Centers for Disease Control
National Institute for Occupational Safety and Health
Advisory Board on Radiation and Worker Health
145th Meeting
Wednesday, April 27, 2022

The Advisory Board convened via Video-Teleconference at 1:00 p.m. EDT, Henry A. Anderson, Chair, presiding.

Present:

Henry A. Anderson, Chair
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
Rashaun Roberts, Designated Federal Official

Also Present:

Adams, Nancy, NIOSH Contractor
Barrie, Terrie
Barton, Bob, SC&A
Behling, Kathy, SC&A
Black, Finn, SC&A
Blaze, D'lanie
Buchanan, Ron, SC&A
Burgan, Arthur
Burgos, Zaida, NIOSH
Calhoun, Grady, DCAS
Cook, Madeline, DCAS
Crawford, Chris, DOL
DeGarmo, Denise
Dressman, Kevin, DOE
Fitzgerald, Joe, SC&A
Gheen, Angelica, DCAS
Gogliotti, Rose, SC&A
Griego, Regina, DOE
Hand, Donna
Lewis, Greg, DOE
McCloskey, Pat, ORAU Team
Mcgolerick, Robert, HHS
Nelson, Chuck, DCAS
Rafky, Michael, HHS
Rutherford, LaVon, DCAS
Taulbee, Tim, DCAS

Contents

(1:00 p.m.)

Welcome

Dr. Roberts: It's about 1:00 p.m. Eastern and it's time to officially open the meeting. Good afternoon and welcome everyone, I'm Rashaun Roberts, the Designated Federal Officer for the Advisory Board on Radiation and Worker Health.

I'd like to welcome you to Board Meeting 145 for the Board, this is the first session of that meeting.

All the materials for both days, we're meeting both today and tomorrow, the meeting agenda, presentations, and other documents are posted on the NIOSH website for the program under the schedule of public meetings.

You go to the April tab for calendar year 2022 to find those materials. If you are participating by telephone, you can go to the website to access all the materials and you can follow along with the presentations.

The materials were provided to Board Members and to Staff prior to this meeting. On the website as well, there's a Zoom link which will enable you to hear and watch the presentations through Zoom if you prefer.

If you've chosen to receive audio through Zoom, you should be able to speak to the group and hear the presentations. But if you're not speaking, please be sure to select and stay on mute by muting the microphone on the lower left-hand corner of your screen.

If you dialed in you'll only be able to speak and hear the presentations through the telephone line. Please make sure that your phone stays muted unless of course you need to speak.

If you don't have a mute button press *6 to mute, if you need to take yourself off, press *6 again.

Also, if you're only participating by telephone and

we're unable to see you, please identify yourself before providing your comments or questions.

With that, let me move into roll call. As Board Members and Staff register attendance, please acknowledge sites where you have conflict of interests if any.

I will note there may be a vote today concerning reduction pilot plant and those conflicted will be asked to disconnect from the meeting for that agenda item and to rejoin for the public comment period scheduled at 5:00 p.m.

Let's go ahead and start with taking the roll call for Board Members and let's start with our Chair Anderson.

(Roll call.)

I think that's pretty much it, hearing no other folks from the public who want to register. So, let's go ahead and move further into the agenda.

Again, please periodically check Zoom or your phone to make sure you're on mute so we have minimal disruption of the meeting. On Zoom the mute button is located on the lower left-hand corner of your screen.

If you're on by telephone but don't have a mute button press *6 to mute. If you need to take yourself off, press *6 again. With that, without any further delay, let me turn the floor over to our Chair, Dr. Henry Anderson.

Chair Anderson: Thanks a lot, Rashaun, and I want to welcome everybody. We've had a busy past month the last two weeks with Committee meetings and things and we'll talk a little bit about that when we have our work session.

That is an unusual set of occurrences that really pressed the Board Staff and all to get materials together and approved and ready to go, but I think

we've got it all covered for the meeting today.

With that, I'd like to introduce Grady Calhoun to give us a NIOSH program update.

NIOSH Program Update

Mr. Calhoun: Let me see if I can share my screen here.

NIOSH program update, you can see that? Excellent, for some reason I can't get the individual slides off the other side there or else it goes to all three of my screens and I can't see you all.

I'm glad to be here and I'll let you know a little bit about what's going on with us here in DCAS.

We are in the process currently of hiring a health physicist and we also will be hiring -- we're in the process of hiring a replacement health physicist to replace Toms, if you remember him.

And Dave Allen also left us, he was a health physics team lead and so we're going to looking to replace him as well. IT update, the good news is we're now able to process all cases manually.

We can pretty much claim victory on achieving steady state again, and what I mean by that is that we're processing cases as quickly as we're receiving them from the Department of Labor, and our goal that we've had for many, many years is that all cases are completed within five months of receiving the last piece of information required for that dose reconstruction.

So, we're back at the point that we were prior to the pause, which is good. We're still continuing to work on some data management systems such as the site research database.

I continue to mention to folks that are in Work Group meetings and Subcommittees that if there's anything that the Board or the contractor needs to contact me or Lori Marion-Moss and we will try to get that into

the virtual volume so that it is accessible to Members of the Board and the contractor.

We haven't had any in-person workshops, town halls, or outreach meetings since 2020. We have supported DOL in a couple of virtual events but the great news is we're going to start doing them again.

So, DOL has planned a couple of outreach meetings and we certainly will support those and one of our contractors is also in the process of organizing some authorized representative workshops like we used to back in the old days.

Those will also be in-person meetings. As far as record requests to the Department of Energy, this is from a couple of weeks ago when I filled this out, we had 343 outstanding.

That doesn't mean they're all late, as you can see from the statistics there. There's 62 of them which means 60 and 100 days basically, there's 20 of them out there, 121 to 180 days. And there's 4 cases that are greater than 180 days to get data back.

As of a couple of weeks ago, April 18th it looks like, we've received 54,516 cases from Labor. 52,449 have been returned. We still had at that point 1165 for dose reconstruction and a little over 900 have been administratively closed.

We've submitted 47,022 to Labor with the dose reconstruction and 1754 have been pulled for some various reasons by Department of Labor and 3673 have been pulled for special exposure cohort qualification.

Probability and causation summary, overall, 47,022 dose reconstructions sent. Those that are less than 50 percent, there's about 73 percent of the total which is 34,356.

Those greater than 50 percent are 12,666, which is 27 percent of the total. That pretty much falls into the bands that we've been seeing for quite some

time. As of 4/18, there's been 1165 active cases at NIOSH for dose reconstruction, 444 were in DR process, 292, the draft reports are to the claimants awaiting an OCAS-1 form returned and there's 429 cases that are being prepared for dose reconstruction, mostly with ORAU.

And that is all I have. Questions on that?

Member Kotelchuck: Grady, what's the difference between the 429 cases preparing and 444 in the process? What accounts for the difference of 15?

Mr. Calhoun: 429 cases preparing for dose reconstruction are those cases for which we have asked for data and are in the process of receiving that data, whether that's from the Department of Energy or additional data from DOL.

The 444 are cases, we have all that data, and we're in the process of starting the dose reconstruction.

Chair Anderson: Thank you. I see Dave Richardson's hand raised.

Member Richardson: Thank you. You pointed to the IT issues and the progress that you've made with handling cases manually.

I was wondering if you have comments or thoughts about how this would potentially impact the work of the Subcommittee on Dose Reconstruction in terms of when there's a process change, whether we should be focused on impacts on changes in completeness of information that are used in dose reconstruction as the process has changed.

Do you have thoughts on that?

Mr. Calhoun: Yes, sure, I think Dr. Kotelchuck will probably weigh in too, but all of the actual calculations, workbooks, et cetera, that we had used in the past are still being used so none of that has changed.

The same number of peer reviews and other reviews

and approvals has not changed. Really, when I say manual, what happens is generally speaking, ORAU completes the dose reconstructions as they always have, they send them over to us and that's a manual process.

We no longer have an instant replication as we used to. And so then they'll go to the first level of review over here and it's manual, and so somebody literally has to copy one file and put it into another place.

And then there's another level of review and then ultimately that will get approved and sent back to ORAU manually. So, that's what's manual about it, the actual calculations and reviews are the same as they've always been.

Chair Anderson: Other questions?

Member Clawson: Andy, this is Brad. Grady, when do you think we'll be able to see the SRDB back for access?

I know that Lori has been real good if we have anything, she tries to get in there but a lot of times we're looking for information and really don't know what we really need and it's hard to explain to Lori what we're looking for.

I understand and unfortunately, we're in the same boat with you but I can't say there's an actual date.

But I know we've got the actual application that we used to have and some of our IT people are looking through it and trying to see are there really any significant vulnerabilities here and maybe we can place that application back into the virtual volume and get that working.

I know that's one of about five applications that they're looking at right now, same with the BRS, remember that one? The Board Review System that we used to track things on. So, we're looking at three or four or five of those applications and trying to get them in there.

I can't give you any dates just because they've got to find out if there are any vulnerabilities still and which ones need to be fixed or if we have to start over with a new search mechanism.

So, I'm sorry about that but we'll still continue to try to help as much as we can.

Chair Anderson: I appreciate that, thank you for the update.

Ms. Colley: I'd like to ask a question, I haven't been on for a while so I don't know if this is appropriate time to ask if you're talking about the SEC slides.

My name is Vina Colley and I'm from the Vina Colley, Portsmouth Gaseous Diffusion Plant.

And in the beginning, Congress had put Paducah and Oak Ridge as an SEC site so they don't have to do dose reconstructions. What's going on here is they are redosing family members that have passed away.

I'm just wondering why that's happening.

Dr. Roberts: Hi, I'm Rashaun Roberts, I'm the designated federal officer. There is a public comment period built into the agenda so public comments and questions really are raised at that time.

Ms. Colley: Like I said, I haven't been on this for a while and I missed the first part.

Chair Anderson: Public comment period will start at 5:00 p.m. Eastern Time.

Member Clawson: Andy, is there a sign-up for them in public comment to be able to make public comment speaking in our regular meetings? I've had several people ask me how do I get set up to be able to speak.

Chair Anderson: Rashaun?

Dr. Roberts: You can pass that, whoever you have on to me. Typically, those requests come to the DFO

and/or Chair prior to the meeting so we can get people on the list.

Chair Anderson: I just wanted to make sure because they've just mentioned how do we do that? I'll make sure to pass that onto them. If they haven't done it in advance, that doesn't mean they can't comment.

We'll ask for comments at the end but it's nice to know how many would like to talk so we can allocate the hours.

Member Clawson: And I also told them when they do to put what they're wanting to speak of too to make sure the right people are there to be able to listen to it.

Chair Anderson: Other questions?

Member Beach: Andy, I have a question for Grady or maybe Lori, but Grady can probably answer it.

If you request SRDBs to be posted in the virtual space, can you give us a timeframe? I know I gave Lori a pile and she had them in there within a couple of weeks.

But if you're just requesting one or two can you tell them what the timeframe is to get the access to those?

Mr. Calhoun: It depends on what Lori's doing, basically, but I'll ask her. I can shoot her a message while we're speaking here but I would imagine she could do that a few days depending on what's going on.

It's not going to be instantaneous I'm sure but if she got a pile of them in a couple of weeks, I would imagine she could get a few of them done in a few days.

There is actually somebody that can do it for her in her absence too.

I think it's basically the size of the documents but

again, if it's something you're really chomping at the bit at, just let me know and I'll try to make it go as quickly as we can given everything else we're doing.

Member Beach: My next question is we do have some members that issues with their laptops and can't get into the virtual space. Is there a way to have access to SRDBs when you don't have access to the virtual space?

Mr. Calhoun: No, absolutely not. I know that's an easy answer on that one.

Member Beach: I suspected that was the answer, I just wanted to see if there was any other workaround.

Member Clawson: Josie, let me ask on this question to Grady.

Before, there was a lot of times that we had certain documents and stuff that we actually needed for and when we were having troubles with our computers and so forth like that, you guys can actually burn them on a CD to us.

Can you guys still do that?

Mr. Calhoun: Probably not. They would have to be completely through the redaction process and everything. I can check but we don't do that anymore, we don't do fire straws or anything anymore.

So, they really cracked down on any environmental media as well.

Member Clawson: If you remember, a lot of times we used to get a lot of that information, especially when they were PA-cleared and everything else like that. It was just informational.

Mr. Calhoun: Hey, if we run into any of that and we can do it, we will and also, we'll try to post stuff that's completely applicable. We don't want to start posting everything to our website, rather than trying to get it

to you.

But if you run into something like that, like I said, just call me, we're trying to be flexible on these things and get things done.

Member Clawson: I just wanted to know if we had that availability and we'll go from there.

Chair Anderson: Other comments? We can talk a bit more about the computer issue when we go to our discussion area. I just got my new computer and it works like a charm, it only took me three days to get it set up.

The poor support center, they really helped and it works like a charm now.

So, if you have one of the older computers, they're hopefully going to swap all those out so you should be able to get a new one because the old ones, the software on it isn't so good either.

With that, let's move on to the DOL program update.

DOL Program Update

Mr. Crawford: Hello, this is Chris Crawford from DOL. Grady has graciously volunteered to present the slides for me as usual. Let me know when --

Mr. Calhoun: Can you see the slides?

Mr. Crawford: No, I'm not on Zoom at the moment.

Mr. Calhoun: Can you see the slides, Dr. Anderson?

Chair Anderson: Yes.

Mr. Calhoun: I'm on Slide 1, Chris.

Mr. Crawford: Thank you, let's go to Slide 2, our compensation paid slide.

We have $7.4 billion paid already on Part B compensation, $5.9 million on Part E compensation, $7.8 billion on medical bills for a $21 billion total

compensation plus medical bills paid sum on 223,828 cases filed.

In smaller categories we have expended $1.69 billion on dose reconstruction cases with 15,880 payees and $180 million approved SEC and a probability of causation of 50 percent or greater cases combined.

There are a few cases like that, we have 1390 payees under that category. Next slide.

Mr. Calhoun: I've been talking on mute, Chris, it's there.

Mr. Crawford: The NIOSH referral case status and our figures are as of March 31st so they won't align with Grady's anyway but we showed 55,326 cases referred to NIOSH for a dose reconstruction, of which 53,490 cases have been returned at DOL from NIOSH.

The 6819 at DOL with the dose reconstruction, 6671 have been withdrawn from NIOSH with no dose reconstruction. These show 1836 cases currently at NIOSH as of March 31st again.

We have Part B cases with the dose reconstruction and final decision. 37,156 cases with dose reconstruction and a final decision. Of those, 34 percent are final approvals amounting to 12,714 cases.

And 66 percent are final denials, amounting to 24,442 cases. Next slide. Here we have Part B cases filed. The largest category is always other, as you see in the note other refers to beryllium sensitive, chronic beryllium disease, and chronic silicosis.

NIOSH gets 30 percent of the cases, 13 percent of the cases are never sent to NIOSH, they're SEC cases. 12 percent are SEC cases that are sent to NIOSH and 7 percent are RECA cases.

Here we have Part B cases with a final decision. This would include SEC cases. So, we have 109,627 such

cases of which 53 percent were approved and that's 58,607 under Part B and 47 percent were denied, that's 50,950 cases denied under Part B.

Next slide.

The top four work sites for the first quarter, calendar quarter, of this year generating new Part B cases are about a test site, Savannah River site, Hanford, and K25.

So, the usual suspects I think. Grady, I'm going to go back and forth between this slide and the following one. The SEC sites being discussed at this meeting today and tomorrow, Huntington Pilot Plant and Sandia National Laboratory, Albuquerque.

Huntington Pilot Plant we have 888 cases, part of which 84 cases have been returned by NIOSH with a dose reconstruction and we have 483 cases with a final decision. Let's move on to the next slide and we'll come back.

Still Huntington Pilot Plant, we have approved 22 cases, Part B, we have approved 33 cases under Part E, and we have paid a total compensation in medical bills of $11,060,204.

Let's go back one slide. Now we're talking about Sandia national laboratory, from which we have received 4492 cases. NIOSH has returned 772 cases with a dose reconstruction. We have final decisions under Part B of 2100 cases, the same with Sandia, you have approved 1410 cases under Part B and 1333 cases under Part B. We have paid out $468,651,163 through March 30th.

Next slide. Now, we're going to speak briefly about the outreach events. These are now virtual so far. I guess we're going to in-person meetings later this year we hope these are the meetings that have already been held.

In March, we had a RECA Case, Radiation Exposure Compensation Act, 258 attendees at the webinar. In

February we had NIOSH dose reconstructions and stakeholder updates webinar with 170 attendees.

In January we had a webinar of national office roles and responsibilities with 124 attendees. Next slide. We're going to look at the upcoming webinar series.

We'll be discussing former worker medical screening programs, worker health protection programs, eligibility and services available for former and current workers from 14 DOE sites, a full review of the building trades national medical screening program conducted by CPWR.

Let's go to the next slide. In an upcoming outreach event, June 2nd of this year at Savannah River Site town hall in Aiken. Next slide. We have a RECA town hall June 28, 2022 in Farmington, New Mexico.

Next slide. The very next day we're having a RECA town hall June 29th at Shiprock, New Mexico. Then we're having a RECA town hall at Kayenta, Arizona, June 29, 2022, same day.

The last listed one is an Oak Ridge off-rise representations workshop August 30th and 31st at Oak Ridge and a town hall also at Oak Ridge on September 1st.

That's the final slide except on the website you will see further information about eligibility and that sort of thing, which we don't present to the Board. Are there any questions?

Chair Anderson: I can't see hands, if people have questions go ahead and ask. Josie, did you?

Member Beach: I originally had a question on Slides 9 and 10 but I was just reviewing and my question was answered with you going back and forth with that so I appreciate it. I don't have anything else to ask, thanks.

Chair Anderson: Any other questions? Thanks very much, Chris and we'll move on to DOE and Greg

Lewis.

DOE Program Update

Mr. Lewis: Hi, everyone, can you hear me?

Chair Anderson: Yes.

Mr. Lewis: I'm going to turn it over Mr. Kevin Dressman in just a moment to introduce himself. He is the new, or relatively new I guess, early fall he started, Director of Office of Health and Safety at Department of Energy.

He replaced Pat Worthington, who retired last year. So, I believe I had shown his bio during the last Advisory Board meeting but Kevin had another commitment and wasn't going to be able to speak to you all but he is here today.

I think he's traveling down at the Los Alamos site but he was able to take time out talk to you folks, so he's just going to get a little bit of an introduction and turn it back over to me and I'll go through the rest of our presentations.

Kevin, do you want to take it away?

Mr. Dressman: Yes, can you hear me okay?

Mr. Lewis: I sure can.

Mr. Dressman: Excellent, good morning, everyone. As Greg mentioned, my name is Kevin Dressman, I'm the new Director of the DOE Office of Health and Safety, Greg's program is within our office.

I've been with DOE for about 15 years. Until joining this organization six months ago, I was working in the Department's Enforcement Program and among the enforcement programs the Department has, one is related to worker safety and health.

And so I've spent most of my career in a role that in many ways advocates for DOE workers, both primarily current workers but in some of the

enforcement matters that we dealt with involved former DOE workers.

I've had a 30-year federal career that spanned 3 different federal agencies and in all the roles that I've been involved in, it's had some impact on federal and non-federal workers and health and safety matters.

So, as Greg mentioned, I'm relatively new to the program, Greg and Gina and their team have been very patient and have done an excellent job in terms of bringing me up to speed on our role in this process.

And unfortunately, I won't be able to send more than just about 20 minutes participating in the call today but I look forward continuing to learn more about the program and various roles and responsibilities that the various organizations have in executing this program on behalf of the formal workers from the Department of Energy.

So, thank you again and I look forward to hopefully some day in the future getting to meet some or many of you in a non-virtual environment. Thank you.

Mr. Lewis: Okay, this is Greg again. Thanks, Kevin. Grady, would you be able to pull up my presentation if possible?

Mr. Calhoun: Can you not see it? Let me start and stop over. I tried to do it, let me stop and start over.

Mr. Lewis: It may just be me but I was still seeing the agenda.

Mr. Calhoun: How about that?

Mr. Lewis: That's perfect. I guess if you could go a couple slides down because the second slide is Kevin's information and he just introduced himself.

I'll go to the responsibilities and this is our usual presentation, but again for those who aren't familiar, we support the program and Department of Labor and NIOSH by providing records, both for individual claims as well as for site characterization efforts like

SEC research and then of course the cover facility designations as well.

If you can go to the next slide?

For individual records, we go to many different locations. These aren't just a one worker, one file for a worker that had a 30-year career.

We could have to go to multiple different databases, different types of records, hard copy records, microfilm, microfiche, databases, location print-outs, that kind of thing, to try to pull together a records package.

Sometimes, unfortunately, if a subcontractor was there for a short time we may be able to find very little information but if it's a career, 30-year employee, some of those record packages can be over 1000 pages long.

I've seen 2000 and 3000 pages in extreme cases but the volume of records really can vary. Next slide. Recently, we are constantly supporting NIOSH and DOL research efforts.

I just went back through my notes and emails and since the last Board Meeting some of the sites we've been working with NIOSH and the Advisory Board on are the Oak Ridge GDP or K25 Hanford Site, a few of the different legacy management sites or sites that legacy management handles, those are the closure sites.

Los Alamos National Lab and the Savannah River Site. Next slide.

We are continuing to do the classification reviews on NIOSH final documents, as well as documents that are requested from sites, like the five that I mentioned on the previous slide as NIOSH's or the Advisory Board or contractor are requesting documents.

We're reviewing those for classification and making sure those are available and useable in a timely fashion to NIOSH. Next slide. Facility research is a smaller responsibility but extremely important.

There are particularly AWE sites where we continue to research either the covered time period or whether the new facility should be covered or existing facilities are appropriately covered.

Next slide. The formal worker screening program, I always put a few slides in on the formal worker program.

This is also a program that my office funds and supports, it's separate from the compensation program but serves many of the same people or is almost a gateway into the compensation program for some folks.

We provide free medical screenings to all formal workers from all DOE sites are eligible for a screen medical screen. Not all take advantage of it, of course, although we'd love it if they did.

We are actually, as Chris Crawford mentioned, to this afternoon the next Department of Labor virtual outreach series is featuring our formal worker programs, so for those of you that are interested, you could always hop over to that.

I think the link is on the Department of Labor website but we're going to be providing information about our formal worker programs, what they offer, who's eligible, how the program works, all of that good stuff, and taking questions.

And then while I'm talking about outreach, I'll also mention we are supporting the other DOL outreach activities during outreach task group activities, so I know we'll be participating and presenting at the authorized rep meeting that I think is late August and early September.

We'll be there and we also look forward to getting

back to supporting the various in-person outreach events as we start to get back to that.

On the slide there is a link to some more information about our formal worker program and with that, I think that's my last slide.

I'll take any questions for me or Kevin, if he's still on the line.

Chair Anderson: Board Members, any questions? Welcome to Kevin.

Mr. Lewis: No questions, thank you for having us.

Procedures Review Finalization/Document Approvals

Chair Anderson: We'll let you off the hook, thanks very much. Let's move on to now to the Procedures Review Work Group, Josie Beach is the Chair. Welcome, Kathy will be presenting today and our Subcommittee Meeting was in February.

We continue to work through our carryover issues and concerns along with keeping track of all the work that the Subcommittee is doing. It's a little more difficult because, like Grady said, we don't have the BRS.

So, Kathy has put together many charts for us and is keeping track so that when we do have access to that program, hopefully we won't be in a situation where the BRS is not going to be available to us.

That will be interesting I'm sure. But we are going to close out, or Kathy is going to present seven procedures for closeout that the Subcommittee has already reviewed and we're going to pass those onto the Board.

Kathy, are you set and ready to present?

Ms. Behling: Yes, I am. Let's see if I can share my screen. Do you see the first slide?

Member Beach: Yes, we do.

Ms. Behling: Let's get started. As Josie mentioned, today we're going to discuss seven documents that have already been approved by the Subcommittee. There's going to be one OTIB report and five PERs that are listed here.

We will start with OTIB-0066 and this OTIB is the calculation of dose from intakes with special tritium compounds.

This document provides guidance on calculating best estimate doses from intakes of tritium bound to organically bound tritium and tritium bound to stable metal tritides.

Rev. 00 was issued in April of 2007 and SC&A reviewed Rev. 00 of this OTIB and we submitted our report in November of 2008.

And as a result of that review, we identified four findings and we presented our findings to the Subcommittee at the March 2009 meeting and then Revision 1 was issued in October of 2020.

We had four findings and we'll station Finding 1. This matrix shows a summary of the finding and its resolution and Finding 1 states that OTIB-0066 uses methodology in OTIB-11.

OTIB-11 is tritium calculated and missed dose estimates for assessing dose to intakes of organically bound tritium. We considered that methodology is not claimant-favorable.

In January 2009 NIOSH responded and said they agreed and they stated that there's a correction factor of 1.4 that is used in OTIB-11. And they indicated that is correct for Type 1 calculations and I'll just explain, Type 1 calculations represent a linear interpolation between two urine sample measurements that are taken less than 40 days apart.

However, they indicated that the adjustment is larger for Type 2 and Type 3 calculations. Type 2 is an

exponential extrapolation between a first measurement and a second measurement that's performed greater than 40 days apart.

And Type 3 is an exponential extrapolation to infinity to account for the tail of the last measurement.

And initially, NIOSH indicated they were going to revise OTIB-11 but actually, what happened is when they revised OTIB-0066 they actually removed the recommendation to use OTIB-11, and they specified that the dose reconstruction they should use for the calculation.

SC&A did go in and do a focused review of OTIB-0066 Rev. 1 and we confirmed that the appropriate changes were made and we recommended to the Subcommittee that the finding be closed.

At the November 2021 meeting, the Subcommittee did agree to close that finding.

Member Beach: Kathy, do you want to pause after each of the findings and just ask for questions? Otherwise, we may get lose.

Ms. Behling: I was going to pause after each document and ask for questions but we can do it after each finding if you like.

Member Beach: I think at the end of the document would be fine too and if somebody has a question and they want to break in, I think that would be appropriate after the finding.

Ms. Behling: Just flag me to stop talking whenever.

Member Beach: Go ahead.

Ms. Behling: We will move on to Finding 2.

Finding 2 states that the bounding techniques proposed in OTIB-0066 cannot be developed without understanding the special tritium compounds that were handled, the material quantities, the locations in time periods of the exposure, and the physical

behavior of tritium in the environment.

NIOSH responded indicating that this type of information actually should be provided in the site profile and it's really outside of the scope of OTIB-0066.

And SC&A agreed with that and the Subcommittee closed the finding based on NIOSH's response.

Moving onto Finding 3, Finding 3 asserts that OTIB-0066 does not ensure that the doses are based on adequate monitoring data and recommends using particulate air monitoring.

However, we even had some questions with the use of that data.

And NIOSH agreed that the monitoring data that argues full evaluating of stable metal tritides, however, the air monitoring when it's not available, urinalysis data can be used to bound the intakes.

NIOSH indicated that they would add guidance on the practical interpretation and shortfalls of the urine bioassay result to a revised OTIB.

And again, SC&A performed a focused review of Rev. 1 of the OTIB-0066 and confirmed that NIOSH did include appropriate information and based on that, the Subcommittee closed this finding.

Moving onto Finding 4, Finding 4 identifies that the OTIB does not provide guidance on how to distinguish between intakes of special tritium compounds, elemental tritium, and tritiated water.

NIOSH acknowledged that this is not potential to identify the compounds responsible, however, the most claimant-favorable models are designed to be consistent with the source terms.

And again, SC&A agreed with that and the Subcommittee closed this finding. That sums up our review of OTIB-0066 and I'll try to take any questions.

Member Clawson: Kathy, this is Brad. Back on Slide 2, I've just got a question on that. What they're saying is that we will use the site profiles supposed to cover all of this tritium, what was used when it was there?

Ms. Behling: That is their response, yes. This is a site-specific issue and it should be incorporated into the TBDs or the site profiles, yes.

Member Clawson: My question comes back to these site profiles are ever-developing and changing so maybe that would be for Grady or whoever else, if you have done a site profile issue and then the site profile changes, what is this going to do to the dose reconstructions that you have performed?

Ms. Behling: To some extent I could answer that question because when there are changes to a technical basis document or an OTIB or a report, NIOSH generally issues the program evaluation report, a PER.

And it does that if there are changes that increase the dose and would impact any of the claims that were previously adjudicated and less than 50 percent. So, that should be covered under the PER if I understood the question correctly.

Member Clawson: I understand when we do that with procedures and with OTIBs and everything else like that, but I was wondering about site profiles because they're an ever-living document and they're always changing.

Ms. Behling: Yes.

Mr. Calhoun: This is Grady, I think I answered the question correctly but anytime that we have a change in any of our technical documents, whether they're technical basis document TBD, TIB, if it increases the dose, we will go through all non-compensated cases to make sure that change wouldn't cause that case to flip the compensatory.

Member Clawson: I just wanted to make sure because I thought that's why we made a lot of these OTIBs, just technical data, so that we had everything in one spot.

Because I know that a site profile, new information comes in and changes and stuff, so this is tied to one specific item like tritium and stuff, and the requirements that are needed, I just wanted to make sure I understood how this was going to feed back.

Ms. Behling: And in fact, Brad, several of the PERs that we'll be discussing today have to do with changes in the site profile, so we will see examples of those today.

Member Clawson: Thank you for that, thanks, Grady.

Member Beach: It's a good question, Brad. Any other questions on OTIB-0066? Rashaun, what would be the proper procedure here, take a verbal vote to agree with the Subcommittee on closing this OTIB?

I think if we go through each one of them individually it might be better.

Dr. Roberts: Sure, I think what you could do is make a motion and go ahead and do it that way.

Member Beach: I think these are all motions, unless you need it as an official motion. So, the motion from the Subcommittee is to close ORAUT-OTIB-0066.

Member Clawson: I second it.

Member Beach: Thanks, Brad. Any discussion? And then Rashaun, can we just say all in favor?

Dr. Roberts: That will be fine.

Member Beach: All in favor say aye?

(Chorus of aye.)

Any opposed? We'll say that ORAUT-OTIB-0066 is officially closed and Kathy, I'll turn it back over to

you.

Member Ziemer: Just a point of information or maybe a point on procedure, Josie, this is Paul, two things. Number one, recommendations from Subcommittees or from work groups do not require seconds under Robert's rules.

And number two, I think the Board action has to be under the purview of the Chairman of the Board.

Member Beach: That's why I was asking, because I wasn't sure.

Member Ziemer: If you want the Board to take action on recommendation of the Subcommittee, Andy should actually call for the vote.

Member Beach: Andy, would you like to --

Chair Anderson: I will call for the vote. Do we have a motion to close out OTIB-0066? All in favor say aye?

(Chorus of aye.)

Any opposed? The motion passes.

Member Clawson: I take back my second then.

Member Beach: Thanks, Paul, for getting that straight and clarifying.

Ms. Behling: Sounds like we're ready to move on to RPRT-0086?

Member Beach: Yes.

Ms. Behling: RPRT-0086 is internal dosimetry coworker completeness test and this report provides generic discussion of statistical methods that can be used to select a sample of workers from --

It used to be we'd select a sample of workers from NOCTS and they would use their data to estimate the missing data portion for the population of all monitored workers at the site.

And site-specific data are dependent on how the data sets are structured for a given site and those methods are included again in site-specific reports. So, just as a backdrop, this report is more of a generic nature.

Rev. 1 was issued in September of 2017 and SC&A submitted its review of Rev. 00 in January of 2018 and we identified three observations.

We presented our findings to the Subcommittee at the February 13, 2019 meeting and I put all these dates and things in in case anyone wants to go back and look at transcripts, you have the information available to you.

Observation 1, there are four RPRT-0086 parameters that are variable and dependent on the selection of their value will determine the required sample size and they may affect the outcome of the analysis.

And these parameters are one which is a producer's risk alpha, two is a consumer's risk beta, and three is unacceptable error rate. And so SC&A said in the PNL that these are variable and their selection can alter the outcomes.

NIOSH's response was they stated they'll note this observation as incorporate appropriate wording when the report is revised. But the observation really doesn't change any of the methodology.

And based on that, the Subcommittee accepted NIOSH's response and they closed this observation.

Member Kotelchuck: Kathy, I don't understand what producer's risk and consumer's risk, how that plays into the calculations here, I don't understand what it means in this context.

Ms. Behling: In this particular case I'm going to have to refer to NIOSH to give a better explanation of that. Is there anyone from NIOSH?

Member Kotelchuck: I don't know what's being

consumed.

Dr. Taulbee: This is Tim.

Basically, this has to do with what kind of risk tolerance we have as the -- I'm struggling here for words -- of an acceptable type of error.

Does we have one of the statisticians from ORAU on the line that could help out here?

I'm fumbling on the words here. I guess not. All right, there's two different parameters here, the alpha and the beta. One of them is referred to as the individual who is producing the actual data that is coding it and so forth.

And so the second part is the person who is using it, in a sense, that's where the producer and consumer is coming from. That's where that terminology is. You're shaking your head?

Member Kotelchuck: That gives me a sense of what those are. Those are names for those parameters?

Dr. Taulbee: Effectively, yes.

Member Kotelchuck: I was just trying to think who is consuming what, but now I see. It's a label for a process that's used in general in statistical calculations?

Dr. Taulbee: That's correct.

Member Kotelchuck: That's fine, thank you.

Ms. Behling: If there's no other questions I'll move on to Observation 2. Observation 2 is simply an issue of terminology.

SC&A felt the term original data set, which is used throughout the report, is referring to the computer-readable data set in electronic format that's been transcribed from hard copy records.

And since original really refers to origin or first, we

felt that adopting a different term for this data set would be less confusing. Again, NIOSH agreed they could make a note of this observation and include appropriate wording changes in the next revised report.

But since it doesn't really impact the methodology described in this report, they felt that we could move on and close it. The Subcommittee accepted NIOSH's response and closed this observation.

Moving onto Observation 3, there is actually a paragraph on Page 11 that refers to Figure 5-3 that erroneously states that the critical value for n equals 25, however, the caption of Figure 5-3 and the values in 5-3 are actually that n equals 24.

So, just a minor typographical error. The Subcommittee accepted NIOSH's response. NIOSH said they agreed there was a typo and they would make a change when there was a revision to this report.

The Subcommittee accepted that and closed this observation. That sums up our review of RPRT-0086.

Chair Anderson: I think this comes to vote to close it out, the recommendation from the Committee is that the Board accept your recommendation and close out the 0086 review.

Member Beach: Yes, unless there's additional questions, Andy.

Member Kotelchuck: No further questions.

Chair Anderson: Thanks, Dave. With that, I'll call for a vote. All in favor of closing out ORAUT-0086 signify by saying aye?

(Chorus of aye.)

Any opposed? Unanimous and ORAUT-0086 is closed.

Member Beach: Thank you, Andy, we will move right along.

Ms. Behling: Now, we'll move into our first program evaluation report and as we said, this is generally issued when there's a change to a site profile or to a guidance document that increases those.

I'm sorry, was there a question?

Dr. Roberts: Yes, someone on Carolyn's iPhone, please mute.

Ms. Behling: Thank you. In general, when there is a change to site profile or to a guidance document that increases dose and has the potential to impact previously adjudicated cases, NIOSH issues a PER.

In this particular case, this is PER-57 and it was issued due to changes to the General Steel Industries, GSI, TBD. The PER was issued in March of 2015 and it assesses the effect of Rev. 1 to the GSI site profile.

The GSI site profile methodology is in Appendix BB of the Battelle TBD-6000. The revision included extensive changes to dose estimates for all operational and residual period years and just as a little refresher, I want to explain SC&A's review process.

We have five tasks, really it usually refers to them as four, Subtask 4 evaluates the circumstances that necessitated the need for the PER. And under Subtask 2 we evaluate NIOSH's methods for corrective action.

And it's under this section that if there were documents, supporting documents, for this PER that have not previously had a formal review by SC&A, it's in this section that we have the opportunity to review any revised OTIBs, site profile.

If there's a white paper involved that we haven't looked at, we do that under our Subtask 2. Under Subtask 3, we look at NIOSH's approach for identifying the universe of potentially affected claims.

And under Subtask 4, we provide criteria under Subtask 4 for selecting a sample set of cases that would be impacted by the PER. And there's Subtask 5, which is actually are our report, our written Subtask 4 report that gives the results.

And it contains the results of our case audit.

Member Kotelchuck: Are the slides moving?

Ms. Behling: They're not, I just thought about talking about this today and didn't include a separate slide, I apologize. I'm ready to move on. Sorry, I should have included that as a separate slide.

Member Kotelchuck: No problem.

Ms. Behling: SC&A's review of the DR methodology in Appendix BB Rev. 1, we reviewed that in December of 2014 and that review identified nine findings, which were resolved under the TBD-6000 Work Group.

They were presented to the Board at the November 18, 2015 meeting. I apologize for this. Under the Subcommittee's purview, the PER-57 review just consisted of evaluating a sample set of impacted cases.

So, SC&A reviewed based on our recommended selection criteria, SC&A reviewed five cases and our selection criteria included various employment periods and job categories and cancer types.

We submitted our Subtask 4 report in December of 2016 and we identified four findings and seven observations, and we presented our review at the January 10, 2017 Subcommittee meeting.

Finding 1, in one of the selected cases, SC&A did not agree with NIOSH assigning the EE, or the energy employee, to the administrative category based on information that we found in the CATI report.

And as a result, SC&A reviewed all of the GSI cases, the administrative cases that were assigned as

administrative cases, to ensure this is not a systemic issue. And based on that review, it was determined this was just an isolated case.

And NIOSH responded by saying after they reviewed the CATI, they probably shouldn't have been classified as an administrative worker, however, since the EE was not employed at the site, there's really not a lot of corrective action that could be done.

What had happened here is early on there was some confusion between employees that were employed at GSI or employed at the Granite City Steel Company, and in this particular case, this person happened to be at the Granite City Steel Company, but initially, the dose reconstruction was done under the GSI TBD.

We just followed through and just looked at this case anyway because we were looking at whether it was performed in accordance with PER-57, not whether the person was actually employed there.

The Subcommittee closed the finding since it appears that this was an isolated case for assigning this person as an administrator. Finding 2, NIOSH used the CADW, the Chronic Annual Dose Workbook, and entered pro-rated intakes to account for partial years of employment.

And this approach is actually considered an efficiency approach or measure that for cases that are considered best-estimate and close to the 50 percent PoC, SC&A felt it should not have been used.

And we recommended that in the BEs for these calculations. And NIOSH also agreed and said that typically, they do use IMBA when they're working with best-estimate cases. They did recalculate the internal dose for this case using IMBA, and they reran IREP.

This resulted in just a modest change in the PoC, which did not impact the compensation decision. During this discussion, NIOSH also indicated that the

CADW program had also been modified to allow for partial-year intakes.

And the Subcommittee requested that NIOSH formally document this. That was done and based on that response, the Subcommittee closed the finding.

Finding 3, NIOSH calculated uranium intakes using an additional intake year and although this resulted in a slight overestimate, it does represent a QA issue. And NIOSH acknowledged this error but stated that it did not impact the case.

Based on that information, the Subcommittee closed the finding.

Finding 4, again, this is for one of the additional selected cases, SC&A questioned whether the EE for the selected case should be classified as a plant worker rather than an administrative worker.

However, NIOSH indicated that they also went back and looked at all of the administrative GSI cases to ensure that's the classification they belonged under. And so they felt that classification for this particular case was correct and the Subcommittee agreed with that and closed the finding.

Now, moving onto our observations, SC&A noted that NIOSH used a fixed DCF value for assigning dose to the administrative worker and this is inconsistent with the guidance in Implementation Guide 001, which is our external implementation guide.

And SC&A assessed the DCFs using different approaches and found the triangular distribution produced the highest value and was likely the most claimant-favorable POC.

NIOSH indicated that they had made some changes to the GSI Appendix and some of the tools and techniques and based on those revisions, they felt this observation would be resolved.

So, the Subcommittee asked SC&A to -- as part of

that, they issued another PER for GSI, which is PER-80. And as a result, the Subcommittee asked SC&A to just do a focused review initially of PER-80 and confirm that the revision did resolve the concern.

SC&A was able to do that so the Subcommittee closed this observation. Observation 2, external photon dose should have been entered into IREP as a chronic exposure as opposed to an acute.

NIOSH indicated that they selected acute versus chronic based on dose rate efficiency factors and that generally, they select exposure modes that will produce the highest PoC.

Now, in cases of best estimates, they may select the chronic exposure rate just because it's more reasonable exposure. So, based on that explanation, the Subcommittee closed this observation.

Observation 3, dose distributions for operators during the years 1952 through 1961 were derived by incorrectly assuming that exposure rates and DCFs are totally correlated.

And again, NIOSH's response was there had been changes since this observation was dated to the GSI site profile and tools. And so those changes were issued in PER-80, and SC&A did go into the site profile and confirm this issue was resolved with that revision.

And based on that, the Subcommittee closed this observation. Observation 4, guidance in the GSI Appendix cannot be used to assign neutron dose, was SC&A's observation.

And again, NIOSH's response was that the changes that were made to the GSI site profile should correct this issue and SC&A did confirm the revision results our concern.

And so the Subcommittee closed the observation at the February 2021 meeting. Observation 5, this observation has to do with entering beta dose into

IREP as a chronic dose, which we previously discussed for photon dose under Observation 2.

And again, NIOSH responded by saying that the chronic exposure rate is more claimant-favorable, however, for best-estimate cases, they may use a more realistic chronic exposure rate.

Onto Observation 6, this is where SC&A observed that NIOSH again is using the CADW program as an efficiency measure to estimate the internal dose for one of the cases of concern. This is similar to our Finding 2 previously discussed.

And NIOSH documented their response in a memo. The Subcommittee asked us to look at that memo again and just convince ourselves that this issue was resolved.

SC&A did respond in an August 17, 2021 memo and determined that since NIOSH agreed to use IMBA for best-estimate cases, this issue was resolved.

Based on that, the Subcommittee closed the observation. Lastly, Observation 7, SC&A she said that NIOSH assigned medical X-ray dose to a worker who stated that --

Dr. Roberts: Excuse me, Kathy, I'm hearing some interference in the background. If people could mute, please.

Ms. Behling: Again, NIOSH's response is they had made changes to their site profile for General Steels Industries and this issue should be resolved. And based on SC&A's review of the site profile, we were able to confirm that.

Based on that, the Subcommittee closed this observation. That concludes the review of PER-57.

Chair Anderson: Any questions by Board Members or the Committee?

Member Kotelchuck: Not I, Dave.

Chair Anderson: No questions, the Subcommittee has recommended that the Board accept their recommendations related to the findings and observations and close them out.

I would just say that in all of these, as we have in others, when we close out the review of them, they're still not fully implemented, so we'll wait to hear from NIOSH or get a notice from them when the documents ultimately get revised.

But it's all set to move forward only on the timeframe that's needed to do so. So, we have a motion from the Committee to close out these reviews. All in favor say aye?

(Chorus of aye.)

Any opposed?

We can move on.

Ms. Behling: Now, we'll move on to our second PER that we've been talking about for General Steels Industries and that's PER-80, which addresses revisions to Rev. 2 and 3 of the GSI Appendix.

This PER was issued in August of 2017 and the revisions resulted in inhalation intakes increasing during 1966 and at least one external organ or skin dose increased in each of the operational years for radiographers.

Since Revision 2 and 3 of the GSI site profile were reviewed under TBD-6000 Work Group and we also performed the focused review of issues identified due PER-57.

Under the Procedure Subcommittee, PER review just consisted of evaluating a sample set of impacted cases.

This sample set included five cases which were selected based on specific employment periods, job categories, and cancer types. SC&A submitted its report on July 19, 2018 and this review resulted in

the identification of one observation.

We presented our review to the Subcommittee at the February 13, 2019 meeting. Observation is actually a repeat of Finding 2 and Observation 6 from the PER-57 review, which again states that CADW was used for calculating internal dose for a best-estimate case.

And we really recommend that IMBA be used for these calculations. It was just noted that at the February 2019 meeting NIOSH corrected a previous statement where they indicated that the revision to CADW would assess doses on a daily intake.

CADW was actually modified to just incorporate the prorating approach for partial years so it's still considered an efficiency measure. This issue was resolved by NIOSH instructing the dose reconstructors to use IMBA for all cases with PoCs between 45 and 52 percent.

And based on that response, the Subcommittee can close the observation. That was a quick one. We are done with PER-80. Any questions?

Chair Anderson: Hearing no questions, the Subcommittee has recommended that PER-80 be closed and I'll call for a vote on that. All in favor of accepting the Subcommittee's recommendation say aye?

(Chorus of aye.)

Any opposed? As we move forward, I just want to recognize that as a new Chair, I might designate Paul to be our parliamentarian to keep us on track with our appropriate Robert's rules if that's okay with you, Paul.

Member Ziemer: That's okay, we don't have to vote on that I guess.

Chair Anderson: I know, I just don't want people to hear you break in and it's important that we follow all the various appropriate procedures.

Member Beach: He's been doing it for years, Andy.

Chair Anderson: I know, we all accepted it and recognize it.

Member Beach: Much appreciated.

Chair Anderson: We'll give him a pat on the back for appreciation. Next, PER-063.

Ms. Behling: PER-063 evaluates cases impacted by changes that were introduced into Revision 1 of the Aluminum Company of America in Pennsylvania, ALCOA.

The site profile, the dose reconstruction guidance for ALCOA Pennsylvania is actually described in Appendix R of the Battelle TBD-6000 document.

The PER was issued in June of 2015 and the Rev. 1 changes include incorporating changes to the TBD-6000, which resulted in adding external beta dose from surface contamination.

The revision also eliminated the job categories of operator, general laborer, supervisor, and clerk, and everyone gets a job title of operator. It also incorporated the OTIB-70 depletion factors during the residual period.

This resulted in an increase to inhalation and ingestion intakes and internal dose increases during the operational period. In addition, some residual period doses through 1980 also increased.

SC&A's review of PER-63 was submitted on July 17, 2017 and there were no findings. The review was presented to the TBD-6000 Work Group in September 2017 and for our case review, there was one case selected where the EE was assigned both internal and external dose during the operational and residual periods.

The case review report was submitted in September 2021 and it was presented to the Subcommittee in November of 2021. There were no findings but as we

initially or previously agreed to, we would go through all of this.

And in fact, I think I tried to spend a little bit more time describing the process and the DR methodology for these sites so that if maybe the Board Members have a finding or a question that SC&A perhaps didn't identify.

So, I'm going to spend a little time, there's a little history of the ALCOA, Pennsylvania operations.

They used welding process to can and seal uranium slugs produced at other facilities and the work was performed under 15 purchase orders and resulted in canning of approximately 100,000 slugs.

The AWA operational period was from 1943 through 1945 and the residual period was from 1946 through 1991.

To assess NIOSH's corrective actions in PER-63, it was not necessary to evaluate the source documents, namely TBD-6000 and OTIB-70 since our review for those documents were performed separately.

So, for this assessment, SC&A just compared the elements of the original site profile and the revised Appendix R.

And that included operational period external dose rates for whole-body, hands and forearms and other skin locations, also operational internal doses including inhalation and ingestion intakes.

And for the residual period, we compared the derivation of the floor contamination levels, photon and beta dose rates, source depletion rates, and calculated the internal and external doses based on the source depletion.

And based on that assessment, SC&A was able to confirm that appropriate parameters from the revised TBD-6000 and OTIB-70 were applied. SC&A was also able to match the Revision 1 operational external and

internal values.

We verified the accuracy of the calculation of the floor contamination levels and source depletion rates and finally, we were able to match the revised residual dose rates and internal intakes.

Under our Subtask 3 protocols, SC&A evaluated NIOSH's approach to evaluating potentially impacted dose reconstructions. For PER-63 NIOSH initially included all cases with employment at ALCOA, Pennsylvania with PoCs of less than 50 percent.

That resulted in 44 cases, however, 2 were eliminated because the dose reconstructions were completed using Revision 1 of the Appendix. 5 were completed using guidance designed to overestimate dose.

These were completed earlier and so Revision 1 would result in lower doses than these overestimating guidance. Two cases had already been returned to NIOSH and reworked under Rev. 1 and therefore, there were 35 cases remaining that NIOSH reworked.

And so under SC&A Subtask 3, we agree with NIOSH's selection strategy and with your screening criteria.

Under Subtask 4, SC&A reviewed a sample set of reworked cases, determined if NIOSH properly implemented the revisions in Appendix R.

And our selection criteria included the exposure pathways that were impacted by the revision, and therefore, we asked for one or two cases where the EE was assigned internal and external doses and worked during both the operational and residual periods.

NIOSH was able to find one case that met all those selection criteria. And SC&A noted that NIOSH reworked the case with all of the applicable and current dose reconstruction tools.

They recalculated annual doses and they re-ran IREP. And in this particular case, because it was a best estimate, the IREP was run 30 times at 10,000 iterations per run.

It was not necessary to send the formal DR report back to DOL since the compensation decision did not change. Some generic background about this case, the EE worked for approximately three decades at the ALCOA, Pennsylvania site.

He worked throughout the plant, throughout the facility, the EE was not monitored for radiation exposure and the cancer diagnosis was made approximately 20 years after employment termination.

Slide 4 shows a percent difference between the reworked and the original dose. External dose increased significantly which obviously resulted in a large increase in the total dose and the PoC, and there was a minor decrease in the external dose.

For these cases, we review the original, we compare the original and the worked doses and for the original dose reconstruction the EE was assumed to fall into the category of plant floor high, which is a job category where he was expected to get up, it had a higher potential of exposure.

The whole-body dose rates were calculated and taken from Table R3 of Appendix R Rev. 00 for the operational and residual periods. A DCF of 1.244 was applied using the bladder as a surrogate organ.

Those DCFs come from IG-001. And this resulted in the assignment of a dose of approximately 500 millirem. For the reworked external dose, whole-body and operational and residual dose rates were taken from Table R2 of the revised Appendix R.

As with the original DR, the same DCFs were applied and this resulted in a revised dose of greater than 9 rem difference.

Occupational medical dose, the original DR calculated occupational medical dose based on assuming that a pre-employment and annual chest X-ray during the operational period.

And the doses were associated with a urinary bladder as a surrogate organ, and the doses were taken from OTIB-6, Rev. 3, Page Change 1. And this resulted in an occupational medical dose of 0.1 rem, less than 0.1 rem.

And now we'll compare what the rework did for the occupational medical data. They assigned a chest X-ray dose for pre-employment plus annually during the operational period.

At that point, the OTIB-6 was revised to a Rev. 6 and they used the urinary bladder as a surrogate organ. They came up with approximately the same occupational dose, less than 100 millirem.

Going onto internal dose, in the original, again, the EE was assigned a job category of plant floor high. Uranium inhalation and ingestion intakes were taken from the Appendix R Rev 0 and used to calculate internal dose.

IMBA was used to calculate the inhalation and ingestion doses, and the solubility types M and S uranium were compared with Type M resulting in a higher dose.

And based on these parameters, a dose of 0.3 rem was assigned. For the reworked internal dose, they used inhalation and ingestion intakes from Table R1 of the revised Appendix for both the operational and residual periods.

They also used IMBA to calculate the dose and compared to the two solubility types with Type M generating the higher dose. And a reworked dose was assigned for the internal dose of approximately 0.3 rem.

In our assessment, we found that external doses

were calculated correctly with the exception of one year where NIOSH inadvertently selected the wrong dose from the table. This resulted in a slightly higher dose for external.

NIOSH select the appropriate surrogate organ in DCF values for occupational medical dose. They were assigned using appropriate years of employment and the correct doses from the applicable tables in OTIBs.

Internal doses we found were calculated based on the intake values from Table R1 with the exception of again of one year where NIOSH selected a slightly lower dose and Type M did result in the higher dose as we looked at it.

And just to elaborate a little on these one-year inaccuracies, it's a table and they just selected the table from the wrong row and column. The error was just selecting the wrong number from the table.

But in the external dose case, the doses are slightly higher for internal and slightly lower. SC&A also reran IREP 30 times at 10,000 iterations and we were able to confirm the POC was less than 50 percent.

That concludes our review of PER-63.

Member Beach: Thanks, Kathy, any questions?

Chair Anderson: Is there a recommendation here?

Member Beach: Yes, all of these we're presenting today have gone through the Subcommittee and are being recommended for closure.

Chair Anderson: With that, the Subcommittee has recommended that after this review, PER-63 be closed and the review was successfully completed. That is a motion from the Committee. All in favor say aye?

(Chorus of aye.)

Opposed, no? No nays so the review is closed. Thank you all for a very comprehensive approach to

reviewing these cases and I'm glad to see it worked out this well. Next.

Ms. Behling: PER-065 was issued due to revisions due to the Anaconda site profile. This PER was issued in November of 2015 and it determines the effect of Rev. 1 to Appendix G of TBD-6000. That's where the Anaconda site profile information resides.

The revision incorporated the changes to TBD-6000 which is the beta doses and it also made dose estimates more consistent with the current techniques.

This resulted in an increase in external doses for all job categories for all years of operation and although it was not explicitly stated in the PER, the revision also incorporated the OTIB-70 depletion factors.

And there was an update to the occupational medical dose guidance, which was used because of the timing of this change. SC&A's review, we submitted our review of PER-065 on June 15, 2016.

Because we had not previously looked at the DR methodology for Anaconda, under our Subtask 2 we did review that methodology. There were no findings and the review was presented to the TBD-6000 Work Group in September of 2017.

For the case review, there was one case selected based on the criteria again that the EE was assigned external dose as an operator during the operational period and was also assigned occupational medical dose.

Our Subtask 4 report was issued on August 25, 2021 and it was presented to the Subcommittee at the November 3, 2021 meeting. There were no findings identified with a review of this reworked phase.

A little history of Anaconda, 1956 pilot project was done at Anaconda where uranium billets were extruded to evaluate extrusion procedures to manufacture uranium fuel.

And in March of 1957, about 50 billets were extruded and additional extrusion activities were performed in October of 1959.

So, SC&A's review of the Anaconda DR methods included comparing the original and revised version of the TBD-6000G to determine if the revised Appendix accurately describes the operation and residual AWE activities.

If the revised reflects site-specific information and data necessary for performing the dose reconstructions, and if the revision properly incorporates current guidance from TBD-6000, OTIB-70 and TBD-006, which is our occupational medical TBD.

And to ensure the Appendix uses all applicable information, data, and guidance in a scientifically sound and claimant-favorable manner.

SC&A found the Appendix accurately extracted and interpreted the reference data source. In addition, SC&A looks at sources of data that were not referenced in the site profile and they were able to find that the data corroborated cited information sources.

SC&A agrees with NIOSH's assumptions and the derivation of external and internal doses. The only inconsistency that was found is there was an incorrectly cited DOL URL, but it's a minor inconsistency.

For identifying potential cases that were affected by PER-065, NIOSH searched all Anaconda cases with PoCs less than 50 percent and this search identified 10 cases and they reworked all 10 cases, and SC&A is in agreement with that selection strategy.

Under Subtask 4, SC&A recommended that a case or cases selected have external dose assigned for operator and laborer or job category, and that the employment be during the period of 1956 through 1959 and that there be occupational medical exams

dose included in the dose reconstruction.

NIOSH did identify one case that met the selection criteria.

Again, NIOSH reworked the case using the appropriate tools and recalculated the annual dose and reran an IREP. Since the rework case resulted in a PoC of less than 50 percent, it was not necessary to send a revised DR report to the DL.

SC&A's case review is typically limited to those pathways addressed in the PER and for the Anaconda site profile, the revision only increased the external doses.

However, when we looked at the case and we realized that the internal doses significantly decreased between the original and reworked, we decided it would be of interest to the Subcommittee and Board for us to look at the reason for that change.

Again, some generic background for this case, the EE worked for three decades at the Anaconda site.

The EE's job classification indicated that he worked throughout this site and the EE was not monitored and was diagnosed with a qualifying cancer several years after employment termination.

This table presents a dose percentage again of the differences between the reworked and the original dose. And as shown, the external dose decreased by 95 percent and the internal dose also decreased by nearly 100 percent.

Only the occupational medical dose increased. So, in looking at the original external dose calculations, these calculations were actually done prior to the issuance of TBD-6000 Appendix G using Scherpelz 2006.

This guidance was conservative in assuming that the EE was exposed at one foot from a rectangular uranium slab for three days in 1956 and 30 days in

1959 for a 10-hour workday at 2.08 millirem per hour.

Doses were calculated based on a bladder being the surrogate organ, and therefore, applying a photon DCF of 1.523 and this resulted in the assignment of greater than 1 rem of external dose.

For the reworked, obviously, the reworked used Rev. 1 of Appendix G and external doses were taken from Table G2 for each of the operational years.

The bladder was assumed as the surrogate organ in accordance with OTIB-5, Rev. 5, and therefore a DCF of 1.064 was applied.

This resulted in an assigned dose of about 50 millirem. Occupational medical dose for the original dose reconstruction, the dose reconstruction assumed an annual X-ray for each year of employment.

The urinary bladder was assumed as the surrogate organ and the doses were taken from OTIB-6, Rev-3, PC1, and this resulted in the assignment of approximately 100 millirem of external dose, occupational medical dose.

For the reworked medical dose, also an annual X-ray was assumed for each year of employment. In this case, they used the gall bladder as the surrogate organ, that's based on guidance in OTIB-5.

Doses were taken from OTIB-6, Rev. 4, and this resulted in an occupational medical dose of a little more than 300 millirem.

Internal dose, the original internal dose calculations assumes uranium intakes during the extrusion operation of nearly 3000 picocuries per day and during the rolling operations of more than 10,000 picocuries per day in 1956 and 1959 using operator data from Table 7.8 of Scherpelz. These intakes were derived from -- I wanted to give you an understanding of how they derived these data. They

used air sample data from several AWE metal working sites and as we'll see in the revised, I explain where they got their intakes.

And they assumed a 30-day intake for each process for each year. In addition, the intakes for recycled uranium for plutonium-239 and neptunium-237 were scaled based on uranium intakes, and IMBA was used to calculate the dose.

It was based on the claimant-favorable Type M solubility. Both inhalation and ingestion intakes were applied as an inhalation which is another claimant-favorable assumption.

And this resulted in the assignment of approximately 0.25 rem. Now for the rework, NIOSH used inhalation and ingestion values from Table G1 of the revised Appendix G and the inhalation values range based on year of operation.

And that range was from 0.66 to 3.74 DPM per day.

And I wanted to make note, as I said, the intake rates specified in Table G1 were derived from the highest air monitoring reading of 39 DPM cubic meter in the Anaconda work area in 1956 and 1959.

Doses were calculated for each year of operations and again, IMBA was used to calculate the dose and Type M was found to be the most claimant-favorable solubility. This resulted in an internal dose assignment of approximately 1 millirem.

SC&A reviewed the PER-065 case and found the reworked external doses were appropriately assigned based on Rev. 1 of Appendix G. Appropriate surrogate organ was selected from OTIB-5.

The doses were correctly entered into IREP and I just wanted to note that if this dose reconstruction or the original dose reconstruction would have been performed using Rev. 0 of Appendix G, the reworked external doses would have increased.

Since we were comparing external doses to the Scherpelz document in 2006, the external dose is actually decreased. For the reworked occupational medical dose, again, appropriate doses were based on OTIB-6.

The selection of a surrogate organ was appropriate based on OTIB-5 and doses were correctly entered into IREP.

And finally, for the internal dose the reworked internal doses were calculated based on intake values specified in Rev. 1 of Appendix G and not Rev. 0 as it states in this slide, I apologize.

The input data was correctly entered into IMBA and the assumptions were claimant-favorable so SC&A has no findings with the selected reworked case impacted by PER-065.

Are there any questions? A lot to digest here.

Member Kotelchuck: Yes, this is Dave, it was a pretty thorough job that you did and it seemed to me a good job.

Chair Anderson: It gives us a good historical look at how things have evolved over the years and I think that was very helpful. Any other questions people had? They're recommending that the Board close our PER-065.

All in favor say aye?

(Chorus of aye.)

Any opposed? With that we'll close out PER-065 with a big thank you to SC&A and NIOSH for reworking these.

Ms. Behling: Okay, we'll move on to PER-064. PER-064 addresses revisions to the DuPont Deepwater Works site profile. And this PER was issued in November of 2015 and it determines the effect of several changes to the DuPont Deepwater DR methodology.

Initially, the dose reconstructions were done under Appendix B from TBD-6001 but due to the cancellation of TBD-6001, NIOSH created a standalone document for the DuPont Deepwater site profile in 2011.

And that resulted in some operational period doses increasing while others decreased and then in 2013, Revision 1 was issued of the TBD and this revision increased operational inhalation intakes, operational external dose rates, and residual ingestion intakes.

And then finally, in 2015, Rev 2 was issued and this revision corrected an error in the ingestion intakes and increased all ingestion intakes during the operational period.

In this case again, SC&A had previously reviewed the DuPont Deepwater TBD and therefore, under the Procedure Subcommittee purview, the PER-064 review consisted of just evaluating a sample set of impacted cases.

We reviewed two cases under our Subtask 4, one case that resulted in a PoC between 45 and 50 percent, it was a best estimate case and one case with external and internal dose assignments during the operational and residual periods.

We submitted our review of those cases December 12, 2016. We presented our findings to the Subcommittee at the October 31, 2018 meeting and there were no findings, but we will go through them.

For Case 1, this is our best estimate case, the EE again worked for approximately three decades, the EE worked throughout the site and was not monitored.

Several years after employment termination the EE was diagnosed with two qualifying cancers.

As shown here in Slide 73, external doses decreased and there were modest increases in the internal and occupational medical dose, and I also have to note

that under our internal dose for Cancer 2, that value should be 0.4 percent.

Again, I apologize for that mistake. Original external dose for Case 1. External doses were calculated assuming that this person fell under the plant floor low category.

And the operational doses were based on Table B3 of Appendix B Rev. 00. That guidance specifies that operational dose for 1942 is 642 millirem per year and for years 1943 through 1948, 1161 millirem per year.

Annual doses for the residual period are listed as 40 millirem per year. Again, the IG-001 exposure to organ DCF value was applied and a dose of approximately 3 rem to Cancer 1 and 5 rem to Cancer 2. And these doses were entered into IREP as constant values.

The reworked external dose, the operational dose, the individual was classified under the job category of laborer and the guidance specifies an operational dose of 672 millirem per year, and recommends that the photon energies be split 50-50 between 30 to 250 KEB and greater than 250 KEB.

Again, they used the IG-001 exposure to organ DCF value, but in this case, the data was entered into IREP as a log normal distribution with a geometric standard deviation of 5.

For residual doses information, our doses come out of Table 8, and annual doses are 7.3 millirem for all workers. It's assigned as 100 percent, 30 to 250 KEB photons and again, DCF values from IG-001 and the data is entered as a constant for the residual doses.

This resulted in the assignment of approximately 2 rem for Cancer 1 and 1.5 rem for Cancer 2.

And again, using the laborer doses from the revised TBD and the appropriate DCF values and energy fractions, SC&A was able to match the NIOSH-

derived doses for the operational and residual periods.

SC&A was also able to verify that the annual doses were entered into IREP in accordance with the TBD guidance. And so we had no findings with the calculation of external dose.

Internal dose, for the original dose reconstruction guidance recommends for the operational intake inhalation intakes of 1428 DPM per day and ingestion of 25 DPM per day.

And that comes from TBD-6001 Appendix B. For the residual period, Appendix B guidance specifies 0.329 DPM per day for inhalation and 0.00385 DPM per day for ingestion.

IMBA was used to calculate the dose and Type F was considered the more claimant-favorable for uranium-234.

This resulted in the assignment of a dose of 2 rem for Cancer 1 and approximately 7 rem for Cancer 2. The doses were entered into IREP as a constant.

For the reworked internal dose for the best-estimate case, NIOSH assumed a job category of supervisor and laborer.

The operational intake values were taken from Table 1 of the revised TBD and those intakes, the inhalation intakes were 1428 DPM per day and 27 DPM per day per ingestion.

For the residual period, Table 10 also specifies an inhalation of 0.329 DPM per day but the ingestion changed to 30.1 DPM per day. All solubility types were compared, assuming 100 percent uranium 234 with Type F resulting in the highest dose.

For the residual period, solubility types M and S were compared and Type M was more claimant-favorable. This resulted in a total assigned dose for Cancer 1 of approximately 2 rem and approximately 7 rem for

Cancer 2.

Again, all doses were entered into IREP as a constant value. For Case 1, SC&A evaluated the internal doses, SC&A compared the appropriate solubility types for the operational and residual periods.

We ran IMBA using the inhalation and ingestion intake values and compared all the solubility types. We found the annual doses were correctly entered into IREP and in accordance with the TBD.

And again, we reran IREP and we were able to determine the PoC approximated NIOSH's PoC.

And I will note here that although the doses decreased, the PoC increased for this case, and this was primarily due to the changed guidance which has the doses for the operational period being entered into IREP as a log normal distribution with a GSD, geometric standard deviation, of 5.

That's what prompted that increase in PoC. We'll move on to Case 2 and Case 2 is the EEO who worked at DuPont Deepwater for the operational and residual periods and was assigned both internal and external doses.

This individual worked for more than three decades. The individual was not monitored for exposure and was diagnosed with one qualifying cancer several years after termination of employment.

Our comparison table here shows that external doses decreased while internal doses and occupational medical does slightly increased. However, the PoC increased.

The original external dose, the worker was assumed to have a high exposure potential and was therefore included in the plant floor high job category.

Operational doses were taken from Table B3 of Rev. 00 of Appendix B and again, just citing there under the third bullet, the operational doses that are

included in the Rev. 00 Appendix B doses during the residual period, again 40 millirem per year.

NIOSH originally applied an exposure to organ DCF value from IG-001 and used the bladder as a surrogate organ and this resulted in the assignment of approximately 10 rem of dose and the doses, the annual doses, were entered into IREP as constants.

For the reworked external dose, the doses were calculated by assuming that the job category was operator.

Again, same values used for the operational doses, 672 millirem per yea, the photon energy in this case, 50-50, between 30 to 250 KEB and greater than 250 KEB.

Same DCF values were applied, however, again, the annual doses were entered into IREP as a log normal with a GSD of 5. And this is what impacts our POC calculation. For the residual doses, again they used Table 8 and 7.3 millirem per year for all workers.

Photon energy is assumed to be 30 percent, 30 to 250 KEB, applied appropriate DCF values and entered the data into IREP as a constant. This resulted in an assignment of a dose of approximately 5 rem.

Now, for SC&A's conclusion, again, we used the guidance, the update guidance for the DuPont Deepwater site profile and we were able to match NIOSH's operational and residual external doses.

We also confirmed that the doses were entered into IREP in accordance with the guidance and we had no findings with the external dose calculations.

Lastly, internal dose for the original DR, I have listed here in the first bullet which we discussed before, these are the operational intakes from TBDs-6001 Appendix B.

And residual intakes for inhalation, same as we

discussed before, 0.329 DPM per day and ingestion of 00.00385 DPM per day. IMBA is always used to calculate the dose and they assumed 100 percent uranium-234 with a Type F solubility.

And that resulted in an assignment of approximately 45 rem of internal dose. That was entered into IREP as a constant. For the rework, again, pretty much all of the same parameters.

The rework assumed the job category was operator and again, the only thing that really changed here was the ingestion intake of 30.1 DPM per day as compared to 0.003.

Again, a comparison of the solubility types F, M, and S were done for uranium-234 for the operational period with Type F representing the most claimant-favorable dose.

For the residual period, Types M and S were compared and Type M was the more claimant-favorable. And this resulted in a dose of 46 rem that was entered as a constant.

Finally, SC&A again looked at all the data, we looked at NIOSH's assumptions, we found them to be reasonable and claimant-favorable, we ran IREP and determined that the PoC approximated NIOSH's PoC.

And just to note again, the doses decreased but the PoC increased and that was due primarily to entering the operational data as a log normal distribution with a GSD of 5.

That concludes PE-64. I'm sure you're going to be ready to have me stop talking.

Chair Anderson: Are there any questions? Go ahead, Josie.

Member Beach: I was going to say same thing, questions, but Kathy, you have presented a very thorough discussion on all of these and it's much appreciated by the Subcommittee. You've also kept

it very timely.

Ms. Behling: Thank you. I will ask, is this too much information?

Would you recommend in the future -- I actually, as I stated, wanted to give a little bit more information about the information that was in the DR methodology when we didn't have findings just so that the Board would have an understanding of that.

I hope I didn't overdo it and if I did, I'm open to suggestions as to how to better present this data in the future.

Member Kotelchuck: Kathy, I would say as I was going over the 45th of 89 slides the other day, I said to myself, couldn't you please spread this out over 2 meetings? And therefore, what I suggest is that it was really an awful lot of information.

Very well put, very clear and concise but there was so much of it. So, I would just say if you could give it to us in slightly smaller doses it would be --

Ms. Behling: I'm going to have to blame Josie for that one.

Member Beach: I was going to step up, Kathy, and take full responsibility. During our Subcommittee meeting, we discussed if we should have five or seven because we have such a large backlog.

And most of these I thought would go faster because there was no findings, however, I think it's important to be clear about what was discussed and how SC&A proceeded.

So, there might be more information than is necessary, it's a balance. And I guess that's why Kathy's asking. We would like to get through the backlog and spreading it out between the meetings.

We have after this maybe 25 backlogs still, Kathy.

Member Kotelchuck: I see.

Member Beach: We're going back through a lot of history.

Member Kotelchuck: Okay, because it seems to me there was no case where you gave us too much information, it was just so much of it at once.

But I understand the problem and with our Subcommittee on Dose Reconstruction reviews, we started with a backlog a couple of years ago.

And I know it was awkward in putting a lot of information at once, but if you have to do it you have to do it and I accept it. But it was quite clear what was done and it was reasonably concise for each one of them.

Member Beach: And Dave, moving forward, the sites that have a lot of findings and a lot of discussion, those will be presented in 1s or 2s, and I don't know how to say it. Kathy, you can probably state it better than I can.

Ms. Behling: You're saying it perfectly fine. I present to the Subcommittee a table that lists, okay, here's what we have in the backlog, here's how many findings.

And I also include a comment column that makes sort of a recommendation as to whether I even think this is geared to doing what we did today and putting these things in a matrix-type format and summarizing them.

In some cases, OTIB-52 comes to mind, there's so much associated with that, there's such a history, we may have to do that as one single presentation.

We were a little bit overzealous maybe here. When I realized I had 88 slides, I thought, oh, but we will give that thought I think in the future.

Member Beach: Yes, we do have a meeting in May on the 25th and we will discuss the next step for the following Board Meeting. We'll keep that in mind.

If anybody has any other discussion, if you just send an email to me or Rashaun we'll get it to the Subcommittee and we can use that to move forward with how many to present at a time.

Member Clawson: This is Brad, I wanted to compliment you guys actually. I know there's a lot there, I understand about the backlog. Kathy, I want to tell you how much I appreciate how you put this in and some of the detail that's in there.

Because as I was reading them the other day, it really helped me follow what the process was and what you did. I just appreciate what you guys have done and it helped me follow along and go through all this.

I know there's a lot there but sometimes coming back to it, it makes it a little bit harder too.

Ms. Behling: The other thing I will make mention of. In the presentation, if you saw things that were in blue and underlined, that would lead you back to that document.

And so unfortunately for a lot of the PER Subtask 4 cases, because there's obviously a lot of sensitive information, they do not get published. There's no PA-cleared version typically of those.

So, that's why I spend a little bit more time discussing them.

But I did present in the slides when we gave the presentation to the Board so you could go back to transcripts perhaps if you had questions or if you were interested in getting additional information.

Member Clawson: Kathy, I really appreciate you putting that in there. We understand with privacy acts and everything else but it makes it very clear for me to be able to understand where I can go and so forth.

I appreciate that.

Ms. Behling: I appreciate everyone's feedback. Thank

you.

Member Beach: If we get to a conversation that is something we can't answer, we will not close out that item until we've answered the question and we would definitely move that to the next meeting.

So, we don't want to push these on anybody but we are attempting to clear out some backlogs.

Chair Anderson: Let's vote on this last one here. We have a recommendation to close our PER-064. All in favor say aye?

(Chorus of aye.)

And any opposed? And I would just add to the comments that were made that I think it's important that all of the information that you present, get it in the public record because I think not everybody can attend or listen to the meetings.

And it really shows how exhaustive we do the reviews and how careful it is and how well, actually, the historical record stands out. So, we're not identifying a lot of problems.

Some changes need to be made but it's change-over time, importantly. So, I don't think they've lost anything but, yes, there is a lot but it also now is formally in a record.

You only have to go through it once.

Member Beach: That's correct, and some of these look like they were closed but we're not sure so we're going to make sure that we have the discussion and officially close them in the proper way moving forward.

Chair Anderson: Okay, we're just three minutes over here so I think it's time to take a break and we'll come back at 4:00 p.m. Eastern Time to take up the Reduction Pilot Plan SEC.

Member Beach: Thank you for your time.

Chair Anderson: Thank you for your presentation.

(Whereupon, the above-entitled matter went off the record at 3:33 p.m. and resumed at 4:06 p.m.)

Chair Anderson: Okay, we'll begin. Just to give you a real quick background, NIOSH presented their Evaluation Report to the Board a while back and the Board tasked SC&A to review it and assign the ARWE Subcommittee to review it as well.

And we met, SC&A completed their review, on February 17th so it's been moving fairly rapidly and we're bringing now the discussion and review to the full Board.

Ron, take it away.

Update on review of SEC-00253 Reduction Pilot Plant, Huntington, WV: Jun. 7, 1976-Nov. 26, 1978

Dr. Buchanan: Thank you, this is Ron Buchanan and today I'll be presenting SC&A's review of NIOSH SEC-253, Petition Evaluation Report for the Reduction Pilot Plant in Huntington, West Virginia.

And I thank Rose for running the slides, please open the next one.

We've got a little overview of the RPP. It's also known as the Huntington Plant, it occupied about four fenced in acres in addition to a larger nickel plant operated by the International Nickel Company.

The RPP was built by the EC in 1951 to supply nickel powder.

Nickel powder was used to make the gaseous diffusion barriers for the gaseous diffusion plants in Paducah and Portsmouth and it employed from 20 to 25 employees in its peak operation.

In 1956 the facility began using contaminated feed material and that was nickel with low-enriched uranium. Next slide. Here's a 1963 photograph of the reduction plant and you see the tall building is

actually a processing plant.

The smaller building is a compressor plant and then there's some storage tanks associated with it. Next slide.

A little bit of history in the SEC period, the operational period was 1951 through April 30, 1963 and it went into standby May 1, 1963 through November 26, 1978.

The D&D of classified and contaminated material took place in November 27, 1978 through May 18, 1979 and the special exposure cohort 253 evaluation period was June 7, 1976 to November 26, 1978.

This SEC period was during the latter part of the standby period and the standby period wasn't initially covered by the act and it was added in November 2019 and there's no other SECs that have been filed for this facility.

The conditions during the standby period was that the operational activity ceased in 1962, the building was put in standby condition thinking it might be used again, but it never was.

It was estimated that the entry by the security guard was once per shift, which would be three times daily, to check the processing compressor rooms and maintenance check to maintain operational capabilities ceased in 1975 in Oak Ridge.

Operations determined they would no longer need the nickel production and during some of that time, there was infrequent inspections on a biannual basis.

Next slide. This is the long history of the TBD for the RPP and some of the other documents. It started out TKBS-004, Revision 00 in October 2003 by Oak Ridge associating adversely, and OCAS took it over and then DCAS took it over.

And you go down that list and the important part is the TBD Revision 2 of November 2018 and then the

SEC-253 qualified in December of 2019. So, that's what we'll be discussing today, the current SEC-253.

Next slide.

NIOSH issued an Evaluation Report for this SEC in April of 2020. The class evaluated was all international nickel company security personnel who worked at any location within the RPP facility during the period of June 7, 1976 to November 26, 1978.

And NIOSH's ER concluded that all external and internal doses for security personnel can be adequately constructed during a 60-feet barrier.

Next slide. Some of the internal monitoring and potential exposure sources at this facility would find that there's no individual internal monitoring data during this SEC period since it was in a standby period.

And the process building was surveyed in January 1975, found very little removable contamination and the highest amount of fixed contamination was found in the residual systems in the residue and perhaps some of the files and piping.

Low-enriched uranium was assumed at 1.4 percent enrichment and recycled uranium contaminants were assumed present. The standard plutonium, uranium, and neptunium is listed there.

And all major material for the dose reconstruction was considered as alpha contamination assumed to be uranium and the contamination ratio then for the impurities were assumed using the K25 barrier material in the dose reconstruction assessment.

Next slide.

The external is similar there, no individual external monitoring during the SEC period.

A 1975 survey determined that the dose rate was in the background of most places with a maximum of 250 micro-R per hour contact reading on some of the

equipment assumed to be beta for dose reconstruction.

A 1980 survey taken post demolition found a maximum of 35 micro-R per hour at three feet assumed per gamma dose reconstruction and 45 micro-R per hour for the maximum contact reading.

The site profile medical X-ray information of course was not identified so dose reconstruction used the generic annual medical exams when dose reconstruction is done for this facility.

Next slide. So, SC&A reviewed the Evaluation Report that was passed in September 2020 with a review for the focus group of security personnel. And we issued a review in April of 2021.

And NIOSH responded to that review in a memorandum very quickly after that, April 29, 2021, addressing any concerns we had. Next slide. When we reviewed the ER, we did two major steps.

Number one, we verified the survey information from Oak Ridge operations and found that it was correct. And the second step was we did claim reviews.

SC&A reviewed the seven claim records in the NOCAS files associated with this facility to identify any further information that might help us determine the feasibility of dose reconstruction for this security personnel during this SEC period.

We found that 44 claimants worked for a portion or all of that period at that facility. Next slide. Our results were that SC&A did not identify any information that would impact the feasibility of dose reconstruction during the SEC period for the security personnel.

When we evaluated this, a key facet of the proposed DR process, including exposure times, that was something that was somewhat unknown and exposure time was the time spent inside the facility by the security guards with residual contamination

graphs present.

And the estimation of that time for the activities needed to be characterized and bounded for the affected workers. Next slide. Okay. So, when we did this evaluation, and did come up with an observation that the exposure time could use further refinement, because the CATI interviews indicated that exposure time might be longer than the original 15 minutes a day.

Claimant A had to check all seven floors and a parameter was stated. And Claimant B estimated it took him about 30 minutes per day.

So, SC&A recommends NIOSH attempt to contact and to interview with security guards or other workers with knowledge to get a better bounding estimate of the walk through time.

And however, we'd like to emphasize that the assumptions made about the exposure time should not preclude DR feasibility and be considered site profile issues for the SEC issues. Next slide.

Okay. So, NIOSH responded to observation in April of 2021 with a revised estimate of time spent in the facility was 52 minutes per day, six days a week, 250 days per year, for a total of 260 hours per year.

The previous estimate was around 93 hours per years. So, it was still about a factor of three greater.

And they estimated this by estimating it took about five minute per floor, multiplied by the seven floors. And then the parameter walked about 4.4 feet per second for a parameter check.

And like I say, this increased exposure time by a factor of three. Next slide, please.

And so, NIOSH's response was to assume for the ER, they assumed that the maximum dose rate of 0.035 millirem per hour to complete the ER in a timely manner. That's the maximum dose rate that was

measured, or calculated.

And NIOSH will evaluate all of those rates to obtain a better realistic value. In other words, more of a best estimate, considering all the dose rates and the maximum that was used for the ER evaluation.

And that the TBD will re-revise and consider all the various dose rates throughout the plant. And they'll add the standby period of 63 to 78 through to TBD. We can go to the next slide.

And NIOSH wanted to emphasize that their overall annual doses maybe lower then what the ER had, because even using the longer exposure time, if you consider all the lower, the dose rates and make a best estimate, the average maybe lower and may result in a lower total assigned dose, but more realistic. Next slide.

Okay. We evaluated NIOSH's response, and we looked over their reasoning and calculations, and we concur with NIOSH's reevaluation of the potential exposure time, and find it reasonable.

We concur with NIOSH using their maximum dose rate to facilitate the completion of the ER. And we also find it appropriate to consider all the applicable dose rates for a best, a more realistic dose exposure rate in the revised site profile.

So, we recommend that Observation 1 be designated as an abeyance, pending a revision of the site profile and our review of it. Next slide.

Now, we had another observation in the ingestion intake was not addressed in the ER during the SEC period. Now, in the site profile, Tables 3 and 4 list ingestion intake values for the workers during the operation and -- and D&D period.

However, the ER did not address potential ingestion intakes for the SEC period. And however, we realized it would be relatively small, but it should be addressed. Next slide.

NIOSH responds to Observation 2, that the ingestion dose for the security guards be estimated based on contamination levels.

Since the ER used an alpha contamination value of 19 dpm per 100 square centimeters, to estimate the inhalation intake, they used Reg Guides to derive a potential ingestion intake of 0.19 disintegrations per hour of alpha for this group.

And the details for assigning ingestion intakes will be included in the revised site profile. And next slide. Rose, can we have the next slide?

Okay. So, we evaluated Observation 2. Okay, we concur with NIOSH's recommendation, that they address ingestion intakes. That's a pretty standard procedure.

And we recommend that Observation 2 be in abeyance pending the changes in the site profile and our review of it. Okay. Next slide.

Okay. So, summary of the SEC review. We came up with likely site profile issues. Observation 1 was the concern with the exposure time.

And we concur with NIOSH's reevaluation of the potential exposure time and all applicable dose rate data. We recommend again that they be in abeyance until we review the site profile.

And the same way with Observation 2, ingestion intakes, we concur with NIOSH's recommendation. And recommend that be in abeyance until we review the site profile. Okay, next slide.

So, in conclusion, we concur with NIOSH that upper bounds can be established for internal and external exposure. And we concur that dose reconstruction is feasible for security personnel during the SEC period.

And this presentation was brought before the URAWE work group, and discussed on February 17, 2022. And concur that the DR is feasible for security

personnel during this SEC period. Okay. Next slide.

Okay. So, that's the summary of our presentation. And any questions?

Member Kotelchuck: If I may say, Dave Kotelchuck. First, if you'll go back to slide 14, there are a number of typos on that slide it seems to me. Fourteen?

Right. If there are 52 minutes a day, and 250 days a year, then the number has to be less than 250. It's in fact 217.

But, you also said that they work six days a week. So, there would be more than 250 days per year. Six times 52, there are 312 days that they work if they work a six-day week.

And then at 52 minutes a day, it's 270 hours per year. So, it's just arithmetical little things.

But, that should be corrected. I think it's in error.

Dr. Buchanan: Okay. I'll check into it. But, 260 is correct. I'll check into the other items that you mentioned. Thank you.

Member Kotelchuck: Okay.

Dr. Taulbee: This is Tim. If I could interject here. You are correct, Dr. Kotelchuck. It should actually be, if you go by the six days a week times 50 days, or 50 weeks per year, allowing for two weeks of vacation, times the 52 minutes per day, you end up with 260 hours per year.

Member Kotelchuck: Ah, okay. And you're right, and I used 52 week per year, even though they take a few, a couple of weeks' vacation. Fine.

So, there's -- there is no error actually. Thank you.

Chair Anderson: Are there other Board questions? And while you're thinking, I believe the Petitioner is on the line.

And I would like to let her speak for a minute. And you may have some questions of her as well.

I'm trying to look through my list on here. Was she able to get on? I don't see Rashaun.

Dr. Roberts: No, I'm here. And I think there might be a little bit of confusion. The person that I know of, was going to speak for the public comment session.

Chair Anderson: Oh.

Dr. Roberts: And that's Dr. DeGarmo. I don't know if the Petitioner was here for our meeting.

Chair Anderson: Okay. Okay. I thought she was. Well, if not, are there other questions that people have?

Sort of an unusual, in that there's no individual measures. But, there is a whole area of characterization.

Member Kotelchuck: Well, Andy, I mean the -- the activities are uniform, regular. And the background radiation levels are known. And they're not going to change because there's no operations going on there.

So, this is to me an unusual case where we don't have individual measurements. But, we have a process that's so clear cut with the area, you know, with the area exposures that it seems to me one can evaluate, properly evaluate the exposures.

And therefore, not -- an SEC is not needed. It's not appropriate.

Chair Anderson: We're in agreement. Yeah. One -- one thing we need the, as our small subcommittee of three, in reviewing the transcript, found that we did not make a formal recommendation to the Board that we accept NIOSH's determination.

Member Kotelchuck: Oh.

Chair Anderson: And so, we really need that. So, I

would ask Dave, you or Bill, make such a motion and our committee can --

Member Kotelchuck: Right.

Chair Anderson: Vote to pass it onto the Board as a recommendation to accept NIOSH's --

Member Kotelchuck: Absolutely. So moved.

Chair Anderson: Follow through.

Member Kotelchuck: So moved.

Chair Anderson: So Bill, or if you're still on, are you in agreement? You've got to take it off mute, Bill.

Member Kotelchuck: I mean, that was a formality. We --

Chair Anderson: Yes.

Member Kotelchuck: We absolutely agreed in the meeting that the -- at the recommendation at this point.

Chair Anderson: Well, I -- I agree with moving it on complete. Two out of three is okay if Bill is unable to get on. He may have stepped away.

Member Kotelchuck: Yes. Exactly.

Chair Anderson: So, then the motion to the Board is to accept NIOSH's recommendation that we agree with their recommendation that a class not be added to the SEC.

So, that's the motion before the Board If others have any comments they would like to make?

I would call for a vote, and all those who are in favor of accepting NIOSH's recommend --

(Simultaneous speaking.)

Dr. Roberts: Actually --

Member Kotelchuck: No. No. Wait a minute. And we need to have a roll call.

Dr. Roberts: Yeah. We have to do --

Chair Anderson: Yeah, okay. Do a roll call. Rashaun, you're on mute.

Dr. Roberts: Oh, I'm sorry, yes. I was trying to say that yes, we need to do --

(Simultaneous speaking.)

Chair Anderson: We need to do a roll call vote.

Dr. Roberts: Yes, correct. So, and you would come up last, Andy. So, starting with Beach?

Member Clawson: She just texted me, Rashaun. She just cut off from the meeting.

Dr. Roberts: Okay. Nothing like --

(Simultaneous speaking.)

Member Clawson: She was going to -- she's trying to get back in. So, you'll have to go to me next.

Dr. Roberts: Okay.

Member Clawson: Okay.

Dr. Roberts: Okay, what's your weigh in for that?

Member Clawson: Yes.

Dr. Roberts: Okay. And I can --

Member Beach: Rashaun, this is Josie. I just had to call in, because I got dropped and I can't get back on Zoom.

Dr. Roberts: Okay.

Member Clawson: Now you know how I feel, Josie.

Dr. Roberts: So, do you feel like you can -- I don't know at what point you got cut off from this. But, we

are taking a vote.

Member Beach: We can't -- yeah, Andy was speaking. So, I didn't hear any of the -- any of the vote, or the discussion.

Chair Anderson: There really were no questions --

Dr. Roberts: Yeah.

Chair Anderson: Josie. And there had, only thing was procedural in reviewing the transcript of our committee meeting.

We did not have a formal recommendation to the Board to accept NIOSH's determination. So, we discussed it, and we all agreed, we did not do a formal motion.

So, that's what we just did.

Member Beach: Okay.

Chair Anderson: And the committee has now made a recommendation that we accept NIOSH's recommendation that a class not be added to the SEC.

Member Beach: Okay. Did that get seconded?

Member Kotelchuck: Yes.

Member Beach: Okay. Thank you.

Dr. Roberts: Okay. So -- so, Josie, would you like to register a vote for that?

Member Beach: I agree with the recommendation.

Dr. Roberts: Okay. And Brad?

Member Clawson: Yes.

Dr. Roberts: Okay. Bill, are you on?

Member Field: Yes. Yes, I am. Yes.

Dr. Roberts: Okay. Kotelchuck?

Member Kotelchuck: Yes.

Dr. Roberts: Lockey?

Member Lockey: Yes.

Dr. Roberts: Richardson?

Member Richardson: Yes.

Dr. Roberts: Roessler?

Member Roessler: Yes.

Dr. Roberts: Schofield?

Member Schofield: Yes.

Dr. Roberts: Valerio?

Member Valerio: Yes.

Dr. Roberts: And Ziemer?

Member Ziemer: Yes.

Dr. Roberts: Okay. And actually, Andy?

Chair Anderson: Yes.

Dr. Roberts: Okay. Great.

Chair Anderson: So, the motion passes. And since we need to do a letter, we just happen to have drafted a letter to go onto the Secretary, which we can't really circulate it here for people to look at. But, I will read it.

And I think we could probably leave it open if we have some grammatical things that may need to be changed. But, I think we got it. So, let me read it into the, into the record here.

Dear Mr. Secretary: The Advisory Board on Radiation and Worker Health Board has evaluated Special Exposure Cohort, SEC, Petition 00253, concerning workers at the International Nickel Company, INCO, Reduction Pilot Plant, RRP, in Huntington, West

Virginia, under the statutory requirements established by the Energy Employees Occupational Illness Compensation Program Act of 2000 and incorporated into 42 CFR 83.13. Next paragraph.

The National Institute for Occupational Safety and Health, NIOSH, has recommended that the individual dose reconstructions are feasible for all International Nickel Company, INCO, security personnel who worked at any location within the Reduction Pilot Plant, RPP, during the period from June 7, 1976 through November 26, 1978.

NIOSH found that it has access to sufficient exposure monitoring and other information necessary to estimate with sufficient accuracy the radiation dose received by members of this group. And therefore, a class covering this group should not be added to the SEC.

The Board concurs in this determination. Based on these considerations, and the discussion at the April 27-28, 2022 Board meeting held by conference call, the Board agrees with the NIOSH recommendation that this class not be added to the SEC. Sincerely, Henry Anderson, Chair.

Any -- any questions?

Member Ziemer: It sounds good from here Henry.

Chair Anderson: Okay.

Member Ziemer: This is Paul.

Chair Anderson: Paul, you're the guy that I need to sign off.

Member Ziemer: Well, no I -- it's -- it follows our standard format.

Chair Anderson: Yeah.

Member Ziemer: I think it's appropriate.

Chair Anderson: That's a format we've used before.

So, I thought that it would be okay. Thanks Rashaun, for putting it together.

Dr. Roberts: And thanks to Nancy for drafting that with us.

Chair Anderson: Okay. So, are there other questions?

(Simultaneous speaking.)

Member Ziemer: I assume you've had legal counsel look at that already? Or have you?

Dr. Roberts: Yes. They have reviewed it.

Ms. Gheen: Am I off mute?

Dr. Roberts: Yes.

Ms. Gheen: Oh, great. Sorry. I had to fix my audio. This is Angelica Gheen from DCAS. Just real quick, Dr. Anderson, what was the date at the bottom of that letter? Was that the 28th or the 27th?

Chair Anderson: We don't have a date. It's just May XX on the draft letter. But, it would be today, the 27th.

Ms. Gheen: Okay. So sorry. I thought I heard you say the 28th. And I was like, I don't know if that's an important distinction that --

(Simultaneous speaking.)

Chair Anderson: All I said was discussion at the Board -- I said the discussion at the Board meeting April 27-28.

Ms. Gheen: Okay.

Chair Anderson: But, the letter would be on the 27th. So, we could add -- we could just make it the discussion on the 27th, I guess, because that's when we discussed it.

But, it's the Board meeting on the two days.

Ms. Gheen: Great.

Ms. Adams: Andy, this is Nancy Adams. There's also a typo in it. It should be RPP at the top instead of RRP.

Chair Anderson: Oh, jeez. Thank you.

Ms. Adams: Reduction Pilot Plant.

Chair Anderson: Yeah. Yeah. We got it RPP the second time in this.

Ms. Adams: That will -- that will get fixed before it goes out.

Chair Anderson: Yeah. Okay. So, that closes out that. We're a little early here.

Dr. Roberts: Yes. And Andy, I think we can go ahead and take a break.

Chair Anderson: Okay.

Dr. Roberts: I'd like to remind everyone that we will go right into a public comment period right at 5:00 p.m. So, hopefully that will start at 5:00 and we won't have any more technical difficulties.

But, I would encourage those folks in the public who'd like to comment, to be ready at 5:00 p.m. Eastern time, because the period will end once everyone who would like to comment, has done so. And that maybe before 6:00 p.m. Eastern.

So, please join us at the beginning of the public comment session at 5:00, so that you're assured to have your opportunity to speak.

And also so that you're aware, comments during the public comment session is limited to about five minutes. And don't worry, as Andy said earlier, if you did not sign up or anything, you can still speak.

Okay. So, if people would just return a couple of minutes before 5:00. Okay.

(Whereupon, the above-entitled matter went off the record at 4:38 p.m. and resumed at 5:01 p.m.)

Public Comment

Dr. Roberts: Okay. All right, great. Well, we have mostly everybody, so we can go on and open the public comment session.

And again, you know, you have about five minutes if you wish to register a comment. But, let me turn it over to you, Andy.

Chair Anderson: Go ahead.

Dr. Roberts: I know that we had Dr. Denise DeGarmo who wanted to make some comments during this period. Is she here?

Dr. DeGarmo: I am here.

Dr. Roberts: Okay. Great. Please make your comments.

Dr. DeGarmo: Okay. Thank you so much. Good afternoon everyone, and thank you for the opportunity to make a statement on behalf of SEC 00256, the Pinellas Plant Petition.

My name is Denise DeGarmo. I am the author and authorized Petition Representative for 00256.

It is my understanding that there has not been much headway made on the Petition at this time, because you are still waiting for the results of the review being conducted by SC&A. But, we did want to touch base with you.

While we have been in this state of pause, Petitioners have continued to work diligently within imposed restrictions, to find information and data relevant for your consideration.

As such, you should have received several documents from me prior to this meeting. The first is a memo addressing the continued failure of the

Department of Energy to acknowledge and respond to our FOIA request for documents in their possession that were cited in reference in the evaluation report.

The second is information received from the Department of Veterans Affairs confirming the receipt of several Pinellas employees' entire personnel file, including medical records and dosimetry, and the refusal of General Electric and the federal government to accept those documents when the VA attempted to return them.

Third, a reference regarding a new device, which was constructed at the Pinellas Plant and not mentioned previously that we, the Petitioners, are aware of, including the Petitioner site expert, who has no knowledge of those designs.

And four, new data regarding the construction of neutron generators and the discussion of radiologic material at the temporary plant. And a request for reconsideration of this addition to the SEC as part of the coverage authority.

The Petitioners have in good faith complied with all aspects of the SEC process, and yet we continue to experience roadblocks and distractions from the various government agencies involved in this process, the Department of Energy, Department of Labor, and DCAS/NIOSH.

The Petitioners still do not have that list too, of critical documentation that formed the basis of the evaluation report.

And this lack of the access and transparency continues to make it impossible for us to fully analyze the foundation upon which the assertion that all doses at the Pinellas Plant can be reasonably reconstructed. We continue to ask, what is the basis of this assertion?

Why it is -- why is it that when missing medical records were discussed with NIOSH, and this has been several years ago, but I think it's still relevant,

this information was totally ignored.

The mistrust and frustration of the claimants impacted by the lack of their personal data being available for review, has left them wondering if the process is even capable of providing an accurate picture of their exposure history.

This frustration and mistrust are not only limited to the former workers with no records, it seems to be characteristic of most former workers at this facility.

I think I need to mention perceived bias. Since we had no access to documents or data, we have no idea how certain selection processes were made, and how different selection biases were avoided.

Additionally, I have not been privy to the history of the former Pinellas Petition filed. But, I can say that there has been an atmosphere of perceived bias towards this facility and its workers based upon years of back and forth between workers, petitioners, and government agencies.

So, I ask, should the new Petitioners be subjected to the problem and perceived biases of the past? We think not, and think you would probably agree with us.

We still have no idea what data has been used to provide the basis of NIOSH's assertions. And when we have provided or told NIOSH that we have new information, it has been dismissed.

Given that there has been so little progress made since the last time we spoke, and I realize that this is not directly related to you, but I understand a lot has to do with the acquisition of documents.

We the Petitioners are requesting a formal response from the Advisory Board and NIOSH to the four newly presented issues, as well as to the questions we raised at the prior Board meeting in December of 2021.

I also would like to remind you that you made a commitment to visit Pinellas in the near future. And we really hope that you will honor that commitment.

The Petitioner and former workers really look forward to your visit. And as we stated before, the Petitioners are more than happy to help make any arrangements that you find necessary.

We thank you for your time and consideration, and all the devotion you have for this program. Thank you.

Chair Anderson: Thank you. Do the Board Members have any questions?

I can tell you, I did get the four documents. So, everybody has received those as email attachments.

Member Beach: When did that go out? I was just going to ask that question, because I don't recall getting that.

Was that just recently?

Chair Anderson: No, it just -- it just came.

Member Beach: Oh, today. Okay.

Chair Anderson: Yeah. It came today.

Member Beach: Okay. Thank you.

Dr. DeGarmo: And if I -- and if I -- okay, and if I can add one more further thing. If there's anything within that documentation that you would be interested in discussing, please let me know. And I'd be happy to talk about it at a later date.

Chair Anderson: Fine. Thank you. Okay. Any other comments that the public has?

Dr. Roberts: I still have --

(Simultaneous speaking.)

Ms. Colley: This is --

Dr. Roberts: I'm sorry. Go ahead.

Ms. Colley: This is Vina Colley from the Portsmouth Gaseous Diffusion Plant. I'm President of the National Missing Workers for Justice.

We're really concerned because we were an SEC site. We were not supposed to go through those dose reconstructions.

Portsmouth, Paducah, and Oak Ridge, all three were a spatial cohort site because Congress said we couldn't prove, nor you could provide our exposure.

But, for some reason, NIOSH is making all these people who have relatives that have passed away, go through a dose reconstruction.

One guy, his mother has breast cancer, she had lung cancer, and one other cancer that I'm not -- I can't remember right now. And they had him to have his mom go three times.

The first times she got 39 percent. The second time she got 19, and I'm not for sure what they got on the third one.

But, this is a criminal act, because Congress didn't mean for us to have to go through the dose reconstruction. These people are all dying now.

And they should have been compensated when they were still alive, for their cancer. Because they had one or two of the 21 cancers on that list.

And this is really a criminal act against these family members and the widows of these workers that passed away.

Hello? Are you still there?

Dr. Roberts: Yes.

Member Beach: Yeah. We're still here.

Ms. Colley: The Ombudsman was aware of this.

NIOSH, Denise -- Denise was aware of what's going on with some of these workers. And she agreed that the Piketon site is a special cohort site designated by Congress.

No need to give any of these workers a dose reconstruction. The benefit of the doubt goes to the workers.

Chair Anderson: Other comments?

Member Clawson: No, I was -- I was just going to say, this sounds like more of a, that NIOSH needs a response on this.

Chair Anderson: Yes.

Mr. Calhoun: This is Grady. And we -- we don't generally respond during public comment.

Dr. Roberts: No.

Mr. Calhoun: That's not how that works.

Dr. Roberts: No. It does not. It's just a period for public comment.

Ms. Colley: Well, can I get them to send it to me in writing, their comments? Or email me their comments?

Because this is a criminal act. And we're not going to sit back and just take this now. We're going to take this further.

Mr. Calhoun: We respond to all public comments. We record those and we'll -- we provide those to the Advisory Board prior to the next meeting.

Chair Anderson: We go through those when we have the Board work sessions too. From the previous, and NIOSH's responses.

So, your comments will get responded to, but not immediately.

Dr. Roberts: Right. And just to be clear, it would be

the next full Board meeting, not tomorrow when we do the Board work session.

Chair Anderson: Right. Okay. Are there any other comments or discussion items that Board Members have before we say goodnight and reconvene tomorrow after 1:00 p.m.?

Rashaun, do you have anything else?

Dr. Roberts: No. I'm not hearing any other public comments. So, I think -- I think we're okay.

Ms. Hand: This is Donna Hand. Can you hear me?

Dr. Roberts: Yes. There you are.

Ms. Hand: Okay. Can you hear me? Okay. I had sent an email to the Board. Hello?

Dr. Roberts: When did you send an email?

Ms. Hand: Yesterday.

Dr. Roberts: Yesterday?

Ms. Hand: This -- okay, to the Board.

Dr. Roberts: I didn't --

(Simultaneous speaking.)

Ms. Hand: Regarding -- regarding the application of the ICRP clarification of the tritium, which was done in 2004.

And also again, the -- or I had requested that the Advisory Board discuss the metal tritides.

I also, in that email, went back through the Technical Basis Document, and informed that the highest individual external dose was 1,760 millirems, and with 512 millirems being the average. But yet, NIOSH says that for the Pinellas Plant, it's only 100.

Again, the methods and the guidelines used are regulations at 42 CFR 81, 42 CFR 82. If you are

changing the guidelines and the methods, you have to do notice and comment. That was not done.

So, NIOSH can only address the application of the methods and the guidelines. They cannot change the methods, the methodology, or the guidelines, unless they have notice and comment. And that was not done.

Also, the actual facts have been omitted from this Technical Basis Document for Pinellas Plant for several years now. And the two previous SECs that did not qualify, used the same NIOSH -- these are the kind of reports that NIOSH said were wrong.

So, there seems to be a disconnect as far as being equal justice and consistency in the decisions. Again, I would address that the tritium dose, according to NIOSH, is only for the workers in certain areas.

But, the tritium dose, and specifically metal tritide doses, was anywhere where that neutron tube went, and where the neutron generator went. So, this dose was never addressed to the actual workers.

And the tritium would be in contaminated oil and in the seals. So, the maintenance workers would be exposed there. Again, that was not addressed.

The UA -- and then in the RTGs, the guards' desk has a sampling of radiation on the guards' desk.

But yet, NIOSH has said that for the people that's worked with the RTGs gets zero dose. We had radioactive generating devices. Again, zero doses to those workers.

So, there seems to be inconsistency with the Pinellas Plant and the actual material facts, as opposed to the professional judgments that have implied and omitted facts.

In fact, several years there has been -- there's data that's completely missing. So, you can do the dose reconstruction, but it's a default value.

It's not -- it's not based on the data. It's based on a default. And I'd just like to address that the legal standards, you know, it needs to be addressed as well that it should be uniform and consistent.

And if the metal tritides -- and to stop the year from 1990 when [identifying information redacted] in the March meeting, when the Advisory Board was in Tampa, everybody stated that they do not have any data for the D&D period at the Pinellas Plant.

But yet you stopped the SEC at 1990. It should go to 1997, because that's when the last shipment was sent to Sandia.

Thank you very much.

Chair Anderson: Thank you.

Dr. Roberts: May I ask a --

(Simultaneous speaking.)

Chair Anderson: Any comments?

Dr. Roberts: May I ask a clarifying question? To whom did you send the email? I've checked my email, and I don't have anything from you.

And I just want to make sure if you sent something for the Board that I'm -- I receive it.

Dr. DeGarmo: This is Denise DeGarmo. The copy of the email that I received from Donna was addressed to DCAS.

Dr. Roberts: I see. Thank you.

Dr. DeGarmo: Unless she sent a different one. That's the only one I'm aware of.

Chair Anderson: Other comments? Last chance. So, Rashaun, should we adjourn?

Dr. Roberts: Yes. It seems that the -- I don't hear any other folks --

Chair Anderson: Yeah.

Dr. Roberts: Wanting to comment.

Chair Anderson: It's hard with a lot of people on the phone, because they can't raise hands.

Dr. Roberts: Right. And sometimes people have audio difficulties.

Chair Anderson: Yeah.

Dr. Roberts: Thankfully everyone who wanted to speak did have an opportunity to do that.

Chair Anderson: Okay. All right. So, we will adjourn until tomorrow at 1:00. And it's the same link?

Member Beach: Okay.

Chair Anderson: Is that correct, Rashaun?

Dr. Roberts: Yes. I believe it is.

Chair Anderson: It's the same Zoom link, I think.

Dr. Roberts: Okay.

Chair Anderson: Yeah, it came to my calendar as two full days. So, all night and 1:00 a.m., 2:00 a.m., so. Okay. See you tomorrow everybody.

Adjourn

(Whereupon, the above-entitled matter went off the record at 5:19 p.m.)