U.S. DEPA`RTMENT 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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CARBORUNDUM WORK GROUP

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THURSDAY
NOVEMBER 17, 2016

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The Work Group convened via teleconference at 11:00 a.m. Eastern Time, Genevieve S. Roessler, Chair, presiding.

PRESENT:

GENEVIEVE S. ROESSLER, Chair
BRADLEY P. CLAWSON, Member
R. WILLIAM FIELD, Member
JOHN W. POSTON, SR., Member

ALSO PRESENT:

TED KATZ, Designated Federal Official
BOB BARTON, SC&A
BOB ANIGSTEIN, SC&A
JENNY LIN, HHS
JIM NETON, DCAS
MUTTY SHARFI, ORAU Team
JOHN STIVER, SC&A
TOM TOMES, DCAS

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(11:00 a.m.)

Welcome and Roll Call

MR. KATZ: This is the Advisory Board on Radiation and Worker Health, and this is the Carborundum Work Group.

The Work Group's meeting -- it should be a very brief meeting today, because there's only one issue at this point, the surrogate data use for Carborundum. And the materials that are being discussed today should be posted on the NIOSH website under the compensation part of the website, the Board section, scheduled meetings and today's date.

So, you folks who are not internal to the Agency or the Board can go there and follow along in the documents that we're discussing today. And there's an agenda there too, but there's not much to it.

So, let's do roll call. And for that,

again, if people at a specific site could please speak to conflict of interests.

We have -- I'll just cover the Board. We have all the Board members. Dr. Roessler is the Chair, and none of the Board members have conflicts, so we'll move onto the NIOSH team.

(Roll call.)

MEMBER LOCKEY: Hey, Ted?

MR. KATZ: Yes.

MEMBER LOCKEY: Jim Lockey. Can I just ask you one quick question? I might be mistaken here.

But am I on this -- am in on this subgroup?

MR. KATZ: Yes. Yes, you are.

MEMBER LOCKEY: Because I looked at the Work Group Members, and I'm not listed. So, I was concerned.

CHAIR ROESSLER: This is Gen. That was my question too. When I heard you say Jim, I went on the website and looked and --

MEMBER LOCKEY: I don't think I am.

MR. KATZ: Oh, you're not listed? Okay. Let's see.

MEMBER LOCKEY: I don't think I'm on this group.

MR. KATZ: Okay, I have Gen and I have Bill Field and Brad Clawson and John Poston. You're right, you're not.

(Simultaneous speaking.)

MR. KATZ: So, for that matter, you're still welcome to stay on if you want to.

MEMBER LOCKEY: That's okay. I appreciate it.

(Simultaneous speaking.)

MR. KATZ: Okay. Bye, Jim. Okay, so, anyway, I think we've covered everything. The one other thing I can say. For everybody, please mute your phones, except when you're addressing the group.

If you don't have a mute button on your

phone, like for the members of the public, the petitioners, you press *6. That will mute your phone for this conference call. And then when you press *6 again, it will take your phone off of mute. But if you all mute your phones, that will improve the audio quality so that people can hear each other properly.

And please don't pull the call on hold at any point, but hang up and dial back in if you have to get off for a piece.

Alright, and then with that Gen, it's your meeting.

Surrogate Date Use DCAS Evaluation and SC&A Review

CHAIR ROESSLER: Okay, well, our Work Group plans to present our recommendations on SEC Petition 00223 at the November Board meeting.

We have a slide presentation ready to go, and I thank Bob Anigstein for helping me put that together. This is based on our August meeting.

However, we have one item left to resolve, and that's what we're going to do today. And as Ted says, what we need to do is answer the question, if the use of surrogate data at the Carborundum Company conforms to the Advisory Board's criteria.

So, to do this, we have two memos, and we'll present those in their order. First, Tom Tomes will present NIOSH's approach to the use of surrogate data in this particular situation. And then I assume Bob will report on his and John Mauro's SC&A report with their conclusions.

Now, I only found one of them on the website. Let me look at that; and that's the SC&A memo. But the other one we got from Tom somewhat earlier. So, everybody should have that.

So, we have the report, but we'll ask Tom and Bob to present what they deem is necessary from their reports to summarize their reports and conclusions. So, we'll start with Tom.

MR. TOMES: Thank you, Dr. Roessler. The Carborundum Evaluation Report relies on surrogate data as a means to estimate doses for the experimental grinding work done in 1943. That uses Battelle TBD-6000 to use for dose rates from the uranium metal and also for intakes to the uranium. And for the second AWE period at Carborundum, which was from 1959 through 1967, the ER relies on the external dose rates from TBD-6000 for external doses. All of the other doses in the ER do not rely on surrogate data.

So, I went through the methods specified in the ER and put together a memo discussing the use of that data and the criteria. And I referred to Implementation Guide 4, which specifies criteria that needs to be met for using surrogate data. And I will just briefly go through the extent of the work that we're using that data for.

In 1943, Carborundum did experimental

grinding on 10 uranium, natural uranium, slugs. This was a brief operating period of doing that, for work that consisted of approximately four weeks, that we know of. But we do know that the slugs were onsite for a period of approximately four months.

That work consisted of selecting a grinding, an abrasive that would grind the uranium. They found a few that would work and a few that would not work. One that would work and a few that would not work. And they determined how the machine can be set to do the grinding, and then they went through a series of passes on the slugs to prove that it would work.

For the external doses of those operations, the NIOSH relies on TBD-6000 dose rates. The TBD-6000 has dose rates provided from various shapes of uranium metal, and one of those shapes is uranium slug. There's also other shapes, such as rods and ingots, provided in

TBD-6000.

And I believe that we have -- the example we provide to the Board actually uses a default dose rate, which I believe Dr. Anigstein may want to discuss when he presents his review.

So we've taken the dose rates derived in TBD-6000 and estimate that that is the same source term, which is one of the criteria. They're both the TBD-6000, the Carborundum work involved natural uranium metal.

Another criteria for using that was that the facility and the process needs to be similar. The grinding, centerless grinding is one of the operations specifically evaluated in TBD-6000. There are other considerations, such as temporal consideration such that the internal doses could be different from one area to the next, depending on how the facility is designed and laid out.

For that, we looked at the evaluation

of the centerless grinding intakes that we were provided by TBD-6000. They come from a document written by Harris and Kingsley. That particular document goes into quite a bit of detail discussing airborne concentrations of uranium that's released to the operator of a centerless grinder.

There was also data provided on the maximum observed concentration which an operator is exposed to. There's also data on daily weighted average concentrations. They provide these daily weighted average concentrations for an operator who was basically exposed to an uncontrolled system, no ventilation applied. And they also provide a much lower concentrations for an operations in 1950 that had applied ventilation.

The numbers in TBD-6000 are actually for the unventilated work, and those are the ones that NIOSH considers to be appropriate for Carborundum.

The Carborundum work in 1943, as far as

we know, has no particular engineering controls to control the airborne radioactivity. So we assume that the unventilated exposure is appropriate.

As far as the data evaluation, that's another criteria that we have to look at. The TBD-6000 data had been previously reviewed by NIOSH and the Board, therefore we did not think it necessary to do that this particular evaluation.

Finally, plausibility is a criteria that has to be applied to using the surrogate data. While there are a couple situations here that goes into plausibility, one is actually the air concentrations of the dose rates we'd be estimating. And in this particular case, it also has to do with the amount of time that the operator was exposed.

We have no definitive information to adjust the number of hours that was exposed at Carborundum in 1943. But we do know that the slugs were onsite for four months. So we assume that an

operator and other people were exposed for four months.

We believe that to be reasonable, because we do know that when they were doing to the actual testing, they would have been exposed up to a significant amount of airborne concentrations, as well as significant dose rates from inhaling the metal. And the plausibility issue is another thing that I believe SC&A is going to discuss.

Okay, that was my evaluation for the 1943 work. The 1959 through 1967 AWE period is a completely different source term.

The 1959 through 1967, Carborundum did some experimental synthesis of uranium nitride, uranium carbide and uranium silicide. The initial work involved developing the methods to actually synthesize those compounds. They started with a few different sources of uranium. They were all small batches of uranium. UO2, U3O8 and uranium shot were identified as three different sources

they used. And they fabricated those into a few small pieces, different shapes, and those shapes were subsequently used to test the properties of the compounds and the fabricated pieces.

They also, once they determined the method to synthesize these compounds, they fabricated them into small parts that were subsequently used for testing in reactors.

For surrogate data use, we rely on TBD-6000 to estimate the external doses from those particular compounds and pieces that were fabricated.

The source term is similar to the source term provided in TBD-6000, but not completely identical because some of the compounds at Carborundum are unique, not specifically evaluating TBD-6000. However, TBD-6000 provides dose rates of several different uranium compounds, as well as uranium metal, and the uranium metal is higher and more dense than those particular

compounds, and so we believe that using the uranium metal dose rate is sufficiently similar and would bound the dose rate from the particular compounds used at Carborundum.

The facility and process similarities had little impact on the dose rates. The significant issue for this particular aspect of it is the distance and time a worker would spend near the material. And TBD-6000 assumes that a worker that was exposed at a distance of one foot for 50 percent of the work year. And we reviewed the processes they used and the various reports that Carborundum did.

They basically took small amounts of uranium, grams to a few pounds, processed it in batches. These batches of material would be held in furnaces, be held in mills and grinding for a number of hours. The work was all done in glove boxes and their atmospheres, and we believe that the assumption of 50 percent of the time at one foot

is a sufficient method to estimate the exposure.

We have no definitive information to provide an exact time that we believe would bound the exposure.

For the temporal considerations, that would have little impact on the use of the data. It was just an issue, we think, of the proximity that the worker is to the material and the amount of time. The data evaluation is the same as in the previously, the TBD-6000 data has previously been reviewed.

And lastly, I reviewed the bounding exposure models, and as I just mentioned under the process similarities, we believe that the 50 percent exposure time is reasonable and provides a bounding model.

That was the extent of the -- that was just a summary of going through my memo that I issued to the Work Group. And with that, we concluded that the surrogate data used is

appropriate and meets the criteria provided in the NIOSH IMP 4.

CHAIR ROESSLER: Okay, Tom. Thank you. Are there any questions or additions at this point?

If not, there will be time left to ask any after SC&A's presentation. So, I think we ready next for SC&A's response to that. Bob, are you ready?

DR. ANIGSTEIN: Yes, I am. Can you hear me? Hello?

CHAIR ROESSLER: Yes. I can't hear you real well. I don't know about anybody else.

DR. ANIGSTEIN: How is this? Is this better?

CHAIR ROESSLER: That's better.

DR. ANIGSTEIN: Okay.

CHAIR ROESSLER: Yeah, that's good. Go ahead.

DR. ANIGSTEIN: Okay. Alright. So,

I have a slide show to present on Live Meeting. I hope everyone is connected to it.

CHAIR ROESSLER: Oh, I didn't know about that. I'm not connected.

DR. ANIGSTEIN: Oh, there was an invitation put out.

CHAIR ROESSLER: Oh, I missed that, I guess. Well, go ahead. I can follow. I don't know, are others on Live Meeting?

MEMBER FIELD: This is Bill. I was on, but there was nothing there, so I got off. It's easy to get back on.

DR. ANIGSTEIN: I'm putting it on now.

MEMBER FIELD: Okay, thanks.

CHAIR ROESSLER: I can follow. Your report is very clear. I can follow from that.

DR. ANIGSTEIN: Okay, the slide show is slightly different. I'm sorry, I should have emailed is to you also but -- so, for those who have it, does everyone who has Live Meeting see my first

slide?

MR. TOMES: This is Tom. I can see it.

DR. ANIGSTEIN: You can see it, good. So, this is -- John Mauro helped me prepare this, but he's not available today.

Okay, since Tom used the NIOSH -- the OCAS criteria for surrogate data, since we're a contractor to the Board, the Advisory Board, it would be more appropriate if we used Advisory Board criteria. They're not in conflict with the NIOSH criteria, but they're organized a little bit differently.

So I just went to a very formalistic procedure of verifying. So let me just go very quickly through the Advisory Board criteria.

The first criteria is the hierarchy of data. In other words, don't use surrogate data if you've got better data. And so the hierarchy is -- the first item of hierarchy is individual worker monitoring data. Okay, the second would be

coworker data. The third would be workplace monitoring data and the fourth would finally be process and source term data.

The second is exclusivity constraints, which is simply: are the data that you're going to be using exclusive or are there other possibilities?

And the third one -- and this is the important one -- site or process similarities. And it can be broken down to a similarity of production processes, conditions that might affect exposure and selection the surrogate data used for dose reconstruction.

Item four is the temporal considerations. A is the surrogate data should belong to the same general period as the operations in question, unless it can be shown that the working conditions and procedures are comparable.

And then the final one is plausibility. First, there is scientific plausibility. Are the

models scientifically appropriate? And then B are workplace plausibility. Are the assumed processes and procedures plausible for the facility in question?

So, then how is the surrogate data used in the SEC Evaluation Report for Carborundum?

So, we'll start off with the intake of the uranium aerosols during the first operational period, which is the period during which the surrogate data is used for intake.

Okay, according to the TBD-6000 model that was adopted by NIOSH in this instance, intake is 43,632 dpm per calendar day. So, this is, for those who may not be familiar with that, for the dose evaluation program, it's necessary to average the intake for each calendar day, meaning the seven days a week, 365 days a year, even though the workers don't actually work every single day.

So you take the total intake and you average it out. So this is the median intake with

a geometric standard deviation applied. And from this distribution, you can calculate, using standard statistics, that the arithmetic mean comes out to about approximately 159,000 dpm per calendar day.

So, if you back-calculate that with actually -- multiply that to get the weekly intake and then divide by the number of hours per week, and divide by the breathing rate of 1.2 cubic meters per hour, you end up that there is 20,192 dpm per cubic meter in the worker's breathing zone. That is the value that I calculated from the data that is being used by NIOSH with TBD-6000.

Now, does this satisfy the criteria? Well, it satisfies the hierarchy of data because there is no better data. There is no site-specific airborne concentrations for the uranium machining operations at Carborundum in 1943.

By the same token, they satisfy the exclusivity constraint because there are no other

data.

Site and process similarities. Well, both the Harris and Kingsley report -- which covers a large number of processes that they studied. These two authors worked for the Atomic Energy Commission, the Health and Safety Laboratory, which is located here in New York, and they would use -- so in this particular instance, they cite the concentration for centerless grinding.

Centerless grinding, again, something that is probably not a familiar term. If you put something, a piece of metal in a lathe, and turn it and use a tool to grind it down in a grinder, that's using a center. And centerless is when your work simply lies there between two rollers, one of which is abrasive, and it just passively turns and grinds away as it's turning.

So, this creates a great deal of dust. It's a very, very, very -- even though they use water to cool it, the water sprays and forms

droplets, and the droplets evaporate and they cause a great deal of uranium dust.

So, similar in that sense, also the Harris and Kingsley report cites different measurements; they cite one measurement taken in the absence of ventilation where the rate becomes much, much higher. And since we don't know anything about -- you know, NIOSH doesn't know anything about whether there was ventilation at Carborundum, they assume there wasn't. And quite frankly, that's probably plausible. This was a short-term operation. It's plausible to think that they didn't bother setting up special exhaust fans and hoods and so forth.

Okay, so the similarity -- it passes site and process similarity criteria. Next, temporal consideration. Well, it doesn't pass the temporal consideration because the Harris and Kingsley report that they did their site visits and measurements in the late 1950s. So, this is maybe

15 years later than the Carborundum work.

However, not much has changed. It's similar, because the only difference would be, well, there might have been, by the time they visited the site in the late 1950s, improvements in health and safety, improvements in realization of the hazards of uranium, improvements in ventilation. But since they reported on a particular place where there was no ventilation, there is no reason to believe that time would have changed anything.

So, we can say that it passes -- we noted on the first one there was an exception -- temporal consideration because of this fact. Had there been an exception, if the working conditions were comparable, you could still use it even if it was for a different time period.

Then, finally, the plausibility. Well, as I point out on the top of this slide, the breathing zone, the mean breathing zone,

back-calculated was about 20,000 dpm per cubic meter. Harris and Kingsley reported up to 13,000; 20,000, 13,000, it's the same general ballpark.

So this is claimant-favorable, a conservative assumption. It's a little higher than the highest measurement, or the measurement that was reported. But it's not out of the ballpark. It's a reasonable comparison.

So, given the uncertainty and the variability between those, we can say it passes the plausibility criteria. Therefore, it passes -- also using the Harris and Kingsley measurements of the uranium aerosols from centerless grinding -- passes all five of the Board's criteria.

Next is the external exposure to penetrating radiation from uranium metal, in other words photon radiation, during the first operation period, the 1943 period.

There, we do have a problem, because we know, and NIOSH has reported based on the available

documentation, that Carborundum received a total of about 30 pounds of uranium in the form of natural uranium metal slugs. Thirty pounds is like 13.6 kilograms. And the dose rates that are reported in TBD-6000, and in the paper by Harry Anderson, who was a NIOSH Board Member for a period of time, and Nolan Hertel, a professor from Georgia Tech collaborated on it, showed that using a model -- a computer program called MCNP, that the dose rate from it -- they modeled several different shapes, and I'm not reporting on all of the data; they're not relevant.

Now, the ingot was a big block, probably the largest block you can imagine of uranium metal. It's 16 by 24 inches by 4 inches thick. And they calculated the dose rate right above the center along the large -- opposite the large surface at one foot away. And they found that there was a dose rate of approximately 2.08 millirem per hour.

Whereas the slug that they modeled,

which is a little larger than the slug -- and I'll come to that in the next slide -- a little larger than the slug that was assumed by NIOSH. NIOSH used Clinton's slugs. Clinton Engineering was sort of the code name for the Oak Ridge facility during World War II.

And the dose rate of the slug, which had a mass of two kilograms -- and I mean, this is not the Clinton slug, this is the slug that was modeled by Anderson and Hertel -- it had a dose rate of .0524.

So we're talking about a difference between two millirem per hour and .05 millirems per hour. So this is a difference of about two orders -- almost two orders of magnitude.

Then even if you say, okay, they had 13.2 kilograms, so let's assume that they had -- that this would be equivalent to seven of these slugs. So, seven slugs would have a mass of 14 kilograms, which is very close to that. So even

if you take the dose and you arrange these slugs in an array so that the worker was exposed to all seven simultaneously, you will get a dose rate of .367, which is, again, about 1/6 or 1/7 of the dose rate from the ingot. So the ingot way overstates the exposure rate.

Then we look at, do they satisfy the criteria? Okay, hierarchy of data. Yes, there are no site-specific are no measurements that can cover this for Carborundum. Exclusivity constraints, yes, for the same reason.

Site and process similarities is not fulfilled, because the source term is much larger. It's 477 kilograms versus a maximum of 13.6 kilograms.

The temporal considerations are irrelevant because it's based on a computer model. Temporal doesn't have anything to do with it.

And plausibility again is not fulfilled, because source term, for the same reason

as the site and process similarity.

So, our suggestion is that NIOSH might wish to consider using the seven slugs, which would have the same mass as the amount of uranium onsite and still give a conservative -- all seven as opposed to one, so it's conservative, claimant-favorable, but plausible.

Next, the second operational period. Again, NIOSH uses the same ingot. I have to say that in the SEC Evaluation Report, and in Tom's memo, they don't say which shape they used, but the supporting documentation that came with the SEC Evaluation Report, there were a couple of files that are on our restricted website that are called the Carborundum Methodology, or something like that. They do cite the exposure rate, dose rates from the large ingot.

Now, here during the second operational period, you're dealing with even less. There was a table in the SEC Evaluation Report that cites

various quantities, various in-process, and at the end of that list the largest quantity of uranium mentioned is that Carborundum had made a request for 10 pounds of uranium shot, little pellets, little BBs, and that comes to 4.5 kilograms. The actual batches that are reported are batches anywhere from 30 grams to six pounds; six pounds is 2.7 kilograms.

So, again, this is completely different than the 477 kilogram ingots. And again, I repeat part of the same table, but here I mention -- I cite the slug, and after the slug is the 477 kilograms ingot. The slug is the same slug as before. And another shape is a plate.

So, this is a fairly thin, extended sheet of uranium, which was, again, modeled by MCNP and reported in TBD-6000. And that has a mass of 3.1 kilograms, and that seems like a very plausible surrogate. Of course, it wasn't in the shape of a plate, but the reason it's a good surrogate is

it's quite similar in mass. The batch, the largest batch was 2.7 kilograms; this is 3.1. It has a dose rate much higher than the slug, four times as high as the individual slug. And more important, I calculated a specific dose rate, which is simply the millirem per hour per kilogram of metal.

Now, the slug -- the ingot, because it is so compact, actually has a lower specific dose rate. And of all the shapes that I looked at -- not just these, but at all the ones listed by Anderson and Hertel -- the plate has the highest, .07. And common sense will tell you that's expected, because if you take the uranium and spread it out in a thin plate, you have less self-shielding. In the early days there's a lot of self-shielding. So, the back part of it furthest away from you doesn't contribute very much. So, this seems like a more plausible shape to use.

So, again, does it satisfy the criteria? It satisfies the hierarchy of data and

the exclusivity for the same reasons we said before: there is no other data, and again, the exclusivity likewise. The site and process similarities, again, are not fulfilled because you're modeling 477 kilograms and the largest single batch is 2.7 kilograms. Again, more than two orders of magnitude smaller.

Again, temporal considerations don't factor into it. Plausibility, again, is not fulfilled because the source term -- hello? Is there a question? Was there a question?

MR. KATZ: No, Bob. Carry on. I think one of the petitioners' phones is not muted. That's all.

DR. ANIGSTEIN: Okay. So the source term is larger. So, again, we would suggest that the plate, which has a similar mass to the largest batch of 3.1 versus 2.7 kilograms, would be more plausible. It would be claimant-favorable, and we can't really get much higher than that.

So, the conclusion is the uranium intake -- intake of uranium dust during the first operational period used by NIOSH do satisfy the Advisory Board's surrogate criteria.

The external dose rate do not satisfy two of the criteria, the site and process similarity and the plausibility because the source is very large.

However, this is not an SEC issue because all that is needed is for NIOSH to demonstrate that they can model and they can calculate the doses, and by making these --

MR. KATZ: I'm sorry, but is anybody else having trouble hearing Bob at all?

CHAIR ROESSLER: I'm having trouble, but then I have hearing problems.

MR. KATZ: No, no, no. I think -- Bob, I think you need to get closer to your phone.

DR. ANIGSTEIN: Okay, is this better?

MR. KATZ: Yeah, much better. Thanks.

DR. ANIGSTEIN: Okay. Sorry, my mouth tends to wander away from the phone. Okay, sorry about that.

So, we feel it's not an SEC issue because if they follow our suggestions, or some alternate strategy, they can, in fact, model the doses in such a way that they satisfy the criteria. So, that's it.

CHAIR ROESSLER: Thank you. Am I off mute?

MR. KATZ: Yes, you are.

CHAIR ROESSLER: Thank you. I had a little trouble hearing, but, Bob, I did get on Live Meeting and your slides did do a nice job of summarizing your report.

I think maybe we should start with any questions from the Work Group. And then we'll go to NIOSH to respond to the suggestions that were made by SC&A.

MEMBER CLAWSON: This is Brad. I

don't have any questions at this time.

MEMBER FIELD: I don't have any questions either. This is Bill.

CHAIR ROESSLER: Okay. John, as you still on?

MEMBER POSTON: John doesn't have any questions.

CHAIR ROESSLER: Okay, then I think, Tom, it's up to you to respond.

MR. TOMES: Okay, this is Tom. Yes, I have looked at Dr. Anigstein's memo and some of the underlying data, and I do agree that NIOSH needs to re-evaluate the appropriate dose rate. As a matter of fact, that is specifically not included in the memo I wrote, because I do believe it needs to be looked at in closer detail.

The example, to be honest with you, the example DR that we sent to the Board and that was reviewed was kind of rushed. It was prepared with the ER that we sent, and some of this information

we received when Carborundum came in shortly before the ER was approved. So we attempted to put together a dose reconstruction methodology and we didn't get all the doses refined as much as we probably could.

So, I do believe we need to go back and look at the facility -- the methodology basically was the default TBD-6000, and I do believe that it would be appropriate to go back and look at a more appropriate factor from the tables in the document.

CHAIR ROESSLER: Okay, and I understand it, this discussion is not an SEC issue, but it's a Site Profile issue.

MR. TOMES: I believe it is.

CHAIR ROESSLER: We'll see if Bob concurs with that.

DR. ANIGSTEIN: Yes, I do.

CHAIR ROESSLER: Okay, is there anything -- does anyone else have any comments or questions? Ted, before we go back to the Work

Group, should we get petitioners' comments?

MR. KATZ: Yeah, this would be a good time to welcome them and to say if they have comments, to provide them.

Petitioner Comments

PETITIONER 1: Well, we can say that -- this is [redacted]. And for us to understand a lot of this stuff while we're listening in, really, it's hard for us to really -- and I don't know how my brother feels -- but it's hard for us to understand the whole thing.

Now, is this still for the SEC? Are you still --

MR. KATZ: Yeah, so this is -- just to explain it a little, the Advisory Board has these Work Groups, like this one here, to just have more focused discussion to prepare the full Board for when it picks up a petition.

So, the Advisory Board tasked this Work Group to effect the details and then come back and

speak to the Advisory Board. That's what it's been doing. It did at its last meeting, and what it's doing today. And then it will report -- I think you know from Josh that on November 30th, the whole Board will pick up this petition, and Dr. Roessler will present.

So, this is -- and I perfectly understand, this is all crazy, technical discussion for most people, lay-people, even people who work in other science fields, this is not familiar territory.

PETITIONER 1: Right.

MR. KATZ: So, that's understood. But this is an opportunity, and you'll have another one at the full Board, to really to present whatever it is that you might want say on behalf of your petition, whatever details you might want to give about how work was at Carborundum or whatever else you might want to say on behalf of your petition. It's just an opportunity to do that, both now, and

then before the whole Board, you know, by telephone or in person at the end of the month.

PETITIONER 1: Okay. Okay, and that's coming up November 30th, you said?

MR. KATZ: Yeah, so that will be November 30th. I believe in the morning is Carborundum.

PETITIONER 1: Okay.

PETITIONER 2: This is [redacted]. I wanted to ask if, is it -- is NIOSH coming up with another dose reconstruction, or did I misunderstand that. I couldn't understand what you were saying.

MR. TOMES: This is Tom with NIOSH. Yes, there are -- during the course of the review of the petition, NIOSH wrote an Evaluation Report. SC&A reviewed that and provided a number of comments, and those comments basically consisted of two different types of comments.

One of them considered whether we had

an SEC issue, or we just had an issue where the doses need to be improved or corrected to allow for certain aspects that were not properly evaluated.

So we have some issues to go back and re-evaluate the doses. So those are in progress. And the issues before the Board, I believe, initially will be the SEC issues. But NIOSH does have to refine the dose estimates.

PETITIONER 2: Like my sister said, it's hard to understand for us, you know. But anyway, it might be like my dad had, you know, lung, liver and bone cancer, and they come up with a dose reconstruction. How does that -- that's all done by computer, right?

MR. TOMES: Computers are involved with the work, yes, sir.

PETITIONER 2: But you're going to redo that, though? I mean, coming up with another dose reconstruction?

MR. TOMES: Yes, if there's any changes

made in our method that result in an increase in dose, the claim would be re-evaluated.

PETITIONER 2: Okay, thank you.

PETITIONER 1: Thank you.

Next Steps and/or Recommendations to the Board

CHAIR ROESSLER: Okay, at this point, after our last Work Group meeting, the Work Group came up with the conclusion that, with appropriate adjustments, NIOSH can reconstruct doses for the proposed SEC Class. Therefore, at that point, the Work Group was ready to present a motion that the SEC Petition 00223 be denied.

So, with this discussion today, and after Tom's presentation and Bob's very thorough evaluation, we need to bring this up again to the Work Group as to whether the Work Group still agrees with that conclusion.

MEMBER FIELD: Gen, this is Bill. I still agree with that conclusion.

CHAIR ROESSLER: Brad, are you --

MEMBER CLAWSON: Gen? Yeah, Gen, this is Brad. This hasn't changed anything with my decision on that. You know, like they said, this is just a Site Profile issue. I think that they can still do it. So, it hasn't changed my point at all.

CHAIR ROESSLER: Okay, John?

MEMBER POSTON: I'm the same.

CHAIR ROESSLER: Okay, then I think we're ready to go to the Board with our presentation on the 30th. We will need to -- we do have the slide presentation that we put together, and I sent that around previously to the Work Group, and everybody approved of it, to that point. But we will need to add one more slide, and I'm hoping, Bob, you'll be able to prepare that for us.

DR. ANIGSTEIN: Sure, what would you like to show on it?

CHAIR ROESSLER: Well, if you can take your presentation you did today, and hopefully

reduce it to one slide.

DR. ANIGSTEIN: Will do.

CHAIR ROESSLER: And readable, make sure that there's not too much detail on it. That will be a challenge, but I think you can do that.

DR. ANIGSTEIN: Sure.

CHAIR ROESSLER: And then I'm thinking, if you look at the presentation we have so far -- let me go back to this slide. I think it's -- see if you agree with this. I was thinking it would come after slide 16. Previously, we had reported on the seven findings that SC&A had. And it seems like it would go after that and before the Work Group conclusion.

Ted, you might weigh in on that also. Is anybody there?

MR. KATZ: No, I'm here. I'm not looking at the presentation right now, so it's hard for me to weigh in on exactly where it goes. But I'm sure that's easy to figure out, the appropriate

place.

And I'll just say to Bob, I mean, it's really make the slide at a very macro level, because there's no reason to wade into the fine details, which I will share with the whole Board, and it will be at the Board meeting, in the SC&A report, so they can have the details about what was agreed upon.

But really you just need to give the results of this. And you may -- if you take two slides, that's fine too, whatever. But I think that's easy to do, and we do actually need to get that in this week.

CHAIR ROESSLER: So, I think, Bob, if you can take your conclusion paragraph and reduce it to maybe just a few lines and --

DR. ANIGSTEIN: I'll work on that Thursday. Yeah, I can get it to you tomorrow.

CHAIR ROESSLER: Okay, I'll take a look at that. And then, Ted, okay, what should we -- from that point --

MR. KATZ: Yeah, if you get that, if you agree upon that extra slide or whatever it is, slide or two, and send that to me this week, then I'll get that in the hoper so that it can -- because it's got to be put in -- well, if it's a simple text slide, really that's very quick, and then we can get this transferred into a pdf form that works for posting and so on.

CHAIR ROESSLER: Okay. It'll be a text slide, right, Bob?

DR. ANIGSTEIN: Yeah.

CHAIR ROESSLER: Yeah, and then we'll copy the Work Group on it. I'll copy the Work Group after I get the slide from Bob and make any adjustments that I think we might need, and as I send it to you, Ted.

MR. KATZ: Sure, sure.

CHAIR ROESSLER: Okay, so I think we're ready to go on this, unless anyone has any questions or further comment.

MEMBER CLAWSON: Gen, this is just Brad. Now, you know, I still agree on everything that we've just agreed to. But what type of a timeframe are we looking at for NIOSH or ORAU to be able to redo this and give us some information back on it? Can anybody give me a time or so?

MR. TOMES: This is Tom. I don't have a schedule for that. We have several issues, and some of them are relatively simple, but there are a couple of them that are difficult. And we'll have to come up with a schedule for that.

SC&A comments on our Pu modeling, the MCNP modeling and- that's a little bit of work, and we have to discuss that internally and assuming make some kind of presentation to the Board with what our plans.

MEMBER CLAWSON: Okay, that's kind of what I -- I was kind of just trying to look at a path forward and what we are looking at for timeframe and all. And I understand where you're

at, but if you just keep us appraised, we'd appreciate it.

MR. TOMES: Okay.

CHAIR ROESSLER: Okay. I think since that's a Site Profile issue, though that doesn't deter us from making a presentation at the Board meeting.

MEMBER CLAWSON: That's correct.

CHAIR ROESSLER: Okay, so we'll follow up on that. Okay, is there anything else we need to consider?

MR. KATZ: I think that takes care of it, Gen.

CHAIR ROESSLER: Okay, thank you, Tom and Bob, for a very clear and nice report.

MR. TOMES: Thank you.

MR. KATZ: Thanks, everyone, and thanks to the petitioners, too, for attending. We appreciate that and we hope to hear from you at the Board meeting, as well.

Adjourn

CHAIR ROESSLER: Okay, we're adjourned.

(Whereupon, the above-entitled matter went off the record at 11:53 a.m.)