

This transcript of the Advisory Board on Radiation and Worker Health, Idaho National Laboratory/Argonne National Laboratory-West (INL/ANL) Work Group, has been reviewed for concerns under the Privacy Act (5 U.S.C. § 552a) and personally identifiable information has been redacted as necessary. The transcript, however, has not been reviewed and certified by the Chair of the INL Work Group for accuracy at this time. The reader should be cautioned that this transcript is for information only and is subject to change.

Centers for Disease Control
National Institute for Occupational Safety and
Health
Advisory Board on Radiation and Worker Health
Idaho National Laboratory/Argonne National
Laboratory West Work Group
Thursday, August 9, 2018

The Work Group convened via teleconference at 1:00 p.m. Eastern Time, Philip Schofield, Chair, presiding.

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Members Present:

Philip Schofield, Chair
Henry A. Anderson, Member
Josie Beach, Member
Genevieve S. Roessler, Member

Also Present:

Ted Katz, Designated Federal Official
Bob Barton, SC&A
Ron Buchanan, SC&A
Mitch Findley, ORAU Team
Joe Fitzgerald, SC&A
Brian Gleckler, ORAU Team
Jenny Lin Naylor, HHS
Jim Neton, DCAS
Steve Ostrow, SC&A
John Stiver, SC&A
Tim Taulbee, DCAS

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Proceedings

(1:00 p.m.)

Roll Call/Welcome

Mr. Katz: So, let me say welcome to everyone.

This is the Advisory Board on Radiation and Worker Health. It is the INL and the Argonne National Laboratory West Joint Work Group with Mr. Paul Schofield as the Chair.

The -- there are discussion points for this meeting today and four background papers all posted on the NIOSH website, the NIOSH site under in its programs, schedule of meetings, today's date. You can go there and pull up any of those background papers or the discussion points as well as the agenda for today. So, people are welcome to do that.

Let me also just note up front for people who are not familiar with these meetings to please keep your phones on mute. You can press star six to mute your phone if you don't have a mute button and then star six to take your phone off of mute. But, please keep your phone on mute except when you're addressing the group.

There is an opportunity I think for the petitioner to comment if we have a petitioner on the line for this meeting. And, but otherwise, it's just the staff and Board members will be discussing today.

Okay, for roll call, I have, first of all, we need -- we're dealing with the sites, so we need the specific site when we deal with conflicts of interest.

The Board members have no conflicts of interest so no need to address that for them.

But, we have present Paul Schofield is the Chair and Josie Beach, Member; Henry Anderson, Member; Gen

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Roessler, Member; and let me just check again about David Richardson, are you on the line? He's the other Member to this little group.

(No Audible Response)

Mr. Katz: Okay, as I thought not.

So, let's go on and do roll call for NIOSH ORAU Team. And, again, please address the conflict of interest.

(Roll Call)

Mr. Katz: Okay, is that it for ORAU Team? Welcome to all of you.

Let me go on to the SC&A team.

(Roll Call)

Mr. Katz: Okay, and welcome to all of you.

All right, then with no further ado, Phil, it's your meeting.

Chair Schofield: Is John Stiver on the phone?

Mr. Katz: John is on the phone. He's probably on mute. John?

(No Audible Response)

Mr. Katz: John Stiver?

Mr. Barton: This is Bob. He might have got disconnected. I'll probably be heading up most of the discussion from our end today.

Mr. Katz: That's fine, that's fine, Bob, if you want to.

Mr. Barton: Okay, I mean, well, the first item in --

(Simultaneous Speaking)

Mr. Stiver: Yes, Bob's right, he's basically been doing

the heavy lifting on all these issues, so he'll be leading the discussion for SC&A.

Mr. Barton: Well, let me ask, first of all, does anybody hear any feedback as I'm speaking? I have a window unit air conditioner and I don't know if it's too loud in the background. So, if everyone can hear me fine, then great. If not, I can turn it off.

Mr. Katz: Well, you're clear. You're clear, Bob.

Interim Status of Review for Proposed CPP SEC Class 1963-1970

Mr. Barton: All right, well, the first item on the agenda is the Interim Status for the CPP SEC Class During the Period from 1963 to 1970.

Now, this discussion is fraught with Privacy Act material. So, for the Board members, you all have at least a hard copy of the SC&A report or have access to Skype as I'll be showing up the report on there.

And, obviously, it's still heavy with Privacy Act material and I'm going to have to be very vague for this first discussion.

So, it's really key that all the Board members are able to follow along for this first item, which again, it's 1963 to 1970 SEC definitions for the chemical processing.

So, does everybody either have Skype up and working in front of them or have a hard copy of the SC&A memo on that subject?

Ms. Roessler: Bob, this is Gen.

I have Skype but I'm not on yet. Can you get me on it?

Mr. Barton: I may be able to if you're waiting in the

lobby. I can test one of these options.

Ms. Roessler: Yes, you know, I wasn't -- I didn't notice the instructions on there, so I didn't get on.

But, why don't you carry on and I'll -- I think I can follow okay.

Mr. Barton: Okay. Well, I think it's probably --

Member Beach: And I have --

Mr. Barton: This is -- I'm sorry, go ahead, Josie.

Member Beach: I was going to say, I have a hard copy and I'm working on getting on Skype.

Mr. Barton: Okay. All right --

(Simultaneous Speaking)

Mr. Barton: Okay, well, let's go ahead with the back story here because it's been about a year since I think the Work Group met last.

And, this issue of the CPP Class Definition has gone through two iterations, a lot of work by both NIOSH and from our side at SC&A.

And the key here is that the Class Definitions requires for this period requires a CCP specific dosimetry badge.

In other words, you need evidence that they entered the Chemical Processing Plant at least once and that would be in evidence by receiving a CPP specific dosimetry badge.

In other words, during this period, you couldn't simply leave one area of INL, for example, the central facilities area and take your badge from that area and head into CPP.

You had to stop at the guard shack and either pick

up a visitor badge or a more permanent dosimeter to head into the chemical processing chamber.

So, I guess beginning around in 2015, in tandem, both NIOSH and SC&A did some pretty intensive review of plant files in order to determine whether there was any possibility that this Class Definition might miss somebody.

And, out of that, you know, one of the important things that came out of that was the realization that temporary or also called visitor badges for INL, sometimes weren't being migrated into their official dosimetry systems.

So, when INL goes in and tries to research files for a specific claim, they might not see those temporary badges. Now, this is back in 2015 and parts of 2016.

So, that's obviously not only for this SEC discussion, but that's a pretty big issue.

So, what happened is DOE said, all right, well, we're going to go back and we have all the hard copies of these temporary and visitor badges and we're going to go in and we're going to code them and index them so that they are now migrated correctly into that main INL dosimetry system.

So that now, if you went in to find the monitoring records for a claim, you would have all of the temporary badges along with all of the bioassay and regular badging and that sort of thing.

So, it was around the fall of 2016 that the Work Group met and said, well, we need some way to verify and validate the implementation of this massive coding effort that DOE had undertaken for things like the general worries were, well, a lot of these records are handwritten, could there be name misspellings?

Could there be name, like alternate names for the same worker? You know, or could there be just human error that would give the Work Group pause in accepting or recommending that the current Class Definition go forward.

So, after that August 2016, SC&A was tasked with coming up with a strategy essentially to verify and validate that all these temporary badges were being correctly migrated over to the official INL dosimetry system and they were being correctly identified with the individual worker.

And, we submitted our first memo on the strategy which is really a proof of principle type thing.

Later or early in 2017, at that time, the Work Group asked us to expand the V&V activities to include even more potential claimants and temporary badges that we could check.

So, in August of 2017, the Work Group elected to move forward with that and the first batch of requests were for 30 workers that had been identified in -- by SC&A in the hard copy of temporary badge report but who did not actually have these temporary badge reports in their current monitoring file.

So, essentially what would happen next is NIOSH would request an update to the monitoring records which should include all those temporary badges now.

And then, once DOE came back with those records, we could compare them against the list compiled by SC&A and then they're either correctly included now in the individual dosimetry files or they're not.

And so, to date, or at least as of when we wrote this memo and did the analysis, we had gotten responses for 18 of those 30 claimant requests.

So, in the interest of sort of trying to move this thing forward a little bit, rather than wasting a full set of 30, we took those 18 and what we're going to talk about today is sort of the interim results that we have just for those 18 claimants.

So, I guess that would be the quick back story to item number one on the agenda today.

And, I guess, let me ask, have people been able to get on Skype? If you are on there, you should see the agenda for today.

Member Beach: Yes, I'm on and I see the agenda.

Mr. Barton: Okay. Gen, were you able to get on?

(No Audible Response)

Member Beach: She might be muted.

Mr. Barton: Right.

Well, in any case, if your hard copy versions of the report are available, that's perfectly fine.

What I'm going to do, as I said, this report is really heavily involved with Privacy Act material. So, the only thing I'm really going to be referring to is an arbitrary case designation that we gave them. And, that's you know, A, B, C, D, that sort of thing.

So, that when we're looking at a certain table, you can see what case everybody else is looking at and the information that we have on that particular case. And, just be wary about definitely saying any names but even things like the employment period or the job title. That gets in to sort of a gray area. So, err on the side of caution.

So, what I'm going to do here is I'm going to throw up one table of that report and let me know if people who are on Skype can see that now.

Member Beach: Yes.

Mr. Barton: Okay, great.

And, let me just take a step back. So, the overall results of this were that SC&A among these 18 claims, had identified over 400 temporary/visitor badges that were in the hard copy files captured by NIOSH and available to us in the Site Research Database.

But, if you had gone into their DOE monitoring file at that time, those badges were not included.

So, these -- there were basically 420 entries that we could test to see if they were now correctly being included.

And the overall result was that, among those over 400 entries, about 80 percent of them were correctly now included in those updated claimant files.

So, that's sort of the overview. In addition to that, and when I say we're making comparisons, one thing that everyone has to understand is that on a visitor badge, in general, all you have is a first initial, a middle initial, a last name and the employer.

So, as you can see, that's not a whole lot. We don't have an actual employee which sort of complicates the process.

So, when I say we have these 420 badges to check, that meant that we actually had that middle initial, first initial, last name and company all matched with the exception of one case which we'll see shortly.

So, in addition to those 420 results for V&V comparison, we also wanted to look specifically whether we saw name variations like I just described earlier, that is maybe a transposed letter, middle initial and first initial maybe were reversed. Maybe there's a slight misspelling, those sorts of things

which you'll see shortly.

And, I believe we had about just over 30 instances of that.

And so, we did go in and look, in addition to those 420 to see were other name variations being included? And we found that just three of them had been included that SC&A noted.

But, again, as you'll see pretty soon as we look at this table, SC&A also went into the updated DOE responses and found that there were even more name variations that DOE had included that SC&A hadn't seen. So, sort of a two-way street there.

Some of the name variations SC&A identified weren't in there and then DOE had identified some name variations that SC&A hadn't identified either.

As you can imagine, that can get a little bit tricky.

So, what we're looking at in table, if you're looking at a hard copy, this is Table 2. And the first case there is Case K.

And you can see in the second column, that's the number of badges for this particular individual that SC&A was able to identify.

And, in this case, none of those the number of badges that you can see here, they're -- none of them were actually identified in the updated monitoring record.

So, a couple of things to note, there's a lot of information here for this claim.

The first full here in the last column shows the name, the employer, the job title and then it gives some information about the individual because, as you can see, the name is not all that unusual.

So I mean, you could have multiple people with

similar names. So, are there two people? Is that the reason we didn't find them? Is that the reason DOE didn't include them? That's one possibility, but there's certainly indications here that this person might have been missed.

Now, all the way to the bottom of this case, we note that we do not actually -- SC&A did not find any main variations for this individual and we didn't actually see any in the updated DOE file either.

But this is, I guess, like you would consider the worst case in that none of these temporary badges, if they are in fact, representative of the individual were captured by this updated coding effort.

We move on to the next one which is Case F. Again, in the second column, we have the number of badges that SC&A identified and the number that were actually found in the DOE file, which is about 13 percent of the total identified by SC&A were included.

Now, this one is sort of an interesting case. If we go up to the name, you can see what the name in the office and provided in the DOL file of this.

However, this name which has a slight difference is not a spelling difference, you can see what I mean, appears in the same monitoring file.

So, in other words, the name, including this part is not always included.

And we can see that they worked -- who they worked for, what their job title was.

However, the -- looking at the monitoring file, what they have in common is that most of the these top name variations have the same S number which is a specific employee number at INL. So, that's -- we're very confident that these are in fact the same people. It's just again, these visitor cards are handwritten so

sometimes, they might have gone by the first version and sometimes the EE might have gone by the second version.

If we go to the second bullet here, and we note that in the updated response from DOE only contained that one variation and none of this variation.

Now, this variation is the actual on the DOE L file name for the claimant. So, in other words, that 13 percent that were included in the file represented this version. And then, the other 87 percent represented this version and were not included.

Some name variations, if we look at the second to last bullet for this individual, there's a couple different versions of it. And, you can read through those and just see how it's a little bit different in each one.

We did not see any of these versions of the name in the updated file. However, the next bullet shows variations of the name that we did see. And, everybody can kind of take a look at those.

Again, this is to get an idea of sort of the variability and inherent difficulty in going for something that's handwritten and then coding it and then correctly associating it with an individual.

This last note here on this last bullet introduces another name that could have been the middle name I assume or it could be a different individual. But, I will note that we went through all the DOL files in the CATI and never saw this middle name or middle initial associated with it. So, we're really not sure about that one but it was included in the DOE file.

And, I guess one side note sort of complicates this, and it's kind of, I want to say, quirk, but it's maybe more of a cultural thing with a lot of the workers out in Idaho.

And, we found out this doing interviews and such that a lot of times, the workers would go by their middle name. That's how they were known. And wouldn't necessarily go by their first name.

So, it could be that this is this gentleman's middle name and that's how he would sometimes, you know, present himself. Or maybe that's how it was written down when he received a temporary badge or any sort of possibilities.

So, that's -- I just wanted to note that that was one complicating factor. And, we actually talked to some of the workers out there. And, they were like, yes, you know, some people just like to go around by their middle name and not necessarily their first name.

I'm not sure the exact reasons but that just seemed to be sort of a subcultural thing there.

So, if we move on, there is Case E. In this case there are this many total badges that SC&A identified. And, almost 80 percent of them were found in the updated DOE response file.

And again, we see at the top here this is a claimant's name, the employer, job title and name variations. Again, these are going to be the last two bullets. And these are really the only things that I really want to bring the Work Group's attention to in this table is that you do have significant variations.

None of these were actually found in the DOE file. However, these were just down here and there are six, looks like six different name variations. Those actually were included.

So, you can see, there's quite a bit of variability for this individual.

Case M, now we're up to 94 percent of the observed temporary badges were correctly included in the DOE

file.

This person had a slightly different employer for part of their employment. And again, we have one name variation that SC&A identifies and that DOE identifies two more in name variation.

Now interesting to this one, and if you go to the third bullet for Case M, there's a single missing badge with a different employer.

However, if you're actually going into the DOL case file, this is -- that is the correct employer so that was not a different individual. The person just changed who their primary employer was.

And that coincided with the missing badge.

Moving on to Case O, again, we have this many badges here. About 95 percent were contained in the DOE updated file. And we do not observe any name variations either in -- by SC&A or in the actual DOE file.

Moving along even further, this one Case D had about 96 percent of the identified temporary badges included with their DOE update file.

So, you can see a couple of different -- four different name variations that SC&A identified. One of them was actually included, this one right here in quotations.

That one likely made it through, though because the actual temporary badge had a security number, S number, which, again, was a very unique identifier for the INL site. And, it was also a positive result.

Now, that makes sense that that would obviously be flagged and included. However, the updated DOE response contained about four more different name variations that SC&A didn't necessarily identify.

And, these didn't have -- these name variations that I'm showing in the DOE response don't have to be temporary badges. They could be on almost anything.

Sometimes, they were handwritten on the bioassay sheet or any sort of record that is contained that DOE would send that lists the name as something different than what the name is given for the claimant both in NOCTS and by DOL.

Okay, and the last one, Case H here, again, a large number of temporary badges identified and about 97 percent for this claimant were identified.

I saw the name variations again. We have a couple different ones here. As we can see, the name variations are associated, or two of them are associated with specific employer which matches up. And, another one is a different employer, which again, also matches up.

And the DOE response also contained two other name variations that SC&A hadn't seen.

So, those are the cases in which we did not have a 100 percent coverage based on the temporary badges that SC&A identified and the temporary badges that were included in the updated response.

The remainder of these cases, we did put down where there are name variations, for example, Case G has one that SC&A found and three that DOE identified.

Let's see here, ah, Case J, this individual was actually identified through earlier efforts by SC&A and NIOSH in which we couldn't find any external dosimetry, but we found evidence, and if you look over here for Case J, that's the evidence that was labeled them as being at CPP.

And, this one was discussed and researched

extensively. And, at the time, we kind of wrote it off as maybe it was just a typo that the actual evidence here shouldn't have said CPP and really should have been for another area.

However, as it turns out, we found one temporary badge for that individual when we re-requested their records and it coincides with that other record which had indicated CPP was correct.

For me, that was one mystery solved and that's one where we specifically wanted to include the individual to see if these new coded temporary badges sort of uncovered a mystery of whether that person was actually at CPP or more likely at another location.

Case L, this is one that had a whole lot of different versions of the individual's name. As you can see, this person had a very specific employer and SC&A found four different variations all with that same employer, only the last one had been included in the DOE response.

However, the DOE response also contained, let's see here, eight other name variations for this person. So, they spelled his name a lot of different ways.

But, again, of all the numbers that SC&A identified that exactly matched his name, those were all included in the DOE response.

However, three name variations, other name variations that SC&A identified, the name variations weren't in there except for one of them.

And, I mean, this is really getting targeted, the rest of them are, again, are all a 100 percent included on Case P, you can see those name variations, the ones that were included and the ones the SC&A could not find.

And, again, Case Q, again, it's a 100 percent. We

wanted to know where there was name variations, the ones SC&A identified and the ones that DOE hadn't included.

This last one, in the last bullet on Case Q, last name found by DOE is very different. I just kind of wanted to point that out.

And then, the last two, again, a 100 percent and no name variations were identified by SC&A or seen in the updated DOE file.

So that's the interim status of this report. Again, overall, when you sum all these up, it was about 420 temporary badges that matched the first initial, the last initial, or first, middle initial, last name and employer and was within the date range of covered employment.

And, among those 420, 80 percent of them were correctly migrated over and identified during the process of re-requesting the dosimetry records for those individuals.

The one individual, the very top case, Case K, I don't know if Tim's going to want to talk about that after this.

For one individual, there was a significant number of dosimetry -- temporary visitor badges that we were able to identify but none of them had been actually migrated over into the updated DOE response file.

So, again, this is -- these are the interim results from 18 of the first 30 claims which we were going to make requests for.

When we started out requesting these, the plan originally was -- these were noted as the Group 1 claims and there were 30 that we had sort of ranked as being the most significant as far as gleaning information in this type of activity.

The plan at that time was, once we had the first 30, we request the second 30 or Group 2. I don't know if that's still something the Work Group wants to do. But, again, we have not, or at least as of the writing of this report, we did not have responses from DOE for all 30 of the first group.

So, again, this represents the first 18 that we had response files for. And, I guess that would have probably have been about late June when we cut it off and said, all right, well, for the purposes of this meeting, we just -- we have to do the analysis now, we can't just keep waiting.

I know there was at least a couple more DOE responses that came in during the process of getting this report finalized, but they're not included. And, I have not checked recently to see if the remaining 12 claims that had not had DOE responses to this point are included now, but I would guess a fair number of them aren't.

So, that really concludes I guess my spiel on Item Number 1 here. I can take any questions or I know Tim sent along a presentation yesterday that he -- that is directly related to this.

So, however the Work Group wants to proceed, I can answer any questions or I can pass control over to Tim.

Petitions' Questions/Comments

Member Beach: This is Josie, I don't have any questions.

Member Roessler: This is Gen. Am I now off mute?

Mr. Katz: Yes, you're off mute.

Member Roessler: I've got it right this time. I don't have any questions either.

Mr. Katz: So, Phil, do you want Tim to go now or -- are you on, Phil?

Oh, we may have lost Phil, I'm not sure.

Chair Schofield: Now can you hear me?

Mr. Katz: Yes, there you are, thank you.

Chair Schofield: Sorry, got lost there.

Maybe before we have Tim do it, we could cover the evaluation of the uranium dose reconstruction methods they have.

Mr. Katz: Well, Phil, but Tim's points are related to this first item.

Chair Schofield: Okay. That's what I was thinking, but I -- if he's ready, I mean, I --

Dr. Taulbee: I'm ready anytime you all are.

Chair Schofield: Okay. Then it's all yours, Tim.

Dr. Taulbee: Okay. Give me just second just a second to get the presentation up here.

Mr. Katz: Maybe you'll fix it. But, right now, your voice is very remote.

Dr. Taulbee: Okay, is this better?

Mr. Katz: That is better, yes.

Dr. Taulbee: Okay, just a second here. All right, let's see, all right.

Can you all see the presentation?

Mr. Katz: Yes.

Dr. Taulbee: Okay. All right, so, I just wanted to kind of take a step back quickly and kind of remind

the Work Group as a whole that the goal of the -- about the goal of the SEC Class and what the components of the exposure at CPP that we determined that we could not estimate with sufficient accuracy.

And, that component is the plutonium and other transuranics at CPP for people who worked within the process cells and the laboratories.

And so, the goal of the SEC Class Definition was to identify workers who were potentially exposed to plutonium and other transuranics at CPP for 250 days.

So, to ensure we didn't miss anyone, we cast a wide net. That was the goal.

And so, the definition that we came up with was a single badge at CPP and 250 days of employment. Not 250 days at CPP, but that's the general criteria of an SEC would be the exposure and the actual exposure to the transuranics and plutonium and for the exposure to have been 250 days.

Why did we choose a single badge? Well, there was a potential for some administrative personnel at CPP to be on annual dosimetry starting around 1966, 1967. That 250 days might only have a single batch.

But, this would be somebody who was on routine dosimetry. And, the administrative personnel had low potential for actual transuranic exposure from the process cells at the labs.

It doesn't mean they were not, they could actually - there's nothing preventing them from going into those areas, but the routine workers in those areas were on a monthly and then latter quarter dosimetry.

And so, the Class Definition identified the routine, by the way, I'm on Slide 2 now, the SEC Class Definition

identified the routine CPP workers with some potential for exposure to plutonium and transuranics, but it eliminated non-CCP workers with zero potential for transuranic exposure.

For example, workers who work 30 miles away at Test Area North and workers from Central facilities or a Test Reactor area or the Auxiliary Reactor Area.

The simplified definition does include some workers who may have 250 -- who may not have 250 days of exposure at CPP.

Most notably, the temporary workers. Most of the badges that Bob was just talking about were for a few days up to a week.

Now, it is possible that a worker, as you see, had multiple temporary badges and so they could have up to 52 or so badges during a -- during their work career there at CPP which would meet that 250 day criteria.

But, the benefits of the simplified badge definition was the routine workers had multiple badges. Most of them were on monthly, especially the ones who were in these areas with plutonium and the transuranics.

It also mitigates the potential for misidentification issues due to incorrect name spellings on temporary badges. And, Bob went through a great deal of detail there showing all of the variations that could be occurring.

It also need to identify all temporary badges if we are requiring, you know, 250 days of exposure at CPP, that meant every one of those badges would have to be tallied the number of days that it was valid for.

You'd have to make sure that you've got them all. You'd have to make sure that they were all spelled

correctly and that everything worked.

By this definition, we felt there's a low probability of missing 52 badges, thus, there's a low probability of missing a worker truly exposed to transuranics for 250 days.

Let's see, I went the wrong way here, there we go.

Okay, so, now I'm on page 5 of the slides.

There was some potential concern that a single badge Class Definition was being too broad. Again, this includes workers that did not routinely work at CPP.

You have the -- your temporary workers, visitors and who may not have had 250 days of potential exposure.

However, as I indicated before, it's difficult to sort out the actual base of dosimetry. Not impossible, but requires more stringent criteria on finding and reading all of the handwritten badges.

As Bob pointed out, there's very, you know, subtle misspelling differences. He caught a whole bunch of them whenever he identified his Class or identified this particular group in which badges there were, that when the results came in, you found others that they had tagged to that person which were different spellings of individuals.

But, again, our goal was to try and cast the net wide so we didn't miss anybody that had 250 days of exposure.

And so, if we're going to look at SC&A's evaluation of the 18 workers, 17 of the 18 CPP temporary workers were identified and would have been entered into the Class had this Class been, you know, identified and with DOE's current process.

The one that didn't, and it's Case K, as Bob pointed

out, and so, this would be 5.6 percent of the total there, was misidentified by DOE.

And, under the current review would not have been determined to have been part of the Class.

And so, what would have happened with this case? Well, it would have been referred to NIOSH for dose reconstruction.

And, during dose reconstruction and the NOCTS file indicates that there was CPP work. And so, what we would have done is when we saw this with an SEC cancer, we would have inquired with DOE and sent to, you know, a letter to DOL asking about Class inclusion and we would have provided the documentation.

So, there is actually a check and balance that would have worked, I think, in this particular case where the individual would likely have been reevaluated and included in the SEC Class.

Now, having said all of this, Case K, DOE erred on this case. They should have found at least one badge.

SC&A found 31 badges when we went through looking for this individual. I found 32. And, based on the 32 badges, Case K has a total of 95 work days at CPP over the four years that the temporary badges cover.

So, here's a temporary worker, he is definitely a person that we were intended to be caught by that net. But, he actually doesn't have 250 days of potential exposure at CPP.

But, again, we were casting the net wide to make sure we didn't miss somebody and recognizing that somebody has, you know, a unique misspelling of, you know, the multiple variations that Bob was

pointing to, we only needed one to indicate that they were there at CPP. And that was our goal there.

Now, we contacted DOE to find out why. When we got Bob's reports and read through it, we asked them, you know, why did you all miss this?

It's interesting to point out here that the initial response in the October 2017 file for this individual had 296 pages of dosimetry information.

The response that they sent last month had 281 pages. So, there's more than just the temporary badges missing from the second response. Something happened in their response.

Again, we've talked to DOE, they recognize there's an issue with the case but they are not certain as to the reason the temporary badges were missed and why the response was short 15 additional pages.

What they've committed to do is to resend the full response of Case K and this is currently in process.

The next case I want to talk about is Case F because this one caused us some pause as well even though one badge was -- at least one badge was identified and they would be part of the SEC Class.

Only six of the 48 badges were found and we felt they should have found more than that.

Another interesting part with Case K -- Case F here was the DOE only sent a partial response. The temporary badges, they're not the full dosimetry files as we requested.

You know, we -- when we sent this request back, we asked them to treat these as if they were a new case.

In this particular case, they only sent 16 pages. In the October 2017 case, they sent 531.

So, clearly, they just sent what they found from a portion of the temporary badges and did not send us the full dosimetry file as we requested.

Again, DOE committed to review this particular one and resend the full dosimetry file as they would for a new claim which is what we requested initially.

So, a little bit of misinterpretation on our part as well as Bob's there of what was sent. We thought we were getting the full work up. And, in these two cases alone, it's clear we did not get a full work up as what we had initially requested.

So, here's the results, so just to re-emphasize from what SC&A was presenting here, and I added a column here to this one and this wouldn't - - under the current system, would they have been included in the SEC. And, that's the far right column.

And, you can see that there's only one, that Case K that wouldn't have made it into the Class, but I do believe with the check and balance of the case would then have been sent to us for dose reconstruction that it would have been caught.

But, that doesn't excuse what DOE, you know, their error, they need to fix that.

So, in summary, you know, over the past month or past couple of years, we've demonstrated the completeness of the dosimetry badges.

Routine dosimetry badges, there's multiple badges for each of the routine type of workers. It's all typed, it's all in the IDM system. There's not really an issue with misspellings.

The same for reconstruction dosimetry badges. A large number of construction workers are on the routine badging there. That was that CX area. And, again, those are typed and there's S numbers and

multiple ways to identify the workers.

It's these temporary badges that are the vulnerability group here because these are the handwritten components. And SC&A's V&V of the temporary badges this, again, is the group with the highest vulnerability to verify this process 94.4 percent of the temporary workers are accurately placed by DOE in the SEC with the current definition.

We have notified DOE about the missing badges and they are reviewing their process to improve that accuracy.

And so, with that, I'll be happy to answer any questions.

Member Beach: Tim, do you have -- this is Josie, do you have a time line for the rest of these requests that have been sent out to get us up to the 30?

Dr. Taulbee: I do not. And, part of that has to do with in late May, they -- DOE lost one of their technicians that provides these responses. And so, they've been struggling just to keep up with normal claims which is why there's been a bit of a slow down here.

And, I don't know the status of whether they've been able to hire anybody yet to do that back fill. So, I'm sorry I don't have a good time line as to when they are.

But, we can ask them about that and as well as these responses.

Member Roessler: Tim, this is Gen.

Dr. Taulbee: I think we could follow up and respond to the -- I'm sure we can get an answer within the - - before the Board meeting later this month.

Member Roessler: Tim, this is Gen.

Dr. Taulbee: Yes?

Member Roessler: Okay, I have a question, it's probably not -- I have two questions, one's pertinent to this discussion and the other one may not be.

But, on page 4 or slide 4, there's a number there that I don't know where it comes from.

The last bullet on that slide, you talk about the low probability of missing 52 badges. Where did the 52 come from?

Dr. Taulbee: It actually comes from, if you go up to slide 3 where I talked about the temporary workers. Most of those temporary badge reports that Bob and I have been reading off of, missed the actual date of -- that that dosimeter was worn.

And, in the case of Case K, many of those particular temporary badges that the individual received were for one to two days.

But, there were others that were for a full week. And so, there would be a period of three weeks where he was actually working at CPP full-time. And so, you can see that in his dosimetry where it's a full week this, you know, particular week in say August.

And then, the next week is August and the third week is August in there for a full week.

So, the 52 badges comes from 52 weeks in a year. That would comprise 250 days.

Member Roessler: I think this was obvious, but okay.

Then probably the more pertinent question, you said in your last bullet of the summary that DOE has been notified of the missed badges in reviewing their process and to improve to a 100 percent.

Well, that's obviously a good goal. But, how do we

go about testing whether this is going to work?

Dr. Taulbee: Well, I think the key here is to look at the individuals as a whole. Do we get a single badge that puts them into the Class as we were expecting?

And, not going through the actual, you know, do they have, you know, 31 of 32 type of badges. Because in the case that, you know, Bob was pointing out there, when you go through all of that, he identified certain people or badge or spelling of the name. And then, DOE identified different ones.

And so, there's just a mismatch in there. But the critical part is, this person has a dosimeter badge at CPP and would they have been part of that Class? Did we find at least one?

And, that's the metric that I think should be looked at. And, in this particular case, and they erred on Case K, there's no doubt about it, there's no excuse for it. They absolutely should have found one of those badges.

Member Roessler: Okay.

Dr. Taulbee: But, at this point, you know, of the limited sample of 18 cases, we're getting 94 percent of these temporary workers.

Again, the routine -- we're not catching the routine ones or the construction ones, these are visitors to CPP.

Member Roessler: But then, the plan is to follow through on the remainder of the first 30 and then do the second 30, is that the plan?

Dr. Taulbee: That's up to you all.

Member Roessler: All right.

Member Beach: I think we should definitely do the

first 30 and then revisit and decide if we need to do the next 30. That's just my thought.

Member Roessler: That sounds like a good idea.

Mr. Katz: Yes, this is Ted.

I mean, just on that point, let me just say, I mean, while we do this continued looking at cases, I mean, we have people that, whose cases could be compensated -- they're not going to be compensated until this is resolved.

So, I do think you all need to keep in mind the sort of the issue that there is this does have human effect here. This is not just an academic exercise here either.

Member Beach: Which is why I suggested getting that first 30 done and then going --

Mr. Katz: Yes.

Member Beach: Yes, because I kind of feel the same way. If we're in the same boat after the next -- the last set of this first 30 then we really should decide which way -- the direction to go.

Mr. Katz: Yes.

Member Beach: And, that's why you asked the question about the timing.

Mr. Katz: Yes, that's why I raised that question. Oh, that's why you raised that question about when, yes.

Dr. Taulbee: This is Tim Taulbee, with NIOSH.

I can, you know, commit that we will get with DOE and get an answer as to when we will have the full response as we had requested for the 30 claims. And, we'll get that answer to you by the full Board meeting in a couple weeks.

Chair Schofield: Sounds reasonable.

Mr. Katz: Tim, this is just sort of a side question, but I mean, it seems like there's an opportunity to work with DOE on that quality assurance over their process there.

Is that sort of part of the intent for you folks? You know, you found that there's -- the system isn't perfect, do you have any terms of their --

Dr. Taulbee: Yes, I think one of the critical things here has to do with kind of the well, Case F was really kind of the eye opener from our standpoint of they didn't really -- or they didn't do what it was we asked for in total. And, that was the full dosimetry work up as the claim was coming in.

There's some kind of a mismatch going on and I'm concerned that in the responses that they didn't access all of the potential sources of information.

And, I think, Bob, you used a very good term of migrating the information into the full dosimetry system.

It's not really a full dosimetry system in the sense of it's a full accounting of the radiological records of when they are responding to the claim.

And, you know, in the case of Case F, they responded with 16 pages where in October we have 531. So, they clearly didn't look everywhere that they were supposed to have looked.

And so, it doesn't mean it didn't get migrated in there. It just means in their response they didn't provide it. So, I mean we were expecting a full response and we clearly didn't get that. And so, that's what we're trying to work with DOE right now about.

Mr. Katz: Yes, I think it's clear that this system

should work. It's just like -- but, I think getting sort of some answers as to what went wrong will be helpful to the Board members for their confidence. So, I think it should be, you're right, as far as that interjection.

So, are there any other questions from Board members? Because if not, we have an opportunity, I don't know if we have the petitioner on the line, but if we do, it's the opportunity for the petitioner to ask questions or comment.

(No Audible Response)

Mr. Katz: Okay. There wasn't any at the outset, so I just wanted to check and make sure that a Commissioner hadn't joined us.

Path Forward on SEC Class/August ABRWH Meeting Plans

Chair Schofield: Okay. I think as far as our path forward, why don't we go ahead and wait until the end here and see if there's any more questions come up that might be added on to our path forward at this point unless someone has an objection.

Mr. Katz: Okay. And then, because we have a -- we have this slated for the August Board meeting, too. So, we'll have to figure out whether -- what amount of time we want or what we want to accomplish in the Board session of this. Right?

Chair Schofield: Yes.

Mr. Katz: We can deal with that at the end of this meeting, that's fine.

Chair Schofield: Well, if there's no more questions and Genevieve already asked the one I was thinking of, so why we don't go on to Number 2 there, the Evaluation of the Uranium Dose Reconstruction Methods?

Mr. Barton: So, this is Bob.

And, just a thought, Item Number 3 is still dealing with this idea of badging requirement. It's just a different time period, this is the 1975 to 1980 period.

So, while the whole badging SEC requirement is fresh in anyone's head -- in everyone's heads, I'm wondering if it wouldn't be a little easier to go to Item Number 3 first and then circle back and hit Item Number 2 since, again, it really deals with the same issue of the badging requirement and that's the 83-14 period that NIOSH identified, again, at CPP 1975 to 1980 in which the evidence of external dosimetry is also required.

Member Roessler: Sounds like a good idea to me.

Member Beach: Yes, this is Josie.

I agree, too. But, Ted, did you say there may be a petitioner on the line and they were slotted to have a chance to talk after the first one?

Mr. Katz: Yes, so I -- that's what -- I asked for a petitioner, if the petitioner is on the line. They weren't at the outset of the meeting and --

Member Beach: Okay.

Mr. Katz: -- they didn't respond just now.

If there's a petitioner on the line right now, you have to let us know. But, otherwise --

So, I don't think we have one.

Member Beach: Okay, all right.

Mr. Katz: Okay.

Chair Schofield: Okay, I think everybody's in agreement. So, we'll move on to Number 3 next.

Evaluation of Dosimetry Records for CPP During SEC Class 1975-1980

Mr. Barton: Okay, very good.

I do have a couple slides, there's no new material. All this material is in the original report. But, I threw together some quick slides just to hopefully focus the discussion.

So, let me just quickly throw those up here.

Okay, and if someone could just let me know when that first slide appears and then I can get going with this report.

Member Roessler: It's up there.

Mr. Barton: We good?

Member Roessler: Yes.

Mr. Barton: Okay, great.

All right, so again, this is the 83-14 period at CPP for which there is an SEC that's already been recommended and granted. And, this is, again, the badging requirement of having external dosimetry specific to the Chemical Processing Plant.

Now, what's the difference for that middle period? Just to remind everyone, so in about March 1970 to the end of 1974, they had a completely different badging policy at INL.

And, this was known as the multiple area one badge method where you could actually take a badge from another area like TAN, like CFA and enter an area like CPT without having to get a new badge.

So, for that period from approximately 1970 to '74, the SEC Class actually includes anyone who was monitored at INL, not just monitored specific to CPT.

And, when you get to the end of 1974, they switched back to what's known as the multiple area, multiple badge system in which if you left one area, you left your badge there. You went to another area, you picked up another badge.

And so, you'd have an individual badge for each area.

So, SC&A was tasked to, again, look into that external dosimetry requirement for its 83-14 period and see what could be done to validate that as an acceptable requirement.

So, our review really had four main areas for investigation. The first item is we were actually going to go and look and do some work with the routine area exposure reports and the construction exposure reports.

These are routine regular badging, these aren't visitor temporary badges we were just discussing.

NIOSH had presented some analysis in their 83-14 report showing essentially the number of regular badges we're supposed to have versus the number or rather the number of people monitored who were hopefully being monitored, are those actually in the physical loss of reports for -- which have line items essentially for each person in each monthly dosimetry cycle.

The first item was to really go and look at the routine reports and see what they told us.

Item 2 obviously, and this is more akin to what we were just talking about, was all right, and then let's look at the temporary/visitor badges.

Item 3, and this is even more comparable to the discussion we just had was, can we find claimants like the ones we just looked at, you know, Case K, that sort of thing, that we could do a similar V&V

activity.

That is, can we find claimants that have temporary badges that we can identify through our own records of data capture. But then we can the request from DOE and see if DOE is also identifying those people.

And the fourth item looks at what I was talking about with the multiple badges for multiple areas policy.

You know, we have documentation that certainly suggests that was the case for this period that we're talking about, '75 to '80.

But, we really wanted to take a look -- closer look at it to see if, in practice, that policy was being implemented.

And, obviously, that's of particular importance because if it was possible to take a badge from one area and it enters CPP with it without actually picking up another CPP badge, then the SEC (inaudible due to phone interference) badge really wouldn't be valid.

So, that's Item Number 4. And I'm going to talk about each of these in turn. And please stop me if there are any questions along the way.

Okay, so Item 1, again, this is about routine area exposure reports. And, I just -- I have an example here. And again, all of this is from SC&A's report, right out of it, cut and pasted.

So, I just wanted to kind of give an idea of -- for the Work Group what these things really look like.

So, this would be the logs where each worker has an individual entry for the month. You can see all the way to the left there's a unique HP number, worker name, which has all been redacted because they were redacted in the report.

So you have a contractor code that's going to identify

who they worked for. Next to that, you have the area designation, in this one, it says APN/053 which is for CPP on a monthly exchange.

They give the end date of the regular exposure cycle, the reason code, in this case it was one which essentially means routine badging.

You have something called an irregular code and this would generally be used if there was no numerical result. In other words, there wasn't a zero, there wasn't a positive result, there was nothing there. The irregular code would often identify why that was the case.

For example, even though they were routinely badged, they were never in that area that month so there's no reason to actually read their badge.

You have the actual recorded doses next to that. And then, next to that, you have something call a PSN Number which is essentially for an individual when you were on regular dosimetry, your first badge would be PSN Number 1, second badge 2. In this case, you can see they're in the 20s for these individuals.

Also down at the bottom, I just wanted to point out because this is going to sort of become important later, is we have this V designation. And that actually does designate a temporary badge and is included within the routine badging records that we noticed during this period.

So one question we had was whether, by this time, had those badges actually been migrated over already.

In other words, we really don't have this problem that we had in the earlier period. And so we wanted to check that out because it could be possible that the issue that we were just talking about for 1963 to

1970 may not even be relevant.

So, just hold on to that for a second and we'll talk about that later.

But again, this is an example of the list that you have for a particular month. And you would have an entry essentially for each worker.

Now, what we also have is a separate report called the Dosimetry Branch Activity Report. And as you can see here, what these give us is, for a given month, the actual number of individuals that were monitored in that given month.

Now, this is a very important piece of information because what you can essentially then do if you have, you know, we'll just a thousand individuals who were badged and monitored during a given month.

Do we see entries for that -- those same thousand individuals? Do we have the records of that? Or, conversely, if we -- if they said they badged a thousand people and we only have 500 actual records, that would be a problem.

And this was something that NIOSH really looked at and reported out on during the 83.14 but we want to take a little bit closer look.

The first observation when we were going through this was that that type of comparison where we have a dosimetry branch report listing the total number of monitored individuals, and then we can go and look at the actual dosimetry log books.

We only have that comparison for 49 of the 72 months during this period. So, about 70 percent.

The largest gap where we don't have these records for comparison was about 11 months. All the others were about a quarter or less, that's an annual quarter, so three months or less.

We said, all right, well, what do we do with those months where we can't make a comparison between the number of workers monitored and the number of workers for which we actually have a result for.

The other piece of information we have which is a little -- gets a little murkier but we also have the total number of badges serviced.

So, we actually have the number of individual dosimeters. So, this would include if an individual had say two or three dosimeters for CPP in a given month, we would have -- that would count towards the total number of dosimeters.

So, what we said was, well, let's go through these area exposure reports and let's count the actual number of film badge results, not just the number of individuals, but the number of physical dosimeters we have and let's compare that to the number of dosimeters that were processed in that given month.

So, the table you have before you shows those months and years where we couldn't make the comparison between the number of workers but we could make a comparison between the number of actual dosimeters.

And so, this column all the way to the right, how you really want to read that is, if there's a zero, that means those numbers matched exactly.

In other words, the number they reported serviced was the number we found when we went in and physically counted them.

A negative number means we actually have more dosimeters' results than were being reported as processed. So, that means we have even more data than they're reporting out as having been done.

And of course, a positive number means we actually

had less observed actual records than the number that INL were reporting.

As you can see, a lot of those numbers are negative. That means that, in general, we have a lot -- we have more badges that we would expect to find just based solely on the summary report.

What we're looking at here, this is essentially for your routine workers, but that weren't necessarily designated as construction.

And you can see the range there. They don't get above 20. And, as you can see, the actual number of dosimeters by month can get up, you know, into the thousands.

The next one's going to be the same data except for those designated as construction workers. And again, there's lots of negative numbers. There's some zeros and there's a few positive sprinkled in there.

Now, interestingly, the positive numbers are usually --- are bookended by negative numbers. So, it could be just simply that, when we didn't find as many dosimeters as we expected they were actually counted for the previous month. And so that might have -- might smooth things out.

Of course, that level of granularity is very difficult to get to or make any conclusions on. So, this is the data for construction.

So, this brings us to Observation 2 with the discussion of routine monitoring and I'll read it in.

SC&A's analysis of the total number of dosimeters in available records compared to the total number of dosimeters that were reported to have been processed during the observed temporal gaps showed reasonable agreement for both regular

badges and construction badges.

SC&A found no indication that available dosimetry log books for regular and construction badges are incomplete during these periods.

And, again, these were periods where we didn't have the records to be able to make comparisons between the number of monitored workers, but as I just showed, we made comparisons between the number of actual dosimeters worn and read out.

So now, moving on to temporary badges. When we went into the available files on the Site Research Database, we found -- or we suspected right away that a full set of temporary badges hadn't yet been captured by the sites. And that's right here in Finding 1 which I can read.

SC&A located temporary badge input reports during the period of interest. However, it is apparent that the currently available records are incomplete.

Additional temporary badge reports are likely available at the site, but have not been captured due to the focus of previous data capture efforts.

It would be beneficial that test reports be obtained and reviewed to ensure completeness of dosimetry records for use in potential SEC adjudication.

Furthermore, a capture of these records would allow for the expansion of available candidates for the V&V activities that were discussed in Section 4 of our report.

And that V&V would be essentially the same type of study that we discussed earlier for that earlier time frame, '63 to '70.

Now, we have an update since we submitted this report. Earlier in June of this year, Tim and Mitch were gracious enough to let me sort of tag along on

a one-day data capture trip that preceded some worker interviews that we were doing out in Idaho.

And, while I did hit a snag in that I wasn't granted access and I still haven't been granted access to the INL essentially search system to be able to figure out which boxes I wanted to look at to see if we could find more temporary badges, I did have one box number that I knew about and we pulled it out and I went through it and there were clearly more temporary badges contained in that box that were not in the currently captured records.

So that kind of supports Finding 1 in that we don't have all the temporary badges yet to really do any sort of robust V&V on those temporary badges. But it appears that there's a significant number of those records still available at the site.

And thank you again, Tim and Mitch, for hosting me on that day. That was nice of you.

Dr. Taulbee: No problem, thanks.

Mr. Barton: Finding 2, this is one thing that we looked at and we wanted to look again at some of the some of the badge reports that we did have, they had a zero measured dose.

Were they actually appearing in the regular area exposure report as I showed in the first slide or second slide of this presentation, some of those regular badging reports actually have a visitor type designation.

But, what we found is that, no, not surprisingly, if you had a zero measured dose and you didn't have a permanent house badge number or an S number, we could not find a corresponding entry in those regular reports.

Again, it doesn't indicate that such temporary badge

entries are unavailable for dose reconstruction or SEC adjudications.

However, it does indicate that if we're going to make determinations on the completeness of records based only on those regular area exposure records, it's likely going to be based on incomplete data information for the very reason that those temporary badges were simply not migrated over and included in those monthly listings.

Item Number 3, and this one is obviously made difficult by the fact that we don't currently have all of the temporary badges for this period.

But, I would, again, note that this type of activity under Item 3 is the exact same approach that we would -- that we used for the 1963 to 1970 period.

That is, can we identify claimants among our own set of temporary badges who are not currently being identified by DOE and go and request those records and see if the issue has been rectified.

So Observation 4 was based on its review of the limited temporary badges and dosimetry entries designated as a visitor in the main area of construction exposure report, SC&A was able to identify just 18 external dosimetry entries from the claimant population that can be used for any future verification and validation review.

And again, if the full set of temporary badge reports is captured, that population of V&V candidates would likely increase markedly.

And just to give some perspective, that's only 18 temporary visitor dosimeters, not even people. Whereas, in the previous effort, in just the 18 of 30 claimants that we have so far, we had over 420 badges to check.

So, this is a very big difference for what we have currently for this 83.14 period and what we've seen in the past when we did a similar exercise.

Last item, and again, this is a very important one because, if we have a single badge multi-area policy where you can take a badge from one area and move into CPP with it, then that seriously calls into question whether you can have a Class definition requiring a CPP-specific badge.

So what we did is, we went in and pulled a semi-random sample, and I'll explain what that means in a minute, but approximately one-quarter of the claims during that period.

The claims that -- it's semi-random because we picked them randomly but then, certain claims really just weren't germane to the study and so we rejected them.

And these will show that they either were monitored during the 83.14 period, so it wouldn't tell us anything about the badging practice. The individual cycle report, that we just looked at and typically on a monthly basis, they're simply not available. So, there would only be an annual summary, so I can't tell how many dosimeters and for what areas those energy employees would have been badged at.

The energy employee only worked a few months or less. Again, if they were only there for a short time, I just -- I did not see the benefit of including them in the semi-random sample, or the job title was really unlikely to move among different areas of the site during a single badging period. And I give an example here, as you can see. I won't say it on the record for potential Privacy Act reasons.

So we have our quarter of the worker population and here's how they break out by the different work designations. And these are work designations that

I gave them, obviously there's a wide variety of different job titles when you're looking at over a hundred claimants.

So, you can see how they kind of break down. And so, for example, if you're in the construction trade and maintenance, nearly half of claims that we looked at had at least some periods where there were multiple badges for the same badging site.

In other words, you'd have a CPP badge and an MPR badge or a CAN badge and a smart badge or whatever combination you have.

Interestingly, at least to me, is this last column on the table, the maximum number of badges we saw per a monthly cycle was actually six. So one individual actually had dosimetry badges in six different areas of the INL site during a single month. So, that person made it around.

And so, related to Item 4, we have Observations 5 and 6. Again, with the exception of two bus drivers, all sampled job categories showed evidence of multiple area badges during a single dosimetry cycle. The maximum number was six. And that occurred for a construction trade worker.

The practice of multiple area badges during a single dosimetry cycle was observed for at least some sampled claims during every month during the period of interest.

So, there's no temporal time period when we look at this claimant population and it looks like, oh well, from, for example, January to June of 1980, it appears that everybody only has one badge, and so maybe they suspended the multi-badge for that period. But we simply don't see that.

On a temporal trend, every month that we looked at showed claims where they had multiple badges for

multiple areas.

So, what conclusions did we draw from this analysis of the 83.14 period?

When we look at the routine area exposure reports and construction reports, we noticed that only 49 of the 72 had data where we could compare the number of workers monitored to the number of workers we see in the actual reports.

However, when we go in and look at those missing months and compare the number of individual dosimeters, which could be multiple for a single individual, they showed really reasonable agreement, and that was Observations 1 and 2.

So, SC&A has no reason to believe that the routine or regular badging records have any completeness issues.

Now, moving on to the temporary visitor badges. Again, the ones we have currently captured are incomplete. I think I can say that pretty confidently after the last data capture.

And, again, it says here that the data capture activities from earlier in June support that conclusion.

And then, moving on to what we can do for V&V at the time, we can only identify, again, 18 single badges that we could use for a V&V check. But, if we went and actually captured what remaining temporary and visitor badges are out there, we could increase the number of claimants available for any future V&V activities.

And then the final one which we just talked about, looking at the multiple badge, multiple area issue, we found ample evidence that during that time period, people were being badged individually by multiple areas.

So again, if you were in CPP, you were badged. You left CPP, you left your badge there. Went over to MPR, picked up an MPR badge. Left there, went over to CFA, pick up a CFA badge.

So, this policy does appear to be in place based on our study of the claimant population which, again, was about one-quarter. It's actually a little bit over because, as I said, we rejected some claims as just not being germane to that study. But we did look at over a hundred claimants and these are the conclusions we reached.

So, I believe that is all I have for the 83.14 discussions. But, I'd be happy to answer any questions, or if NIOSH has any immediate comments, obviously.

Dr. Taulbee: This is Tim Taulbee.

I don't have any questions for you, Bob. I just wanted to put out for the Work Group as a whole, that if you do desire for us to go and capture these temporary badges, we can certainly do so upon your request.

We have identified some additional boxes of records that contain temporary badges. So, it is certainly possible for us to do so. We have not done so, as Bob indicated earlier, due to the timing and the focus of other components here.

So, I just wanted to put that out there. If you all request it, we can go get these temporary badges.

Chair Schofield: Okay. I am a little concerned still about some of the construction ones.

Member Beach: And, I -- this is Josie -- I would agree that if NIOSH is will to and it's something that would be simple to do, I think it would be a good idea to go ahead and capture those.

Dr. Taulbee: Again, if that's something that the Work Group wants us to do as a whole, then, yes, we can certainly go do it.

Member Anderson: How long do you think that would take?

Dr. Taulbee: The actual physical capture, a couple of months. Because the process would be for us to first identify all of the boxes we want pulled and then do the scanning and then get them cleared through ADC. So, it would likely take at least a couple of months.

But INL has been very responsive with regards to the ADC review here, of recent.

Member Anderson: Okay.

Chair Schofield: Would you be keeping that fairly narrow for the construction people? The crafts?

Dr. Taulbee: No, the way these records are actually organized, it's kind of by time period. So, some of the badges that Bob was talking about could show up as a V on his sheet are going to be mixed in with construction trades.

With the zeros, they're all kind of together. There are these little cards, I think Gen, you or Josie saw that when we went over to the DOE building there as they were beginning to scan some of those cards.

That's what these are, it's just in a later time period.

Chair Schofield: Yes, the validation increase for the earlier time period, seems to be good agreement between you and SC&A what you've all looked at. Do you feel comfortable and do you have enough data for people who may be a little short?

Let's say you have a claimant that's saying, you know, they actually spent quite a few days there, but

on the -- so far it only shows them having been there only one day during that time period.

Dr. Taulbee: I --- honestly, no, so I don't have a good feel for that for the visitors. For routine workers, I feel really comfortable with. The visitors, we just haven't done a comparison of these temporary badges in that level of detail to give you a good answer.

Chair Schofield: Oh, okay.

Dr. Taulbee: I will say this, some of the boxes that we have identified, there's a tag associated with those cards. And, what I'm going to -- this is not going to make much sense, but I'm going to call them 50 numbers.

And these are cards that we know have already been scanned that do make it into the dosimetry file, and we do see them in the claimant files when they come in.

But I don't have a -- I couldn't say for sure whether all of those have been scanned and migrated into the system or not.

I know a significant portion of them have because we do see them in the claimant files. But I don't have a really good feel for what percentage of those, if all of them have or not, I just don't know that.

Member Beach: So, this is Josie.

I think for a complete record and verification and validating and NIOSH is willing to do it, I vote that they go ahead and do that. That's just my thought. I know other Work Group Members have a voice in that also.

Member Roessler: Well, I'll go -- this is Gen -- I'll go along with -- it seems the Work Group would like to see that, I'll go along with that.

Chair Schofield: Andy, your thoughts?

Member Anderson: Oops, I was on mute.

I would go along -- I think that --- that's why I asked how long it would take. I think that's reasonable to do and I think especially for the visitor badges, it will be very important.

I mean, the challenge I see that this will help fill in is the number of claimants who say they were there and then you can't back it up with a, you know, a badge record.

So, the -- if there are some badges out there that are likely to be missing at this point, I think it really will be important to some claimants that we get those.

Chair Schofield: I tend to agree. So, I think we should go ahead and have them do it unless there is some reason they would not be able to in a timely time frame.

Member Anderson: Things are moving forward without it, but I think this will just make it more complete.

Chair Schofield: Agreed.

Dr. Taulbee: Okay, then I'll take that as a --- to do, a task for NIOSH to go and capture those temporary badges and we'll get them into the SRDB and notify SC&A once that's done so that then they can do their sampling and do a V&V. Does that sound acceptable?

Member Roessler: Yes.

Member Anderson: Yes.

Chair Schofield: Yes.

Dr. Taulbee: Okay.

Member Beach: This is Josie again.

The only other comment I would have regarding that is if there's any reason that SC&A might want to tag along on that, would you notify them in advance, Tim?

Dr. Taulbee: Absolutely. If SC&A would like to go, yes.

Member Beach: And I'm not certain they would, I just thought, in case. Thank you.

Chair Schofield: Well, if there are no more questions on that subject, I propose we move on to the uranium, the dose reconstruction methods.

Mr. Barton: This might be a slightly longer item than the other two were. I don't know if people need a quick comfort break or anything or I can just cue it up and keep going.

Member Anderson: Let's just keep going.

Member Roessler: I'm okay if you go ahead.

Member Beach: I'm good with that.

Mr. Barton: Okay.

Chair Schofield: I'm good.

Evaluation of Uranium DR Methods for CPP Pre-1963

Mr. Barton: Okay, very good.

Just to give sort of a quick back story on this and a proposal on how we sort of proceed with the discussions because there's a couple different elements to this.

Back in 2017 SC&A wrote a White Paper about alpha exposures at the Chemical Processing Plant prior to 1963, so essentially before the current proposed SEC definitions really kick in.

Earlier this year, I believe it was April, we had responses from NIOSH, specific finding-by-finding and observation-by-observation responses. Those have been put up on the website.

Unfortunately, I missed it. I did not get -- I didn't have the original SC&A report posted up there, but you can actually find it if you go back to the August 2017 meeting of INL, the report's up there.

And at that time they had given an overview of the report, but obviously NIOSH is still working on their responses.

So, what I propose is that what we do is -- I can do a much abridged version of that August 2017 presentation, present SC&A findings of which there were five, NIOSH's response to those findings and then sort of talk about where SC&A stands based on that.

And all of these sort of tie in to a more recent SC&A White Paper that was delivered in July. It talks about uranium exposure at CPP during this time period prior to 1963.

So, if that's amenable to the Work Group and to NIOSH, I think that's how I'd like to proceed and we can stop at each finding and discuss it as we need to.

Chair Schofield: That sounds good, Bob.

Mr. Barton: All right, excellent.

And, again, I've just thrown together some slides that sort of guide the discussion. The only new material per se would be SC&A's reaction to NIOSH's responses which are from April.

So, we have SC&A's original findings, the NIOSH response and then, as often happens in this program, our response to the response.

So, let me just cue this up here and we can get started.

Member Beach: Yes, and Bob, I've lost my connection to the site, for some reason it's not working for me. So I've just got the hard copies. Just go ahead, though.

Mr. Barton: Okay. Well, I'll try to keep people apprised of where we are in the individual report. Let me just throw that up here so that I can get it myself.

Does everybody see the PowerPoint?

(Simultaneous speaking.)

Chair Schofield: Feel free to start presenting it.

Mr. Barton: Okay, maybe I did this incorrectly.

Member Roessler: Well I didn't have the PowerPoint on the previous reports, I just followed --

(Simultaneous speaking.)

Mr. Barton: It's loading up now.

Member Beach: Yes, I didn't get it either. This is Josie, I'm checking my CDC website and it didn't -- I didn't get it so, either --

Mr. Barton: Again, this is -- these are just excerpts I pulled out so that it's just easier to follow finding by finding what it was.

Again, it's sort of a conglomeration of the original SC&A report, NIOSH's response to that report, SC&A's position and at the very end, a discussion of the new White Paper that SC&A delivered in July.

(Simultaneous speaking.)

Member Anderson: I'm seeing it now.

Member Beach: Bob, would you mind emailing that as well just so we have it?

Mr. Barton: Sure.

Member Beach: Thanks.

Mr. Katz: Bob, if you email it to me I'll send it around.

Mr. Barton: Okay. Okay, that should be headed your way.

Mr. Katz: Yes, I'll let everybody know when I've emailed it, when I get it in the email.

Mr. Barton: Well, I guess I can just talk before actually necessarily getting into the individual slides.

What the issue originally was, we were taking a look at what potential alpha exposures there would be at CPP.

And really, what we're talking about during this time frame is the exposure to uranium as the primary alpha emitter, for the reason that there were obviously transuranic elements there. But to our knowledge, there was no concerted effort other than perhaps laboratory bench scale experiments or anything to pull out the plutonium and neptunium and all those sort of bad actors that necessitated the later SEC period.

So really what we're talking about here and the main function of the CPP Plant was to take these reactor fuels, strip away the fission products and those transuranics and you're left with the product uranium.

So that's really what we're going to be discussing today which is why the most recent White Paper really looks at different ways you can calculate uranium exposures during this time period.

Mr. Katz: Okay, Board Members, I've forwarded Bob's email to your various emails.

Member Beach: Thank you.

Mr. Barton: Okay. So, basically what we have here is just an example of essentially a log book entry of those surveys that were made in a certain lab area, LB-32 and LB, I believe that's probably 28.

And the person basically said, we found quite a bit of alpha contamination. It looks like it's U-233 which is more hazardous than U-235. And they started an air sample.

That's just one example. You can see it's handwritten. I don't know if you can see it, but we can always go back. So this is slide number 2.

Slide number 3, we actually took those and tried to really write down what those -- so, these would all be examples of that same type of survey example that I just showed.

And, again, these are, as you can see in this fourth column, the locations are generally LB areas which I assume to be labs. And they would note situations where alpha contamination was noted.

And this last entry was particularly interesting to me, was that actually written on the hard copy record was found alpha contamination in LB-32 again. And that was underlined in the original record.

And there are a lot more examples like this in the SC&A report. The point being really was to show examples where there's alpha contamination, where there's likely not a co-mingling with the fission and activation product materials would be beta-gamma.

So we get to SC&A Finding Number 1. SC&A found multiple examples in sample health physics log books that indicate alpha contamination was detected with

corresponding indications that beta-gamma contamination was also present.

This is indicative that there were certain situations and locations at CPP in which alpha contamination may have existed and was not commingled with FAP materials, FAP being fission and activation products.

And, Tim, I can read the NIOSH response summary or if you want to talk about it and then we can kind of give SC&A's response to that.

Chair Schofield: No, go ahead.

Mr. Barton: Okay. So, NIOSH's response summary to Finding 1 was that DCAS has concluded that alpha contamination without fission products was limited to certain locations within CPP pre-1963, and was related to process stream sampling and analysis as well as final product storage.

These locations were known to CPP staff. Documented communications with former CPP staff indicated that contamination, with alpha contamination in particular, in CPP was not tolerated and cleaned up quickly during its early years.

The alpha contamination levels were typically very small and a special bioassay program was implemented if an internal exposure to an alpha-emitting radionuclide was deemed possible.

It should also be recognized that workers involved in the end product activities for mixed fission products were not present when placed on a joint gross beta bioassay plus uranium bioassay program.

That's the response summary, and here's SC&A's sort of position on it.

And, it says final position but that was probably the wrong choice of words, it's our current position.

But essentially, you'll find that we agree on a lot of the underlying facts. It's really, what the discussion needs to be is, what do we do with it?

So SC&A agrees that alpha contamination, in particular uranium contamination, was limited to certain locations within CPP pre-1963.

SC&A agrees that documented communications with former CPP workers indicate that HP staff was aware of alpha contamination and took steps to assure it was cleaned up when discovered.

This is the subject of SC&A Observation 1 in the original 2017 report.

In a few documented incidents that were located, special bioassay was also indicated. This is the subject of SB&A Observations 4 and 5.

SC&A agrees that a portion of the CPP workforce was on a joint gross beta plus uranium bioassay schedule. This is the subject of SC&A Observation 3. So, those are all the things we agree on.

What was not clear to SC&A was that all relevant workers who should have been monitored for the uranium that is not commingled with fission and activation products were, in fact, monitored for uranium. That was the subject of Observation 2.

We're not aware of any completeness studies that had concluded that all workers who should have been monitored for uranium were monitored for uranium and that those records are available for dose reconstruction or otherwise.

And we really want to re-emphasize to both NIOSH and the Work Group that our position was not that an infeasibility exists here related to the alpha material, which is primarily uranium.

As we stated in our executive summary, it is unlikely

that a high-level alpha source term could have existed for an extended of time at the facility that would automatically preclude the feasibility of dose reconstruction.

Furthermore, our summary conclusion from that paper did not say that dose reconstruction was not feasible. And our conclusion from that paper actually said, SC&A identified several example locations and time periods which alpha contamination was identified, it was not directly commingled with fission and activation products.

Reconstruction of an external exposure to alpha material, and remember, we're really talking about uranium here, by rationing to the calculated intakes of fission and activation products would not be technically appropriate for at least some workers' activities and locations.

And then, this will tie in later when we discuss SC&A's most recent White Paper in which we take a look at that ratio method to the beta-gamma source term and compare how you get to a uranium intake from that method, which is the current method in the TBD, versus a couple of other ways that you could use to arrive at a uranium intake including the uranium urinalysis method itself.

Tim, just stop me if there's anything that you want to say in here, otherwise, I'll keep plugging along.

Dr. Taulbee: Okay. Yes, I think this is -- thanks, Bob, I would like to say something here.

Because I think this is a case where we're misunderstanding each other a little bit here and miscommunicating. So, I'd like to try and clear that up.

And this had to do with part of your, I guess, the response to our response, if you will, when you had

indicated that there was no discussion in our response of an ultimate dose reconstruction method for exposure to alpha emitting materials that was not commingled with fission and activation products.

And, you said the logical implication is that DCAS plans to continue to use the ratio to derive the bounding intake to the alpha material when uranium or other bioassay data are not available for the individual energy employee.

That's not exactly correct, or our position here.

We certainly look at each individual claim or case. And when we get dose reconstruction in, and as you know, and report it out in your responses of when we have bioassay, that's our primary component that we use.

So if we've got uranium bioassay, we're going to use that for that individual.

There are occasions where somebody could have been working with uranium and potentially not monitored for it. And what comes to mind is some laboratory workers might have intermittently worked with a final product, as you pointed out in some of your examples there. The LB stands for laboratory, by the way.

And this is why we've developing a coworker model for uranium using uranium bioassay.

You may recall that there's a coworker implementation guide that was put out before the SEC Issues Work Group and we were asked to demonstrate its use.

And there was two sites that we indicated that we would be doing this with. The one first is SRS, and the other is INL.

And for INL, we are well on our way. The data has

been coded. We are now in the process of combining the multiple variations of -- in order to develop a coworker model which will include a uranium bioassay coworker model.

That's what we plan on doing for these types of cases. It's not that we are only going to be using the ratio methodology.

Now having said that, there is a large proportion of the CPP workforce that we will just be using the ratio methodology. And this would be people who based upon job title or, you know, other information that we have, we don't believe that they were ever working with any of the pure product, if you will, or the alpha activity uranium, alpha activity without mixed fission product.

So, I mean, if you consider people who worked at the calcining facilities, so forth, those are all going to be mixed with or commingled with the fission and activation products.

However, if we've got a chemist in a lab and this is what they indicate, then we would be applying this uranium coworker model.

So it's not, you know, that we've got bioassay or we're just going to use the ratio. We are developing a coworker model in between and I think that's important for people to realize at this time. Okay?

Mr. Barton: Wow, thank you for that. That's probably going to shorten this considerably.

We had been under the impression that while there might be a coworker model for the fission and activation products, but if you weren't directly monitored for things like uranium that you would get the ratio.

And it sounds like that's not the case which is an

extremely important point for this.

To the second point, we said, well, you know, you apply it to chemists but maybe not workers in other facilities. That's really, to my mind, more of an implementation issue, not necessarily Site Profile. But again, I think that we're not there yet, because the coworker model is not out there and there's no guidance as to which cases it would be applied to.

So that's sort of getting ahead of ourselves. But again, for the first point, NIOSH does plan, it sounds like, to create a uranium specific coworker model presumably based on that bioassay and then it would just become a question of who is assigned that uranium coworker model versus the more generic ratio method that uses gross beta and gross gamma uranalysis. Does that sound correct?

Dr. Taulbee: That is correct.

And this -- which kind of gets us to another point here that I'd like to point out. And you even indicated it a few minutes ago.

It's not a question of whether we can or, you know, cannot, you know, develop a coworker model, it's more of who would we apply this to.

I think you were in agreement with us that the data is out there that we can do this. It's more of do we apply it to everybody? Do we apply it to this limited group?

And so, this is really a TBD issue, is what I want to propose in front of the Work Group. That, you know, we -- we actually moved this particular item over to the TBD side of things to help close out the issues affecting in SEC.

I'd just like to throw that out for the Work Group to consider.

Mr. Barton: Well, I don't want to necessarily get too far ahead of ourselves. I mean, when we look at a new coworker model, it has to be, as you know, matched up to the implementation guidelines that NIOSH has developed as to whether a sufficient number of workers were monitored for uranium.

I absolutely agree that there is uranium data out there and it -- I'm sure it does comport to those workers who were in situations where the health physics staff deemed it was probably necessary.

And a lot of my point was well, if you don't know that you have 100 percent coverage, then you need a coworker model, which, as you just said, you'll be developing.

But I'd be a little hesitant to immediately move it to a Site Profile issue until we see that coworker model developed and do our usual comparison to the implementation guidance such to sort of validate that this coworker model is relevant, is getting enough of the right people, that you're not missing some exposure that it doesn't cover for the unmonitored population, questions like that.

But in general, I agree, most of these usually end up as Site Profile issues, but again, I'd be hesitant to immediately move it over there before SC&A and the Work Group can really see it.

Dr. Taulbee: Okay, fair enough. I would just say that the Work Group will be seeing all of the coworker models, whether it's TBD or SEC. So, they will be reviewing the entire thing.

Path Forward

Mr. Barton: Yes, I think we're saying the same thing here.

All right, so that discussion was very helpful because

I think that's going to render a lot of the future discussions here really moot because, again, I think SC&A and NIOSH appear to agree on the underlying fact that there is a portion of the worker population that was exposed to uranium that might not have been monitored. And there would be a coworker distribution associated with that.

And, I don't know, do we want to go through each of the rest of these findings? Because it seems like we already sort of hit the solution here. We can certainly go through them, though.

Mr. Katz: Bob, just a question for the Work Group before we move on.

It seems like this finding then is, in effect, in abeyance. I mean, so I think what Bob's saying is in principle it seems like this is feasible, it can be done, but we want to see the product.

Because normally when we talk about putting a finding in abeyance we're, in principle we're agreed that the path forward makes sense and it's sort of understood.

Is that what we want to do here? Or do you want to just leave this open and so --

Member Beach: Ted, I guess for me, is NIOSH working on a written response?

Mr. Katz: Well, it's more -- not the written response that is -- Bob is suggesting that you would want, but to actually be able to review the coworker model and see that, in fact, it addresses the concern.

Member Beach: Right, okay.

Mr. Katz: And, that's sort of well beyond, you know, getting a written version. I think Tim was really clear in what he discussed.

So anyway, that's my question to you, we can do it what ever way you want. Do you want to leave this just open as, now it becomes instead this finding is in effect --- need to review the coworker model and we put this in abeyance, whatever? Because, you know, the facts are agreed upon. And, it's just a question of implementation at this point. It's up to you guys.

Chair Schofield: I'd like to know if everybody's in agreement with that, I am.

Member Roessler: This is Gen, am I off mute now?

Mr. Katz: Yes, we can hear you, Gen.

Member Roessler: Okay, I keep doing the wrong thing.

It seems to me we're trying to decide whether Bob should continue with this discussion. And, it seems at this point, it's not pertinent, that we put this in abeyance.

Mr. Katz: So, I had a hard time hearing, so at this point it's not what? Would you say it again?

Member Roessler: It seems that we're asking the question if Bob should continue his presentation. And it seems to me that the answer is no, that we're going to put this in abeyance.

Mr. Katz: Oh yes, not his whole presentation, but the question is this finding, do we put this finding in abeyance or do we just leave it open until we see a coworker model or in progress, however you want to characterize this.

Member Beach: I'm in agreement with putting this finding in abeyance.

Chair Schofield: I am, too. So --

Member Roessler: Yes, I am.

Mr. Katz: Okay.

Mr. Barton: And we can go through the rest.

Member Anderson: I'm fine with that. I think there's still a coworker model here. It's also going to be a lot of effort. So, while it may be feasible to do, having the resources and the time to do it, I think we just put it in abeyance because I don't see it happening quickly.

Mr. Katz: They generally don't get done that quickly, right. Tim could tell us.

Dr. Taulbee: This is Tim.

That is correct, but this effort has been underway now for, well, I believe a little over a year which is, you know, where we started with the hard copy records and have coded it and have been working on.

So, this has been going on, well, for as long as -- every since that draft coworker imp guide came out.

So, it is underway and, but we are still probably six to nine months out.

Chair Schofield: Yes, let's put it in abeyance. We won't forget it about, but --

Mr. Barton: Well, I can go through the remaining four findings, certainly. But, you know, in all honesty, the recent SC&A White Paper could have had an alternate title that said, the need for a coworker model at CPP prior to 1963. That's really what that most recent White Paper and the original White Paper were all about.

It's that, you can't use a ratio method for all workers. And that's not NIOSH's intention, as just stated by Tim.

So again, a lot of these have to do with establishing that there are areas where alpha was not commingled with beta and that a ratio method is not appropriate.

And that was our summary conclusion in 2017 and that's pretty much our summary conclusion from the most recent White Paper is the need for a uranium coworker model.

So I guess for completeness, we can go through and discuss the rest of the findings, but it really, we've already arrived at the path forward in all honesty.

Mr. Katz: Yes. So, Phil and Work Group, I mean we can just -- we can close those remaining findings since they're really redundant at this point if you want.

Or if you want him to discuss them, you know.

Chair Schofield: I'm inclined to just say we'll let that go since we've -- we're putting this kind of in abeyance, which we'll be coming back to.

Mr. Barton: Yes, I mean a lot of these findings are a lot of air samples, some of it was related to uranium-233. Again, presumably, that will be part of any coworker evaluation.

One thing that we still -- Finding 5 might still be relevant here. It was based on a worker who -- here, I can put it up.

So, this is a bioassay record for a worker. And, as you can see, or hopefully you can see here, was analyzed for U-233 and he -- there was actually some follow up. This is actually a mash up of two different records.

The first one is just a routine count that came up positive. So they resampled him about a week later, that was a special sample.

And what we found is in this individual's record, it indicated there were even more special samples that were taken in close vicinity to likely some sort of incident or the bioassay program picked up something and they said we need to resample this guy and figure out what's going on.

And so, the fifth finding was about this one individual worker that we had identified and how we couldn't find all of the special samples.

And as you can see up here, the NIOSH Finding 5 response was that they agreed that for this particular individual, it looks like the U-233 bioassay is incomplete based on what we have for the claim so far.

And they had -- and NIOSH had re-requested those records to see if maybe the missing sample, bioassay sample was included in a medical record as sometimes does happen.

But INL was not always sending the medical record until recently.

So the DCAS response was essentially, yes, we agree. For this individual, it appears their bioassay is incomplete and that it is missing that one noted sample for U-233.

The follow up, I actually looked in and we got the response from DOE. The response was about 560 pages, and I went through it pretty closely and we still couldn't find the missing samples.

And so, one thing that would obviously come out of the coworker model is always an evaluation of how complete are the records you have. Do you have a sufficient amount of the records to be able to create the coworker model, or are records missing.

Now again, this is only one example. It appears the

-- we requested those records. DOE still couldn't find it.

But again, you'll see SC&A's response here is, again, simply that we think you need a coworker model, and evaluate a coworker model for uranium and take care of that.

So that was really the only one that wasn't all encompassed. But that would be part of any coworker model development would be to assure that you have a representative number of samples in that you're not missing temporally, or possible locations, specific badging. So a group of workers who wouldn't be covered necessarily by any subsequent coworker distribution.

So that's just one more thing I wanted to point out with regard to that one claim that SC&A pointed out in Finding 5.

So we requested DOE's monitoring records. Still don't appear to contain that sample. That was indicated to have been taken but we don't have the sample and we don't have the results.

So that was really the only item remaining.

But again, that would be under discussion of any subsequent coworker model of how complete are your records that are being used to develop the model?

So that would be obviously encompassed by any coworker review and coworker development.

I'm not sure if there's really anything more to say on that, but I just, again, I didn't want to gloss over everything as being taken care of by the coworker model.

I wanted to point out that, in addition to, you know, we need to develop a coworker model, but we also

need to take things into consideration like how complete are our records going into the coworker model, to validate that it's going to cover any unmonitored worker and this individual had cropped up as part of our original review as having, at least currently, a missing bioassay record.

So I think the path forward is definitely that NIOSH is developing a uranium specific coworker model and we'll see, you know, how that comports to the implementation guide and then who it's going to be applied to as far as what types of workers.

And I agree that it's pretty much mostly a Site Profile issue and I agree that it can be put in abeyance. But I don't think it completely closes the door on any SEC implications until we see that we have a sufficient coworker model for those time periods and workers.

Member Beach: Makes sense to me.

Chair Schofield: I think we agree, unless anybody else has a disagreement about it.

Member Anderson: No, I think we're good.

Member Roessler: I agree.

Member Anderson: We just have to not forget.

Dr. Taulbee: This is Tim at NIOSH.

We are definitely not forgetting about the coworker model. It's high on our list.

Member Anderson: It's taken a while to get back up to speed on all of these. They'll fade into the sunset for some of us if we don't move forward.

Member Beach: Ted --

Member Anderson: That's good.

Member Beach: Ted, are these all being put into the

BRS?

Mr. Katz: They should be at this point. I mean, if we -- so, we've raised that issue and Laurie and others are taking a look at how to process things going forward and then going backwards, with the past.

You know, I don't know where that stands, I haven't asked again about it recently. But, anyway, this new material going forward should be put in the BRS, yes, for each Work Group.

Member Anderson: That's good.

Member Beach: Is that a NIOSH staff or SC&A?

Mr. Katz: Well, and -- it depends on who is updating, right. So, when SC&A puts a report in, they should be putting their report in the BRS. Their responses, in effect. And then, linking their report and likewise when NIOSH has a report or a response they should be either putting in their response in the BRS, their responses plus the report, if there's a link to the report if there's a White Paper or what have you.

That's the way it's supposed to be working. And every Work Group it can work a little bit differently, but that's the general process.

Member Beach: It's always good to mention it and for remembering to do that.

Mr. Katz: Oh, it's absolutely always good to mention it. I raised this recently with, I don't remember who at NIOSH, but on this very account. So hopefully, the gears will get moving with that.

Chair Schofield: Any objections or comments?

Member Beach: How about for reporting out in August? Is that just something you're going to do, Phil?

Chair Schofield: Yes.

Mr. Katz: Well, I think we need to talk about that. Let's talk about that a little bit because it seems like it's a lot for Phil to handle on his own, reporting out.

We have a whole session available to us and it's been a while since the Board has heard about all this and where it stands.

I don't think it would be a bad idea, and it seems like given what happened here in the Work Group, it wouldn't be too difficult for Bob or Bob and Tim, however, team-tag.

But, to report out on where things stand with that SEC in particular, whether you want to -- I don't think you really necessarily need to address this other material but you can also.

You have time to address as much as you but I think it would be good to keep the rest of the Board a little bit fresh on where it stands since presumably the remainder of the 30 cases could come in at some point reasonably soon and get put to bed, one way or the other.

Chair Schofield: Seems like a reasonable proposition.

Mr. Katz: So, I'm asking I guess, Bob and Tim, whether you think -- how you want to handle it is fine, whichever, whatever way if you want one person to present or you want to team-tag or how do you want to do it?

You sort of did that today. But, I think you learned some things today, too. So, it could be more efficient than it was today for the Board.

Mr. Barton: Yes, Ted, this is Bob.

I agree. I think almost the format that we went with

today, we have Item 1 and we can discuss what the interim results are.

And then, Tim could offer NIOSH's perspective on the real implications of the V&V activities so far and then our path forward is potentially we're going to wait for those 30 records.

Mr. Katz: Yes.

Mr. Barton: As far as the other two items, is that something that we want to put together a few slides for as well?

I mean, this last item that we just discussed, I could see that being taken care of in two slides, essentially. I don't think we really need to dive down into the weeds to say, you know, SC&A's concern was that the ratio method was not appropriate, and NIOSH is developing a coworker model.

Mr. Katz: Well, I don't -- I mean, that's not really on the Board's radar, even. So, Bob, I'm not even suggesting that you go into that at all.

Mr. Barton: Okay.

Mr. Katz: I really just the key is the 83.13, I mean, the NIOSH -- the original SEC was maybe 83.14 I guess, but the original SEC is -- just letting the Board know what work has been done and where that stands I think would be good for the Board to keep the Board, again, on its toes there.

(Simultaneous speaking.)

Dr. Taulbee: This is Tim.

(Simultaneous speaking.)

Dr. Taulbee: What I would suggest is that kind of as Bob was saying there and you were pointing out that, on the first item, Bob, if you were to generate a kind

of a summary in a few slide, summarizing your particular findings and then I could basically give a shortened one as what I gave to the Board or to the Work Group here, my discussion points.

And then, we wrap it up with us waiting on the additional responses.

And hopefully by then I will have a time line of when we will be getting that, that I can update on that slide.

(Simultaneous speaking.)

Mr. Katz: Josie, go ahead.

Member Beach: Yes, I didn't get Tim's slides. I got the ones for Sandia, but not for INL. Can you resend those when you get a chance? And the ones you did from today?

Dr. Taulbee: Sure, they're out on the web right now.

Member Beach: Yes, I don't have access to the web.

Mr. Katz: I'll send them to you, Josie.

Member Beach: Okay.

Mr. Katz: I thought I sent them to you, but maybe I didn't sent them to the right email.

Member Beach: Yes, I checked both and didn't see them. So, thanks.

Mr. Katz: Okay.

Member Beach: I appreciate it.

Mr. Katz: Yes.

All right, does that sound good to everybody? All right.

Member Beach: Sounds good.

Chair Schofield: Sounds good to me.

Dr. Taulbee: Do we want to do separate presentations there or do we want to just combine Bob and mine together and put them all into one and both he and I will be up there speaking?

Mr. Katz: I think that would be great if you want to do that. I think that would be great.

Dr. Taulbee: Okay.

Mr. Barton: Tim, I already have like a sort of a skeleton presentation that sort of follows the discussion we had on the 1963 to 1970 period. So what I can do is I can just, you know, tweak it a little bit and then send it off to you guys and then you guys can add in your portion just like we presented it today.

Dr. Taulbee: Okay. And then I'll get it all uploaded in there as well. So, all right, so send me your slides.

Mr. Barton: Will do.

Dr. Taulbee: Okay. Do we want to address bullet number three or not?

Mr. Katz: I'm sorry, what's bullet three? Sorry.

Dr. Taulbee: Oh, I'm sorry, Item Number 3 was the evaluation of dosimetry '75 to '80 to mention, do we want a slide indicating that we're going to capture the temporary badges or do we want to just not touch upon that?

Mr. Katz: Yes, I mean --

(Simultaneous speaking.)

Dr. Taulbee: --- on that one.

Mr. Katz: And I would suggest you go ahead and touch on that, too. Because that's something that's already been before the Board and they've already asked about it and they'll be curious.

Dr. Taulbee: Okay.

Mr. Katz: Yes, so thank you.

Dr. Taulbee: All right.

Mr. Katz: Yes, I think you can do it all in one presentation you guys, yes.

Dr. Taulbee: Yes, yes, that's not a problem.

Chair Schofield: All right. Any other business?

Status of Other INL Work

Dr. Taulbee: I have a status update if you'd like, Phil.

Chair Schofield: That would be good.

Dr. Taulbee: Okay. And this will be real short here, folks.

As Bob mentioned in June, we conducted some interviews out at INL and Josie and Joe and Bob participated with Mitch and I on those interviews.

The summaries have been written, they've been submitted and cleared by ADC and they've sent to the interviewees.

We have begun to get some responses back from the interviewees and incorporating the comments.

So, that loop is actually on its way to being closed here. So I wanted to give you an update on that.

With regards to the INL Burial Ground evaluation from 1970 to 1980, and this is where we were potentially looking at an 83.14, we're not quite ready

to present to the Work Group.

We had hoped for this meeting, but, again, we're not quite ready.

I wanted to ask the Work Group's availability for the weeks of September 24th and October 8th of potentially scheduling a follow-up Work Group meeting so that we could discuss that particular evaluation.

Are people available either of those weeks?

Member Beach: Tim, this is Josie. I'm totally out those two weeks.

Dr. Taulbee: Okay.

Mr. Katz: Tim, why don't you -- I mean scheduling these things, just why don't you send me some other, now that you know Josie's out of the country for a bit, but why don't you send the other alternate dates and I'll -- it's easier to this by email than trying to do this stuff on the phone.

Dr. Taulbee: Okay. We're likely going to be pushing into later October now. And, part of that is because I'm not available and Jim's not available --

Mr. Katz: Yes.

Dr. Taulbee: -- for some of those others. So, I will do that. I will propose some other weeks then.

Mr. Katz: Okay. Just send that to me, I'll get it out to everybody to respond to.

Dr. Taulbee: Okay.

And then, the other issue that I wanted to bring up was the ANL-West and this is the alpha air monitoring at ANL-West. There is a draft report from ORAU on my desk for review. So, we may, especially now that

we're going out into potentially later October, we may be ready to present to the Work Group on that as well.

So, we are making progress here and I just wanted to relay that to you, Phil and other Work Group Members, on those are the next two things that will be coming up, should be in September or October.

Dr. Ostrow: Tim, this is Steve Ostrow.

I was wondering, can you say anything about the progress you're making on the reactor modeling?

Dr. Taulbee: We are -- as I mentioned in my email to you, Steve, we have made progress on --- the modeling itself is a complete, it's melding of the information and comparing to OTIB-54 that is causing us some difficulty. We are still working through that. Sorry, I don't have a time line for you on that.

I know it's not going to be before the end of September. Possibly into October, that could be ready, especially maybe toward the end, but I'm really not comfortable committing to that at this time.

Dr. Ostrow: Okay, thanks.

Adjourn

Dr. Taulbee: Work is progressing, it's just going slower than we anticipated.

That's all the updates that I have for you, Phil and Members.

Mr. Katz: Thanks, Tim.

Chair Schofield: Appreciate that.

Mr. Katz: So, Phil, I think we're ready to adjourn.

This transcript of the Advisory Board on Radiation and Worker Health, Idaho National Laboratory/Argonne National Laboratory-West (INL/ANL) Work Group, has been reviewed for concerns under the Privacy Act (5 U.S.C. § 552a) and personally identifiable information has been redacted as necessary. The transcript, however, has not been reviewed and certified by the Chair of the INL Work Group for accuracy at this time. The reader should be cautioned that this transcript is for information only and is subject to change. 79

Chair Schofield: Well, everybody have a good day.

(Whereupon, the above-entitled matter went off the record at 1:15 p.m.)