

This transcript of the Advisory Board on Radiation and Worker Health, Santa Susana 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 Santa Susana Work Group for accuracy at this time. The reader should be cautioned that this transcript is for information only and is subject to change.

US Department of Health and Human Services
Centers for Disease Control
National Institute for Occupational Safety and
Health
Advisory Board on Radiation and Worker Health
Santa Susana Field Laboratory Work Group
Monday, March 25, 2019

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

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Members Present:

Phillip Schofield, Chair
Henry Anderson, Member
Josie Beach, Member
William Field, Member

Also Present:

Ted Katz, Designated Federal Official
Terrie Barrie
Bob Barton, SC&A
D'Lanie Blaze
Rose Gogliotti, SC&A
Monica Harrison-Maples, ORAU Team
Lara Hughes, NIOSH
Bonnie Klea
Vernon McDougall, Atl
Jenny Naylor, HHS
Jim Neton, NIOSH
John Stiver, SC&A
Tim Taulbee, NIOSH

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Proceedings

(1:00 p.m.)

Welcome and Roll Call

Mr. Katz: Mr. Katz: Welcome, everyone, to this afternoon's meeting of the Advisory Board on Radiation and Worker Health. This is the Area IV Santa Susana Field Laboratory -- well, it's actually Santa Susana Laboratory Work Group. We deal with more than Area IV.

And the agenda for today is the meeting is on the website, along with the one document germane to what we'll be discussing today, which is related to Area IV SEC Petition 235, for the period that that covers.

So we'll also be discussing briefly -- there'll enough data on De Soto Avenue SEC Petition 246 later in the meeting.

So let's go with roll call.

(Roll call.)

Mr. Katz: Let me remind all of you, particularly members of the public who aren't as familiar, please mute your phones. You should only be off mute when you're addressing the group, and for this meeting the only person who would be addressing the group would be the petitioner.

Ms. Klea: How do we mute?

Mr. Katz: If you don't have a mute button, press *6.

Ms. Klea: *6, okay.

Mr. Katz: That should mute your phone.

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Ms. Klea: Okay.

Mr. Katz: And then you press the same to take yourself off of mute.

Ms. Klea: Okay.

Mr. Katz: Okay. And also please don't put this call on hold at any point because that is causing terrible problems, but hang up and dial back in if you have to.

Okay. So, Phil, it's your meeting.

Area IV SEC Petition #235

Chair Schofield: Okay. Well, we're just going to follow the agenda that's laid out here. So we will start off with the internal dose topic. Bob Barton is the author of this, so we'll turn it over to him.

Mr. Barton: Okay. Thanks, Phil. So, as Phil said, we're going to be talking about SEC Petition 235. And I do have some discussion slides for this, based solely off of the report that's on the website. So, you can only view these if you have Skype, but what I'll try to do is, as we're looking at different things, I'll indicate where in the report we think we are so those of you on the line can sort of follow along.

This presentation wasn't cleared in time to be posted online, but it will be cleared, as soon as it's available, hopefully in the next couple of weeks.

And also, before I get started, I just wanted to recognize the significant and great effort of Milton Gorden, who's one of the primary researchers and coauthor of the SC&A report. Unfortunately, he's not able to make it to the call today, but I wanted to recognize him and make sure that that's on the record.

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So, starting with some introduction and the background of Petition 235. There's actually several SECs at Santa Susana Field Laboratory, also known as Area IV. SEC 93 covered January 1, 1955 to December 31st, 1958 and the basis was inability to reconstruct internal and external exposures in members of that class.

Now, that's how the SEC recommendations read. In the actual Evaluation Report, NIOSH had concluded that external dose was feasible using existing methods such as the coworker model.

After that there's SEC 156, which covers January 1st, 1959 to December 31st, 1964. And this, again, was the inability to reconstruct internal exposures because they lacked sufficient bioassays to perform a coworker study.

The next SEC was SEC 234, and that covers January 1st, 1964 through December 31, 1988, and that was based specifically on the inability to reconstruct internal exposures to americium and thorium. So, basically, this SEC covers from beginning of 1965 up through 1988 currently.

Now, the original requested definition was all employees of North American Aviation, to include corporate successors and subcontractors, who worked at Area IV of the Santa Susana Field Laboratory, SSFL, from December 31st, 1964 through the present.

And the Class that was evaluated by NIOSH was all employees of the Department of Energy, its predecessor agencies, and their contractors and their subcontractors who worked at Area IV, the Santa Susana Field Laboratory in Ventura County, California from August 1st, 1991 to June 30th, 1993.

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A quick note from SEC 234, which was the Class added just through 1988 up to 1989. In that Evaluation Report, one of the conclusions was as follows: NIOSH has not identified any data that suggests the possibility for significant operational thorium or americium exposures after 1988 that cannot be bounded. Therefore NIOSH has established an end date of December 31st, 1988 for this SEC Class.

So, again, the previous SEC period, which covered 1965 up through 1988, was based primarily on the thorium and americium internal exposure potential.

In SEC 235 they evaluated periods from August 1st, 1991 to June 30th, 1993 and it was based on the use bioassay content during the time was from Controls for Environmental Pollution. Essentially, that bioassay lab had been implicated in data falsification not directly related to Santa Susana but related to another site, but those bioassay results during that period Santa Susana are obviously suspect for that reason. So, for that period we just can't use those in vitro results either individually or to create a coworker model. And just a note here that NIOSH has not used those results from Controls for Environmental Pollution at any covered facility.

May 2017, NIOSH released the Petition Evaluation Report for Petition 235 and a summary of the feasibility determinations is as follows: No issues have been identified with the reconstruction of external exposures and medically-related exposures. External dose of unmonitored workers can do reconstructed using derived coworker external doses, which are contained in ORAU-OTIB-77. In vitro monitoring results were disqualified, as I just mentioned, however, an adequate whole-body count program was still in use during the time when the

suspect bioassay results were identified.

After the period in which CEP was removed there's was a bioassay contractor, confirmatory bioassays were performed for the workers at the site and those showed that there were no measurable internal exposures.

By the way, internal coworker intakes of unmonitored workers have been developed from bioassay results during the operational period for uranium, plutonium, and fission products, and those can be used to reconstruct internal exposures during the residual period, which include this CEP period where the bioassays are invalid.

So this was discussed with the Work Group on December 4th, 2017 and two follow-up action items were given to NIOSH. So, Item 1 was to go and evaluate available air sampling data during this period when bioassay results are suspect and compare it to the period where you're going to use coworker intakes, just to compare the two values, see what the radiological conditions generally were, and what they tell us about using the coworker model, which, again, was developed from operational conditions, and how we can use that coworker model appropriately for the CEP period, that window in the middle of 1991 to the middle of 1993.

The second item was that the SEC 235 PER did not specifically discuss the potential of exposure to americium and thorium. Now, granted, the previous SEC, SEC 234, had that conclusion in it to justify the end date of December 31st, 1988. But the current SEC report did not really expound on that. So NIOSH was asked to specifically investigate and discuss the internal exposure potential to these two contaminants; that's, again, thorium and americium.

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So, November of 2018, NIOSH delivered two White Papers to the Work Group that specifically addressed these two issues or action items from the December meeting. NIOSH then presented those two White Papers to the Work Group in December -- and that should say 2018; it is not yet December 2019 -- at which time SC&A was tasked with the review of this new information. SC&A delivered its review of the two White Papers in a single document, that's the document posted on the website, and it's titled "Review of Remaining Internal Dose Topics Related to the Evaluation of SEC 235 at the Santa Susana Field Laboratory." And that was delivered on February 20th, 2019.

So, what was our review approach? Essentially, threefold. One, go through what documents are available on the Site Research Database. There are currently over 2,700 total documents specific to Area IV, and of those are obviously a subset that are going to be directly related to the residual operations which started after 1988.

The second facet is the Boeing Incident Database. This database was provided by the petitioner, CORE Advocacy for Nuclear & Aerospace Workers, back in December at the full Board meeting in Redondo. So a lot of people are going to look at that and see how that affects SEC 235.

And then the third item was for SC&A to actually go in and take a second look at the general area gross beta and gross alpha air samples and, again, make that comparison between the operational period and the CEP period to see if there's any reason to suspect that radiological conditions were different, decidedly different and not representative, that would preclude the use of any coworker intakes derived from the operational period during the CEP period when the

bioassay values are invalid.

So that first task, the review of the SRDB documentation, right now, if you're following the report, this would be in Section 2.1 on Page 9.

So what was the purpose? Identify documentation of radiological projects that might have involved americium or thorium post-'88. Obviously, if there's still work going on with those two contaminants, they need to be dealt with.

And, secondly, to identify documentation specific to that CEP period that might give us pause over using the operational coworker intakes to reconstruct internal exposures during that time.

Member Anderson: I'm sorry. Let me break in. This is Andy. I just got on. Sorry I'm late.

Mr. Katz: Okay. Thanks, Andy, for registering. Thanks.

Member Anderson: Okay.

Mr. Barton: Okay. Welcome, Andy. I don't think you've missed too much so far. Just a little back story.

So on the SRDB there's apparently a few different document types, and I list them here but obviously that's not an exhaustive list, but they include the general area air, breathing zone samples, contamination surveys, environmental monitoring evaluations, any accident or incident reports, decontamination and decommission evaluations that were done, or any other planning or occurrence report.

(Simultaneous speaking.)

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Mr. Barton: The SRBD documentation also -- I'm sorry, was someone trying to ask a question?

Mr. Katz: I think someone's phone just wasn't unmuted.

Mr. Barton: I got you. Okay. So, the SRDB contained interviews with two former workers. Without actually mentioning what their job titles were or anything, just suffice it to say they were in positions that to have direct knowledge of the radiological conditions and projects that were going on.

So I pulled these quotes. And these quotes appear in Section 2.1 beginning on Page 13 and going on to Page 14, reflected on quotes as follows.

"As the various ETEC activities were terminated, the potential exposures to alpha-emitters reduced significantly. As mentioned above, the primary isotopes of concern became cesium-137 and cobalt-60. While alpha-emitters were also part of the source-terms in Building 20 and the RMHF, these were at very low levels and were not routinely found in the contamination surveys of these locations."

That was one quote. The quote with second worker who was interviewed: "It is my opinion that americium-241 and thorium would have been minor contributors, if any, to internal dose. It is likely that this rationale is why there were relatively few bioassay requests made historically for these radionuclides.

"If Am-241 and thorium had been a significant internal dose contributor in the workplace of SSFL or De Soto, then it would logically have also been a potential environmental contaminant. This is not the case as demonstrated by the USEPA. The USEPA Area IV Radiological Study (2009-2012)."

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"So, neither americium or thorium are or were an environmental issue. One could arguably extrapolate back and imply that it was also not a workplace issues at SSFL or De Soto, or at least less so than uranium, plutonium, and mixed fission products, for which we had more than adequate bioassay data."

So what did we conclude based on our review of the SRDB documentation? We did not identify any documents of significant thorium or americium operations, or unique exposure potentials which would represent an unmonitored exposure that could not be feasibly bounded. SC&A did not find evidence that suggests that the internal exposure potential during the CEP period was significantly different than the operational period, which would preclude the use of occupationally derived coworker intakes of plutonium, uranium, and mixed fission products.

So there's an internal coworker model in place based on the operational period, which is OTIB-80, I believe, and it develops intake rates for plutonium, uranium, and mixed fission products.

The second aspect of the review was the Boeing Incident Database, which I mentioned was provided to the Board, SC&A, and NIOSH back in Redondo at the December meeting.

So the purpose, again, to identify incidents involving americium and/or thorium in the post-1988 period at SSFL, and also identify radiological incidents specifically during the CEP period that might preclude the ability to perform dose reconstructions with sufficient accuracy.

Brief overview of the Boeing Incident Database. There are over 700, nearly 800 individual files in it. By my count, there were 71 files related specifically to the Santa Susana post-1988, 22 of which involve

a detectable spread of contamination. Ten of the files were related to set exams during the SEC 235 period. So that's that approximately two-year window in the early '90s when the bioassay data could not be trusted. Only one of those 10 actually involved a detectable spread of contamination.

The conclusions: after review of the incident database, we did not identify any incidents where thorium was identified. There was a single incident involving americium. It involved a smoke detector, which was an element not only at Area IV, but the other areas of the site at various points in time were using americium smoke detectors. In this case, while cleaning it a low-level contamination made it to the hands and the worker was immediately deconned and was negative.

I will make a note. That incident was not identified in our original review. That incident came to light as part of a separate review related to De Soto in SEC 246.

Also, the incidents we reviewed did not indicate a significantly different internal exposure potential during the CEP period and during other D&D activities in the years surrounding this CEP period or the during the operational period, for which coworker data is available.

And the third part was to evaluate the air sampling data. I mean that was the purpose, to evaluate the general area air samples, the gross beta and gross alpha. That's what they measured. And it was taken during the operational period and also the SEC CEP period. Again, this is to sort of bridge that gap between the operational period where we have a coworker model, we have a way to assign unmonitored doses, and the CEP period where we

cannot use the bioassay data.

And how do we do that and compare? One piece of evidence is to compare what are the general conditions in these various locations. And were they decidedly different in the CEP period to indicate that the exposure potential would not be bounded, or the exposure potential was not representative of the period where we have coworker intakes derived.?

So, the first chart in the Figure 1 in the report posted online -- let me see, that would be Section 2.3. That's Figure 1 beginning on Page 18.

So, here is a maximum gross beta measurement as found, I believe, it was in the hot laboratory. And what we have plotted here is, starting in 1976, you can see almost all of the values, even at the maximum, are either at or below the maximum permissible concentrations.

There are a couple towards the end of the '80s that are a little bit higher than that, but if you look at the whole, there doesn't seem to be a decidedly different trend compared to those values that are within the CEP period and denoted by those vertical red lines.

So, in between those two vertical red lines are the CEP period. Those are the max values, so the maximum observed air sample, general area air sample, that was recorded.

Here's a similar chart except now we're looking at the average. And here we can see the data begins in 1976, and up until about the early '80s the average gross beta air samples all really bound that CEP period.

And most of them, the one thing to really point out is, on average, they're all well below the maximum

permissible concentration, which is one times ten to the minus-ninth microcuries per cubic centimeter.

That was the gross beta. Now here again, we're looking alpha. These values begin in the early '80s from what's available. And, again, you have a couple years there in the '80s when the maximum gross alpha is sometimes well above the maximum permissible concentration. But, again, the purpose here is to compare these values with the CEP period.

And you can see, up until about 1986, they're all pretty significantly higher than the CEP period, and then from '86 to about late '87, they're pretty comparable. And then after 1988, they're lower, but then recall those years after 1988 are not considered collectable

Here's the same chart, but instead of maximum, we're looking at the average. And as we can see, again, we they start in the early '80s, and they're really all around that one -- it could have been a control limit of one times ten to the minus-14 microcuries per cc. And, again, up until about 1987 all those values bound what was derived in the CEP period. There's a couple of values in 1988 that are significantly lower.

What did we conclude from this? General area air samples at both the maximum and average quarterly levels, they help corroborate that the measured values for controlled areas during that CEP period were bounded by the operational period for both gross beta and gross alpha measurements.

The quarterly GA air samples during the CEP period were all several orders of magnitude below the maximum permissible concentration for both alpha and beta.

And, based on this, we do not find any evidence in the available air sampling data that would suggest that internal exposure potential to the radionuclides of concern at Santa Susana would not be bounded by the operational bioassay data.

To summarize our review, remember there's really two main issues here, was there exposure potential of thorium and americium after 1988? And during the SEC 235 period -- again, that's August 1991 to June 1993 -- was there any reason to suggest that radiological conditions were decidedly different that it could not be represented or bounded by the period for which we have coworker intakes?

For the thorium and americium, the available documentation doesn't indicate a source of exposure to thorium and americium that cannot feasibly be reconstructed with sufficiently bounding methods and assumptions.

Well, what does this mean for the dose reconstructions? The current NIOSH method assigned ambient, otherwise known as environmental, intakes, for thorium and americium during the SEC period. Again, that's the CEP period, the two-year window, and also the surrounding residual period.

These intakes are based primarily on stack emissions and they generally apply to non-radiological or unexposed workers in dose reconstructions under the auspices of this program.

So, one, the main suggestion that we took away from this, and it's contained in our conclusion section, is alternative occupational model may be appropriate for americium and thorium. And we don't have bioassay data, but we do have breathing zone, general area monitoring results. We also have the

administrative airborne contamination limits that we could possibly use to come up with an occupational intake of those radionuclides, aside from the standard ambient doses, which, again, are generally applied only to workers who were unexposed but possibly onsite.

Specific to the SEC CEP period -- which, again, August '91 to June '93 -- we did not find evidence in evaluation of the air sampling data, the SRDB documentation, or the Boeing Database to suggest that internal dosage instruction is infeasible using the operational coworker analysis.

Some additional developments since the release of this report. CORE Advocacy for Nuclear & Aerospace Workers, which is the petitioner, notified NIOSH on January 28th of this year that approximately 1,463 boxes of DOE records relevant -- well, that should really say potentially relevant -- to Santa Susana Field Laboratory have been identified. The exact contents of those boxes and their relevancy is not currently known, but per the information supplied by CORE Advocacy, these boxes are scheduled to be made available no later than this fall, 2019.

So, that ends my presentation. I'd be happy to answer any questions.

Chair Schofield: Work Group Members?

Member Beach: Yeah, I don't know how relevant this is, but we did note at the last meeting that the coworker model, there are several open findings and observations. Is there any date at which those will be addressed or --

Mr. Katz: I think that's a question for Lara.

Dr. Hughes: Yeah. So, I think they're kind of in a

holding pattern until the SEC issues have been resolved. And, once that's done, we will address those. Those are all -- it's my understanding that those are all non-SEC. They're typical issues and once we, you know, once the SEC work has concluded that we would pick those back up and resolve those, if possible.

Member Beach: Okay. That makes sense. And maybe there's some -- and I don't know, Lara, if this is for you. There was some surrogate data we were talking about early on. Would you remind me if any of this would -- are we still going to use some surrogate for this does reconstructions?

Mr. Katz: Lara, is that -- is there surrogate data involved here?

Dr. Hughes: No, there is not.

Member Beach: Okay. That was a much earlier report I was looking, at and I didn't recall how that was -- what the conclusion was. Thank you.

Mr. Katz: Other Work Group Members have questions?

Member Beach: If no one else has anything right off the top, Lara, in SC&A's summary and conclusions they talked about a -- oh, gosh, where is it -- another way to -- let me find this and I'll ask my question again in a sec.

Mr. Barton: Josie, I think what you're talking about is one of our suggestions was, currently, the way dose reconstructions would be performed is they only have environmental or ambient assignments of americium and thorium, again, based on stack emissions.

So, even though we don't have the traditional

bioassays with which to formulate any sort of coworker intake, there might be other methods available using either, you know, the general air sample data, breathing zone administrative limits, to come up with a more occupational-style assignment of americium and thorium. You know, anything that might be encountered while doing D&D work on old ventilation systems or removing glove boxes, that sort of thing. Because as it stands right now, there's really no occupational intake assigned. It's all ambient, which, again, it's really used for the unmonitored worker and who didn't need to be monitored because they were not exposed, but might still have been onsite and gotten some sort of ambient intake.

Member Beach: Yeah. Thank you, Bob. I guess I might actually started talking and that's correct. I was curious if Lara had looked at that or had any comments.

Dr. Hughes: Yeah, I have a question. So you say we would only assign ambient or environmental intakes -- you refer to what's currently the SEC period, right, which would be up until 1988, because in those -- in that period when we found that internal dose reconstruction is infeasible, we would not assign internal dose for those nuclides.

Now, from 1965 to 1988, that would refer to thorium and americium. In that period we would assign internal dose from uranium if data is available for a worker or from the coworker model. So if you refer to the CEP period, we would either assign ambient or the environmental intake or we would assign coworker dose.

So and I'm just trying to clarify what's your first bullet point on Slide 19, what exactly -- what exactly that

means. If you go back to this rest in the breathing zone, yeah, I mean, we can certainly look into, you know, what's available on the breathing zone. You know, there is a fair amount of breathing zone data available during the CEP period. And whether or not that could be used for dose reconstruction or if it's possible to develop some kind of model. I mean, we'll look into it. I'm not sure, you know, what extent -- to what extent, but certainly we will.

Mr. Barton: Okay. And just to clarify, Lara, I am talking about that period after 1988. I realize that the SEC prior to 1989 is based on americium and thorium and is infeasible to reconstruct. We don't create a coworker model to reconstruct doses that are infeasible. So I'm strictly referring to this residual period after 1988.

Dr. Hughes: Okay. Thank you. And, yeah, that makes sense. Thank you.

Mr. Katz: Any other Work Group Member questions?

Member Beach: Well, this is Josie again. What's the impact of the box of records that were found? Is this something we need to hold off on until those are captured and at least have a brief outline of what's in the boxes?

Mr. Katz: Well, Josie, I mean, this is comparable to a million other situations, but, I mean, with information we don't have and don't know about, that's not normally a reason to wait on an SEC. If you have new information, then you can submit a new petition if your new information indicated something was unknown before.

In this situation, it has nothing but a prospect for a whole bunch of boxes. We don't know what's in them. They don't relate, necessarily, to the matrix question

that's on our plate. So, it isn't in and of itself a reason to sit on the SEC petition. Because, again, if it's new information, absolutely, then either NIOSH can reopen on its own for an 83.14 if there's information that indicates some exposure that wasn't known about. And, of course, the petitioner could also submit a petition based on new information.

Member Beach: Okay. Thanks.

Mr. Katz: Sure.

Chair Schofield: I have just one quick question. Are you actually considering using stack emissions? I'm assuming they had good HEPA filters on all their ventilations, so the stack emissions would significantly be lower than the breathing zone, general area breathing side of the building.

Mr. Barton: Yeah. Hi, Phil, this is Bob. I think it kind of ties into what Josie's question was. When we talk about the stack emissions, that's for developing what's known as environmental or ambient doses.

And what you do with those is you assign them to workers who really didn't enter radiological facilities. They were essentially unexposed but might have been exposed to the ambient levels outside of the radiological facilities.

Now, if you're a radiological worker, it's a different ballgame, and that's where the suggestion to use a general air breathing zone or some combination areas outside the radiological areas as a method for assigning doses.

Chair Schofield: Okay. That clarifies the question I had.

Member Field: This is Bill. So, I had a question. I

thought the presentation was very well-developed and well-laid out and very easy to understand. I just have a follow-up question. Josie had similar questions that I had. But it says these boxes, will they actually be captured and will the contents at least in summary form be available for perhaps a future review as a petitioner?

Mr. Katz: And I think the answer to that is yes, the petitioners indicated that these would be available in the fall, at some point this fall.

Member Field: Okay.

Mr. Katz: And so, presumably, DCAS, in coordination with SC&A, would have to at least determine what's in those boxes at a box level, and decide whether it might be relevant for --

Member Field: That's what my question was, whether they'll be considered, at least a summary of the contents. That's a lot of boxes.

Member Beach: This is Lara. I would like to weigh in. This is something we have, when we received this list of boxes, we have checked with the records facility in Cincinnati and they basically -- they weren't quite clear on -- this list wasn't exactly matching with their list.

But it's my understanding that we have already seen some of these boxes and reviewed them and also what is happening is that if we get new shipments from DOE related to Santa Susana, they notify the ORAU data capture team. And they will go and review the records and pull what they feel is needed for the project.

So this is an ongoing operation. We just collected in the last month something like 4,000 pages of, you

know, records that we didn't have previously.

Now, it didn't turn out to be anything. It's mostly, like people said, like logbooks that contain bioassay data, and all this stuff is then put in our Site Research Database and it's reviewed along with ongoing work.

So whenever something becomes available, we go and check and collect what is needed.

Mr. Katz: The bottom line is, Lara, that you will notice if there's anything new in the material?

Dr. Hughes: Yes, absolutely.

Mr. Katz: Yeah. Thank you. Any other Work Group Member have questions?

Okay. Then, Phil, I think the next on the agenda is the petitioner's opportunity comment. D'Lanie?

SEC Petitioner Comments

Ms. Blaze: Hi, this is D'Lanie Blaze, the SEC petitioner. Thanks for the opportunity to review the report, and I have a couple of observations. I think that the EPA radiological characterization study that was referenced by the Boeing employees that were interviewed is a very valuable study.

And this morning I emailed the Work Group. This is maybe the second or third time I submitted it to NIOSH, a list of approximate 50 facilities in Area IV where EPA identified americium-241, thorium and its associated progeny to be among the radionuclides of concern in 2011 and 2012.

These are also locations that are still missing from the Santa Susana Site Profile. And I also turned in EPA's synopsis of the Building 4023 operations history, which includes a lot of information about

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TRUMP-S processes. There are many indicates that it wasn't just the material storage route for this program at Santa Susana. There was actual research and processes resulting in americium-241 concerns.

Another observation that I had that might be relevant is in this OTIB on Page 58 NIOSH acknowledged monitoring up to 1993 among inspectors, mechanics, electricians, and other job titles that may be at risk of exposure. You might want to look at that.

And I have submitted a Freedom of Information Act request for the box contents for all of the boxes contained in TRUMP-S. There's a serious of, I don't know, six or seven boxes that indicated they contained transuranic TRUMP-S documentation. So, that's outstanding.

And I think that's about it, really, that I have. SC&A did a great job on the report, and thank you very much.

Mr. Katz: Thank you, D'Lanie. Any follow-up questions?

(Pause.)

Member Beach: Ted, this is Josie. I don't have any more questions at this time.

Member Field: I don't either.

Mr. Katz: Okay. Well, Phil, we need a Work Group proposal for going forward here.

Chair Schofield: Well, oh boy. I'm just -- well, I'm kind of worried a little bit about those boxes, but like you said, we can't really, -- we may have to reopen some at this point.

Mr. Katz: Yeah. I mean, Phil, I don't think that's a

worry, because, again, if there ends up being something new in those boxes, that'll get attention and that will be a basis for NIOSH or the petitioner to reopen, whoever I guess wins the race on that.

Chair Schofield: Yeah, I have to agree with that.

Mr. Katz: Yeah. So I think, as with all of these sites, the door is never closed. It's always open for new information.

Member Beach: So, this is Josie. I don't think that what D'Lanie sent out this morning, I don't think Bob's had a chance to look at it. I just got it maybe a half hour before this meeting.

And I guess my question, I was prepared to move forward, but now I'm wondering if SC&A shouldn't look at this, these two papers that D'Lanie just sent to the Work Group.

Member Field: Yeah, I haven't even seen that yet.

Mr. Katz: Well, I didn't even receive it. So I'm not sure how this would work.

Member Beach: That's why I'm questioning it, because it came so late, but it deserves a glance, I would say, from SC&A, at least.

Mr. Katz: Well, I think what I would suggest would be that the Work Group move ahead with a recommendation provisionally. There's still time for SC&A to have a look at what D'Lanie had sent and it's --

Ms. Blaze: I apologize, you guys. I gave this to LaVon over a year ago in support of an SEC. So I really was under the impression that everyone had this information.

Mr. Katz: Well, D'Lanie, if you did get it a year ago, it's probably has long past been looked at by DCAS, so but that's -- and SC&A has had access to everything that DCAS has had. So it's not necessarily new at all --

(Simultaneous speaking.)

Mr. Katz: So my suggestion, again, even more so having heard that, is that you go forward with a proposed action. And I still would say, Bob, by all means, take a look at that, and see if that raises your eyebrows on anything SC&A missed before. And Lara can have a look at that, too, in case this is something that somehow fell through the cracks. But, go forward with the plan, and then we can revise in real-time if you find something that would end up changing our course.

Okay. Does that make sense?

Participant: Yes.

Mr. Katz: So I think we have -- I mean, I think I've heard a consensus, so I think we need a recommendation. And then we need a second for that. A motion, in other words, and a second, and then we can sort out who will take that and so on.

Member Field: I think, right now, I don't see we have enough to grant an SEC at this point, for 235.

Mr. Katz: Right. So we've closed 235. And the recommendation is to concur with NIOSH that dose reconstruction's feasible for the remaining period.

Member Field: Yes. I second that.

Mr. Katz: And Bill seconded it. And all in favor?

(Chorus of ayes.)

Mr. Katz: That makes four.

Member Anderson: Yeah. I still raise the use of the stack emissions, because hopefully -- it'd be nice if there were some data in the boxes that would corroborate that. But --

Mr. Katz: It sounds like, if I'm not confused, Lara said that there, and SC&A said there are other data. They're not necessarily in those boxes. They already have them on breathing zone monitoring and the question is whether that data is a better basis.

Member Anderson: Yeah. I mean that's --

(Simultaneous speaking.)

Mr. Katz: -- Site Profile issue.

Member Anderson: Yeah.

Mr. Katz: So, Bob, I think --

Member Anderson: We're basically saying, if that data can't be used, we're comfortable using the air emissions, the stack emissions. And I guess that's all we have, so I support it. I'll vote yes.

Mr. Katz: Okay. So, Bob, well, Lara, I think your report is last in this evaluation. If you would again -- not to put it all on your shoulders -- but if you would be fine with updating your presentation to cover this Work Group discussion and its recommendation in keeping the Class Definition related to this, in this case it's not to add the Class or extend the Class Definition, that would be great. Is that okay, Bob?

Mr. Barton: Very good.

Mr. Katz: Yeah. And Phil, if that's okay with you, then you'll introduce Bob and Bob will kick off --

Chair Schofield: That's fine with me.

Mr. Katz: Okay. And then D'Lanie, of course, you will join us for that session, too, I'm sure.

Ms. Blaze: Of course.

Mr. Katz: Okay, then. Okay, and then next on the agenda, De Soto.

De Soto Avenue SEC Petition #246

Chair Schofield: Okay. I'll be interested to see what they have found. I think Bob is still the one on this one.

Mr. Barton: A point of context from SC&A, but what the timeline really is, is we submitted a report back in December, so it's sort of a -- the ball has been hit into NIOSH's court to address these things.

Mr. Katz: Right. This is for Lara to update on this.

Dr. Hughes: Yeah. So, NIOSH is working on a response to the findings and observations that SC&A has presented. And we actually have a draft of those responses.

They're currently going through the final review process. And once they're finalized I will place them in the Board Review System, which is our online system that we're dealing with findings and issues. That way it's an easier way to keep track and I expect that to be there in the next few weeks.

I'm sorry it wasn't out on time for this meeting, but it has kind of, you know, followed our internal schedule. And it is on track. We have four findings, seven observations, and one observation or finding that was from the Board passed to NIOSH directly.

And, yeah, like I said, this will be out soon. There was a finding by SC&A that kind of suggested we do a few more interviews, and the task of interviewing additional former workers for De Soto has been given to a new NIOSH contractor, ATL, who has a large amount of expertise in this area.

So, they are currently working on interviewing additional former workers for De Soto. And I'm not exactly sure what the timeline is. I think it'll be couple of months before we have that information.

(Simultaneous speaking.)

Mr. Katz: Lara, are you saying in a couple months, a couple of months to have those interviews concluded? Is that what you're saying?

Dr. Hughes: I think so. I think we have Mr. McDougall on the phone from ATL who might have a better idea on the actual timeline. I'm not sure at this point. It depends a lot on, you know, trying to contact the workers and what their schedule and availability is.

Mr. Katz: Right.

Member Beach: So, this is Josie. Is ATL doing the interviews or will these be done in conjunction with SC&A and NIOSH, as we normally do interviews?

Dr. Hughes: Yes. They will be done as they're normally done. And --

(Simultaneous speaking.)

Member Beach: Okay.

Mr. Katz: Vern, could you enlighten us a little bit just about a rough timeline for --

Mr. McDougall: Sure. We were tasked to start looking

into possible interviews on March 5th. And to respond first to a couple groups of people you all had expressed interest in before.

There were 13 people who we identified from an earlier Department of Energy report that had done confidential interviews and I guess the Work Group wanted to revisit. Department of Energy, because of their agreement with those folks, cannot give us their contact information.

But what they did do is send out letters and, for the people that that they have email addresses, emails asking them to call us, to call specifically Mark Lewis, to talk about their availability for additional interviews.

To date, nobody has called. One out of that 13 people -- a fair number of them are probably deceased and we don't know their names, we don't know how many. The Department of Energy has agreed that if nobody calls pretty soon they will have their contractor place follow-up telephone calls to try and locate these folks and ask them to interview.

Okay. Now, the next group that we saw was a group of seven that I believe SC&A had picked out of NOCTS that you all wanted to interview. And the ORAU CATI people had placed calls to them. I believe two of those people had agreed with for the CATI interviews that they'd be available for future interviews.

Of the remaining five, three are deceased. We located both of the other two. One has agreed to be interviewed and one has -- and one's playing telephone tag with Mark. So we have some potential interviews here. Some of them are in California and could potentially be interviewed in person. Some of these folks and some of the other folks I'm going to talk about are all over the country: Nevada, Hanford,

New Mexico, Florida.

So I think probably the first step that we're going to suggest is that the Work Group and your technical support contractors pick some dates when you are available to do the kind of group telephone interviews that you've done in the past for places such as Idaho.

We also looked, just to look a little deeper, we looked at everybody in NOCTS who had indicated to the CATI interviewer that they had worked around either americium with thorium or both.

We reached out to -- we've reached out to all of them. Actually, a couple of these people are represented by Ms. Blaze. We're still working on seeing if any of these people are going to be worthwhile interviews.

We've got a bigger -- we've got the remaining population of probably 130 to 150 people in NOCTS. And we haven't done anything with that group until we find out -- Dave Sundin is working on helping us arrive at a more efficient way of telling who's deceased. So, until we can narrow that group down a little bit, we haven't done anything else with that.

Now, finally, Lara gave us access -- and this is probably one of the most fruitful paths, I think -- Lara gave us access to some documents that she thought were relevant to the De Soto question. And we pulled some names out of that, out of those, as we've done with other sites in the past. And we think there's going to be some good -- we think there's a lot of people who have claims, who we think are going to be some good interviews.

We located the manager of the analytical chemistry lab that, I think, the mass spec was part of. He was the manager there for 15 years. He thinks he can

speaking to why thorium was there and how it was -- and how it was present.

We located -- there was a lot of --

Mr. Katz: Vernon. Can I interrupt? Please, just let's not be quite so specific about who you have located for the rest of this. I mean, you've given us a great idea how you're going about this, and that's much appreciated.

Mr. McDougall: Okay. Finally, we've got an HP that worked there in the '80s and we think we need to hear what he has to say, as well.

Mr. Katz: Yeah. Thanks. So, and just for clarification, Vern, you probably know this, but once you have your list of interviewees you really just need to coordinate with SC&A on that.

And then when we have these ready to schedule then we'll get the opportunity for those to -- and those could be done by phone, certainly, if Board Members want to listen in on some those interviews, that's great.

Mr. McDougall: Thank you. So SC&A is going to have the lead on the interviews?

Mr. Katz: Well, so, what I'm saying is, no, you folks and SC&A will basically have the lead on these interviews. The Work Group Members, you don't really have to coordinate with them, though; we'll give them your dates and they can join in if they can.

I wouldn't want you to hold up the work to try to coordinate with any another individuals. So, to me, you want this to go forward, right? So, okay.

Mr. McDougall: Right.

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Member Beach: Also, in that vein, I would like to know early on so that I could try to make it a priority, because I would like to sit in on them.

Mr. Katz: Absolutely.

Member Field: Yeah, the sooner, obviously, we know, you know, that would be of help.

Mr. Katz: Yeah. Okay. Lara, is that it? Is that -- are we finished?

Dr. Hughes: Yeah. With regards to the agenda item of the Incident Database, I don't know if you want me to delve into it. Essentially, what we did is we went through it and compared it to what we already have in our Site Research Database. And I think we ended up with about 400 documents, or 400 incident reports that were not already there, and those are being uploaded with the regular upload schedule that they're doing.

Mr. Barton: And this is Bob. From SC&A's point of view, we had looked through that -- again, the Boeing Incident Database came via CORE Advocacy. And SC&A got thumb drives in December and was able to upload the files so we could access them without having to use the flash drive media. And we've gone through those.

Like I said, there's between 700 and 800 incident files contained in that, not all related just to De Soto, but to essentially all four areas out there. So you've got some incidents at the Downey Facility, at De Soto, and of course Santa Susana.

We had looked at those in the context of the SEC 235 analysis, but because of the timeframe when we got them, they had not been part of our De Soto review.

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So we took a look through those files and we have a very brief, but a full characterization of what that database contains and anything that would be relevant to be De Soto that's currently in internal review at SC&A and in the process it's getting DOE-cleared and PA-cleared. I'd be surprised if that was available prior to the Board meeting, but we're working as fast as we can to make that available.

Mr. Katz: That's great, Bob. Thank you. Anything more or any questions related to any of this? (Simultaneous speaking.)

Mr. Katz: It's okay. I hear you, D'Lanie. Do Board Members have any questions on this?

Member Beach: No, I don't. And this is Josie.

Member Field: I don't at this point. I mean --

Mr. Katz: Okay.

Member Field: -- we're waiting on this information.

Ms. Blaze: Last month I did have a teleconference with DOE about the 1,463 boxes. And they indicated that they were available, present, in Cincinnati, accessible. They can be accessed at any time. And we have the confidential summary of what's in the boxes.

I think logbooks are going to certainly be relevant to the De Soto facility SEC. And, as I was saying before, there's several boxes with the TRUMP-S transuranic program at Santa Susana that I had FOIA'd.

So, even if the boxes were not currently available and they're going to be available in September 2019, I would hope that this SEC would be held. I mean, we've seen SECs be held for up to ten years because records continue to be discovered.

We have access to these boxes, according to the DOE. So I would hope that we would move on them and get them and investigate their relevance.

Mr. Katz: Just to be clear, we have SECs that have gone for a very long period, but this isn't really a comparable case of why they are delayed. They are delayed because we can't make -- we haven't completed all of the analyses that need to be done for these, for example, the Savannah River Site. There's been a long effort at analyses that have been identified iteratively as it's gone on with the SEC. It's a different situation than we've got here.

Ms. Blaze: Has NIOSH ever issued a new report on the material I gave to LaVon on the americium and thorium in that specific building location in Area IV? I don't remember seeing anything like that; I just wanted to double-check because I might have missed it.

Dr. Hughes: No, we have not issued a report on those. We don't issue a report on every, you know, supported item that is submitted on a petition. It's just not a -- it's not really possible to do, just from a work perspective. We certainly do review them and we file them and if anything would, you know, change the decision, we would certainly act on it. But we --

Ms. Blaze: One of the reasons this particular issue stuck out to me was because the interviews of both Boeing employees were included in SC&A's report and one of them was stating an absence of identification by EPA of americium and thorium.

And I believe that was an incorrect statement if you looked at the EPA report that was submitted, and again what I submitted today shows americium and thorium identified at 50 locations. So, that was just one reason why it stuck out.

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In any case, I hope that the information is helpful. And I look forward to seeing all of you guys in Pittsburgh and thank you again.

Oh, I assume -- I would hope also that NIOSH encourages Vernon and his team to have interviews with people at Santa Susana about the De Soto facility, because we know the workers rotated, shared operations, shared materials.

Santa Susana workers, they absolutely have knowledge of americium and thorium at the De Soto facility. So, hopefully, he's including those guys in the interview prospects.

Mr. Katz: Thank you, Delaney.

Ms. Delaney: That's it. Thank you.

Mr. Katz: Thank you.

Chair Schofield: Just a quick, brief statement. The information you sent to Lara is available to the Work Group Members.

Mr. Katz: Yeah. Okay. So is there anything else?

Chair Schofield: I don't have anything.

Adjourn

Mr. Katz: Okay. Thank you, everyone, for the hard work that went into this meeting, again. And thank you to D'Lanie and the other members of the public who joined us at this meeting. And we're adjourned.

(Whereupon, the above-entitled matter went off the record at 2:09 p.m.)