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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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GRAND JUNCTION FACILITIES WORK GROUP

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WEDNESDAY
OCTOBER 5, 2016

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The Work Group convened by telephone at 10:00 a.m., William Field, Chair, presiding.

PRESENT:

R. WILLIAM FIELD, Chair
GENEVIEVE S. ROESSLER, Member
LORETTA R. VALERIO, Member

ALSO PRESENT:

TED KATZ, Designated Federal Official
NANCY ADAMS, NIOSH Contractor
BOB BARTON, SC&A
HANS BEHLING, SC&A
DOUG FARVER, ORAU
JENNY LIN, HHS
JIM NETON, NIOSH
MUTTY SHARFI, ORAU
JOHN STIVER, SC&A
TOM TOMES, DCAS

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P R O C E E D I N G S

10:00 a.m.

Welcome and Roll Calls

MR. KATZ: The Advisory Board on Radiation and Worker Health, it's the Grand Junction Facilities Work Group. Welcome, everybody.

The agenda and most of the materials for today are posted on the NIOSH website. They're posted under this program's section of the website, Board Section, Schedule of Meetings, today's date, and if you go there you can pick up most of them, the agenda and most of the documents.

One of the -- the most recent document from SC&A has not been posted yet. There are some posting problems that CDC is having in general that have afflicted us the last few days in this program, too.

So that one is missing right now, but when Doug does his review, he'll be covering that

material orally at least, and it will get posted when it can.

Okay, so roll call.

(Roll call.)

MR. KATZ: Okay. Very good. Well that takes care of preliminaries. Let me just remind everyone to please mute your phones. If you don't have a mute button, press *6 to mute your phone and again *6 to come off of mute if you're addressing the group, and, Dr. Field, it's your meeting.

CHAIR FIELD: All right, Doug. Would you mind going over your review?

SC&A Review of NIOSH SEC Evaluation Report and NIOSH Response

MR. FARVER: Yes, I'll go over my review. I don't have it for Live Meeting, but I'm not sure anyone else is on there.

CHAIRMAN FIELD: That's fine. I think we all have a copy.

MR. FARVER: Okay. Do you want me just

to scroll through and just tell you where I'm at and proceed through?

CHAIRMAN FIELD: All right. I think so.

MR. FARVER: Okay, so this was a review of the Addendum to Petition SEC 175, and it pretty much dealt with the period after 1985, and if we turn to page 3, we'll go through the Table of Contents real quick, and I start off with just going through a background of the facility, the SEC, and then I believe SC&A did a review of PER-47, I believe. That's what Hans wrote, and then I start into the addendum and review the external and internal dosimetry. And move on to page 6, but if you go to the very bottom of page 6, you see the purpose for this report is SC&A was asked to look at the revised SEC time period and also the appropriateness of the air monitoring of bioassay data.

So after the first ten pages of history,

then we get into the actual meat of the report.

Do you want me to go through the whole background of the facility and the SEC and so forth?

CHAIRMAN FIELD: If you don't mind. I think it would be helpful. This our first meeting. It's been awhile since we went through this. It would be nice to have it on the record.

MR. FARVER: Okay. We can go to page 7, and we start with the facility history that they started back in the '40s under the Manhattan Engineering District in order to concentrate uranium.

From '74 through '84 it reported the -- it supported the National Uranium Resource Evaluation Program and preparing samples for analysis, and there were other activities under clean-up for Uranium Mill Tailings Remedial Action Program starting in '78, and by 2001, the remediation had been completed, so we have kind of an endpoint in 2001.

Now the original SEC, back from 2011, and well if you skip to page 8, you can see the summary of the feasibility findings in Table 1-1. These were the periods that NIOSH broke down, '43 to '75, and '75 to 2010, 2010. And in general, they thought they could do a reconstruction of the external dose for most of the time period, but they didn't feel it was feasible to do the internal dose for '43 through '75, and then through the period after is what we're going to be talking about.

So that's kind of what they came up with, and, you'll hear as I go through this that when we talk about the external dosimetry, yes, it hasn't changed much. They already thought it was feasible to do, so I won't spend a lot of time on that.

I'll mainly focus on the air monitoring and the bioassay data.

Section 1.13 just talks about the SC&A report when they reviewed PER-47, and I wrote a lot

of this mainly to bring myself up to speed since I came in after all this had happened, and I don't believe SC&A reviewed the original SEC Report, Evaluation Report, so I believe that's why it was the purpose of reviewing the PER that came out of the Evaluation Report.

Then on -- we'll probably talk about this later, they went and reviewed all the data, and there were a few findings. I think they closed a couple of findings. There are still a couple that are open, and I'm not -- I'm going to let him talk about that, so we can move on to Section 2 on page 11 where we talk about the SEC addendum.

In the original SEC Evaluation Report, NIOSH concluded that the internal dose reconstruction was likely feasible for the period from February of '75 through July of 2010, and that the external dose was likely -- was likely feasible for the period of January 1960 through July of 2010, and they also found it feasible for the medical dose

from 1940 -- for the period of, the entire period from '43 through 2010.

When they did their initial presentation of the original SEC Evaluation Report, they had indicated to the Board or to the Work Group that they had received additional data that was pertinent to the post-1975 period, but they hadn't fully evaluated it, so they kind of held this in reserve, the period after 1975, and that was the purpose of this addendum to go over that data and what they had determined.

The addendum came out in March of 2015, the principal sources of internal radiation dose for members of the public, natural uranium and thorium and their decay products.

NIOSH determined that there was insufficient data available to bound intakes of uranium, thorium and their associated daughter products from '75 through '85, but they did find I believe it was feasible to go after '85, well

1986, beginning there onward, that they could -- and it was feasible to determine the internal dose.

Based on a lack of internal dose monitoring data and air monitoring data from 1975 through 1985, it was determined it was not feasible to do the internal doses.

Page 12, Table 2-1, kind of sums up the period from 1975 all the way through 2010, broken into two periods of 1975 through 1985, and 1986 through 2010.

For the period from 1975 through '85, NIOSH determined it was not feasible to do the internal doses except for radon, which they had already determined was feasible.

They did believe it was feasible to do the doses after 1986, internal and external, and you'll see this is kind of what we focus on, this period of 1980 through January of 1986, is this an appropriate time period to begin is one of the questions.

2.1, review of the external dosimetry data. I reviewed what they presented in their Evaluation Report, and the bottom line is it really hadn't changed from the original report, so it was feasible in the original report, and it's still feasible in the addendum, so I didn't spend a lot of time. I just reviewed what they had and what Hans wrote, and SC&A agrees with the feasibility determination for the external dosimetry.

The same thing with the medical dose, Section 2.1.2. It hasn't changed since the original SEC Evaluation Report, the same time period. It was feasible then. It's feasible now, so -- and that eliminates a lot of it.

Onto the internal dosimetry data in Section 2.2, first up was radon. This is another situation where it has the same feasibility determination in the addendum as there was in the original Evaluation Report, and SC&A had already reviewed that under PER review, and we concur with

NIOSH's feasibility determination.

Now we're getting down to the good stuff, the air monitoring data and the bioassay data. So we began by looking at the air monitoring data that coincided in the addendum.

As noted in the SC&A report, and Hans will talk about, prior to '89, air samples generally lacked information about location. Between 1945 --

MEMBER ROESSLER: Doug, Doug. This is Gen. I've lost track of what page you're on.

MR. FARVER: I'm on page 13.

MEMBER ROESSLER: Oh, I jumped ahead. Thank you very much.

MR. FARVER: I'm trying to rush through that because I was trying to get to the more important information and not --

MEMBER ROESSLER: Yes, it got lost in all those tables. I appreciate that. Thanks. I'm there.

MR. FARVER: Okay. Between 1945 and '61 the results for a particular sample interpreted as uranium. In 1960s only radon and radon daughter results are available, and then in 1986 there was some time-weighted exposures for the first quarter that were calculated in terms of MPC hours for individuals performing grinding operations of the uranium mill tailings in the sample prep lab.

I believe this was a memo from someone to someone else. Beginning in 1989, there are numerous air sample measurements for on-sight D&D work, both general area and breathing zone, and then Table 2-2 just lists all the air sampling data that was cited, and it goes on and on and on and on and on for a couple of pages, but you can see that in the early years, there just wasn't a whole lot of information, and then we jump to like 1986 on the top of page 15, and we've got a lot of radon data, and there appears to be more data for that time period afterwards.

So afterward, we reviewed the air monitoring data, SC&A concludes that the lack of adequate air monitoring data prior to 1961 and the absence of air monitoring data from '62 to '85 support NIOSH's position that it's not feasible to reconstruct the internal doses from 1975 through 1985, and '85 is a good breakpoint because that when there seems to be more data after, beginning in 1986 during D&D operations.

Okay. Next section is internal doses to unmonitored workers. According to the addendum, there was no comprehensive database and bioassay results and only a limited number of results are available for the period of 1945 through 1999, as shown in Table 2.3.

Table 2.3 on Page 17 lists the available bioassay results, and you can see that it's not too many, especially in those early years. There just wasn't much available, and NIOSH found that some workers do have bioassay measurements included in

their records, but not enough claimants with bioassay information are available to indicate which workers were routinely to be included in the bioassay program.

So we don't really have a good handle on the bioassay program or the results through 1999.

So we move on. Boy, that's a long table, but it kind of shows you all the results that were presented in the addendum, and I thought it was good to spell them out here so that everybody was on the same page, and speaking of page, we're going to get up here to page 22.

So we looked at the data. NIOSH determined the data was not sufficient to accurately reconstruct the internal doses for the period of February 1st, '75 through December of '85, and NIOSH reviewed the data and agreed with them. It's just not sufficient.

So you don't have sufficient bioassay data, and you don't have sufficient air monitoring

data, so it's not feasible to reconstruct the doses from '75 through '85.

Okay, how about bounding the doses? NIOSH believes that there was sufficient data to support bounding the internal dose from '86 through 2010 based on air monitoring and the bioassay data that was available.

This period of '86 through 2010, you can break it down into two periods. There's the period before 1991, so it would be '86 to 1990, and then the period after '91 which -- you know, '91 to 2010.

Sample prep activities occurred from '86 to '90, and the D&D activities occurred from '88 to 1990. After 1991, that's when DOE Order 5480.11 became effective or was to be implemented. That's kind of why we have this break period.

The DOE Order specifies that bioassays shall be collected if exposure indicates that a worker could be exposed to inhalation intake during the year it exceeded 200 DAC-hours and that a

monitoring program must be in place for all workers who could have the potential for 40 DAC-hours.

We'll go back to the sample prep period, so this is going to be the '86 through 1990 on top of page 23. NIOSH determined that the sample prep to the highest on-site -- that determined sample preparation to be the highest on-site exposure potential scenario in the post-1985 period, from '85 through '90, and then we quote them from the addendum: for the period of 1986 through 1990, bounding daily uranium intake rates for operators and laborers may be assigned by assuming that the worker received the MPC hour limit every quarter, using thorium-230 as the applicable MPC.

SC&A looked at this and believed that that was a reasonable proposal and that it was adequate for bounding the intakes. NIOSH states that the method for bounding the uranium intakes during the time period is also appropriate to bound thorium intakes from the same period, and the

rationale for this conclusion is that the controls used for crushing and grinding uranium ore were the same controls used for grinding thorium, and both operations took place in the same facility.

NIOSH goes on to state that based on interviews with former workers, and they have some information about the crushing and grinding, and for the purpose of bounding potential intakes of thorium from these operations, a full calendar month of exposure to thorium ore is assumed for each operation.

These are based on three personal communications or interviews, so I went back and I looked at the three personal communications, and really it was only between two people. The one interviewee was -- he appeared to be upper management, and he didn't seem to remember a lot, and he referred to this second person, and two interviews were conducted with the second person who was also kind of like a supervisor/manager,

based on his job description. That was kind of my impression.

From the interview with the second person, they came up with a time estimate for crushing and grinding, and I believe that's how NIOSH came up with this month, full month for -- MPC for a full month.

If you look at -- I do have a concern with it, and Concern 1: both interviewees were kind of management-level employees and not operators or laborers who performed the work, and I kind of feel like you're only getting one side of the story, so it would be beneficial to obtain some information from the people who did the work and see if it at all concurs -- just a concern.

During that second period before 1991, during the D&D period, investigations for site remediation began in '84. Remedial investigation study was done in 1989, and the Record of Decision was approved in 1990, so that kind of puts an

endpoint on that in 1990.

Tailings were removed in '89 through '94, and a close-out survey site was completed in 1995. The second paragraph: thousands of pages of health and safety data have been recently captured for the period of 1991 to 2007 when most of the D&D activities took place.

Later in the paragraph: there's no database of the results that can readily be used for co-worker study; however, these data, the ones that are cited above from 1991 to 2007, it is evident that the most highly exposed workers were monitored. If no data are available for a D&D worker, the bounding dose scenario can be constructed from the health and safety data.

This is all very reasonable and fine. The only concern, and it's listed down here as Concern 2, is you have thousands of pages of data. How is it going to be used by the dose reconstructers?

I think this is a similar concern that Hans had with some air sampling data. There's a lot of air sampling data, but how is it actually going to be used by the dose reconstructers? So that was Concern 2.

On to DOE Order 5480.11. There was a document in 1990, Technical Basis for Bioassay Sampling for Sample Preparation Plant in Grand Junction Vicinity Property Workers, written by Geotech, and it describes their implementation of the DOE Order 5480.11.

It states that bioassay will be collected. If exposure indicates the worker could be exposed to intakes during a year that exceeds 200 DAC-hours and states that a monitoring program must be in place for all workers who have the potential for 40 DAC-hours.

It regurgitates the requirements of 5480.11. It was issued in early 1990. NIOSH is assuming that full implementation was not in place

until the end of 1990.

Okay, so I went back and looked at the Technical Basis Document, and the executive summary gives a little quote there. The interim bioassay program consists of collecting urine samples, which will be analyzed for radium, allows performance of standard workplace monitoring for DAC sectional 800 milligrams.

Perspective monitoring or workplace monitoring will consist of air monitoring and urine sample collection. Air monitoring will be the primary method of monitoring the workplace.

Urine samples will be collected from representative workers every six days. This will be accomplished by rotating the workers on a routine bioassay program.

The next paragraph on the top of Page 26, retrospective individual worker monitoring will consist of routine urine sample collections from individual workers every 26 days.

One of the principles in DOE 5480.11 was that you have to have your operations people working with your dosimetry people so you have this prospective and retrospective so that you can't do it entirely from bioassay, and you can't do it entirely from air sampling. They have to work together so that when you get a high air sample, it triggers something for bioassay so that you can meet this performance objective of 200 DAC-hours for the year.

Okay. Section 4 of the Geotech Technical Basis talks about performance capabilities. Air monitoring shall be the primary method. Bioassay measurements may also be used to support a prospective monitoring program but shall not provide the primary basis for monitoring for loss of control in a workplace. Pretty much what I described.

Table 2-4 lists the air monitoring data that is contained in the Geotech Technical Basis,

and using the thorium DAC, two of those samples under the thorium 230 exceed the DAC levels, so I'm not sure that that's too helpful other than it just gives you an idea of what the air sample levels were like in the sample prep lab.

At the bottom of the page, Section 7 of the Bioassay Sampling Technical Basis Document describes how air monitoring of bioassay programs are used to determine compliance.

The top of page 27, air monitoring data will be tracked by the use of a database program presently being developed. It will track all the derived air concentration values of air samples, sample location, workers present, reduction due to the respirator use, and occupancy time, and this will allow the determination of the need for follow-up bioassay when a worker is suspected of having an intake equivalent to .02 ALI, 40 DAC-hours.

This is what I was talking about how the

order was trying to get people to work together and have workplace samples trigger your bioassay follow-up, and this is what they wrote that they were going to have a database and track the air samples and the -- and trigger the bioassay sampling.

Second paragraph, urine samples will be collected from a representative worker every six days, kind of what they cited in the executive summary.

On to Table 2-5, Table 2-5 contains the available air monitoring information during and after the time period when the Technical Basis for Bioassay Sampling was implemented, with the exception of the workplace air monitoring results contained in the Technical Basis, no other workplace air monitoring results were found. So we didn't find a lot of air sampling results that were useful, and that's kind of what Table 2-5 shows.

NIOSH goes on to state in their addendum

that, therefore, starting in 1991, it is assumed unmonitored radiation workers would not have exceeded 200 DAC-hours in a given year. If they had, they would have been placed on a bioassay program.

In addition, it is assumed that non-radiation workers would not have exceeded 40 DAC-hours in a given year, and the assumption is that the order was being implemented by 1991, so all those requirements were being met.

Well, I took a look at it, and came up with the one and only finding. Although the Technical Basis Document for Bioassay describes how the program should operate, there was no document or database that was presented in the addendum that would contain air monitoring results, sample location, workers, to demonstrate that the workplace controls described in the Technical Basis Document had actually been implemented.

SC&A does not believe NIOSH has shown

sufficient workplace air monitoring data to support the assertion that unmonitored radiation workers would not have exceeded 200 DAC-hours or that non-radiation workers would not have exceeded 40 DAC-hours in a given year, so I just didn't find the data compelling.

We go on to the summary, the summary on page 30. Two things I was asked to look at was the appropriateness of the revised SEC time period. I looked at the time period. The time period looked like it was adequate and sufficient.

The appropriateness of the air monitoring of the bioassay data, this is where we ran into a couple of concerns regarding the interviewees and how the data would be used, the workplace data, and also the findings for that period of after 1991 forward that really just didn't find sufficient air monitoring data to support their assertion.

So that's kind of the short story of a

long program.

CHAIRMAN FIELD: Okay. I appreciate that. Gen or Loretta, do you have any questions for Doug?

MEMBER ROESSLER: Yes. This is Gen. I have -- this is a lot of stuff. I have a lot of questions. I'll start with maybe a rather simple one.

Doug, on page 26 in Table 2-4, those numbers look kind of strange to me, and I don't really understanding air monitoring very well, but as I just kind of glanced at the table, it seemed like a lot of numbers were alike.

For example, in the first sample there, Sample 651, you get that 9.3E-7, three times there for different radionuclides, and then that same number of tiers in Sample 655 for two different radionuclides, and that keeps occurring in the table.

I don't understand why those numbers

would be the same.

MR. FARVER: I can't speak to the validity of these numbers because they were not referenced. In other words, I could not see the actual results. This is just a table that was taken out of the Geotech Technical Basis Document, so I cannot speak to even what kind of samples they are, are they breathing zones, are they general area samples, are they low volume, high volume. I really can't speak to that.

MEMBER ROESSLER: Well maybe Tom or Jim would know more about that.

MR. TOMES: This is Tom. I basically agree with what Doug says as far as the information provided by these tables there. There are some results reported by the site in assessment of potential exposures from the sample prep lab, and I -- it is my opinion that some of these may be an assumed equilibrium because it's too unusual for some of these to be exactly the same result for the

individual radionuclides, but I do not have any definitive information on exactly how they determine the various nuclide concentrations.

MEMBER ROESSLER: It does kind of bring out the question about the reliability I guess of that data, but then I guess another -- I have one other question, then I'll let other people talk then.

When you talk about interviews, well, the lack of data and interviews with employees, yes, I kind of agree. On other sites we often have -- make a real point to interview employees in kind of wide range of them.

It would seem that these management-level people should be good to interview, but I'd agree that other interviews might be necessary.

MR. FARVER: And I don't know if they actually did interview other people. All I know is this is what they referenced and what was cited in

the addendum.

MR. TOMES: This is Tom. Perhaps Mike could have information on the interviews, but I don't recall any more details, but I do recall that we have some references describing some of the work that was going in preparation of the models that's the subject of that work, and so we did consider other sources of information.

CHAIRMAN FIELD: Loretta, do you have any questions?

MEMBER VALERIO: Actually, I do. So on the, I believe it was the bioassay data, in the period 1984 through 1986, the number of results is significantly higher than the other years. Was that because of the D&D work that was being done?

MR. FARVER: I'm trying to find that table real quick.

MEMBER VALERIO: It's on -- I'm looking at page 18.

MR. FARVER: Okay.

MEMBER VALERIO: Which is one, two, three, four, fifth from the bottom.

MR. FARVER: Okay.

MEMBER VALERIO: Where under the column of approximate number of results, you have 1,589, compared to all the other years.

MR. FARVER: Yes, it looks like it's a summary from '84 through '86, so it would be, '84, '85, '86, three years of data, and the other ones look like they are just specific individual data, so I would say that is when a lot of the work was going on, during that time period, and I'll check my timeline. That may have been the D&D period.

MEMBER VALERIO: Okay, so then that raises the next question. Were these just baseline samples, and were these for -- it says that they were baseline samples, and most are for off-site remediation workers, so the people who were working off-site were being bioassayed I'm guessing based on this number, and they were strictly doing D&D.

Am I understanding that correctly?

MR. FARVER: I do not know at the moment.

MR. TOMES: This is Tom. I might be able to help out a little bit there. I've reviewed a lot of those records and they -- in '85-'86 as Doug described earlier when he was describing the program, they made some changes in monitoring practices, and there are a substantial amount of baseline samples for off-site D&D activities.

At this time at Grand Junction, there was very little exposure because most of the work they were supporting had the potential for intakes were at off-site work, so although the site employed many people, the majority of those workers were actually off-site. And we evaluated them before the D&D work started a few years later, a couple of years later, that the sample prep lab was the work that had the highest potential for exposure, and that was consistent through some records we found

from the site, including the one that is the subject of this -- of the air sample results we talked about a few minutes ago.

So in this period, it has been actually instituted a program, the best I can tell, of baseline samples and evaluation, specific samples for evaluation. That's why there's a large number in that year I believe.

MEMBER VALERIO: Okay, so were there follow-up bioassays after the baseline?

MR. TOMES: Well that is hard to get a handle on, exact frequency, from my perspective. They instituted this program in '86, and they had some interim measures, and it wasn't until '91 that we think they had more of a routine program.

We do know they had throughout this period, starting in '86 and on through the '90s, they did have -- there's a lot of records of work. They had RWPs, job coverages, air samples, special urines, special bioassays, and the only record I can

find that they -- actually a routine bioassay program existed that I can confirm is in '91, '92, '93. They had some, at least some annual bioassay programs for people who had access to airborne radon activity areas, and I know that occurred in the '91, '92, '93 era.

I do not know if it continued past that point. The primary means of assessing exposures was air monitoring, and they used -- they had a respiratory protection program for respirators and as I mentioned earlier, most of the activities at the site other than D&D work did not involve exposures.

But then if you look at the Evaluation Report's tables of bioassay data, you can see throughout that whole period, there are numerous instances of special bioassays being required.

MEMBER VALERIO: Right, right, so I guess that brings me to my next question. So it says that the samples were for both off-site and

on-site work; therefore, for a given worker the samples might not be for work that is covered by EEOICPA, so how are -- you know, how is NIOSH or DOL separating who was off-site and on-site for purposes of a dose reconstruction if someone filed a claim?

MR. TOMES: I'm not familiar with how DOL does that; however, for NIOSH, if DOL sends out the claim, and they say they worked on site, we assume they worked on site, and we access the exposure accordingly. And we've used the air sample data for D&D to come up with models for intakes. We've used the limiting bounding intakes for other works, such as the sample prep lab, for a model for those, and so we do not try to -- unless we have very, very good information in the claimant's file, we do not attempt to separate out off-site from on-site because it's difficult to do, if not impossible.

MEMBER VALERIO: All right. Thank

you.

CHAIRMAN FIELD: Okay, so, I guess, Tom, at this point, could you -- could you give us what your response was to the one finding? Could you sort of summarize that?

MR. TOMES: Yes, we went back and looked at the information from Doug's finding, and we did not find any record of a DAC-hour tracking base, and so we do not know if it exists. We certainly didn't find it, but we have gone and looked at the exposure level that the site controls things to, and their program is based on 10 percent of the DAC, or in 1986 it would have been the MPC, but by '91 it was 10 percent of the DAC of DOE Order 5480.11, and they had programs -- they had an extensive air monitoring program in place.

There is a whole lot of air monitoring data throughout this period, and so we have -- and they had requirements, as I mentioned a while ago, for a bioassay at -- a routine bioassay, at least

in the early '90s they did. And then they had a program to monitor job coverage from RWPs, and they had respiratory protection requirements. They had a full respiratory protection program, and we do believe that all those, all that information indicates that the 10 percent DAC with bound intakes for unmonitored workers, although we did not find a DAC-hour tracking base that's referenced in that one document and mentioned by Doug.

CHAIRMAN FIELD: Okay, so, Doug, do you have any response to that?

MR. FARVER: Yes. I believe that was sent out to the Work Group this week, last week -- last week, a week ago.

The bottom line is, we didn't see any air sample results for 1991. So if they had a lot of air sample results, which they should have, that was not cited in the NIOSH's response as one of the documents, and I go, in my reply to their response, I go through each of the documents that they

referenced and describe what it is and what time period it covers, and there just wasn't any air sampling results from 1991, so I go back to the original.

If they had a good program, there should be some air sample results.

CHAIRMAN FIELD: Okay, so I hate to have you banter back and forth, but, Tom, do you have a response to that?

MR. TOMES: I'll be honest with you, I did not get -- I was on vacation last week, and I just briefly went through Doug's response when I got back to work Monday, and I am not fully prepared to address any details they're monitoring as far as any specific year and what's available.

Quite frankly, I'm not prepared. I didn't have enough time to prepare for that; however, there are, I do know there are hundreds and hundreds of air sample results, but I do not have a report to tell you how much is in each year and

what location and all that, and I would have to work on that to provide a meaningful response I believe. But there are hundreds of air sample results from D&D in particular, and I believe that '91, I'm just not positive about '91.

CHAIRMAN FIELD: Mutty, do you have any indication of that by any chance?

MR. SHARFI: One example, for Building 7, the D&D work was in '91, and there is an SRDB 93816, and it's got a ton of air sample data sheets that are in there, so there's plenty of examples.

Even in the RWPs in the 1990s they -- we captured a lot of the RWPs, not as much -- doesn't look like the supporting RSDs, we, it doesn't look like -- we maybe didn't capture, but in a lot of those, it indicates that air monitoring was required. There are stop actions for air sampling.

There is requirements to notify RadCon Control for DAC-hour tracking if you exceed certain levels so they can do DAC-hour tracking. There's

a lot of indication that they had a, not just a good air monitoring program, but that they were conscious of the uses of the air monitoring program.

CHAIRMAN FIELD: So, Doug, have you seen all this data?

MR. FARVER: Well I wanted -- well, what was that document number again?

CHAIRMAN FIELD: 9816. It's the Building 7 D&D Radiological Survey Data.

MR. FARVER: Right. I addressed that in my response, and that was Building 7, D&D Radiological Survey Data. It includes sampling data, RWPs, health and safety evaluations.

It contains 124 separate sub-documents totaling 1369 pages. The document dates range from 1989 to 2001. Seven of the documents only originated before 1992. It's a petrology request, a linoleum sample, an asbestos abatement, a ceiling tile analysis, another asbestos, building summary log.

There are two airborne radio-particulate sampling data sheets contained from 1991. That is it. They are breathing zone samples taken for 20 minutes. That's it. Out of 1300 pages, there are two sampling data sheets for two individual samples, and that's why I went and cited everything in my response so that you can go look it up.

I give you page numbers, and if there is additional information, I'd be happy to look at it.

CHAIRMAN FIELD: So, Tom, since you haven't seen the response from Doug, would it be worthwhile at this point to go review that information?

MR. TOMES: Well, I have read it. I just haven't had time to try to go into the details and respond to that specifically, but I'm not sure that -- from the way that I look at the data, I -- from the way that I look at the site, there are two basically two operations at the site that have the

potential for airborne exposure that were rather significant, and that was the D&D work, and the other was the sample prep lab.

The other activities at the site would be much less to nil, and as far as the D&D work, I do not know what D&D work was done in 1991, specifically that we may not have captured data for or if there was any going on in 1991, and the other issue would be, why don't we have any air sample data from the sample prep lab? And that I don't have an answer for it right at the present time, but I would have to look into that a little closer.

DR. NETON: This is Jim. It seems to me that there's a lot of documentation there that we just talked about for the 1991 timeframe, and I looked at this yesterday. There is RWP; there's RWP checklists; there's survey data. I just wonder if one goes through those in some detail, if you could get the sense that there wasn't any activity going on maybe that required air monitoring.

I mean, so you know, you've got to -- I think we need to go back and look at the source data again and look at it for what it's worth, which is, there's a lot of surveys, a lot of RWP-type things, and was there really activity ongoing that required air monitoring?

I know, for example, I think in the sample analysis lab, they did require air monitoring. They were typically low-level samples that were taken during D&D work at other sites, and they didn't rise to the level of needing to have any air monitoring data.

Outside of that, then you would have this sample prep laboratory, and I don't really know what went on there after a certain time period. They quit making those calibration pads that had high activity where grinding operations were conducted, so I think we really need to identify a little better as to what activities were there in '91 and not speculate that we should find this

treasure trove of air monitoring data to document exposures that might have not have occurred.

MEMBER ROESSLER: Wouldn't that be something that would be easy, fairly easy to answer by going back to one of the interviewees?

CHAIRMAN FIELD: Quite possibly.

DR. NETON: It might be helpful -- that would be helpful, I think.

MR. FARVER: This is Doug. You could always ask the internal dosimetrist at the time about the air sampling data or bioassay data if they knew anything about that, and I believe they are still both available. You could probably talk to them.

MEMBER ROESSLER: I was thinking more in terms of management level. That's not that not long ago really, and whoever was in management at that time should have a pretty good recollection of what activities were going on.

DR. BEHLING: This is Hans Behling. I

have just a generic question to anyone who has the ability to respond to this question.

Of the air sampling data that is available, or the data that are available, what kind of information, and I'm saying this in context with our recent review of the air sampling data associated with ANL-W, where we had air sampling data that showed exactly the location. It showed the exact time of the day when it was taken, the type of analysis that's done, the amount of air that was drawn through the sample filter paper that was the subsequently assessed.

What kind of information do we have available for the air sampling data that you do have available to yourself for analysis?

For instance, when Doug just mentioned that there were two BZA samples that were operating for 20 minutes, you know, drawing air samples -- air through the filter for such a low volume, twenty minutes is a joke to assess somebody's exposure, and

so I'm questioning in context of --

DR. NETON: They typically were four or five liters per minute, which -- it's not a joke. I mean it was a certain percent of the - you could definitely demonstrate it was less than 40 DAC hours from that kind of a sample.

DR. BEHLING: Well if you're trying to measure the air concentration at the DAC level, a few liters is -

DR. NETON: You're not trying measure the air concentration in relation to the DAC. You're trying to measure an intake, and an air sample - a breathing zone air sample samples air at about one-fifth the breathing rate of a human and so whenever picocuries are on that air sample, you multiply by five and that's your intake. That's a pretty good sensitive indicator.

You're not trying to measure percentage of the DAC. You're trying to measure intake.

DR. BEHLING: Okay, but when you're

talking about approximately 1.2 cubic meters per hour and you're talking about 20 minutes, you're talking about a little less than half of a cubic meter and at the concentration that you're trying to measure, is this a valid sample to assess somebody's intake?

DR. NETON: If the activity lasts 20 minutes, I would say yes.

MR. SHARFI: Hello, we're not using the air samples to actually calculate exposure for this project. We're using the limit. We're just showing that they had a program that allowed them to make sure people didn't exceed the limit.

Air samples themselves are not being used individually to assess exposure. We are placing people at the limit.

DR. NETON: Well, Mutty, I would say if we had a person's BZ sample in their file, we would use that.

MR. SHARFI: Yes, that's pretty rare.

Generally the air sampling data would be used if it exceeded the limit then to trigger bioassay and that's when you start to see some of the bioassay, and then generally these air samples don't trigger bioassay which means that the limit is probably their bounding scenario.

DR. NETON: Right, but knowing how breathing samples are taken, I would suspect that was a 20-minute operation because -

MR. SHARFI: Yes, no, I don't -

DR. NETON: You don't start a BZ sample and take it off halfway through a guy's work activity.

MR. SHARFI: Yes, and some of the D&D air samples are for multiple hours, so those are personal air samples, and in those cases we have time on/time off. We have first count, second count, sometimes third and fourth count results, description, room locations.

MR. TOMES: This is Tom. I'm looking

at some of the dozens of samples in the spreadsheet I have open and there are records of start time, stop time. Some of them are relatively short. Some of them are several hours, and detailed descriptions of where the work is going on.

MR. FARVER: That's fine, but that wasn't included in your response, that information. We're concerning 1991 timeframe because that's when you're setting your start date.

MR. TOMES: I was answering Hans' question there on the -

MR. FARVER: Okay.

MR. SHARFI: I mean are we saying like the air sampling program suddenly changed in 1991? I guess while I'm a little lost. I'm trying to answer your question. The question that the - I mean, the only thing that changes from pre-'91 to post-'91 is the limit that we're applying. We're not saying the air monitoring program changed. We're just saying they changed the limit at which

they implemented action. They moved from a 540 MAC hour per quarter to a 200 DAC hour per year limit.

That's the only thing that changed. It's not the air monitoring program itself changed.

MR. FARVER: I understand that, but what I'm saying is I didn't see any air samples from that time period that match up with what you're saying, that they actually did control it to these limits.

MR. SHARFI: I'm not going to say the SRDB -- since we didn't use the air samples to actually calculate intake rates and we're using limits. I'm not going to say that we've captured every air sample that the site ever created or, you know, analyzed.

I mean, I guess that's possible that we just didn't capture every 1991 air sample and the site still has them.

MR. FARVER: I found two.

MR. SHARFI: I mean we looked at a lot

of the D&D work when we looked at the air sampling to help, so we looked at job - those D&D-specific ones and we captured those and they D&D'ed Building 7 or they D&D'ed other buildings. We got those detailed reports and those include the air samples associated with the D&D work, whether it's from '96, '94 or earlier or later.

DR. NETON: This is Jim. We talked about those 1991 - that report that had all kinds of thousands of pages in it.

Did you think it - does it appear to be substantial that it might have included all the RWPs that were issued in 1991 or all of the work activities?

MR. SHARFI: Is it a - for a D&D operation, I cannot imagine that 1400 pages is everything, no.

I mean I know when I've been involved in D&D work, the number of pages of data that just go to maintain a single building over a course of one

year and this covers a little bit more than not just 1991. I mean I don't imagine there is thousands of more pages associated with surveys and -

DR. NETON: It sounds like Building 7 was being D&D'ed in 1991. Is that right?

MR. SHARFI: I'd have to look at the start year for Building 7. That might have been around when they started it.

MR. TOMES: I believe there may have been some investigation. I don't believe it was a complete -

MR. SHARFI: It was in the 1990s when they started the work in 7 and then I think it took multiple years before they actually fully - because I mean I want to say the stuff moved from - the sampling prep room eventually moved and I think it was finally closed down in 2000 - and that was for the Building 7.

DR. NETON: I mean I'm looking at the bioassay logs that we have in the ER on Page 19, so

it covers 1991 and I didn't add these up, but it looks to me like there's five or six hundred bioassay samples taken in 1991 which kind of doesn't comport with only two air samples. That's what's sort of interesting here. I'm not sure why - so clearly they were collecting bioassay samples quite a bit in 1991. I mean, there's not minimal samples here, but as I say, I didn't add them up. It looks like 500 or so.

MR. SHARFI: I don't believe that we've attempted to - since we're not using the air samples as dose of record, I just don't think we've attempted to capture every air sample, and I mean if you look at the way they did air sampling, it seems that there should be a ton of available data; we just didn't need it to do this assessment and to go and capture tens of thousands of pages - I mean of air samples. I mean every air sample takes usually multiple page.

I mean there's the - without it being in

a database form, it can become very cumbersome to - so that's why the limits were established that - and as you said, there is plenty of bioassay after that, so it does look like they implemented a DAC hour tracking program and when people exceeded it, they initiated bioassays, so for those people that exceeded it, bioassay would be available to assess those larger exposures.

Anybody under that would receive the limit.

CHAIRMAN FIELD: So, Doug, it sounds like there's a layer of information, perhaps worker interview possibilities. What information do you think is required yet to address your finding?

MR. FARVER: Well, the finding - the specific finding was that the workplace air monitoring data do not support the assumption that unmonitored radiation workers could not have exceeded 200 DAC hours, so that was - the finding was the workplace air monitoring data does not

support that, so I think at the time that they would say, oh, okay, well here's the workplace air monitoring data that supports that, and they cited I believe it was ten documents, over 6,000 pages and still after going through that it did not - there was no workplace air monitoring data that supported their assertion, so I mean it still comes back to the original findings.

Now I didn't look at all the bioassay data and evaluate the bioassay data because that wasn't the finding.

CHAIRMAN FIELD: Okay.

MR. FARVER: I mean I would think that if they've got a good program in place there should be some air sample results from that time period, and then that's really what I was looking for is the air sample results.

MEMBER ROESSLER: The question is only for the year '91. Is that right?

MR. FARVER: Well that's when they're

saying that they were going to use that as their start point for using a different method to bound the internal doses.

Now I'm making a big point of this because if you go back to the original SEC and you look at their dose reconstruction template, I believe they use a completely different method for bounding the intakes for this time period, and now they're - I believe they are proposing that they change the method they use to bound these intakes.

MR. SHARFI: Doug, we're not changing the method, we're just changing the limit. It's still based on an air sample concentration or a MAC hour to a DAC hour and then they just changed the terminology, but it's a MAC hour limit versus a DAC hour limit, but the approach is still the identical approach. It's just a different limit.

The method is no different between pre-'91 and post-'91.

MR. FARVER: See, this is part of the

problem because there is not a technical basis. I cannot see how you're going to implement this in your DR template.

DR. NETON: The DR template is available in the dose reconstructions, and it uses the ten percent of the MPC basically, 4200 DAC hours. That's what's in there, and it assumes 5480.11 compliance after 1990. But 1991 and beyond.

MR. FARVER: And I believe that is different than what is in the current DR template.

DR. NETON: No, I just looked at the current DR template an hour ago and that's what it says.

MR. FARVER: Is that the same template that Hans reviewed back for PER 47?

DR. NETON: I don't know.

MR. FARVER: Okay.

DR. NETON: The template that I looked at was issued, I think, in 2015.

MR. SHARFI: It would have been issued with the ER, the revised ER.

DR. NETON: Right, so it was in September of 2015 which is written after the revised - the addendum came out in March - or May of 2016.

MR. FARVER: It came out in May.

DR. NETON: The addendum came out I think in March.

MR. FARVER: March, March of 2015.

DR. NETON: March in 2015, and the template was revised in September of 2015, and it comports with what we're saying here after 1991, so it's the same logic.

MR. FARVER: It is, but it's different than the previous one.

DR. NETON: Well, yes, because we changed - we realized after looking at the data and the ER that we were making it to conform with the ER.

MR. FARVER: Right, and you say looking

at the data, and that's what I'm asking for the data and the air sampling data and the workplace data and for 1991 when you want to make this change and I did not find it.

CHAIRMAN FIELD: So, Tom, you were saying before that there is a bunch of air monitoring data for that time period. Is that correct?

MR. TOMES: Well, I think maybe specifically Doug is referring to 1991, and I do know that overall, over a period of the D&D period through the '90s we have hundreds of air samples, so I think Doug was saying that he did not find any for specifically for 1991.

MR. FARVER: l990, '91, something in that timeframe that would support that date because you are changing your method from the previous DR template, and my point is that, unless you can support that, then you probably shouldn't be changing your method from your previous template

until you can get to a time point like maybe '95, '96 when you have the data to support going to the ten percent of a DAC.

MR. TOMES: So you're questioning where they implemented a control to dose levels?

MR. FARVER: I'm questioning whether you have the data to support that they did it for that time period as a justification for changing the method that you found would bound your intake.

MR. SHARFI: Are we asking if we can prove they implemented their TBD that they issued in '91?

MR. FARVER: Yes, if there's data to support that they implemented their air sampling program and that's what the air sampling results would do, I believe.

MR. TOMES: If I understand correctly, what you're saying is that you're not necessarily questioning whether they implemented, you're questioning that we have not provided evidence that

in 1991 they were air - they were monitoring workers that needed to be monitored. Is that correct?

MR. FARVER: Yes. They may have implemented it but I don't believe you provided evidence to support that, or they may not have implemented it.

MR. SHARFI: Are we saying they didn't do air sampling or that they didn't control a limit at what they said they were going to do? Is it the limit or is it the actual fact that they did air sampling? Which one are you talking about, Doug?

MR. FARVER: Well, if we assume that they followed the 5480.11 limits, then they would have air samples and some kind of programmatic other than their TBD documentation to show that, yes, this is what they did. Maybe there would be some report that says these samples were greater than, you know, ten percent of a DAC and therefore we monitored these people. Anything like that.

DR. BEHLING: This is Hans. Again, I'm

going back to the ANL-W, and that's exactly what happened there where we have actual data, air monitoring data, from general area air sampling data and they assess the air for gross output and they establish the ten percent MPC level and showed that for, a given location, that these were the values that would allow you to conclude that a person did not exceed ten percent of MPC values, and I guess this is what Doug is hopefully looking to obtain to verify that the 200 DAC hours could have been implemented based on the available air monitoring data that would suggest that it was in fact done.

MR. TOMES: This is Tom. I think for me I cannot provide an answer on 1991 without going back and trying to find more information to see what was being done specifically in 1991, why we don't have air sample data to show they were monitoring areas in 1991 which Dr. Neton referred to a while ago.

I - we may find there was very little work going on in '91 or we may find that we don't have all the samples. I don't know which that is.

CHAIRMAN FIELD: I think at this point either would be helpful and probably go a long way to answering Doug's questions. Am I speaking accurately for you, Doug?

MR. FARVER: Yes. I'm just looking for something from the time period because the RWPs that were cited were from, I think, 2001, and years that really weren't applicable, so all I'm looking for is some kind of data from that time period that goes to show that, yes, they had a good program in place, and I'm saying if they can't provide that, then maybe they need to change their time period to accommodate the data that they do have.

MR. TOMES: Well, I have one more - this is Tom. I'd like to add one thing to that, Doug.

I pulled open a spreadsheet a while ago, and it's just a summary of some of the results, and

I do know there are a lot of air sample data in '94, '95, '96, so there are a lot of air samples before 2001 where every year you said there's a lot of those, but I did not - in the one sheet I opened, I did not find anything except two results for '91 which is what you mentioned, however, this is just one spreadsheet I had, but there are lots of results for the '90s in general.

MR. FARVER: And it may be that they did not get it fully implemented until '94. I don't know. I know there are other sites across the complex that claimed exemptions for technological shortfalls because they could not implement it before a certain time, so there was technological problems. There were money issues during that time period. If you need to get a bunch of fixed head air samplers in, well that costs a lot of money on a budget. Who's going to pay for it? So there were a lot of issues in place going on to try and implement this new DOE order. This was a change to

how DOE had been doing business before, and that's why I'm saying. They may not have implemented it at the beginning of 1991 or they may have but something should be provided to show that, if they did.

Now is you have lots of documentation from 1994, well, maybe that's the date you should go with.

MR. STIVER: Doug, this is Stiver. Something else that's kind of interesting is 1994 is when 10 CFR 835 was implemented, so there could very well be a period from '91 to '94 in those few years when, you know, you say across the complex you see this that there's programs being proceduralized and then the implementation takes a bit longer sometimes.

MR. FARVER: I know there was a lot of difficulties with thorium air monitoring.

DR. NETON: So this is thorium-230 which is a little different than thorium-232.

MR. FARVER: Okay. What would - can Mutty tell me what the number of that SRDB number that he was talking about that had some 1991 information?

MR. SHARFI: 93816, I believe?

MR. TOMES: Yes.

MR. FARVER: That sounds right.

DR. NETON: Because I looked through some of these things and I recall - I don't disagree that, you know, we need to flesh this out better on our end. I'll state that, but I recall going through this and there's a lot of information such as there were requests for sample - follow-up samples because you entered - a person entered an airborne activity area and there were tracking logs and sample receipt dates, sample ship date, all that kind of good stuff, so - I don't know.

It just seems like there's such a lot of information and why - it is puzzling. I will agree - why there's only two air samples in 1991.

But I'd be surprised if it took them four years to implement this, but I agree. I think we need to go back and flesh this out a little better.

MR. FARVER: And if there are specific sub-documents in that document, I'd be happy to look at them. I just - I looked through it as best I could, and a lot of the dates were from the mid-'90s up through 2001, it looks like.

MR. SHARFI: During the D&D period, yes, and that's the prime D&D period.

MR. FARVER: Right.

MR. SHARFI: Which is what we were - when we look for air sampling data, we looked for air sampling data associated with the D&D effort not across the entire site for every year, and like I said, that to me is likely where it is.

The TBD didn't indicate that we will in the future implement this. It was - the TBD said we are implementing it, and I don't - I can't see a site ever putting in a TBD implement now but don't

actually follow the procedure.

MR. FARVER: I think you better go back and look at the TBD. It says we shall, we will.

MR. SHARFI: Shall is pretty straight up. I mean shall is you have to do it.

MR. FARVER: Shall is just a quote from the DOE order.

DR. NETON: We'll go back and revisit this and flesh it out to the extent we can and if we need to get more information, we'll have to make a determination whether it's worth how many extra man-hours and resources to capture this versus not doing it.

MR. FARVER: I mean when you look at the Geotech Technical Basis it says air monitoring shall be the primary method for monitoring the workplace in 1990, so, okay.

DR. NETON: When there's a potential for airborne activity, that's true.

MR. FARVER: Okay.

DR. NETON: You don't monitor clean areas or areas where there's not much contamination. We'll look at it. I hear what's being said here.

CHAIRMAN FIELD: So Loretta or Gen, it sound like we're going to move forward and NIOSH is going to look at this in more detail. Did you have any other questions?

MEMBER ROESSLER: I don't have any other questions. I guess we leave the whole - there seemed like there were two areas to discuss for the Work Group, the appropriateness of the revised SEC time period and then the appropriateness of the air monitoring and bioassay data. We're going to just leave everything until the next meeting then?

CHAIRMAN FIELD: I think that makes sense. I think there's still possibly both up in the air a little bit.

MEMBER ROESSLER: Okay.

DR. NETON: Well, the appropriateness

of adding a Class to '85 is already a done deal. I mean that's already been added.

MEMBER ROESSLER: Okay. Okay.

DR. NETON: This is not open for discussion at this point.

MEMBER ROESSLER: Okay.

DR. NETON: I believe both those Classes have been added already. The idea was we suggested adding up to '85. The Board agreed. It was added, and then the Board recommended that SC&A look and see if '85 was the right stopping point, and that's what we're discussing now.

MR. KATZ: That's right.

DR. NETON: So it's good to hear that SC&A agrees that what we've added makes sense, and what the Board added, but it shouldn't be open for discussion anymore at this point.

MEMBER ROESSLER: Right. I have no further comment.

CHAIRMAN FIELD: Okay.

MEMBER VALERIO: I don't have any other questions or comments.

CHAIRMAN FIELD: So I think that wraps up that aspect of what we wanted to discuss. So, Ted, at this point, do we ask for petitioner comments or - I don't think there is anyone on the line, but just in case?

Petitioner Comments

MR. KATZ: Yes, I think - do we have the petitioner the phone? We're not expecting the petitioner because Josh reached out and that's what he indicated to me; we didn't expect them. Is the petitioner on the line? Okay, so anyway, we just want to leave that out in the open, but, yes.

So, Jim, what are you thinking, Jim, Tom, about a timeline for getting back that maybe we can reconvene and discuss further?

Path Forward and or Plans for November Board Session

DR. NETON: This is Jim. I don't think it's going to be before the Board meeting in

November to be honest. This could take a while, especially if it would require going back to interview a few people and maybe trying to find out if we really need to collect more samples, but I think - we're in, what, early October now? It's possible, maybe before the Board meeting, but not much before. That's my thought.

CHAIRMAN FIELD: Okay, so at this point do we have any other things to discuss, any other items? It seems like we're sort of on hold for getting that information at this point.

MR. KATZ: Right. I agree, Bill. So we can just report out at the November Board meeting, assuming that things don't get done sooner unexpectedly, that this is in progress, and that's it. You can do that during the work session.

CHAIRMAN FIELD: That sounds good.

MR. KATZ: We won't need a session for this SEC specifically.

Path Forward for Resolution of Site Profile Issues from SC&A Review of Program

DR. BEHLING: This is Hans Behling, and I'm wondering if I'm a little out of line here, but with regard to PER-47, Finding Number 3 was left open during the discussion that took place back in April 28, 2015, at which time I went through the transcript and Jim Neton was going to look at the issue involving the 569 data - air sample data values that were potentially available for use in dose reconstruction as stated in the template.

If Jim is still on the line, can you comment on where we are, if that was ever resolved. That is Item - Finding Number 3.

DR. NETON: No, that's not been - it's not been formally resolved. That would be handled through the Procedures Subcommittee process, and my - I just saw some email traffic this morning that's on the agenda. It's going to be put on the agenda for the upcoming Procedures Subcommittee meeting. I think that may convene sometime in November.

DR. BEHLING: Okay.

DR. NETON: But we're really talking about this, these 569 air samples are exactly the air samples we were just talking about.

DR. BEHLING: Yes.

CHAIRMAN FIELD: Those are the D&D air samples.

DR. BEHLING: Exactly, and that's why I was wondering if there was any available information to clear that finding off the record.

DR. NETON: Well, I have to talk to Dave Allen about this, but we will be prepared to discuss this at the Procedures Subcommittee meeting.

DR. BEHLING: Okay.

DR. NETON: I mean the air samples have been put in a database. They have been categorized using a log-normal distribution.

I think the finding was - it's my recollection that the nature of that finding was not that the 569 air samples were in question; it was that it was sort of inferred in the template that

the dosimetrist would go back and look at the 569 and come up with an intake.

DR. BEHLING: Yes, exactly, Jim. I didn't question the validity or existence of these except that I was questioning the need for dose reconstructor to analyze data for himself, and I believe they were located in very different SRDB documents that would make it very, very difficult for a dose reconstructor to take it upon himself to do this.

DR. NETON: That's right, and I don't know that the template I looked at this morning addresses that, but the resolution of that finding is to be more specific and use the - prescribe the values that are based out of those - that air sample database whether it be the 50th or the 95th percentiles.

DR. BEHLING: Exactly, exactly.

DR. NETON: I honestly don't remember if that's in there or not, but that could be resolved

pretty easily at the November Subcommittee meeting by just going through that and either committing to change the template or that we already have. I'm not sure that we haven't.

MR. TOMES: This is Tom. I believe our template has those values in there.

DR. NETON: Okay. If the template has those values in there, then we can offer that as the closure of that finding and it can be reviewed and evaluated. People can look at it and see if they agree with us.

MR. KATZ: Can you just lead Hans then to look at that template so that that will be - he'll be prepared to -

DR. NETON: Sure.

MR. KATZ: Thanks.

DR. NETON: That will come out when - we'll put that in the Board tracking system.

MR. KATZ: Right, right. Board Review System. Thanks.

DR. NETON: Yes, and that template will be put out there and that will be part of the closure process.

MR. KATZ: That sounds good.

DR. NETON: Very good. Yes, thanks for reminding me of that, Hans. I had forgotten completely about that, but I knew we had done something on it.

DR. BEHLING: Yes, the only reason I was even made aware of it was in preparation of today's meeting where I went back and looked at what we did under PER-47. I realized that was still an outstanding issue.

DR. NETON: Right. Of course, how we end up using these 569 air samples is still sort of subject to some discussion here, but if that changed, then of course we would revise the template again and the PER would be issued. Hopefully that won't - well, we'll see what happens.

DR. BEHLING: Okay.

CHAIRMAN FIELD: So, Ted, as far as I think our items for today, I think we have them pretty much covered. I mean there were two concerns, but I think we can keep those concerns in mind as we move toward our next meeting and discussions for our next meeting and hopefully wrap things up at that time.

MR. KATZ: Yes, I agree, so I'll - we can't reschedule another meeting until we have a sense of when the NIOSH folks will be ready, but we'll do that online by email.

CHAIRMAN FIELD: At least we made progress on this. It was good to have our first meeting on this issue and we have a plan forward, so I think that's all good.

MR. KATZ: Yes, I think that's good, too.

DR. NETON: Sounds good.

MR. KATZ: Okay then. Well, Bill, I think then we can adjourn, right?

CHAIRMAN FIELD: Sounds good.

MR. KATZ: And thanks, everybody, for your work and have a good rest of your week.

CHAIRMAN FIELD: You too.

MR. KATZ: Take care.

Adjourn

(Whereupon, the above-entitled matter was concluded at 11:27 a.m.)