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

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ADVISORY BOARD ON RADIATION AND
WORKER HEALTH

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WORK GROUP ON TBD-6000

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MONDAY
JUNE 16, 2014

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The Work Group convened via teleconference at 10:30 a.m. Eastern Daylight Time, Paul L. Ziemer, Chairman, presiding.

PRESENT:
PAUL L. ZIEMER, Chair
JOSIE BEACH, Member
WANDA I. MUNN, Member
JOHN W. POSTON, SR., Member

ALSO PRESENT:

TED KATZ, Designated Federal Official
BOB BARTON, SC&A
DeKEELY HARTSFIELD, HHS
JIM NETON, DCAS
JOHN STIVER, SC&A
TOM TOMES, DCAS

T-A-B-L-E O-F C-O-N-T-E-N-T-S

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

(10:37 a.m.)

(Roll Call.)

MR. KATZ: Okay, very good. So, Paul, it's your meeting.

CHAIR ZIEMER: Thank you, we really appreciate it. I call the meeting to order. Thank you all for being with us this morning.

Our focus is on Simonds Saw. And Ted Katz, just prior to the official opening of the meeting, reminded us of the documents that are before us. And I just repeat again, we have two documents from NIOSH, one from last September which is a brief paper dealing with Finding 6 of the findings matrix dated February 2014, dealing with Finding 7. And then a document from SC&A, dated June 3rd of this year, which is the SC&A position on the two NIOSH responses, that is, responses for Findings 6 and 7.

But all of these papers addressed clearly -- and what I thought we would do is not necessarily go through all the details on Findings 6 and 7. The Work Group and others have had these on hand for quite some period of time, but, Tom, give you a chance to add any comments you want on, first on Finding 6 and Finding 7. And then we'll go to the SC&A position paper which basically goes through these findings, and then give your comments on those and you can review that for us. That's just been received within the past week or so.

But, Tom, do you want to begin and then give us any additional comments or remarks on, first on Finding 6 or anything you want to highlight at this point?

MR. TOMES: Okay. Finding 6 concerned the external doses during the residual period and SC&A had some concerns with the bases for some of the selected doses in the

TBD and the justification for those doses as well as the length of the workday, which we had discussed previously, and the use of the distributions in the TBD.

Well, we, NIOSH, went through all of the references. There's various surveys that's been done over the years starting in, there was the operational period ending in 1957, which is actually the year they were doing some cleanups and the surveys were done at that time and subsequently the surveys were done to characterize the site, specifically in 1976, '79-'80 timeframe, 1984 and 1999 and 2007.

So we have gone through and -- we=ve gone and in response to SC&A's finding, we did have some concerns ourselves with the bases for some of the values so we went through all that data again and we're making some recommendations that we change some of those values.

We compiled all the data and we have come up with a bounding dose rate, for penetrating dose, of 80 micro-R per hour, which is basically the same value as in the current TBD as a distribution.

But in going through all the data, we're recommending that dose be retained as a constant and it should provide a bounding dose rate based on all the compiled survey data that we did.

And SC&A also commented on the non-penetrating dose, and the non-penetrating dose was previously based on an area from the 1957 survey. And there was some data in that survey that from the 10-inch bar mill it had a higher beta dose rate.

The 1957 survey had 3-foot beta dose rate readings at the various equipment and the 10-inch bar mill was higher than the other places, so we simply are deciding that we should

use that survey data for non-penetrating dose for all the workers since we cannot tell who worked at which mill or which area.

So we're recommending an increase in the beta dose rate based on that survey and there was numerous survey points on that so we're recommending we just take the midpoint of that as a constant.

And as far as to calculate doses, we're recommending that we use 2500 hours per year times the given dose rates to determine the dose for all the workers. And that is essentially our proposal for external doses, and the paper provides some more details and we have some spreadsheets we've exchanged with SC&A looking at all the data.

They had some observations on some of the data we did and did not use, but I believe we came up with a similar number and I believe they concurred that it should be a bounding dose

rate.

CHAIR ZIEMER: All right, and we'll get to that in just a moment, but that basically covers what you discussed in your paper.

Let me just stop for a minute and ask if any of the Work Group Members have any specific questions on the NIOSH document.

And I'll take the silence as an absence of questions, apparently.

Okay. Then, Tom, let's go on to Finding 7, give us your comments on that, just a quick summary.

MR. TOMES: Give me one second here.

CHAIR ZIEMER: Okay. And let's see, I know we have the open meeting, what do you call it, GoToMeeting, put it online, but does anyone actually intend to use that today? Tom, you don't have any --

MR. TOMES: I had not planned to.

I didn't have any presentation to show.

CHAIR ZIEMER: Yes, I didn't think you did, but we're all logged into it so I just wanted to make sure if you had anything you had it up. But you don't need to use it. Go ahead.

MR. TOMES: I do have it open in case there's a need to look at anything further during our discussion.

CHAIR ZIEMER: Okay, go ahead.

MR. TOMES: Finding 7 concerned the residual period as well, the internal doses, and SC&A had a few concerns on how they were done, one of which was the value we used as the initial air concentration at the start of the residual period as well as the value we used at the end of the residual period.

And they also had concerns with the depletion rate with our TBD as a depletion ending in 1982 and then the levels remaining flat rather than the depletion carrying on to

the end, and we've addressed that.

And this was a rather complex evaluation so we asked the Army Corps of Engineers for additional data. We had used a lot of data in their Remedial Investigation Report, but the Remedial Investigation Report also referenced that, in some footnotes, that there was additional data and some appendices and some spreadsheets.

So we got that data from them and we got the spreadsheets from them, and in looking at the data we basically decided that we should probably do a more thorough review of it and what we had done is come up with distributions in the contaminated facilities that were there, inside contaminated facilities where the operations occurred, and we're recommending new values based on the evaluation on that data.

And the start of the residual period -- let me go back to the first issue. The start

of the residual period, we discussed this in a previous Board meeting and it was determined that we should probably use the 1954 GA, general area, air sample data, which is the most recent data we have.

There was GA air samples taken during the operations and we've taken the geometric mean of all those results and assumed that to be the bounding dose rate -- excuse me, bounding air concentration at the start of the residual period. And we've connected that to this new value we got from the Army Corps of Engineers data from 2007.

And we ended up recommending that we do not stop the depletion in 1982. The TBD we have made that choice due to the fact that the facility was roped off and had been idle all these years. And the data supports that the facility's basically in the same condition it was at that time.

However, we found that there is part of the facility that extends over into the active warehouse at the facility. The main area that's isolated is the main processing area, but there's an area called Building 24, part of that building is contaminated, which is the south end of that building. And the overheads have fixed contamination on them, as well as some areas on the floor and other places around there.

Most of that building's clean, but there are areas that are contaminated and accessible to the people who work there.

However, the air concentration is very low and the Army Corps of Engineers did air sampling surveys during their work and the results were low, but we have ended up with the recommendation that we should take the air sample results from 1954, assuming it bounds the air in 1958, and connecting it to the 2007

air concentrations from the Army's data and determine a new depletion rate.

And that is our -- excuse me, the last issue was the 2500 hours per year which we are also recommending. If I did not make that too confusing, I'd be glad to reiterate any of those issues that you have questions about.

CHAIR ZIEMER: Well, thanks, Tom. And of course you've given a lot of -- more detail than that in the paper itself, but let's again see if anyone has any questions on it.

Let me ask you one question, on that fixed contamination in, was it Building 24 that was --

MR. TOMES: Yes.

CHAIR ZIEMER: Yes. On that fixed contamination is that up in the rafters and so on as well, was that --

MR. TOMES: Yes. The majority of that contamination is the high levels were in

the beams in the south end of that facility. One part of that facility was actually the loading dock during the early part of the AEC work and another part of the south end, those beams were in place, the ceiling beams were in place during operations.

And that part, and that other south end was actually built during and after the operations, so there are some areas in there that they're not contaminated, but there are some, evidently the ceiling beams had material sprayed on from furnaces or some other operations going on in there and they found a layer of basically just crusted contamination in the overheads and they did a pretty thorough survey of it and they were concerned that there may be high levels of removal and they found very little and they also pulled air samples for a few days while they were in there.

CHAIR ZIEMER: Are we assuming that

that remains fixed during the residual period, then? That's not contributing to the air activity that's assumed as you go forward in the residual period.

MR. TOMES: That facility is used in the evaluation -- that data is used in the evaluation.

CHAIR ZIEMER: Yes, okay.

MR. TOMES: So we are assuming that that is one of the data that was used.

CHAIR ZIEMER: Okay, thank you. Other questions? Okay, thank you, Tom. Let's go ahead then with SC&A's review and analysis and recommendations. Bob, are you going to head that up?

MR. BARTON: Yes. Thank you, Dr. Ziemer.

CHAIR ZIEMER: Yes.

MR. BARTON: This is Bob Barton. I guess at the outset it's important to remember

that these new approaches, I guess we'd call them, are pretty much completely new methods for reconstructing the doses during the residual period, so there's a little bit to digest here.

We obviously had some concerns with the original way things were being done and so Tom went back and really kind of went through the weeds on those residual survey reports and he outlined, you know, they begin in 1957, which is essentially the final year that was considered operational and there was some surveys that were done in the '70s, 1980, '84, 2000, and then a pretty major one in 2007 by the Army Corps of Engineers.

So I guess one of the I guess overarching issues, which was pretty easy and kind of a no-brainer to solve was this notion of whether we're going to consider an 8-hour workday or a 10-hour workday for the workers.

And originally during the operational period, NIOSH assumed a 10-hour workday which is pretty much in line with what we had heard through claimant interviews and information such as that, so ten hours makes sense in their operational period but originally it was being assumed that once the residual period started well now the shifts were down to eight hours.

And we said, well, you know, is there a good reason to justify that. So NIOSH took a look at it and said, well, you know, for consistency it's claimant-favorable and much better just to assume ten hours in both periods because there's no reason to think that, you know, the shifts or work schedule changed, so that was kind of a no-brainer, just increase the work year from 2000 hours to 2500 hours.

Now we sort of get into okay, so the external component of the dose reconstruction,

which is Finding 6, and you have essentially two components to that, you have the penetrating dose and then you have the non-penetrating dose.

Penetrating dose was essentially measured in each of the surveys I just mentioned, you know. So essentially all throughout the residual period you have some gamma walkover data.

From 1957 or '58, really when the residual period starts, up until 2000 what you essentially end up with is about 80 measurements.

Now not all of those measurements we noticed had been used by NIOSH when they calculated their distribution of gamma measurements, which is not necessarily a bad thing, but we said okay, what kind of effect would it have if we started including some of these data points which weren't used but

they're pretty much in the same ballpark.

So that sort of brings us to SC&A Observations 1 through 3 in the memo to the Work Group sent out about two weeks ago. Essentially what we did is we said well, what effect does it have if we start adding in some of these other measurements into the total of 80 and what it turns out is the chosen value of 80 micro-R per hour, which was essentially the highest observed result in that 1957 survey right at the end of the residual period.

Out of the 80 measurements, 80-some measurements, only four ever exceeded that sort of value of 80 micro-R. So we said okay, well, what about those, you know, four measurements? And it turns out that they're pretty well characterized hot spots.

In other words, yes, you could look at a survey of that and say, wow, the highest one we observed was 300 micro-R per hour, it was

under a step, I believe, but then you go ten feet away and it dropped to a hundred, or if you go ten feet in the other direction that'll drop to 60, so it was clearly a hot spot.

So, you know, it seems very unlikely to me that any worker would have been exposed to those higher levels of gamma radiation for a full year over the entire course of their employment.

And when you fit a distribution to those 80 measurements what you find out is even when you add in some of the data points that weren't used, that 80 micro-R per hour is bounding the 95th percentile of the full gamma measurement distribution.

Now, this is only considering up to about 2000. The 2007 survey had over 2000 gamma measurements at three feet and the highest one I believe was 63 micro-R per hour.

So, again, that chosen value of 80

is certainly going to bound the very highest measurement observed in 2007 and if you take all those thousands of measurements and you look at them and you say, okay, you know, what did it look like if you put them to a distribution.

Well, now your 95th percentile for 2007 was down around, you know, ten micro-R per hour, and that's at the 95th percentile, and that's really pretty close to what background is around Lockport, New York.

So, I mean, basically what I'm getting at is that penetrating value certainly looks bounding to me. It's even higher than the 95th percentile of all these gamma measurements that we have pretty much throughout the residual period.

And, like I said, it represents the highest measured value right at the start of the residual period. So, I mean, for those reasons I feel like that's a good value to choose.

You use it as a constant and it will certainly bound the doses, from my point of view. Now that's the penetrating component.

When we get to the non-penetrating component, we have far less data. I believe we only have maybe five or six values anyway, we don't exactly know how many measurements because it doesn't specify how many actual measurements they have in that 1957 survey where they found the highest readings in the 10-inch bar mill area.

They give you a range it goes from one to 1.7 millirem and we don't know how many measurements went into that range so it's kind of difficult to tell, but essentially that was an order of magnitude higher than anything else they measured in the plant and they pretty much said in that survey report that, you know, aside from two areas in the main plant area, everything was below, I believe it was 0.2

millirems per hour.

So that's, you know, an order of magnitude less essentially than what we're looking at here and, of course, we're assigning that for the full day for 2500 hours per year for however long they worked there.

So the data's kind of limited for beta at three feet, but from what we have we're pretty much picking the high end of what values we do have to work with.

Now, another way to look at it from a scientific defensibility standpoint is to say, okay, what kind of ratio should we see. In other words, does this beta dose rate and this gamma dose rate, when you look at them relative to one another does it make sense, is what we're seeing scientifically valid? Which brings me, I believe it's Table 3-10 in TBD-6000 that essentially gives you a dose rate ratio.

If you have this gamma, this is what

kind of beta dose rate you should see in relation to it, and that ratio comes out to a hundred.

Now, SC&A also did, I believe in a review of that methodology, they said, okay, well, let's run some Monte Carlo and let's see what ratios we come up with and we found out that, well, the ratio between the beta and the gamma is really less than that, it's probably closer to like 45 or 50.

Now, what we're looking at here with the ratio of these two values is lower than that. It's around 17, I believe, maybe 17, 18.

Now, one would say okay, well, your ratio is a little bit low there so what's going on, I mean is the beta component too high, is the gamma component too low?

But what you have to remember about those two numbers I quoted before, the ratio of 45 and the ratio of a hundred is that

essentially assumes an infinitely thin slab. In other words, there's going to be no self-shielding or attenuation of the beta component whatsoever.

Now, that's not reality. In reality you're going to have layers of it and, you know, the beta component will really only travel through, you know, a fraction of a millimeter of material.

So in reality your ratio is going to be much lower and the reason I'm bringing this up is, from our point of view, the fact that you're in that right range of dose ratios sort of validates in my mind the values that have been chosen.

Since we don't really have a whole lot of data, you know, it becomes a weight of evidence as to whether we find it scientifically defensible to use the values that we do have and I think that's one piece of

evidence in its favor.

Now, listen, our ratio is a little bit low but we're in the same ballpark as what the model ratio should be and the model ratio really is a vast overestimate of the beta component because it doesn't consider any sort of shielding.

So in our mind, from a Finding 6 standpoint, the data has been very well characterized as to what we have, what we can use, and I think the values chosen are good ones, to put it simply.

So I guess I'll stop there for now and ask if there are any questions on the external component of -- or Finding 6 essentially.

CHAIR ZIEMER: But basically SC&A is saying that they agree that NIOSH's approach for the external, both the gamma and the beta, is bounding, would that be a --

MR. BARTON: That's correct. One of our major concerns going in was that we didn't feel the original TBD really discussed what data was out there in the context of, are we really choosing, first of all, how well was the site characterized throughout the residual period. In the case of the gamma walkovers I'd say it was pretty good.

CHAIR ZIEMER: Yes. What was the basis for it and was it truly scientifically defensible and I think you're saying yes it, now you believe it is.

MR. BARTON: Yes. I think that in the latest White Paper provided by NIOSH, I believe last fall, really kind of laid out what do we have out there for survey data, you know, when were the different surveys taking place and what are the magnitudes we're looking at that they found throughout the residual period.

And I think that we picked a

scientifically defensible but also bounding and claimant-favorable value on a value essentially for the gamma and the beta component.

So that's where SC&A kind of stands. Again, is there any questions, we can field them now or we can move on to Finding 7.

CHAIR ZIEMER: Well, let's see if there's questions now, this is on external now.

MR. BARTON: Yes.

MEMBER MUNN: Not here.

CHAIR ZIEMER: Okay. Let's --

MEMBER BEACH: Yes, this is Josie. Bob, that was very clear and good information, thank you. No questions.

CHAIR ZIEMER: Okay, then let's proceed with the internal, Bob, thanks.

MR. BARTON: Sure, okay.

MEMBER POSTON: Paul, just for the record, I don't have any comments, I read, I

reread all --

CHAIR ZIEMER: Oh, John Poston. Comment, John?

MEMBER POSTON: No. Just for the record, I don't have comments. I reread all this stuff this morning and the oral presentations just made it fine for me. I don't have any questions.

CHAIR ZIEMER: Good, thanks. Go ahead, Bob.

MR. BARTON: Okay, great. All right, so now we're talking about how do you characterize the internal component, which is essentially how do you characterize the dust loading available for inhalation during the residual period.

Now, originally, so essentially what you need is you need a starting point and you need an ending point and then you can interpolate between them to get essentially a

gradual decline in the dust loading as the source term is being removed, but if you have a starting point and an ending point, you essentially connect the dots and reconstruct internal doses during the residual period.

So the real crux of it is what is that starting point going to be and what is that ending point going to be. Now, originally NIOSH had used a similar, but not quite the same approach of using general air samples during the operational period.

Specifically, they were using samples from 1949 to 1953, which is essentially right in the middle of the operational period at Simonds.

Now, one thing that's important to understand about Simonds is there's sort of a sliding scale as to how well they were keeping dust levels down.

When they first started off in 1948,

the dust levels were pretty enormous. AEC came in and suggested some industrial controls and other practices such as, you know, localized ventilation, you know, use a vacuum, no more broom sweeping, that kind of thing, to get dust levels down to where they were pretty good.

And, you know, the 1949, now, and starting in 1953, for whatever reason, maybe it's that they were doing less work or whatever, a lot of those industrial controls started being removed.

So we have the situation where conditions weren't very good. They got better for a few years and then they kind of degraded to where they weren't being used anymore.

So we said, well, you know, your general air samples, while we agree it's very good to use general air samples during the operational period to establish dust levels at the residual period, you're kind of looking at

the period when controls were at their height, you know, things were probably the best they were at Simonds during that period and it's always more preferable to use data as close to the end of the operational period if possible to characterize conditions at the start of a residual.

So we said all right, we realize we don't have any air sampling from 1955 to 1957, essentially the last three years of operations at Simonds.

We do have some air sampling in 1954. That's the closest we can get so that's the best we can do. So NIOSH compiled the general air that we have. I believe they came up, there were 21 total general air samples taken during operations.

They were pretty well characterized. About, you know, whether in the vicinity of certain operations going on and

such, 21 samples, a couple of them were taken in the same area during the same operation, so it makes sense to just average those values so you end up with 16 total samples and you take the geometric mean of that and you say all right, that's going to be our dust loading at the start of the residual period.

Now, they're not saying that that dust loading is going to settle and then get re-suspended, we're simply saying that is the dust loading. I mean it's during operations for rolling uranium.

So to me that is kind of an easy way to say, well, listen, that's got to bound what the actual re-suspended material was going to be during steel operations, you know, a number of years later.

We're actually using operational data that's going to be available for inhalation. So the starting point to me is the

good one. It's going to bound it because we're looking at operational data, not residual.

So now we get to the ending point and originally NIOSH had used essentially the same report from the Army Corps of Engineers and they had calculated something, what was it called? I believe it was called an exposure point concentration.

And, you know, we looked at that we said, well, we can't really see what was done here. I mean, we know what the ending value is, what this exposure point concentration, we don't know how they arrived at it really. It was kind of a little muddy, we couldn't really tell.

So we asked NIOSH, you know, can you give us a little more information on this and that's where Tom just described they actually went and got the raw data from the Army Corps of Engineers and they looked through and they

said you know what, maybe we should do our own little bit of analysis here.

And so they looked at it and there's thousands and thousands of data points and a lot of them were on like clean surfaces like walls and such.

I think Tom, it's very well described in the report, did a good job of going through and saying, listen, these one's these are not in the areas where uranium rolling took place, or they're on obviously clean surfaces, so you know what, let's get rid of those.

Now let's look at just the buildings where work was done and it turned out that Building 24, the southern portion only, because that's the only portion that was there during operations, had the highest 95th percentile contamination value.

So we said, all right, that's a good start because it's, you know, the highest 95th

percentile out of the four or so buildings where operations took place.

So that's essentially what you're going to use to be re-suspended, which seems like a good place, but we wanted to ask one more question, is, you know, how do the two end points compare.

Because what OTIB-70 says is if you don't really have data for the residual period, what you can do is take data from the operational period as your starting point and you'll apply what's called a depletion factor.

Essentially every day a small fraction of the source term available for inhalation is going to decrease and that value, see if I have it off the top of my head.

Okay, here we go. It's 0.00067 per day. That's the fraction essentially leaving the site for all intents and purposes. So we said okay, that's what=s recommended in

OTIB-700, how do our two, our starting and end point actually compare if we're going to calculate that depletion factor, you know, how do we compare it?

Is it in the same ballpark as what OTIB-70 says? Is it higher? In other words, are we losing our source term faster? And as it turns it out that when you connect our starting and ending point, the depletion factor is about one-quarter of what is presented in OTIB-70.

So essentially our source term is hanging around longer, which is obviously going to be a claimant-favorable assumption. At the same time, like I said there's about a factor of four in there which says that the starting and end point that we've chosen seems scientifically defensible because we're very comparable to what OTIB-70, we are prescribed.

So I guess that's where we're at

with Finding 7 and I guess the moral of the story for both of them is that SC&A feels NIOSH has really done their homework here and gotten into the data and explained their position very well and while also choosing scientifically defensible and claimant-favorable choices to reconstruct doses.

So I guess that's where SC&A comes out. If there are any questions.

CHAIR ZIEMER: Thank you. Again, we appreciate the analysis that SC&A has done to review this latest recommendation from NIOSH.

So I have no further questions, let's see about the other Work Group Members?

MEMBER MUNN: None here. Sounds thorough to me.

MEMBER BEACH: Yes, I don't have any, either.

MEMBER POSTON: No. No questions,

Bob.

CHAIR ZIEMER: Okay. I guess both presentations were very clear. We have a final recommendation from SC&A which is on Page 8 of the report that Bob Barton prepared.

Let me, just for the record, read the recommendation of SC&A to the Work Group. Based on the above discussion SC&A believes that NIOSH has satisfactorily addressed the original concerns with reconstruction of both internal and external doses during the residual period.

SC&A's position is that we currently propose methods representing a scientifically defensible, sufficiently accurate and claimant-favorable approach.

Therefore SC&A recommends that the Work Group accept the proposed approaches outlined in NIOSH 2013(b) and 2013(c) and place Finding 6 and 7 in abeyance until the TBD is

revised to reflect the new methodology.

And that's the end of the recommendation and let me just indicate that if we agree and accept this recommendation, in essence what we are saying is that we recommend that the residual period not be included in the SEC because dose can be reconstructed.

MEMBER MUNN: This is Wanda, I agree with that recommendation.

CHAIR ZIEMER: You recommend to the Board that this be accepted?

MEMBER MUNN: That is my recommendation, yes.

CHAIR ZIEMER: Okay, thank you.

MEMBER BEACH: I'll second it, this is Josie.

CHAIR ZIEMER: Okay. Now any discussion on this recommendation, Board Members? If not, I'll just call for a quick vote for the record. Let's see, Wanda?

MEMBER MUNN: Yes.

CHAIR ZIEMER: Josie?

MEMBER BEACH: Yes.

CHAIR ZIEMER: John? I hear somebody clearing their throat, was that a yes?

MEMBER BEACH: No, that was Wanda.

CHAIR ZIEMER: Oh.

MEMBER MUNN: Sorry about that.

CHAIR ZIEMER: John, we're not hearing you, are you on the line yet?

(No response.)

CHAIR ZIEMER: Okay. And I'll vote yes. So the Work group is going to recommend then to the Board that the SC&A recommendation be accepted, which in turn means that we are accepting NIOSH's position that they can reconstruct dose and therefore that the residual period not be included in the SEC.

Now let me just ask Ted here now, for the full Board Meeting, do we need a formal

presentation on this or just the recommendation?

MR. KATZ: Well, Paul, I think, and there are different ways you can do it, I think it would be helpful to have a presentation because the full Board, this has sort of been off the radar for quite a long time and I think they'll probably appreciate sort of being reminded of where we left off and then how we've gotten through this last bit.

So, I mean, you may want to have NIOSH and SC&A sort of give a formal, you know, presentation of what the remaining issues, findings were and how they were resolved and then, I mean, I think the Work Group's, you know, report could be very brief and oral, even.

CHAIR ZIEMER: Right. So perhaps let me clear this up and perhaps Tom could summarize NIOSH's approach for Findings 6 and 7, which is the external and internal for the

residual period.

And then Tom could summarize SC&A's review and their recommendation, and then I would simply follow up with the Work Group's recommendation to the Board.

MR. KATZ: Yes. I think that would be good. You said Tom, but you meant Bob for SC&A.

CHAIR ZIEMER: I meant Bob.

MR. KATZ: Yes.

CHAIR ZIEMER: I meant, Bob, right.

MR. KATZ: Of course. And I think though, also, just to back up a little bit at the front end you may want to just introduce this all by reminding the Board that they had added a Class, you know, back in I think 2011 I think it was.

DR. NETON: Hey, Ted, this is Jim.

MR. KATZ: Yes?

DR. NETON: I've got a question I

guess on that. Everything we've been doing up till now has been addressing the TBD review issues and not necessarily the SEC issues.

Is it really the case that we are closing out the SEC here or are we just closing out the Site Profile Review?

MR. KATZ: Well these were the, I believe, but you would know better than me, or Tom would, that these were the issues that were standing in the way of closing out the SEC, if I'm incorrect about that --

DR. NETON: Well, our recommendation in the original ER is we could do dose reconstructions for the entire period. We didn't leave it open, so it was not an opening there.

MR. KATZ: The original ER, no, the original ER recommended a class, yes -- No, the original ER recommended a class for through '57.

DR. NETON: But we also said in the original ER that we could do dose reconstructions for the rest of the period, I'm pretty sure.

MR. KATZ: Right, but then you have the SC&A TBD review that raised questions about the residual period, which is why we've done this work, right?

DR. NETON: It's odd though because we've been conducting this entire review as if it was a TBD review not an SEC review.

MR. KATZ: I understand that, but this was standing in the way of finishing up the Board's review of the SEC, right? The Board was still --

(Simultaneous speaking.)

CHAIR ZIEMER: Well, we haven=t met -- the Board did not approve the residual period yet, did they, and so the --

MR. KATZ: They did not and the

Board did not come up with a determination for the residual period, which would've had to have been a determination that the doses can be reconstructed.

DR. NETON: I guess that's a matter of -- they didn't specifically withhold it, that's for sure.

MR. KATZ: Right.

DR. NETON: We recommended that we could do it, the Board agreed with our recommended period. I, you know, I can, it doesn't really matter I guess either way, but I was going under the assumption this was all TBD review and not SEC review material.

MR. KATZ: Well, and I think it kills two birds with one stone, but --

DR. NETON: I know, but we would've approached it very differently if it was -- an SEC evaluation is a somewhat different threshold than a Site Profile.

I mean, clearly if you cleared a Site Profile hurdle, the SEC is a non-issue, but I just didn't, well --

MR. KATZ: Well, this was one of these, I mean, this is one of these SECs where the Board never articulated a position on the residual period.

So the Board has this as an outstanding item to close the SEC. But, Jim, if you're saying, I mean that --

DR. NETON: Yes, I don't know.

MR. KATZ: Oh, okay.

DR. NETON: I really don't know, I'm just saying that I don't see where the -- the Board certainly didn't specifically withhold judgment. We were very clear in our ER that we could do the SEC after '57 and so I saw nothing outstanding commentary-wise that would indicate that it was an issue.

But, you know, if it's the

requirement that they all formally be addressed with determinations, if the Board does not formally address it in the letter then I guess --

MR. KATZ: Yes. Well, I mean, I the rule we've been running by is unless the Board formally articulated that it concurs about the residual period or the period remaining on an SEC petition, then it needs to act to do that.

Now, I think there have been some SECs where the Board didn't produce a determination letter saying feasible after this period, but the Board's discussion of the SEC made it very clear that the Board concurred that the SEC shouldn't extend or be considered beyond the period.

DR. NETON: Right. I don't know what the transcripts say on this, to be honest with you.

MR. KATZ: Excuse me, can you say that again?

DR. NETON: I don't know what the transcripts on this --

MR. KATZ: Oh, but I can tell you because LaVon and I went through these transcripts and this was definitely one of those transcripts where the Board basically just ran through the expedient of getting the SEC added, but did not address the residual period.

DR. NETON: Okay, then that's fine. That's fine. I just --

MR. KATZ: Yes. So that's why we've had this on our list to close it out.

DR. NETON: Okay.

MR. KATZ: And I think, I mean, so I understand what you're saying, Jim, exactly, but I think things just weren't, this wasn't left very clear, this issue.

DR. NETON: Yes. Yes. And, again, it's just a matter of process. I mean either way it comes out the same.

MR. KATZ: Right. And I think, my impression is you've, you know, you've done the same work you would have.

DR. NETON: But this in effect then will require a determination letter and such.

MR. KATZ: Exactly. It'll require a determination letter from the Board.

DR. NETON: Okay. That's fine. I just, I guess I was not working under that impression, but I've got it clear in my mind now.

MR. KATZ: Okay, no problem.

DR. NETON: So back to the Board meeting, then, I guess NIOSH will provide a summary of what we've done to address these issues?

MR. KATZ: Yes. I mean, I think if

you folks do that, lead off with the -- and I think you've more or less done it for the Work Group anyway --

DR. NETON: Yes.

MR. KATZ: -- so all you need is a presentation as opposed to a verbal one, I mean, a PowerPoint one, and then we would use these papers, we would provide these to the Board and SC&A can do their review.

And, Bob, I'll just leave it to SC&A whether you want to actually have a PowerPoint presentation or deal with it orally as you did in this Work Group meeting. I think you could handle it either way.

MR. BARTON: Yes, I think a few slides would probably be useful.

Maybe I can coordinate with Tom as he puts his presentation together so we're not, you know, overlapping the same information, but, you know, if some of the SC&A review

information sort of supplements his presentation, I think it would helpful for the Board.

MR. KATZ: Yes. I think that would be great.

CHAIR ZIEMER: Tom, also, in your presentation it would probably be helpful just to remind the Board of what they've already done on the active period and why we're looking at this residual period.

MR. TOMES: All right, that's fine.

CHAIR ZIEMER: And a very brief review again, it always helps to remind people of what they did at the site, what was going on there and just -- and very brief.

MR. TOMES: Okay.

CHAIR ZIEMER: Not a full review of everything, but just a little reminder. So I'll kick it off by introducing what we're doing. Tom will talk about how Issues 6 and 7

for the residual period were addressed.

Bob will give the SC&A evaluation and their recommendation and then I'll finalize it with the Work Group's recommendation to the Board. How does that sound, Ted?

MR. KATZ: I think that sounds good. And, Paul, I think given Jim's sort of uncertainty about this, I think it would be probably helpful for the rest of the Board to just note that this was one of these SECs where the Board, you know, acted to sort of expedite the SEC and hadn't really addressed the period outside of what was covered to be added by NIOSH.

CHAIR ZIEMER: Okay, great. Yes. And, again, that was, I didn't go back and review that transcript, but I was working under the impression that that was the case, and you had reviewed it, Ted?

MR. KATZ: Yes. I looked at it and

Bomber, both of us, we both looked at it and that was the case.

CHAIR ZIEMER: Okay, very good. The only other comment I will make to you, Ted, is that I won't physically be at the meeting and I'll tell you offline why that is the case, but I'll be on the line and I think I can take care of it by phone.

MR. KATZ: Okay. Okay, thanks, Paul.

CHAIR ZIEMER: Okay, any other comments or questions? I think that completes our agenda for the day unless there's further concerns or comments or issues that anyone wants to raise.

If not, I thank all of you for your input on this and for your actions and we will see you either in person or by phone at the full Board Meeting.

Oh, we have a phone meeting coming

up anyway later this week.

MR. KATZ: We do, on Wednesday.

MEMBER MUNN: Yes.

CHAIR ZIEMER: But we're not going to act on this till the face-to-face in Idaho, right?

MR. KATZ: That's correct.

CHAIR ZIEMER: So the only thing we need to do at the upcoming meeting is to report that this is coming.

MR. KATZ: Yes. Yes, I think that would be great.

CHAIR ZIEMER: Okay. If there is no further action before us, I'll declare the meeting adjourned. Thank you all.

MR. KATZ: Thank you everyone.

MEMBER MUNN: That's great. Everybody have a great week.

MR. KATZ: You too.

(Whereupon, the above-entitled

matter went off the record at 11:24 a.m.)