U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL
NATIONAL INSTITUTE FOR OCCUPATIONAL
SAFETY AND HEALTH

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ADVISORY BOARD ON RADIATION AND
WORKER HEALTH

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AREA IV OF THE SANTA SUSANA FIELD LABORATORY
WORK GROUP

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MONDAY
DECEMBER 4, 2017

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The Subcommittee convened via teleconference at 10:30 a.m. Eastern Time, Phillip Schofield, Chair, presiding.

PRESENT:

PHILLIP SCHOFIELD, Chair
HENRY A. ANDERSON, Member
JOSIE BEACH, Member
WANDA I. MUNN, Member

ALSO PRESENT:

TED KATZ, Designated Federal Official
TERRIE BARRIE
BOB BARTON, SC&A
D'LANIE BLAZE
DOUG FARVER, SC&A
MONICA HARRISON, ORAU Team
LARA HUGHES, DCAS
BONNIE KLEE
JIM NETON, DCAS
JOHN STIVER, SC&A
DENNIS STRENGE, ORAU Team

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

10:32 a.m.

Welcome and Roll Call

MR. KATZ: Okay, while we're waiting for them let's go through first some preliminaries and then we'll go through the rest of the roll call.

This is the Advisory Board on Radiation Worker Health. This is the Area IV Santa Susana Field Laboratory Work Group. Welcome, everyone.

The agenda for today is very simple and the material for today we're discussing was reviewed by SC&A, the Evaluation Report of the petition.

They're published on the NIOSH website under the Board section schedule of meetings, today's date. So you can go there and get the agenda and review that.

Roll call.

(Roll call)

MR. KATZ: Okay, let me just remind you again to mute your phones, *6 to mute your phones if you don't have a mute on your phone. And then pressing *6 again will take your phone off of mute.

Let me now return to Board members and see who's joined us since we started the roll call.

(Roll call)

MR. KATZ: Okay, I would just suggest it's almost 10 minutes now. Let's get started. Hopefully Wanda and John will join us, but in any event we can start.

So Phil, it's your meeting.

CHAIR SCHOFIELD: Okay. It's Phil Schofield, Work Group Chair, no conflict.

MR. KATZ: Right. None of our Board Members on the Work Group have conflicts.

CHAIR SCHOFIELD: So we'll go ahead and turn it over to SC&A.

SC&A Review of NIOSH Evaluation Report for Area IV SSFL SEC Petition 235 (1991-1993)

MR. STIVER: This is John. When I was checking, it's been over three months since we talked about this petition at the last Board meeting. I thought maybe somebody from NIOSH would want to give a thumbnail sketch of the Evaluation Report and then SC&A could kind of segue into our review of it, if that would be acceptable.

DR. HUGHES: This is Lara. So you want me to just go over the entire presentation and you jump in when you think --

MR. STIVER: Just kind of give sort of a background.

DR. HUGHES: Okay. All right. We're here to discuss the SEC Petition Evaluation Report for SEC 235 Area IV for Santa Susana Field Laboratory.

This is the fourth SEC petition that NIOSH has completed. There are three prior ones:

SEC 93, 156 and 234.

Combined those three petitions encompass the entire operational period. So when 235 came along, what really was left for NIOSH to consider was the residual period which runs from the beginning of 1989, I believe, to the present.

So when we look to evaluate this petition, whether or not it would qualify, we were looking for the usual petition reasons for qualification.

What we came up with, what we found during the residual period was that there was an issue with the bioassay contractor that was used by Area IV, Boeing at the time -- or no, it wasn't Boeing at the time. North American Aviation.

So this bioassay contractor, it was controlled for environmental pollution, CEP for short. That was used from --

MS. BLAZE: Rockwell International.

DR. HUGHES: Yes. Sorry. August 1, 1991 through June 30, 1993.

This was the period we considered for the evaluation because NIOSH does not use this bioassay data because the contractor CEP was cited for data falsification at a different site.

I may add, however, NIOSH is just not using any of this data because it's been compromised.

So CEP, based on contract information that we found and the Santa Susana data, we could pin down the date as August '91 to June '93.

We looked at a number of claims. We looked at, in the SEC Evaluation Report, we present what facilities are still operating at the time.

There's the -- okay, let me look at my chart here -- the fuel storage facility was still operating. The radioactive materials disposal facility was still operating. And the radiation instrument calibration lab.

We're not so much looking at the facilities that were still operating but also at

the facilities that were undergoing active decommissioning and decontamination at the time because those would potentially produce the highest exposure potential.

So based on the facilities that were undergoing D&D and also based on some interviews with radiation protection professionals that were involved in this process, we identified radionuclides of concern as well as the sources.

So the radionuclides of concern we're looking at is transuranic activation products, uranium compounds and some limited thorium and plutonium products.

The sources obviously are dust from demolition operations, removal of the reactor activator concrete, the decontamination of the hot cell facility and any unencapsulated radioactive material that's handled, stored, transported.

There's internal monitoring data available for the workers that were classified as

radiation workers. Not everybody was monitored at the time.

So there's data available before the CEP period as well as after.

We have internal bioassay monitoring for uranium, plutonium and mixed fission products. There's also a coworker model that is available. The coworker data analysis ended just prior to the CEP period.

There's also whole body count data available. Air sample data is available although it hasn't been analyzed in depth for this petition.

So what we did, we compared the available uranium mixed fission products, plutonium and gross alpha bioassay results that are available before the CEP period and after the CEP period.

The data after the CEP period is somewhat limited. So what we resorted to was mostly a graphical presentation just indicating

that there is no indication that the data after the CEP period was higher in any way than the data that we've seen before.

So there's no reason to assume that there would be any spikes and occurrences of high -- or incidents of high bioassay during the CEP period.

In addition the CEP period also has a fairly good amount of whole body count available and none of those showed any kind of unusual, high exposure in the workers.

So it was NIOSH's conclusion that despite the lack of CEP bioassay data for a little over two years, that we can do dose reconstruction for that period as well as dose reconstruction for external and medical. That's the findings of SEC 235 in a nutshell, if you have any questions.

MR. BARTON: Hi, Lara, this is Bob Barton. I guess -- before we sort of dive into our review, I guess my question kind of centers

around the implementation question.

DR. HUGHES: Okay.

MR. BARTON: So there are coworker models and soon we'll get into -- we still have some outstanding findings on, I know, OTIB-80 but how exactly would those coworker models be applied or what's NIOSH's intention there?

I mean would it be applied to essentially all workers or how would that work? For workers in this SEC period, what is NIOSH's intention? I mean, are we only applying this to radiological workers? Are we applying it to everybody?

I guess I wasn't quite clear. We do have these coworker models in place, but how would that actually be applied in practice?

DR. HUGHES: I would pretty much follow our procedure similarly that would be done at other sites. So in this case it would -- it often is a judgment call.

I think typically what we assign,

depending on what the worker did or what information is available as far as I know.

We don't have actually any claims that currently use the coworker model because it's only been implemented in 2014.

MR. BARTON: I understand. I don't want to get too ahead of the game here. I was just curious about that.

DR. NETON: Bob, this is Jim. I think Lara hit the nail on the head. We would use very much an approach like we used at other sites. If a person appeared to have been a worker engaged in direct activity, in activities that involve direct contact with airborne particulate material, they would get the 95th percentile distribution, and lacking that connection, they would get the 50th percentile with a full distribution.

And if they clearly didn't work in radiological areas at all, I'm not sure what we have in the environmental area for Santa Susana

but if we have environmental data that would be applied as well.

So it's not unique to Santa Susana, that approach.

MR. BARTON: Okay. So essentially it's the same where if you could be considered a radiological worker, you're at the 95th percentile.

DR. NETON: Correct.

MR. BARTON: You may be somewhere in between, intermittently exposed, that kind of category, then you're at the 50th.

And then if there's really definitive proof that you probably weren't exposed, then we're talking about environmental ambient.

DR. NETON: That's correct.

MR. BARTON: Okay. Thank you.

MEMBER BEACH: So this is Josie. So I have a question. Lara, we talked about the SECs or you talked about them covering up until 1988.

And it's pretty clear from '89 to '91, July of '91. How do you intend to reconstruct dose during that period? Those couple of years there.

DR. HUGHES: Right. We'd just be assigning doses based on available bioassay, available external data and then cases where that's not available, it would be a non-rad worker we would assign ambient and then cases where there is data unavailable just like we just talked about, there is the option of assigning coworker model in cases where we would feel like the worker should have been monitored but wasn't.

It would be an individual dose reconstruction.

MR. BARTON: So I need to clarify what we just talked about, that sort of framework of implementation would apply not just to the SEC period but essentially the entire residual period for Area IV. Do I have that clear?

DR. HUGHES: We have not identified an

infeasibility so the dose reconstruction would just follow our general procedures based on available data.

CHAIR SCHOFIELD: This is Phil. I've got a question on that.

One problem we've had with Santa Susana is the fact that we do know people from -- were staged out of Area I to work in Area IV. We have people coming from Canoga and De Soto facilities back and forth.

I really want to know how you can narrow that down and how you can feel good about the methodology that you're using to narrow it to those people that you really think were covered or should be covered.

DR. HUGHES: It's not really what NIOSH does. NIOSH does not determine eligibility for employment of Area IV.

When we get the claim, that means it's an Area IV, or it has been determined by the Department of Labor that this claimant worked in

Area IV. So we will assign doses or reconstruct doses based on the methodologies that we have available for Area IV.

We don't get any claims where a worker worked in Area I and so we would not assign doses. We only get claims for workers that have verified employment in Area IV. Does that answer your question?

CHAIR SCHOFIELD: Yes and no. I'm sorry to be kind of vague on that.

But we do know that there are people staged out of -- they had offices or whatever in Area I but yet they did most of their work in Area IV.

DR. HUGHES: Right. I'm aware of the issue. NIOSH can't do anything with that.

MR. KATZ: This is Ted. So that's just not a NIOSH issue, it's not an SEC issue. If they have verified employment, work in Area IV credited by DOL, we do it. But otherwise it's a non-issue. It's not even within the law for us

to do anything about any other case.

And we would never get it to deal with it. So it's really just a non-issue for the program here at NIOSH.

CHAIR SCHOFIELD: Okay, thanks.

MR. STIVER: If there are no more questions I guess, Doug, do you want to go ahead and take over and talk about our ideas for the Evaluation Report?

MR. FARVER: Okay. I'm going to be going through the -- I believe it's the same one that's on the website, the Evaluation Report starting on page 5.

And a lot of this Lara covered so I'll proceed kind of quickly and get into the more important information.

Beginning on page 5 we just give a little background of the issue about when the petition was received, when NIOSH qualified the petition, what NIOSH qualified the petition as.

The petitioners were asking for

qualification under several different areas. That's what NIOSH looked at. Looked at qualifying it under several different areas.

The only area that NIOSH found was relevant for qualification was under data falsification and which brings in touch the CEP data that NIOSH had previously identified as not being usable.

And as such that's what they determined and that's what it qualified under. And that's the question NIOSH evaluated as shown at the bottom of page 5, all employees and contractors from August '91 to '93. So that was the time period.

MEMBER BEACH: Can you speak up just a little bit, please? I'm sorry for interrupting.

MR. FARVER: I'm trying to position my phone so I've got the microphone and the speaker.

Okay. And then at the Advisory Board meeting in August, the Board tasked SC&A to look

at specifically the feasibility of reconstructing the doses without using the CEP data from 1991 to '93. So that was the focus of our task.

Page 6 is just a brief overview of what went on at Santa Susana Field Laboratory Area IV. Nothing new.

Page 7 we go through the previous petitions. Like Lara mentioned Petitions 93, 156 and 234. SC&A was tasked to review 93 and there's a report issued on that. We were not tasked to review 156 or 234.

The time frame: Petition 93, you're looking at 2009, 156 is 2010 and 234, you're looking at the beginning of 2017.

That brings us up to the current Petition SEC 235. And section 3.2 we just give an overview of NIOSH's Evaluation Report.

We discuss that they disqualified the CEP data. They determined that they could reconstruct the doses for 1991 to '93. And they based their determination on the following.

They had a coworker model in OTIB-80 that they could use. The intake rates assigned at the end of the operation period were -- how should I put this -- most likely did not increase over the '91 to '93 period. And I think that's a good way to put that.

Now, there are some issues with OTIB-80 that we're going to get into later, but that was one of their determinations, that they could use the coworker model in OTIB-80.

Also NIOSH looked at the D&D and the waste handling operations during the remediation period, the post-'88 period.

They determined that the work remained consistent to procedures and PPE and exposure risk, and there were no major radiological projects that would not have been monitored with workplace monitoring or personnel monitoring.

And their determination was that, also during this period of '91 to '93, they were doing whole body counts using Helgeson and they showed

no measurable exposures for the fission products.

So this is kind of a synopsis of what they base their determination on.

Then we go into the issues that were discussed in the Evaluation Report. And these are the issues that were specifically raised by the petitioner.

I go through these one by one but it's pretty much just taken directly from the Evaluation Report. I'm not sure that that's entirely necessary. Do you want me just to move on a little bit?

MEMBER MUNN: That's questionable.

MR. STIVER: You might want to go through, just kind of give -- you don't have to do it in detail but just talk about each one and kind of what our position is related to it.

MR. FARVER: Okay. Well, this is what they used to -- I believe what they used to qualify the petition.

The first issue was general covered

employee status that the petitioner claimed that they could not reliably and accurately determine for all DOE workers their job location.

In the report, NIOSH states that it's not -- the petitions are qualified for evaluation on circumstances related to an entire class of employees that prevent the reconstruction of potential radiation exposure for the class.

So that did not receive qualification.

Petitioner claimed that the Site Profile lacks specific information. NIOSH reviewed the documentation provided by the petitioner and will evaluate the need to update the Profile as needed.

And then we have the quote from NIOSH that our general working documents, the Site Profile and they will be updated as more information becomes available.

Issue three, radiological incidents. The petitioner claimed that the Boeing incident database contains incident reports that were

either not assigned to a radiological location or not equipped with appropriate radiation protection or were involved in an exposure incident.

NIOSH reviewed the incident database and did not find any evidence of routine radiological processes at the non-radiological facilities or incident summaries indicating that unauthorized subcontractor employees had access to the locations with radioactive material.

Issue four, employment records. The petitioner described an incident from 1963 as an example of the contractor withholding worker records based on the worker being unmonitored and presumably not the designated radiation worker.

NIOSH responded in the petition ER that the administrative policies of Rocketdyne created those empty records, and until the late seventies the site policy was to prepare an exposure record folder with employee identification information for every new

employee.

And that's kind of what created the empty folders.

Number five issue, lack of monitoring. Petitioner asserted that the radiation exposures and radiation doses potentially incurred from the members of a proposed Class that relate to this petition were not monitored either through personnel monitoring or through area monitoring.

NIOSH reviewed the documentation provided and found that there was insufficient evidence to support the claim of lack of monitoring to Area IV workers.

NIOSH stated it had access to personnel monitoring work data, BZA monitoring data, contamination and radiation survey reports and bioassay data for Area IV workers including examples throughout the period evaluated: 1991 to '93.

Issue six, falsified documents or statements. The petitioner claimed that the

radiation monitoring records had been lost, falsified or destroyed and there is no information about monitoring source terms or process from the site where the employees were.

The petitioner attached documents to support the claim.

NIOSH did not find any of the petitioner's supplied documents to support the basis that the monitoring records were lost, falsified or destroyed for the period after 1988.

However, NIOSH considers the bioassay data processed by CEP from '91 to '93 to be unreliable unless the results are also verified.

NIOSH qualified the petition for evaluation under this basis alone.

Top of page 11, SC&A reviewed the petition, the Petition Evaluation Report and also the petition qualification statement.

Attachment A, this includes about 50 documents that were reviewed by NIOSH and included in their Evaluation Report.

I'll make it clear SC&A did not review all of those documents. If you look at those documents most, many do not fall within the time period of 1991 to '93. So it would not be a good use of time to go back and look at a lot of documents from 1958.

NIOSH qualified the petition in February of 2017 and completed the Petition ER in May of 2017.

So that's just a summary of the qualification and the ER report.

Section 4, page 12. This is where we kind of start looking at the data from the ER report. We look at the external data for the monitored workers.

Well, as was pointed out in previous SECs, NIOSH has access to the beta gamma neutron dosimetry results as well as more supporting data for the operations at the site.

A lot of this is presented in the TBD-0038-6 for Santa Susana. The NIOSH external

database for Area IV contains dosimetry data for penetrating dose including gamma and fast neutron dose. So that's the data available.

For unmonitored workers, NIOSH has released OTIB-77 which is external coworker dosimetry data for the Area IV workers. The current evaluation SEC 00235 dealing with the disqualification of internal bioassay data has identified no concerns with the external coworker dose distribution models for OTIB-77.

SC&A did conduct a review of OTIB-77 and issued a paper on its findings.

Ambient environmental dose. Go back to the TBD number 4 and it presents the ambient external dose for Area IV for the period of '77 through '99 which covers the evaluation period of '91 through '93.

And then the occupational medical data. The SEC Petition ER found no evidence to contradict previous information that they cannot reconstruct the medical dose for the workers from

'91 to '93 using information in OTIB-6 and site documents.

The medical information hasn't changed for this petition. So overall the external dose reconstruction feasibility really hasn't changed because this petition is really not based on external data, and therefore NIOSH concluded they could reconstruct the external doses.

Now we go on to our review of the internal dosimetry data available. Section 4.2.1, air monitoring data.

NIOSH determined that the principal source of the data from '91 to '93 would be from airborne particulate generated during D&D activity.

The air samples resultant from onsite D&D work are contained in the quarterly documents from '91 to '93 and quarterly reports also from that time period.

SC&A reviewed the air monitoring

results in Rockwell 1993 and find them to be incomplete. There's some gaps in the data.

And granted these are summary reports and these are not all-inclusive air sampling reports.

This is one of the issues that we've got some questions about. And Bob, I'm going to let you take over because you have more information on the air sampling than I do.

MR. BARTON: Sure. Thank you, Doug. So what we're talking about here, and as we talked about at the outset, what's on the table currently as proposed for dose reconstruction, it essentially applies a coworker model based on the operational data to -- I don't think residual period is necessarily the right term, but certainly a D&D period.

So since essentially this is a surrogate-data question, there's a couple of different ways to go about figuring out whether you're on solid ground as far as applying data

from the operational period to this other period where it's D&D activities by and large.

I don't think I've ever run up against this particular situation before where we're talking about this period after operations and in order to bound the dose, we're going to apply essentially the dose model to operational personnel to this other period.

It essentially falls under the surrogate-data criteria which is the whole reason we bring up the air sampling question in our review.

If I could try to simplify it essentially the argument put forth so far is that, well, we looked at the bioassay data during this operational period and we have samples before and after the SEC evaluation period, samples that were not done by CEP so they're good samples, we can trust those results.

And we look at the bioassay samples on either side and said, hey, they're a lot lower

than what's in the operational period. So even though operations might not directly reflect what was happening during the D&D period, we feel confident that we can bound the doses using those operational bioassay results and which I think is a very solid argument.

What we're talking about here is you also have this air sampling data. And we took a look at what was referenced in the SEC.

You have, to some extent or another, air sampling data for the hot laboratory, the radiological materials disposal facility and the SNAP facility. That's the Systems for Nuclear Auxiliary Power facility which are really your three I guess areas of concern with respect to Area IV at Santa Susana.

So we look at that data and there's actually air sampling including breathing zone, general air. The site is well characterized for the hot laboratory all the way through the period and then limited for the other two major

facilities.

That was for a reason. You guys can look at the documentation and you can see that the regulators came in and said you really don't need to be simply sampling this area anymore.

So the question, we say, and this is really a recommendation, it's not -- I wouldn't characterize it as a finding, but I think it would be very beneficial if NIOSH went and looked at that air sampling data. Again, breathing zone, general area.

And just compare it to what's available during the operational period. Because then you have sort of a direct link between operational-period data that we're trying to use as a surrogate to this D&D period and we can say, listen, look at the bioassay results and they're higher for the operational period so we're confident that they bound them.

And we also compare that to the air sampling data that we have. And so we have this

actual meaningful connection between the period where we don't have bioassay data that's usable and the period we're trying to use as a surrogate for the SEC evaluation period.

So that's where we're really coming from with our comments regarding the air sampling. I think it would really be beneficial.

It kind of fits in with the Board criteria for using surrogate data. Now obviously we're talking about the same site so we're not trying to apply data from a different site to Santa Susana.

But again, I think since we are talking about essentially a surrogate-data question here making that meaningful connection between the radiological conditions, I think, would be a very powerful argument insofar as that data is available to NIOSH to do.

I believe I did see at least some summary data from the operational period that could be used to make such comparisons.

So I guess I'll turn it over to NIOSH and ORAU and see what their thoughts are on that.

DR. NETON: Bob, this is Jim. I just have a general comment.

I think we should be careful about what we call surrogate data here. The implementation guide IG-004 specifically defines surrogate data as use of data from one facility at another.

We really honed in on that aspect in that document. This is not so much a surrogate-data issue I think as what I call a nearby data interpretation issue. There's other terms for this.

But surrogate data I think implies a lot more than what we've done here. And we're trying to fill in a two-year gap using data that is on either side of that time period. So I guess I'd just be careful of using the word surrogate here.

MR. BARTON: Okay, I understand that.

That word comes with -- I understand.

DR. NETON: I have a question about your suggestion to use the comparison, the air data.

You say to do a direct comparison of the air concentration before and during the periods. I mean, like.

MR. BARTON: What I would suggest is, since we are using essentially bioassay data during the operational period we want to try to make some sort of connection between that, the radiological conditions during that period and to assure that we're actually bounding the two-year period we're trying to apply them to.

Again, this is sort of a situation I don't think I've come up with before where we're using operational data to bound essentially the D&D period.

So what our suggestion is, and again it is a suggestion and I leave it to the Work Group here to discuss and do with as they please

is that we don't really have a way to make that connection between -- I won't use the word surrogate but between a period that we're using the exposure info for to cover the period for which essentially we have unusable bioassay data.

DR. NETON: Well, but we do have data on the other side during the remediation period starting in '93, do we not? I mean that is remediation data.

MR. BARTON: Yes. Right.

DR. NETON: I guess I'm a little bit concerned about the comparison of the air sample data only because in these areas you sort of get involved in the use of respiratory protection and how that weighs in.

I guess I would argue that what's coming out in the urine is really the exposure experience of the workers, not so much what was in the air at that point.

Because again, in D&D operations you tend to have some respiratory protection maybe

even in the early periods. I don't know how a direct comparison would really pan out.

MR. BARTON: Well, I think the air sampling data that we have during the actual two-year period that we're talking about actually has some discussion about respiratory protection factors.

So I'm not sure that necessarily has to be left out.

Again, the suggestion is just trying to make a meaningful connection between the period that we don't have any data and the period that we do have data and we're trying to apply.

We're not using the data that happened after this period we're talking about. That does not figure -- as far as I know does not figure into any coworker calculations.

DR. NETON: Right. We do a direct comparison of the data we do have on the workers in that era. As you indicated in your review there's no substantive difference between the

pre-1991 and post-1993 excretion patterns of the workers during those periods. That's what we're hanging our hat on.

I don't know that going the extra step to look at the air data is, you know, would prove anything.

MR. STIVER: Jim, this is John Stiver. Let me just jump in for a second.

What we're trying to say is you could use it as a way to possibly corroborate that position if you could show that the radiological conditions during the period for which you're going to be using that data to bridge the gap, that two-year period, also fall in line with the bioassay data.

We provide -- it's an extra way to kind of triangulate on a position just to show that look, we've got two different sources, both the bioassay and the air sampling data that demonstrate our position.

Now granted there's a lot more

uncertainty in the air sampling data because of the respiratory factors and just local variations. You might have, during the D&D operation, you've got a backhoe or something that's stirring up a lot of material. In that one little area you might have a really high concentration but 10 meters away, it would be much lower. So yes, there is that aspect involved.

That's why we didn't make it a finding so much as a suggestion to kind of bolster the position.

DR. NETON: Okay.

MR. STIVER: Anyway, Bob, go ahead.

MR. BARTON: Well, no, I think that kind of sums up where we're coming with that. I leave it to some Work Group discussion.

I can certainly answer any questions on it but I think you put it very succinctly, John. I mean essentially what we're suggesting is this might be a way to sort of buttress the

position of, listen, nothing really changed as far as we can tell from the documentation.

And maybe it's as simple as looking at maybe not even the air sampling during the operations but air sampling that occurred just like you look at the bioassay before and after the period maybe that's where we should look, is the air sampling that occurred during D&D operations before and after that period.

I mean, essentially the other half of that argument is that, well, there weren't any major radiological operations that were distinctly different during that period than before or after which we don't disagree with.

But again this is just another way to try to -- again, we have bad bioassay data during that two-year period. And we want to apply different data to that period. So why don't we try to find ways to really convince ourselves that yes, this is -- nothing changed during that SEC period.

There's no reason to think that the doses were for some reason different during that SEC period, and that we're confident that the data that we are going to apply is going to bound what we don't know about that period.

MEMBER BEACH: Bob, this is Josie. Are you looking for just a memo or how are you looking to get that information from NIOSH?

MR. BARTON: Well, I guess it depends on what -- to the extent of what information we have that's available to be able to make such comparisons.

It could be a memo. It could be -- really whatever the Work Group desires. It could be an email or what have you.

Again, this was not made a finding very specifically because it's a suggestion. Once we're going to apply data from one period to another, I think it's very beneficial to sort of turn over every rock so yes, we're confident nothing changed during that period and look, even

our air sampling data is very indicative of the period before and after and we're going to apply the operational period data to bound it.

I don't think, for at least uranium and plutonium, I don't believe we have data before the SEC period that actually went into formulating the coworker model.

So again we're trying to apply essentially the data from the operational period in the 1980s essentially to this period in the 90s when the bioassay results are suspect.

CHAIR SCHOFIELD: This is Phil. I've got a question. Like John Stiver just said, when you're doing D&D you've got these backhoes in there, jackhammers, whatever method they're using to deconstruct some of these facilities and things.

You do have -- tend to generate a lot of airborne stuff. And any facility that's been in use for many years is going to have hot spots in there that weren't cleaned up on those

occasions you had an excursion.

That being said, I have concern about the lack -- that this bioassay data cannot be really used. Do we know exactly, were they all required to wear -- have on face masks and stuff or were they just using the little paper masks for filtration purposes.

How confident are we that they were not getting any of this dust and contamination sucked in because of the lack of proper personal protection equipment? I mean, maybe there is something, a document there that indicates that no, when they were doing this they were required to wear face masks.

If that's the case then that's what we go with.

MEMBER MUNN: Conversely, if there's no indication -- I'm sorry, this is Wanda -- if there's no indication of any kind in the records of undue exposure or of any incident of any kind, why would we assume that there was?

MEMBER BEACH: It's the nature of D&D generally. This is Josie.

MEMBER MUNN: Yes.

DR. NETON: This is Jim again. If you look at Figure 7-2 and 7-3 in our Evaluation Report, we portrayed that exposure experience of the bioassay, the non-zero bioassay samples for uranium and plutonium and mixed fission activation product.

And in general, the samples taken after 1991, during the remediation period, were lower than samples that were taken during the operations period.

And so that to me is an indication that exposures were not occurring that were large and undetected. The whole point here is that remediation period bioassay samples are equal if not lower than the samples taken prior to 1991.

And that's pretty good proof in my mind rather than going back and trying to speculate about who wore respirators, who didn't

wear respirators.

The proof is in what's coming out in the urine samples. That's our position anyway.

MEMBER MUNN: The only logical one.

MEMBER ANDERSON: This is Andy. I guess the question is, so how challenging would it be to look at the air data, because there could be things going on there.

I mean, to just ignore data that's there and come to a conclusion without considering it, I think you can do that but I think unless it's -- I'm not sure what your concern is that if you look at the data, what do you think you might find that would be problematic.

DR. NETON: Lara, do you have a feel for how much data we have?

DR. HUGHES: No. All I know is -- well, we do have some data. We have not analyzed it in depth.

What I know is, especially for the

remediation period, we did not do an overly targeted data capture for air data.

Now, any data capture would look at air data but our focus has mainly been on the bioassay and available health physics procedures. So it would definitely require additional data capture. It would require data coding.

So from an effort and time standpoint we're looking at a quite significant effort here. So we're talking months to a year, I would think.

Any kind of air data coding, it takes a long time.

MR. BARTON: What I saw when we were reviewing what was cited in the ER, you have -- it's actually not that much. Essentially summary reports or monthly.

DR. HUGHES: Right.

MR. BARTON: So we're not looking at every day air samples.

DR. HUGHES: But you stated that it's not complete. So that would mean -- we have not

done due diligence with regards to the air data, I guess, is what I'm getting at. Because it has not been a focus.

So before we could draw any conclusion, we would want to make sure that we have everything that we think would be necessary to look at.

So I have not extensively researched the available air data at this point. But any kind of air-data comparison coding is quite labor-intensive. It's certainly possible.

MR. BARTON: The data that we have in hand currently would not be sufficient to really analyze and gain anything useful from, is that what you're saying, Lara?

DR. HUGHES: Well, isn't your report stating that it's found to be incomplete, if I'm not mistaken?

(Simultaneous speaking.)

MR. BARTON: -- hot laboratory.

DR. HUGHES: Yes. If you're talking

about going back to the operational period, I have not done a review of the air data.

So I'm not sure. I really cannot speak to what kind of effort we would be looking at. If there's additional data capture it would be a significant effort.

We can certainly look what's there and analyze that and then decide whether or not we need to do additional data capture.

Generally the air data has not been as much a focus for the residual period, or for the operational period because we have mostly relied on the bioassay data.

MR. STIVER: This is John, if I can jump in. What I'm kind of hearing in general is that going after the air data probably -- the benefits you derive from that might not justify the effort required.

But maybe a scoping, kind of a pilot scoping type exercise to determine how big of a job it is going to be. Something that might take

a couple of months or it's going to be a year of intensive effort.

You get a better handle, then, on whether it would be worth pursuing.

DR. HUGHES: Yes, it's probably in between those two. But yes, that's certainly an option. It would be up to the Work Group to decide what should be done.

I'm pretty confident that the air data is there or there is a significant amount there. I don't expect to see any big gaps.

The location of the data would have to be determined because, during the evaluation, the data wasn't translated from the site to various record centers.

But based on the experience on finding bioassay data, I don't see any problem overall with obtaining data that we don't have.

I just can't speak to the effort at this point.

MEMBER MUNN: I'm not sure anyone can,

can they? That seems to be an unknown quantity.

MEMBER BEACH: So the urinalysis data, how much of that do we have? That's on Figure 7.5, is it not?

DR. HUGHES: I don't have the numbers handy. You have the graphs presented in the ER or the --

DR. NETON: Well, the graphs that we presented in 7.4 and 7.5 -- or 7.2, 7.3, 7.4 and 7.5 I think are non-zero. Those are positive results.

There were a number of non-positives. And Tables 7.1 and 7.2 of the ER provide the numbers of urinalysis results prior to and after the CEP period.

There are like 22 results reported. Twenty-nine total results for uranium, 113 plutonium, 65 strontium and 36 of gross alpha. That's all after the CEP period.

And there are substantially greater numbers before because it spans a larger number

of years.

But there were very few positives, I might add. I mean there were 2 positive uranium results, zero plutonium positives out of 113 samples taken after CEP period, 7 positive strontiums out of 65 and 2 positive gross alphas out of 36.

MEMBER MUNN: None of those were large.

DR. NETON: Again, the results indicate a very low exposure potential during that period.

(Simultaneous speaking.)

MR. BARTON: Do we know if those were by and large incident-based sampling results or were they operating a routine program? Or are we talking about really a targeted program based on the discretion of the health physics staff at the time?

DR. HUGHES: It was routine for people that would have hands on. It would also be

incident follow-up, if there was such a thing.

They did not monitor everybody. It was targeted. But for routine purposes.

MR. BARTON: Well, again, I don't want to really belabor this or beat it into the ground. Again it was a suggestion that if we had the data, then we could take a look at it and see what it tells us, then I thought that that would be a beneficial thing to do.

What it sounds like is that we don't have that in hand, though it may exist. And so I guess it's really up to the Work Group whether that's something that you all would like to see fleshed out or if we can go on the bioassay comparison for the bioassay samples that we have, the comparison of positives which do show and we certainly don't disagree there that the urinalysis results that you see during the operational period are understandably higher than the period when what was happening -- or likely what was happening during the evaluation period

we're talking about.

Again that's why it's really a suggestion, not any sort of deficiency certainly. But again we felt that in this type of situation, the more you can make a comparison or actually relate the period in question to both the surrounding D&D activities and of course applying operational data to this period, the more we can say about the radiological conditions during that two-year gap where we have bad data, the better.

If it's really not a feasible thing to do or really wouldn't add enough to the discussion to warrant performing those data captures, I can certainly understand that as well.

MEMBER MUNN: Well, I still have not heard or seen anything that would lead me to believe that any untoward activities or any unexpected exposures that were higher than what the operating period showed from the bioassay that we have, I can't see any reason why we would

be moved to make any assertion at all that the information we have wasn't adequate to assume that.

Although we don't have the kind of coverage we'd like, we don't have any evidence of anything of major consequence occurred either.

MR. BARTON: Well, I certainly don't disagree with that, Wanda. But again that type of evidence might be in the air sampling data which is why we brought it up as something that would be beneficial to look at.

So you are absolutely correct: we don't have any evidence that anything untoward happened. But again we were making a suggestion that if that data was in hand and available that we could take a look at it and really verify and say listen, we looked at -- specifically looked at the radiological conditions that were occurring during this period when we have bad data and were able to verify that. Nothing was different, nothing exceptional happened that

would lead us down a path to say we have a real problem during this two-year period again where we don't have adequate -- or the bioassay data is tainted and we have to make some assertions about what the conditions were and how we're going to appropriately bound those.

MEMBER MUNN: It's a perfectly reasonable approach. The only question I have is, we've already said we can't even make a wild stab at how expensive such a review would be. That seems strange to me. We ought to be able to -- at least we know what data is there.

I haven't seen it but certainly the folks who have been looking at this material have seen it so we must have some understanding about how expensive such a review would be. Can't we get any guesstimate at all?

What I heard earlier was it might take a couple of months to look at it, but did I miss some inference there that it might be a really expensive job?

DR. HUGHES: This is Lara. I'm not sure. We have not coded any of this data. We have not done a complete analysis that we have all the data from the relevant facilities.

So we'd have to do a review of the Site Research Database to see what's available. Then if there's any significant gaps that we needed to fill, we'd have to do data capture. And then after the data capture to try to fill in the gaps and then I'm sure data coding would be involved. So yes, we're looking at months I would say.

CHAIR SCHOFIELD: This is Phil. I've got a question. If you were looking at this data was there a quarterly report summarized during the D&D or not that you know of? I'm just asking if you know if there were or were not.

Rather than having to look on a daily basis, I'm assuming a lot of these filters were counted at the end of each work day or whatever it is. Or were these once-a-week filters, or was

there a synopsis there at the end of each month that said here's kind of in general what we had this last month or this last quarter.

Are you aware of any records like that?

DR. HUGHES: I do believe there are quarterly reports, yes. And there are weekly general air type of data. But often they are presented in a summary style table in the reports.

So we wouldn't necessarily have all the data but we would have some data points that are above a certain limit or something like that.

MR. BARTON: This is Bob. I'm not sure that -- and we're talking a lot about completeness and things like that. We're not really proposing that air sampling data be used as an actual dose reconstruction tool.

But I mean even comparing monthly and quarterly summaries, to some extent, I think would have some value in establishing what the

conditions were during this two-year period. What the conditions were before and after that would back up and verify that what we're seeing in bioassay data is exactly that. That doses and exposure potential were lower during the evaluation period and thus we can bound them using the coworker model approach that's on the table.

So I'm not sure that we would really need to vigorously go into each and every air sample. I assume we don't think that's reasonable.

But to the extent we can use sort of a summary report that I believe they have the maximum breathing zone observed and they also talk about whether that involved a respiratory protection factor.

And then you have certainly some summary data about the general air samples. At least this is what we've seen definitely for the hot laboratory and the other two major

radiological facilities. At least early on for the first few months of the SEC period, you can see data for those other two facilities as well.

So I'm not sure it would need to be, if we decide to go down this road, a huge effort to code every single air sample result we have.

But I think even from the bird's-eye view just looking at what summary data we have, I think we might be able to make some statements about what the conditions were.

MEMBER MUNN: I certainly agree.

MEMBER ANDERSON: I'm looking at it as an assurance function, not a quantitative structure, kind of.

So I think it's just helpful in thinking of it from a petitioner's standpoint to ignore data that might be there that would provide greater confidence that what we're doing is correct. That's my only thing.

I think it would be worth, not extensively, but if there's some anomalies that

in looking at the quarterly or whatever the data is, you may need to go further.

But I suspect we'll find that, if you look at it and it's consistent with the before and the after data.

MS. BLAZE: Excuse me, guys. This is D'Lanie, the petitioner. Have we moved now into speaking about the path forward and the Work Group's SEC recommendation?

MR. KATZ: No, D'Lanie, we'll get to that.

MS. BLAZE: Okay, thank you.

MR. KATZ: You're welcome.

MEMBER BEACH: So I agree, I think that we should request NIOSH to go in and at least give us an overview of what's available.

MEMBER MUNN: Well, certainly if summary reports exist and we have not incorporated them into our review, then we certainly need to do that.

CHAIR SCHOFIELD: I agree with that

too. I think let's take a look. Hopefully those documents do exist.

MEMBER MUNN: Do we have any knowledge of, not extensive as you said before, but do we have any knowledge -- did I hear anyone say yes we do or do not know that we have summary reports?

DR. HUGHES: Yes, we do. We do have summary reports.

MEMBER MUNN: Then that seems to me to be the most straightforward and rational thing to do. Take a look at them and see if there's any evidence at all in them that there are unusual occurrences or higher exposures than the current data that we have indicates. It's just an assurance factor it seems to me.

Right. It can eliminate any question.

DR. NETON: This is Jim. As long as the Work Group understands the granularity of the data is going to be pretty granular.

MEMBER MUNN: Yes. Very large grains.

DR. NETON: There may be two samples

out of the facts taken that exceeded -- you know, that kind of stuff.

MEMBER MUNN: Yes.

DR. NETON: Certainly not going to be able to generate any distributions or do any statistical comparisons.

MEMBER MUNN: No, I don't think anyone is expecting that. I'm certainly not. I just can't see any reason why we can't say there's nothing in the information, in the summary data that we have that would indicate that the assumptions that are being made are not accurate.

CHAIR SCHOFIELD: And maybe just flag the data that tell us do we need to take a more in-depth look at this. Give us a little confidence about where we are and where we're going.

These quarterly or monthly reports, however they reported them there, I don't know. But I mean like Lara says, you hate to go back in and have to look at a daily log of these different

ones when we can look at the quarterly report and it says, well you know, we only had out of so many samples there was only three or four that were above what we're expecting.

Unless anybody else has heartburn with that, I'm kind of in agreement that let's go back and take a look at those reports.

MEMBER MUNN: It can't hurt us. And as Jim said, I don't think anyone -- I haven't heard anyone say anything that would lead me to believe that you really and truly want to get actual analytical data here.

This is just reassurance that there's no evidence that the assumptions we made are not accurate. It doesn't look like anything happened.

We have no evidence that anything that would be different during that period than it is in the following, after 1993.

So can we ask that that be done? Can NIOSH do that for us?

DR. HUGHES: Yes, absolutely.

DR. NETON: Yes, we can do that.

MEMBER MUNN: All right, let's do it.

MR. BARTON: Okay. That concludes our little chat on air sampling. Doug, did you want to continue, or?

MR. FARVER: You might as well go ahead and finish up, Bob.

MR. BARTON: Okay. So the other -- I guess there were sort of two other items. The next one would essentially be the issue of the coworker model which is OTIB-80 that is being proposed for this period.

OTIB-80 came out in March of 2014. It contains the intake values for plutonium and uranium fission products.

And SC&A actually reviewed that report back in November of 2014 and there were 15 total findings from that report.

So the question is now which of those findings -- obviously they're relevant in a Site

Profile context, but which of those findings are actually relevant to this SEC period we're talking about.

A couple of them are obviated by the presence of SEC 234. Trying to walk these back, and it's 94 and 11 that really aren't relevant to this period.

Other ones were not relevant because at the time that coworker model was put together, we didn't have the time-weighted, one person one statistic method which was adopted later on.

So kind of like how Findings 5, 8 and 10 kind of related to how that was being calculated which really wouldn't be relevant anymore since -- if that TIB were to be updated to current methodology, the whole calculation would change anyway because of the time weighting.

The remaining findings really centered around how you combine years of bioassay to analyze. Part of the implementation guide

talks about if you're going to combine multiple years of bioassay data for calculating the intakes, you have to make a meaningful comparison.

This is where it gets a little strange for me because a lot of these findings are about how you calculate coworker intakes during the operational period.

So some of them are findings related to, well, can you back-extrapolate data to these previous years and can you combine these years without justifying what the operations were.

This is where it gets a little strange because, while certainly relevant to assigning any intakes during the operational period, now we're essentially using this data for the D&D period or the remediation period.

So there's a little bit of gray area there but these findings are -- currently have not been really discussed.

Another finding is related to what we

call inclusion criteria. Essentially this gets down to how the bioassay samples were labeled, whether mixed fission products or just fission products and which ones were used. And we had some questions about how those were combined.

So again these are sort of the technical aspects of how you get from the bioassay data during the operational period to that final intake value.

So again these sort of seem more like Site Profile type issues but they should be resolved if we're going to apply this data in the SEC context.

Now Finding 15 which is the last one dealt with the intakes from other potential radionuclides.

Now if you recall SEC 234 was essentially based on the inability to reconstruct doses to thorium and americium. And as far as we know or as far as we can tell, the current method is silent on how intakes to those contaminants

during the D&D period might be handled.

We've already established that we cannot reconstruct those doses during the operational period, but we really need to either come up with a method to reconstruct thorium and americium from D&D activities or provide cause for why that source term did not exist anymore. Maybe those facilities were remediated.

I really don't have direct knowledge on that. So I would be very interested to hear NIOSH's thoughts for, again, those two contaminants were sort of the basis for SEC 234. How will those potential intakes be handled in the post-1988 period?

DR. HUGHES: We've kind of looked for the -- trying to nail down the source term and we haven't really been able to come up with much regarding the thorium. Based on the available data that we found at the site, all the thorium material had been moved offsite years before the end of the operational period. Same with the

americium. Americium, there would be some transuranic residual, there's a potential for some thorium residual but this is not a very large source term so from what we have been -- we actually did go and looked at every single facility that was previously listed as handling thorium and looked at the status of the facility during that period and just haven't been able to get hold of it.

Either the D&D is gone, completely gone, or it's in the material that handled the thorium that had been decontaminated in the meantime such as the hot laboratory. There's actually some indication that when they processed or decladded the thorium fuel that it was cleaned up afterwards before it was used for something else.

So we haven't really found -- to turn the issue around, we have not been able to make a case that there was a source term left. And it's kind of reflected in the health physics

documentation that is available for the '91 to '93 period.

So we cannot use the CEP data. However, we can see what the site ordered the vendor to analyze for. So let's assume that they had a solid health physics program in place at the time.

I think we do not necessarily doubt that. Just because the vendor lost its credibility doesn't mean that the site wasn't doing what was required.

So there is no indication that they analyzed for thorium or americium. Americium would have been picked up with the whole-body count to some extent. But there's no indication that they analyzed for thorium which kind of leads us to believe that there really wasn't a source term that we could nail down.

So in the end we do not really have an approach in place for this period.

MR. BARTON: So is the position then,

NIOSH's position that there was no exposure potential to those contaminants?

DR. HUGHES: That is correct. We have not been able to find a source term for thorium.

MEMBER BEACH: This is Josie. Do you have any documentation on when they stopped using thorium and when it was cleaned up?

I know in the ER report, it shows when the different buildings were D&Ded but I'm not really clear where those source terms --

DR. HUGHES: We don't really lay it out in much detail. It actually has not been done for the Evaluation Report mostly because of a lack of time.

I have some handwritten notes that I have pulled out of various documents indicates what site, what buildings were still there, what buildings were still operating when they were -- what buildings handled the thorium and what state they were in.

That's certainly something we could

write up in a White Paper of some sort. But yes, I don't have anything handy right now.

MEMBER BEACH: I think that would be important for us to see based on the last SEC that was passed just to verify we don't have that issue moving forward. At least for me.

DR. HUGHES: The thorium operations were fairly limited, keeping in mind that even for the inability to do thorium for the 234 report, it's a fairly small operation compared to the remaining of the site operations.

We could not do it for -- in the end it affects the entire site. But yes, we have not -- it was a fairly small source term to begin with and during the residual period, we just have not been able to see where it's at.

MR. BARTON: I think you've made a lot of very good arguments just then. And I think that fleshing it out with references and what buildings actually handled the thorium operations, and when did they get actually

remediated or demolished. That sort of information will at least -- I think would give everyone confidence that it's a non-issue.

Or you may find that, as you're putting it together that well, maybe you need to come up with some sort of a whether it's a source term ratio or something like that to deal with those contaminants.

But as it stands right now the evaluation doesn't quite deal with those and I don't think it's been quite established that it's -- at least it hasn't been established officially that those aren't an issue that we need to reconstruct.

DR. HUGHES: Okay.

MEMBER BEACH: And then, Phil, if I might. This is Josie. I have another question. We talked about the OTIB-80. And the report was written sometime ago back in 2014.

I was just curious, and in my notes it's something that maybe SC&A needs to go back

through in light of this new petition and where we stand with the coworker model and NIOSH's plan to use the coworker model for those later years, the ones under discussion.

Would it be beneficial for NIOSH to go back through their report and re-review those findings and put something out for the Work Group for what's relevant now based on that coworker model? Or that OTIB, excuse me.

MR. BARTON: Josie, this is Bob. I might be able to comment a little bit on it.

In preparation for this meeting, we did, or I did anyway kind of walk back and see which of these findings would really affect an SEC deliberation for the period we're talking about now.

Now, all those findings are currently open and essentially they'd be considered, I think, Site Profile issues just for the fact that it hasn't been established that you can't reconstruct doses during the operational period

for uranium, plutonium and fission products.

So reconstructing those doses is obviously still relevant, just not in an SEC context.

For my mind, the only one that was really still relevant to the period we're talking about today was what we just discussed.

MEMBER BEACH: Just 15, okay.

MR. BARTON: Yes. That's my feeling on it, certainly.

MEMBER BEACH: Okay.

MR. BARTON: If there's no -- I can move forward if there's no more questions or comments on -- again the main issue was what source term are we really talking about during this two-year period, and are americium and thorium still a concern, and do we need to develop some sort of method to deal with them, or is there ample evidence to believe it's not a concern and so we don't have to really deal with it?

I just think, as it currently stands,

the evaluation was a little silent on that particular subject and I can certainly understand time constraints or what have you.

But I think, again, whether it's a White Paper or what have you, I think it needs to be fleshed out so that we can convince ourselves that those two source terms which form the basis of SEC 234 are really not a concern because the buildings had already been cleaned up or demolished and obviously there were no operations going on that used those source terms.

I think that argument just needs to be made.

DR. HUGHES: Okay, that certainly can be done.

MR. BARTON: Okay, if there's no other discussion on that particular thing, the last thing we really wanted to talk about was as part of our process we take a look at the claimant population just like NIOSH did.

At the time of the ER there were 29

claimants that were employed at Area IV during this two-year period. There's been one more claimant added but we have not yet received the DOE monitoring file for that person.

So essentially the staff has remained pretty much unchanged.

So we really looked at the CATI reports and the statements that were made therein to see well, do we have any incidents or any indication that the conditions might have been different.

And anyone who's really kind of waded into the CATI process knows they often aren't all that specific, but at least one of the claimants mentioned an incident. So it was worthwhile mentioning.

However, it really involved what was more of a -- what appeared to be a medical incident, required first aid, that kind of thing, and there was really no indication of radiological hazard associated with it. So there

was really nothing we could go beyond that.

But again in those 30 claims, we did not find any indication of something that would really pique our interest about this two-year period that would really give us pause.

So again that's another piece of evidence sort of as we build this case on whether dose reconstruction is feasible or not.

And the other thing we kind of looked at was how had these claims been reconstructed in the past and how does that comport with what we're talking about now.

So we looked at that. And as Lara mentioned, none of these claims really have used the coworker model thus far because I think that's really kind of a new approach.

So just to simplify this a great deal what we suggested is if it's determined that reconstruction is feasible then these other issues regarding sort of the broad view air sampling analysis, I don't want to say analysis

because that implies we're looking for a numerical result there, but look at the air sampling data. There's a question of source terms.

If we can get past all that what we recommend is that NIOSH provide essentially examples of dose reconstruction to demonstrate their approach which kind of circles back to my comments at the start of the meeting that we have this sort of new framework that we're going to be applying to some claims here.

And it doesn't have to be an actual dose reconstruction. Let me give an example. Hypothetical worker A has this job title, worked from this time to this time. Here's how we're going to apply the coworker model to that individual.

And I think that kind of an exercise in the past has been very helpful in sort of bridging the gap between the sort of overarching policy discussions and how it's actually going to

work when you're looking at an individual.

So again that's sort of, again, once we get past the other two hurdles we talked about, I think that's very helpful in illustrating exactly what would happen in a real dose reconstruction context.

MEMBER BEACH: Yes, and that's usually part of a Site Profile discussion, isn't it, at that point?

MR. BARTON: That certainly would be because at that point we're talking about dose reconstruction is feasible.

MEMBER BEACH: Right.

MR. BARTON: Let's see how it works. So that was all I really had. Doug, do you have anything else you wanted to add to this?

MR. FARVER: No additional information. That's pretty much what it comes down to.

MR. STIVER: Bob, this is John. I don't have anything to add. You did a really

good job presenting.

MEMBER BEACH: This is Josie. I don't have anything else on what we've been discussing.

However, we did get a document this morning. I know it was from the Petitioner and I know there's a time on our schedule for her to present some things.

But I really think that document should be reviewed by SC&A, if the Work Group agrees with that also, before we move forward. Anyway, that's just my thought on that. That's all I have.

MR. KATZ: Yes, Josie, I've already shared it with SC&A.

MEMBER BEACH: There's just a lot of points in here that they might want to take some time to review and then let us know.

MR. KATZ: Absolutely, that's fine.

MR. STIVER: Okay, so Ted, do you want us to take a look at that?

MR. KATZ: Yes, absolutely. I'm sure

NIOSH will look at it, too.

MR. STIVER: Okay. So I'll go ahead and take that as a task.

MR. FARVER: This is Doug. I just want to let you know the document that is referenced in the Petitioner's document, operation, the proprietary interest in Area I and IV, I could not find that document in the Site Research Database. So I don't know if it's available or not.

MR. KATZ: Doug, after this meeting, I think you can confer with Lara about what you can or can't find in the Site Research Database.

MS. BLAZE: I'm happy to provide the document again to anyone who needs it.

DR. HUGHES: Thank you. I just reviewed this report half an hour before the call started. I'm sorry, I have not had a chance to go through it in detail.

So if you send me an email, this is Lara, I'll be happy to try to find that for you.

MS. BLAZE: It was submitted August 15, 2017 at the Santa Fe Work Group meeting.

DR. HUGHES: Oh, okay. Then it's most certainly in the Site Research Database.

MEMBER BEACH: I think it was Doug that couldn't find it. Maybe a number is all we need there.

MR. KATZ: Yes, that was Doug.

MR. FARVER: I searched the words and it did not come back with anything.

MR. BARTON: I'm sure we can take care of that offline.

MR. KATZ: Yes.

CHAIR SCHOFIELD: So this one --

MEMBER MUNN: Will that be available in our minutes, our procedure information from the Santa Fe meeting.

MR. KATZ: I'm sorry, Wanda, what are you looking for?

MEMBER MUNN: I was asking -- we were just talking about difficulty finding the

comments that were provided -- were referred to by the Petitioner. And I was just asking -- no?

MR. KATZ: The comments from the Petitioner were sent to you by email. We're just talking about a reference document.

MEMBER MUNN: The reference document, yes. My question was, is the reference document a part of the proceedings from the Santa Fe meeting. Did I understand correctly that it was submitted at that time?

MR. KATZ: They were submitted at that time but they would be in the Site Research Database.

MEMBER MUNN: Okay. Thank you.

CHAIR SCHOFIELD: Would the Petitioner like to make any comments at this time?

Petitioner Comments

MS. BLAZE: Yes, I would. Thank you. Hi, this is D'Lanie Blaze. I really want to thank everyone for all of your hard work on a clearly complex site.

I did submit my written responses to the SC&A review to address NIOSH's position in the ER. That response contained examples of non-radiological facilities that were routinely used for radiological purposes.

It also contains reports showing unauthorized and unmonitored subcontractor personnel present and accessibility in a covered area.

Also I provided some information on air sampling data that was never included in the environmental analysis. The contaminated air sampling media was found in file cabinets with historical records in the mid-1990s.

The EPA Area IV radiological characterization study that was released in 2012 provides radionuclides of concern for every Area IV location. And it may be very helpful in establishing which facilities had americium and thorium and also provide information on the radiological surveys for those locations and tell

us when they were demolished.

So I would highly recommend that you guys review the EPA Area IV radiological characterization study.

There are ongoing issues with Area IV site remediation workers who lost their radiation protection programs when they were switched over to a subcontract status.

Currently most of these guys remain unmonitored although they're still engaged in D&D. And Boeing is unresponsive to employment verification requests for all subcontractor employees onsite.

Current site remediation workers are sending photographs of themselves showing that they're wearing Boeing-issued work gear and work badges at the radioactive material handling facility and it is not considered good enough to prove that they are eligible for EEOICPA. They're just automatically disqualified.

And Boeing is telling them that

EEOICPA was never meant for them anyway and they shouldn't even bother applying.

All Santa Susana Field Lab employees, regardless of job title, work location or administrative area were employed by a Department of Energy contractor or subcontractor.

They had access to Area IV and routinely rotated into Area IV, in the Canoga and De Soto facilities during covered and SEC time periods.

There is actually no basis to exclude them from the SEC Class. And we have established that we cannot track worker movements throughout the site.

Area IV employees who are clearly eligible for EEOICPA and who may even qualify for an existing SEC are routinely misrepresented by Boeing as workers who do not qualify.

For example, Area IV site remediation workers with radiation data have been represented by Boeing as employees of the Canoga facility.

This is data falsification.

This is an attempt to limit and control the eligibility by providing false and misleading information, and it is keeping workers who meet the qualification standards from being recognized.

These guys should easily qualify for this program and even under an SEC. But instead they're mostly turned away.

Even those who actually do qualify for the SEC can mistakenly be sent into dose reconstruction based on only a fraction of their covered employment.

This predictably leads to an incomplete evaluation and a lower probability outcome.

There's no way to tell how many legitimate claimants have been turned away because of this problem, but the existing SECs are only helping a fraction of the workers that they were intended to cover.

So the original Class that I proposed in my SEC petition can correct this.

We do have contracts showing Department of Energy operated in Area I and that those operations supported Area IV programs.

But regardless of whether or not Area I is ever a covered facility, the evidence shows that the DOE operations there were related to Area IV work.

And that further supports Area IV accessibility and undocumented worker rotation among DOE contractor and subcontractor employees who are affiliated with every administrative area of the work site.

NIOSH considers data falsification an SEC qualifying factor. When an eligible employee is intentionally kept from establishing the full scope of his covered employment due to misleading information created by the contractor and provided instead of authentic employment records, that's grounds for an SEC Class.

Now that this issue has been discovered and we've actually been seeing some wrongfully denied claims reopened because of it, DOE and Boeing are trying to change the rules. According to DOE it has now modified Boeing's contract so that Boeing no longer has to provide comprehensive, complete, authentic employment records.

As we've all seen, DOE and Boeing are unresponsive to requests for information to evaluate this petition, to requests for employment verification and radiation records and to requests for information to verify Area IV site remediation subcontractors.

The inability to obtain authentic employment records is grounds for an SEC Class.

New information that I am preparing to submit includes employment records showing that in vivo whole body scan results were routinely omitted from worker radiation data. Apparently this was a common administrative practice and the

records show that it applied to Helgeson data too.

I'll also submit new information showing visitor badges were issued quarterly and consistently monitored workers wore several of the visitor badges along with their standard issue radiation badges.

This discovery raises some questions about workers whose job titles required consistent monitoring but whose records lack any personal radiation data.

In a growing number of cases, it looks like Boeing only provided the visitor logs.

There are indications that this problem is most common among the workers who clocked in outside Area IV but who performed job duties for DOE inside Area IV.

Although their employment records often show established work rotations in Area IV, it appears that there's been an effort to misrepresent these guys as only occasional

visitors by withholding personal radiation data and only submitting the visitor logs.

These workers represent the original work group that Boeing tried to exclude from EEOICPA at the inception of the program during the eligibility disagreement with Department of Labor that effectively pended all the claims associated with Santa Susana between 2002 to 2005.

Boeing states it is not in possession of site remediation subcontractor employee records and therefore they cannot verify subcontractor employment.

I have obtained copies of Boeing's subcontractor agreements specifying the types of subcontractor employee information that Boeing requires for every subcontract worker onsite.

This establishes that Boeing is in possession of subcontractor employment records that are subject to the Privacy Act and EEOICPA and further substantiates apparent attempts by

the contractor to interfere with EEOICPA eligibility for Area IV site remediation and subcontractor employees who already meet the established criteria.

And I believe this issue is also a qualifying basis for the SEC.

At GE Evendale and other sites, NIOSH acknowledged all DOE contractor and subcontractor employees onsite as a class of workers eligible for the SEC.

And when necessary NIOSH questioned site boundaries between work areas and held outreach meetings to give those workers a chance to provide information about working conditions onsite.

NIOSH has yet to respond to the 300 former worker interviews that I provided on two separate occasions in 2014 and has not acknowledged that, according to DOE, out of 132 workers interviewed only 7 stated that they had never worked in Area IV.

At Santa Susana we cannot determine that a specific work group was not potentially exposed to radioactive materials during covered DOE operations.

We cannot define potential radiation exposure conditions based on job titles or presumed work locations. And we cannot reliably identify work locations or track worker movements throughout the entire site.

All workers had accessibility to covered areas and SEC facilities, Area IV, Canoga and De Soto.

I thank you for your review of the information and your continued efforts on behalf of Santa Susana workers and I look forward to seeing you guys in Albuquerque. And that's it for my comments today.

MR. KATZ: Thank you, D'Lanie.

MS. BLAZE: Thank you.

MR. KATZ: Phil, are you still on?

CHAIR SCHOFIELD: Yes. I was

wondering if SC&A or NIOSH has any comments they'd like to make at this point.

MR. BARTON: This is Bob. Not initially. We certainly got the document this morning. It's responsive to our review. We'll be taking a look at that certainly. I guess that's all at this point.

MR. STIVER: This is John. I've got nothing to add to that. We're going to take a look at D'Lanie's report and her comments and do our evaluation on that.

DR. HUGHES: This is Lara. I'd just like to add that anything that is submitted including the EPA report, the interviews that Ms. Blaze has referred to, this is all reviewed by NIOSH. I'm not sure what avenue there would be for formal response because we typically respond in the form of -- like Evaluation Reports or anything, but anything that is submitted along with a petition, it is reviewed and is filed by NIOSH.

There isn't always an avenue to provide a formal response.

Regarding the issue with the various areas, we're very well aware of it but at this point NIOSH does not have an avenue to resolve this in any way. This is not under our jurisdiction as far as I'm aware.

Regarding data-falsification issues that we consider for SEC petitions, this solely refers to dosimetry data that we use for our dose reconstruction.

I can't really add anything else at this point.

CHAIR SCHOFIELD: Ted, do you have any comments?

Path Forward and/or Work Group SEC Recommendations

MR. KATZ: No, I don't have any comments, but if other Work Group Members have any comments. And if not I guess we could talk about the upcoming Board meeting and the path

forward. You guys laid out several matters that are going to be followed through on.

CHAIR SCHOFIELD: Okay. Anybody else have any comments before we get into our suggestions for the meeting in Albuquerque?

MEMBER MUNN: No. This is Wanda. Nothing here.

MEMBER BEACH: I don't have anything else, Phil.

MEMBER ANDERSON: I don't either. This is Andy.

MEMBER BEACH: Other than maybe going over, I think the actions and the taskings to make sure we're clear on that.

Plans for ABRWH December 2017 Meeting

MR. KATZ: I think we can do that. Those were really laid out pretty extensively and clearly and committed to follow ups for NIOSH. And then everyone is going to look at the new report that D'Lanie just submitted, the response to the SC&A review.

So I think those three items are follow-up matters. For the Board meeting, it's quite clear that it's not time to make a recommendation to the Board, I would say.

You've all said yourselves in so many words because of these follow-up matters. So I think we need a presentation to summarize.

The Board will have the SC&A review and they will have D'Lanie's response to it as well. I've already sent that to the whole Board. I didn't just send that to the Work Group.

But then we need a presentation to bring everybody up to date with what was discussed, and put to bed, and not put to bed at this meeting and what the follow-up actions are.

And we're on a very short leash in terms of time to get that presentation done.

So I would suggest the Work Group report, John, that I think -- John and I talked before this meeting last week about getting going on a presentation knowing that we would need some

sort of presentation. So that's under way, right, John?

MR. STIVER: Yes, it is. It's underway now.

MR. KATZ: So that presentation will probably come quite late because we are just getting rolling on it but we'll get that. We'll share that with the Work Group Members in draft assuming that it's in draft and then get posted and to D'Lanie as quickly as possible in advance of the meeting next week.

Does that make sense to everybody, the Work Group Members?

MEMBER MUNN: Yes.

CHAIR SCHOFIELD: It does to me.

MS. BLAZE: Can I make one more recommendation? Just something if it's possible.

I know NIOSH can question site boundaries when it's required and they can also change their position in ER which they did with Rocky Flats.

Perhaps it's time to engage Department of Labor on some of these topics since we do have DOE contracts in Area I that they've been reviewing.

Maybe we need to talk to them about their position with data falsification because essentially when it happens, regardless at whatever phase of the claims process it occurred, it impacts our ability to accurately reconstruct radiation dose.

Maybe it's time we bring someone in from their end of things to get everybody at the same table. Just a thought.

MR. KATZ: Okay. Thank you, D'Lanie. I think that's something to pass on to Stu as well as to whether there should be some sort of meeting to discuss the matter further with DOL.

DR. NETON: Ted, this is Jim. Who's going to provide the presentation? Is SC&A going to deliver it?

MR. KATZ: Jim, SC&A is going to draft

the presentation for the Board.

DR. NETON: Will Phil present it or John Stiver?

MR. KATZ: No, I think John Stiver probably will present it or Bob Barton, one or the other, or both. They'll both be at the meeting.

DR. NETON: Are you expecting any response from NIOSH at that meeting then or no?

MR. KATZ: Well, I certainly think you folks should contribute to just fleshing out the discussion and so on to the extent that that's needed.

I don't think you need to prepare a separate presentation unless you already have done that.

DR. NETON: No, no, I just want to make clear that we're not scheduled to do anything formal at the meeting.

MR. KATZ: Right, right. And for that matter, as background reading, I will

redistribute Lara's presentation from the last meeting so they have that as background reading as well as of course they have the SEC Evaluation Report.

Does that make sense, Jim?

DR. NETON: Yes, that's fine.

MR. KATZ: Okay. Phil?

CHAIR SCHOFIELD: I don't have anything else to add. I think we're pretty clear where we're going at this point.

MR. KATZ: If we just get a little email just confirming what it is we're doing. It doesn't really matter. It will be captured in the presentation. So I think we're all set.

DR. HUGHES: Ted, I usually send out a synopsis and whatever action items NIOSH has committed to.

MR. KATZ: Well, that's okay. If you want to do that that's great. And if you get that out quickly then Bob or John, can you --

(Telephonic interference)

MR. STIVER: Excuse me, I didn't catch that.

MR. KATZ: Lara's going to send out a memo with what they've committed to. So I just was saying if she gets it out quickly then you guys can use that in your presentation. Not the memo but the description of the follow-up activities.

MR. BARTON: That presentation is already in the works. Lara, what you provide will just be essentially the path forward slide.

MR. KATZ: Exactly.

CHAIR SCHOFIELD: Well, if we don't have anything else to discuss, I think we're done.

Adjourn

MR. KATZ: We can adjourn. Well, thank you everybody very much.

(Whereupon, the above-entitled matter went off the record at 12:29 p.m.)