we believe that the Board will eventually want to weigh in on the acceptability of using data in this way. The closest similarity that we could find in the other AWE sites was at GSI, and at GSI they used contract billing rates to estimate employee work hours. So, slightly different but a similar approach.

Finally, although the data being used here does not meet the Board's criteria to be called surrogate data, because it's exposure -- or it's not exposure data and instead it's

the billing rate, I do believe that there's enough parallels with the Board's -- with the term surrogate data that it does need to be evaluated against at least some of the Board's surrogate data criteria.

In our review, we do provide a surrogate data evaluation. In that, we find that the results are generally very plausible and we agree that it makes sense. However, we think that there needs to be additional justification for the process similarities between Vulcan Crucible and Superior Steel, because Vulcan Crucible rolled rods while Superior Steel rolled strips. We're just not positive on the impact of billing price for the difference in process.

We did do a cursory look, and the only other site I was able to find with a milling rate hour was Joslyn Manufacturing Company, and they have a milling rate of $88 per hour. If you were to use that billing rate, you would increase your number of mill hours by over 200. Now, Joslyn also was rolling rods rather than strips, so I'm not sure how applicable that is, but that will be a source of future discussion.

Then, with the milling time established, NIOSH intends to use air concentration results from the four HASL studies, and for that they assume 100 percent of uranium is U-234, and they'll account for RU using the TBD-6000 guidance.

Now, to assign the distribution, NIOSH asserts that the 1953 and 1955 HASL studies represent separate exposure distributions, and they say that because the geometric mean associated with the 1953 air data is statistically higher than that of the 1955 data. So NIOSH intends to assign two air distributions, one from the start of operations through May 1955, and the second for the remaining time period of operations.

Now, to evaluate this, we broke up the data into the 1953 and the 1955 data, and here you see a histogram showing the air monitoring data overlapping and showed by year. I realize this is a little hard to see. I ran into some 508 compliance issues and had to change my graph. But, from that, we see very similar distributions.

I just want to point out that there are several very high values and they are important to us. But for the sake of

looking out the distribution, we can zoom in and shorten the bandwidth. Here we see that the 1953 and 1955 data follow a very similar distribution in terms of where this data -- how it falls on the histogram.

To further evaluate this, we broke the data out into box plots based on the actual year -- or the actual survey results. This is a box plot. If you're not familiar with box plots, the basic premise is the data is ordered, and 25 percent of the data is placed through each segment of the box plot.

So, 25 percent of the lower tail, 50 percent in the center box, and the upper 25 percent is in the upper tail. It's difficult to make out from this visualization, so I'll zoom in momentarily. But I want to point out that three of the four highest values fall in 1953.

So, statistically, you would expect, if you delete three of the four highest values, you're going to have a different geometric mean. But when we actually zoom in on these results closer, we notice a few things, the first one being that the May 1955 results are significantly lower than the other two, three studies.

But I also want to point out that the September 1955 results are not that statistically different from the 1953 samples. And when you actually look into the HASL studies, they do discuss this. And we find out that there was a change in process between the May and September sampling results.

At some time in that process, they included slab brushing into their process, and the slab brushing of the slab oxides resulted in a considerable amount of airborne uranium oxide contamination. And it also exposed the bare metal to air oxidation throughout the rest of the milling process.

And I will point out, I think, that I forgot to mention earlier, the May 1955 results, they are statistically lower and the HASL studies did also point out that was because of the introduction of man cooling fans. However, those gains that they saw in the 1955, or the May 1955, were lost in the September 1955, and that's because of the change in process.

Based on this, I think it's difficult to draw the conclusion that the May and September results are different enough

from the '53 results that they need to fall into their own distributions. And that impacts a number of things down the line that we'll also discuss here.

Now, thorium is a little bit easier. For the internal thorium dose, despite its commercial use for thorium it is covered under EEOICPA, just during that AWE covered period. And to monitor internal exposures, NIOSH assumed that the material was thorium-232 and its daughters were in secular equilibrium.

There's a single ten-hour rolling period, and this is likely bounding for four ingots of uranium or thorium, considering the site regularly rolled over 30 slabs of uranium in a day.

NIOSH will establish the thorium air concentration using a mass loading approach similar to what was done at Bridgeport Brass. Megan mentioned this already, but in that process the mass loading of thorium was correlated to the mass loading of uranium.

For Bridgeport Brass, we used ten percent, and SC&A did evaluate that in 2017. However, in this approach they're using a more claimant-favorable assumption that the thorium mass is equal to the uranium mass. They're also using a resuspension rate of the standard 1E to the negative-5, and that's used throughout the complex, and the source term depletion based on OTIB-0070. And they're assuming that the end of the thorium or the date of the first thorium licensing all the way through the end of operations.

For external uranium exposure, NIOSH is using 500 rolling hours and TBD-6000 default worker assumptions, as well as the FGR-12 dose conversion factors. This 500 number is based on the billing cost and the rates calculation that we discussed previously for internal uranium. And I think that number is questionable, but for this, NIOSH is using that approach and they're applying that to both direct rolling and submersion.

There's also an assumption of 500 hours of storage using the external one meter dose rates from TBD-6000. And that assumes 250 hours of pre-storage and 250 hours of post-storage. I think this number is also going to be the subject of some discussion. If you assume the 500 hours

rolling, then you also have to assume that it was one ten-hour rolling per week, which would mean that the material was brought onsite the day before the rolling was rolled and left the following day. And when you look at the shipping results and the material present onsite, I don't believe you can draw that conclusion. NIOSH also assumed the remaining time on the site, 2,000 hours of post-rolling, and that's using both direct exposure and submersion. For external thorium, NIOSH is again using the ten hours of rolling that was previously assumed, and that's a single day of rolling, and the TBD-6000 guidance for both direct and submersion. They also assume 190 hours of storage time for the thorium, and that equates to the 19 days in between the initial thorium license and the request for future thorium licensing. And that's a ten-hour work day, so 19 times 10.

For the remaining operations period, NIOSH is assuming post-rolling and using direct exposure and submersion using the TBD-6000 guidance and also the FGR-12 Dose Conversion Factors.

And, finally, occupationally required X-ray examinations. SC&A did extensive research. We found no evidence of examinations being conducted, and that it includes no evidence of X-ray equipment was onsite, as well as no references to employees being required to have X-rays.

We did review all the CATIs and there was no statements indicating that examinations were performed. And that's similar to what NIOSH found. However, they intend to assign a pre-employment annual and termination medical X-ray dose for all employees during the AWE operational period. And, to do that, they're going to use OTIB-6, which we see used throughout the complex. On face value, that seems like the most claimant-favorable approach. But, in light of the Board's dedication in recent years to increase the consistency across sites, I do wonder if that's consistent with the remaining AWEs, because I don't believe that all AWEs that have no evidence of examinations are assigned annual pre-employment and termination medical X-rays.

And that wraps up my presentation. Are there any questions?

Mr. Katz: So, thanks, Rose. Your voice held up just fine.

That worked. So, now, questions for either Megan or Rose from Board Members in the room?

Mr. J. Palastro: Yeah, Megan, this is John Palastro.

Mr. Katz: No, John, John, John. You'll be up after we have questions for the people who've just presented. So, hang in there, hang in there, and then we'll call on you, okay?

Mr. J. Palastro: Okay.

Mr. Katz: Thanks.

Member Beach: Can I go?

Mr. Katz: Yeah, Josie.

Member Beach: I was interested in the surrogate data and can you give me the years that you're using the Vulcan Crucible Steel data? Is it the same timeframe or --

Ms. Gogliotti: That's from 1948, is the study.

Member Beach: '48 'til -- is it just that year?

Ms. Gogliotti: Oh, I'm sorry. The Vulcan Crucible & Steel, that value was from the 1948 contract. But it's being applied to all years in this contract.

Member Beach: So it was only for 1948, but it's being used for '53 through '57, right? Is that correct?

Ms. Gogliotti: Correct.

Member Beach: Okay, thank you.

Dr. Lobaugh: But how we actually do that is we -- if I can just point out here. So we know the total contract information, that they were paid $356,849 through that whole time period, 1952 to '57. And then looking at the annual payments for fiscal year 1954 through 1957, the year with the maximum payment was 1956 at $217,246. So a majority of what they were paid was paid in 1956.

We have indications that part of these payments would have been towards equipment upgrades and things like that, but we don't have specific numbers for that. So what we do is we take that number and we assume -- or actually we look at that number and we know that there

is other things influencing that. Because the other payments for the three years were consistently in the range of $40- to $55,000 per year.

So, since we don't see any indication of an increase in production in that year either, so, 1956, looking at our Table 7-1 which lists all the rollings that we have information about, we say that that number really isn't all production.

And then we use the highest payment for the other three years, which is fiscal year 1957 at $54,632, and that's how we come up with 414 mill hours.

Mr. Katz: Thanks.

Member Richardson: So, to clarify, because at first I thought that the contract, both of you referred to it as a cost plus fixed fee contract, and that can include investments in upgrades of equipment?

Dr. Lobaugh: Yes.

Member Richardson: Okay.

Dr. Lobaugh: Yes, it can.

Member Richardson: And so over none of it can you actually separate out those investment costs from the hourly. So you're just making --

Dr. Lobaugh: A total assumption that all of the money, except for that year where it was much higher in 1956, we assume that it's all milling hours. So no equipment payments.

Member Richardson: And there's no indication that it's equipment. It's just an assumption because it's higher?

Dr. Lobaugh: No. There is indication that they were requesting equipment from the AEC. We just cannot tie it directly to any specific amount that they received, or even specifically to 1956. But we do have indication that they were requesting additional equipment.

Specifically, some of the other equipment that we see that we know they installed, such as the man cooling fans and other things like that. But there was a request for actually

improving the rolling equipment as well. So, that could be tied to that 1956 fee.

Mr. Katz: Other questions in the room or for Board Members on the line? Board Members.

Member Roessler: This is Gen. No questions, but those were two nice presentations.

Mr. Katz: Thank you, Gen.

Member Richardson: Could I ask about the thorium contracts? It seems like the basis for thinking that the activity was limited to 700 pounds of thorium is to some extent the absence of information, not the presence of information. So the absence of either contamination found or the absence of contracts related to thorium.

It made me wonder about if you were just to change that, what sort of -- there's a lot of information that seems to be absent, just because all the contracts, as stated, all the contracts were destroyed. There would be similar information absent about uranium. So how does the absence of information about contracts relating to thorium provide a basis for believing that there were only 700 pounds of thorium ever worked with there?

Dr. Lobaugh: So, one thing, the initial AEC contract is what was destroyed. We have other, like I said, the licensing contract with the AEC or the licensing information for AEC. And even though, yes, we're basing the fact that there was no large-scale thorium rolling based on the fact of absence of information, we're basing the fact that thorium rolling occurred based on the information we do have.

So, we have the licensing amendment that Superior Steel requested at the end of April requesting the unlimited quantities, and in that they say they did test rollings. So that's how we know it happened. So, that's the information we do have about what did happen.

Member Richardson: But that seems to be the one sort of -- so you do have a piece of information which was the request to go from 700 pounds to unlimited, and that's taken as the basis, the documentary basis for thinking that there was never more than 700 pounds?

Dr. Lobaugh: Yes, no. The basis for not having more than 700 pounds is the fact that there is no contamination seen. There's uranium contamination seen in the remediation surveys that were done, and we would expect, if a large scale thorium rolling operation occurred, we would see thorium contamination in a similar pattern onsite, and we don't see that.

There was another point I wanted to make about what you were saying. If it comes back to me, I'll say it. But, so, the lack of contamination tells us that there was no large scale thorium, and -- oh, that's what it was. As Rose said, which I didn't mention in my talk, the license agreement was for commercial work.

So this was not AEC work. The thorium work was not AEC work. So the thorium work would only be covered during the AWE operations period, during the AEC contract period.

Member Richardson: Right.

Dr. Lobaugh: So that was just another point I wanted to make.

Mr. Katz: Josie.

Member Beach: So, Rose made a point of saying that the two samples that were done by HASL were done before the thorium was onsite, and then you just mentioned the contamination. There wasn't any. What sort of surveys were done looking for the thorium?

Dr. Lobaugh: Yeah. So let me actually just turn to that. We have a table within the ER report where we list the surveys that were done. I'm just going to flip to it quickly. These were post-operations, and I think the first one was in 1980.

It's on page 22 of the Evaluation Report, if you have it.

Member Beach: I do.

Dr. Lobaugh: So this is the listing of the radiological surveys that were performed at the Superior Steel site, and these were done in support of FUSRAP and other remediation efforts that will hopefully be happening onsite. So the first one was in 1980, and then the most

recent one was in 2014.

So we have five surveys that were done. Now as we point out, I believe it's in the appendix or attachment to this Evaluation Report, we discuss a little bit more about what measurements were done and whether the thorium would be seen.

I think the most telling one would be the most recent survey, 2014, where gamma scan surveys were done with sodium iodide detectors. In there, that's where we see the lack of thorium contamination.

We see natural thorium in natural distributions around the facility, where we see elevated levels of uranium in a spatial distribution that we would expect for large-scale rolling. So did that answer your question, Josie?

Member Beach: So from '57, you have no survey data until --

Dr. Lobaugh: No.

Member Beach: -- '80s?

Dr. Lobaugh: Yeah, that's correct.

Member Beach: Thank you.

Mr. Katz: Other questions?

All right then. Now it's time for petitioners' comments. So the Palastros, I think let's start with you first on the line?

Mr. J. Palastro: Yeah.

(Simultaneous speaking.)

Mr. Katz: And if you'd just introduce -- would you please just introduce which -- I don't -- which Palastro we're hearing from.

Mr. J. Palastro: Can you hear me?

Mr. Katz: Yeah. I just don't know your name, your full name.

Mr. J. Palastro: John.

Mr. Katz: John, thank you.

Mr. J. Palastro: You're assuming that the material came in one day, they rolled it, and it left the next day. Is that correct? On your report.

Dr. Lobaugh: Not necessarily. So we make an assumption of the total amount of time that the material would have been onsite.

Mr. J. Palastro: Well --

Dr. Lobaugh: Go ahead.

Mr. J. Palastro: Keep in mind that there was a lot of scrap come off of that, and they had a rail car there, and they put all our scrap in a rail car. And that material was also radioactive, and it sat there until the rail car was full.

Dr. Lobaugh: Okay. I made a note of that. Thank you.

Mr. J. Palastro: And the other question I had was if you don't have any documentation of any readings taken at Superior Steel, my father worked there and I was in that mill 100 times. You're using a different environment to base your studies on.

Superior Steel was a very confined area. So anything that had more square footage than Superior Steel would have had a lower, a lower volume of radiation as far as their milling and brushing and shearing. That's the questions I have. I don't know how you can use the area from somewhere else for Superior. And am I correct? I'm assuming that you took a different place?

Dr. Lobaugh: No. So, John, what we're proposing to do or what we currently do in the TBD and what we're proposing to do is use the site-specific air monitoring data that we have from the HASL studies. So that's the Health and Safety Laboratory with the AEC. They performed four campaigns where they came out when uranium was being rolled for the AEC contract, and they performed air sampling throughout the facility.

So we're proposing to use the site-specific data for Superior Steel to determine internal exposures for the workers at Superior Steel. For external dosimetry, what we are proposing to do or what we do is use TBD-6000,

which is a default calculation for uranium rolling and uranium processing for the entire program that we run here with EEOICPA.

And then for the thorium, we would use those same methods and assumptions, but using the thorium information we have for Superior Steel.

Mr. J. Palastro: Okay. Thank you.

Mr. R. Palastro: This is Rich Palastro. You had mentioned you made an assumption regarding overtime. Our father worked a tremendous amount of overtime during that period of time. How would you have calculated that or utilized information like that? I mean how do you make that assumption? I mean --

Dr. Lobaugh: So what we do in cases of overtime is we assume that the workers are working onsite for ten hours per day.

Mr. R. Palastro: Well he worked two shifts many times.

Dr. Lobaugh: So --

Mr. R. Palastro: Which would mean that he worked a lot more than ten hours.

Mr. J. Palastro: 16 hours.

Mr. R. Palastro: 16 hours, yeah.

Dr. Lobaugh: So for our typical assumptions and approaches, we do have different -- for specifically external dosimetry I'll speak about, we have different rates based on the number of hours. So we have eight hours, ten hours, and then I think 12 hour days. Is that correct? Yeah. Or -- yeah, assuming --

Mr. J. Palastro: I'm not sure I understand what that meant.

Dr. Lobaugh: So what that means is we make the assumption that the employee is onsite working, being exposed for those number of hours per day, and then we actually apply that for every day of the year, whether it's a Saturday or Sunday or holiday or not.

Mr. J. Palastro: So it's 16 versus 10. He's still only going

to get credit for 10?

Dr. Lobaugh: For specifically to Superior Steel, what we proposed was ten hours per day. But that's how we ended up with the 500 hours total per year, if that makes sense. So our assumption at Superior Steel is that the rolling itself took place for 500 hours per year, and then that the employees were onsite for a total of 2,500 hours per year.

Mr. J. Palastro: Can I correct you on that for a minute? Usually in a mill, they don't work two hours over or four hours over, because there's another shift coming on. What they'll do is they'll work a whole shift. If you're going to work overtime, you're going to -- what they call double wide. You're going to work 16 hours. So to assume that they would only work ten hours is not right.

Because when a steelworker works over, it's very unlikely that they're going to work two or four hours. What happens is they're on a special project and they want to keep these guys on the job because they're better at it than somebody else, so they work 16 hours.

Dr. Lobaugh: Okay, yeah. We'll take this into consideration.

Mr. J. Palastro: Thank you.

Mr. Katz: Okay, and if we have other comments from the Palastros before we go on to Hugh? Okay then.

Mr. R. Palastro: No. I don't have any more.

Mr. J. Palastro: I don't have any more either.

Mr. Katz: Thanks. All right. Thank you very much for your comments. It's these sort of comments from folks are very helpful. Hugh.

Mr. J. Palastro: Thank you for your help.

Mr. Stephens: Thank you. I appreciate the opportunity to address the Board. I think there was at page 37 of 55 of the SEC Petition Evaluation Report a reference to Simonds Saw and Steel in Lockport, New York, and perhaps maybe, Megan, you could comment on that. This would be with respect to the external dosimetry data.

Dr. Lobaugh: Yeah. So currently, what is done in our current Site Profile is a surrogate approach using Simonds Saw and Steel data to calculate that external dose rate that we were just talking about. Does that -- so basically we've used data that was measured at Simonds Saw and Steel in the current TBD, and apply that for Superior Steel.

What we're proposing going forward is actually using our TBD-6000, which is our default assumptions for uranium processing facilities. At the time that this was -- this TBD was drafted, I don't believe we had consensus on TBD-6000. So that's why we used a surrogate site.

Mr. Stephens: Thank you. I think we've tried to obtain with a FOIA request information from the Department of Energy showing this sampling data, and apparently there was some sort of mix-up as between CDC and the Department of Energy, and that's being worked out right now.

So we should get that information relatively soon. I spoke with someone named Emily Fitzgerald from CDC. She's resending everything to the Department of Energy, and so we should get those documents. I think, you know, our concern which is similar to the concern expressed by a number of the Board Members, is the use of the absence of evidence as evidence of the absence of exposure.

And we complain about that regularly, and I think this is another example of what's happening there. We have four air sampling reports that are going to take the place of about five years' worth of data, and there's really no indication of whether the days when the contamination was the worst, whether those days were included in those four days.

And so I don't know how we do the statistical analysis to determine sufficient accuracy. I think that between 1952 and 1957 there were relatively sophisticated methods of measuring radiation exposure with workers, and for one reason or another the Department of Energy didn't use those.

And I think the Department of Energy on some level has an obligation here to base a decision to deny a claim on accurate information, on relatively complete information.

And I don't think that what we're dealing with here is terribly complete information.

I'm not too sure, but I suspect that no one will get paid at Superior Steel based on the estimates. I don't know the answer to that question; maybe some of you do. But I think on some level, no one will be paid on very weak evidence, as far as I can tell from this point.

We are going to pursue this, continue to kind of look at these issues as I know the Board will, and we hope to be included in the process, and this is a very early -- this is an early part of that process. And so I will leave off there, and thank you again for the opportunity to address the Board.

Mr. Katz: Thank you. All right then. So there's really no tasking to be done. The tasking's already been done. The work is underway, and we will sort out at what point it makes sense to have a Work Group meeting. But just the general process forward for that is SC&A will complete its evaluation and submit it, and then NIOSH will have some time to digest that and prepare, and then we'll be ready for -- and there may be some iterative back and forth response to clarify matters.

But then at that point we'll have a Work Group discussion about the SC&A review of the ER. And again, it's the TBD-6000 Work Group, which has dealt with a lot of sites just like this one.

I don't mean that in an insulting way. I know they're not identical, but they were involved in the same processes, and so this Work Group has a lot of experience with these sites with a similar nature of records deficiencies and all that.

Okay. So we have a public comments session, and let me just say a few -- let's see what time it is. It's 6:15. So we're already into the public comment session, which is fine. But let me check.

Can someone go back to Zaida and see if she has any sign-ups for that from here? I don't see any faces, unless someone wants to waive their hand, of someone who -- no one had signed up earlier at least. Let's see if Zaida has someone.

None, okay. So I don't have any commenters in the room. So we go straight to the phone line, and generally speaking we like if there are folks on the line, we've already heard from the petitioners. But if there are other folks on the line who have comments related to Superior Steel, I would like to hear from them first, and then we'll go on to any other commenters, regardless of what site they may have an interest in.

Okay. So I'm not hearing anyone from Superior Steel with comments beyond the petitioners. Let me just check before I go into the preliminaries about -- do we have any commenters on the line at all?

Okay. It sounds very quiet. All right. So then it sounds like we don't have any public comments, but we do have one commenter. Jim Neton, Dr. Neton wants to address the group.

Dr. Neton: Yeah. I'd just like to say a few words. I have been to 60 plus Advisory Board -- in-person Advisory Board meetings since the first one. I think I've missed two, and I've spoken on the record I'm sure at every one. So I couldn't let it go this meeting without getting on the record some way or another.

So first I'd just like to thank the Board for the great send-off today, with the plaque and the salute, the card and the cake. That was very nice, and I'm sure Stu appreciated it much as well as I did. I'd also like to say that I really was honored to work with the Advisory Board.

A very professional organization. It's been a good 19 years, and I'll miss it. It's a rare opportunity that a person like myself gets to work on a program from the very inception, a federal program, and carry it through to where it is now, and for that I feel lucky, and I'm grateful for that as well.

I must say I also appreciated working with the others, other programs, the Department of Labor, Department of Energy, SC&A. Even though we've had some contentious discussions, I think it was great that we worked collegially to work things out, and I think we're in a good spot now.

I think Tim Taulbee is a great person to carry things forward. I think Tim is the first health physicist we hired, Larry Elliott and I hired in the program. So there was

three of us in the very beginning, we were just reminiscing, with 8,000 cases and no contractor.

So things are a lot different now than they were. But it's been a great experience for me. I'm probably not going away. I will work with the program from time to time. As questions arise, I'll be happy to help them out. So you may hear me on the phone or see me occasionally, but not a lot. I'd like to retire with a lot of time on my hands to pursue other opportunities. So with that again, I thank you all. It's been a great, great pleasure working with you.

Mr. Katz: Well, thank you, Jim.

(Applause.)

Adjourn

Mr. Katz: We were lucky to have you. Alright, and that's a nice note to adjourn on. Thank you everybody for all the hard work that went into the meeting.

(Whereupon, the above-entitled matter went off the record at 6:19 p.m.)