THE U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
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CENTERS FOR DISEASE CONTROL AND PREVENTION
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ADVISORY BOARD ON

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DAY ONE

ABRWH BOARD MEETING

The verbatim transcript of the Meeting of the Advisory Board on Radiation and Worker Health held at the Four Points by Sheraton, Denver, Colorado, on April 25, 2006.

C O N T E N T S

April 25, 2006

TRANSCRIPT LEGEND

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TURCIC, PETE, DOL
ULSH, BRANT, NIOSH

P R O C E E D I N G S

(1:15 p.m.)

WELCOME AND OPENING COMMENTS
DR. PAUL ZIEMER, CHAIR

DR. ZIEMER: Good afternoon, everyone.

MS. MUNN: Good afternoon, Dr. Ziemer.

DR. ZIEMER: Yeah -- I wasn't waiting for a reply; I was trying to determine whether this mike was actually on or not.

Just prior to lunch I recessed the subcommittee and I realized that actually what I should have done is adjourn the subcommittee, and I declare that the subcommittee is adjourned.

This now is the 37th meeting of the Advisory Board on Radiation and Worker Health. It's our second visit as an Advisory Board to Denver. We're pleased to be here again in this locale. The Advisory Board members are mainly the same folks that were here before. We have -- just a couple of new members have joined our Board. Brad Clawson is new on our Board and we're pleased to have Brad aboard. Dr. Poston, one of our new members, is not able to be here today, nor is Dr. Lockey, who's ill. But

nonetheless, we're all pleased to be here and to deal with the Rocky Flats petition, as well as other related items in our meetings today, tomorrow and Thursday.

I'd like to remind all attendees -- Board members, staff, members of the public -- to please register your attendance with us in the registration book in the entryway. Also there is a sign-up sheet for members of the public who wish to make public comment.

There will be a public comment period tomorrow evening from 7:00 to 8:30 p.m., so please make note of that. And if you wish to address the assembly at that time, please sign up to do so.

We introduced some of the Congressional delegates that were here from Colorado this morning. I don't know if others have joined us. Lew, I'm --

DR. WADE: I see the two were already introduced.

DR. ZIEMER: Yes. Okay, as other -- other members of the delegation may come later today or tomorrow and we'll introduce them at the appropriate time.

Lew, do you have any introductory remarks for

us, as well?

DR. WADE: Well, a number. First of all to thank -- thank the Board for being here and its diligence. As always I bring you regards from the Secretary; from the Director of CDC, Dr. Gerberding; and from John Howard, Director of NIOSH.

I would like to clarify a couple of Board membership issues, just in case people are counting noses and establishing whether or not we have a quorum, and I assume we will have a quorum for all of our business. We do have two new members who are fully vested and seated, Brad Clawson, who is with us, and Dr. Lockey, who will be with us part of the time by telephone. He turned up ill on Monday morning and was not able to join us.

Dr. Poston is also making his way towards full Board membership. He is not at this meeting. He was never intending to be at this meeting. This meeting was scheduled before he was advised of his membership on the Board and he was not able to make the meeting. Dr. Poston does not have his waiver completely in place and therefore he is not a fully seated member

of the Board at this point and would not be counted in our establishing a quorum.

Also, Leon Owens has resigned from the Board, and I was told yesterday by the White House that I should assume his resignation has been accepted and he is no longer a member of the Board.

A scheduling issue. The reason the room is laid out this way is we were told by our friends with the Colorado Delegation that tomorrow evening we could expect quite a crowd possibly, and we want to be able to accommodate, they thought, up to 250 people. And I think we can do that in this room the way it's configured now. We can seat 215. We can add more chairs as appropriate. I could well mean that we might have a slightly later night tomorrow night than the schedule dictates, and I know Dr. Ziemer has always been gracious in allowing all that have important comments to make to make those comments.

So a little bit of background on why we are situated this way and issues of membership of the Board.

We will -- as Dr. Ziemer mentioned, when we

discuss certain of the SEC petitions, there are Board members who are conflicted. They'll be asked to step away from the table and we will proceed with our deliberations without those members present.

Those members do not have to remove themselves from the table when we talk about technical issues or site profile issues, as we will be doing some today, and therefore I won't be asking those members to step back from the table today. They can't make motions. They can't vote on motions that relate to the sites in questions. But I really don't anticipate there'll be any voting today.

So sorry for the long comments, but I think we need to start clear with everyone. Thank you.

MS. MUNN: Dr. Wade --

DR. ZIEMER: Thank you very much. Wanda?

MS. MUNN: -- you overlooked Mr. Presley's absence.

DR. WADE: I'm sorry. Mr. Presley is always with us, and he just had back surgery and is probably with us on the phone, and we thank him for his forbearance in joining us and wish him speedy recovery. Dr. Melius should be joining

us posthaste.

DR. ZIEMER: Thank you very much. In fact, let me ask -- Robert Presley, are you on the phone?

MR. PRESLEY: That's correct, I'm --

DR. ZIEMER: May -- may not be here at the moment --

MR. PRESLEY: Can y'all hear me?

DR. ZIEMER: -- but he was with us most of the morning.

Board members, you'll notice at the top of the afternoon agenda again is approval of the minutes. We'll defer action on any minutes until Friday, till you've had a chance to both receive and read them.

DR. WADE: They are -- they're here. The minutes for the Board are here, I believe, but we should delay action until they have a chance to look at them.

DR. ZIEMER: But you have just received those today and --

DR. WADE: Right.

DR. ZIEMER: -- and have not -- I'm not sure that they're actually in the book.

DR. WADE: Okay.

DR. ZIEMER: In any event, we're hopeful that

those past minutes will get to you before the week is over and we'll have a chance to act on them, probably Thursday afternoon.

SUBCOMMITTEE REPORT: SELECTION OF 5TH AND 6TH ROUNDS OF INDIVIDUAL DOSE RECONSTRUCTION

All of you were here this morning as part of the subcommittee deliberations, and you know that as part of that we made an initial selection of the next 40 cases to be reviewed by our contractor, and in turn by us. We aren't going to formalize that selection just yet because we agreed this morning that two things would happen. One is that NIOSH would try to gain some information about some of the categories of the so-called matrix that we were trying to address, and we probably won't have that information till later in the week. And secondly, we wanted to allow everyone a chance to look over the list individually in more detail.

What we did have is an initial list of what we thought were 40 potential cases that would be reviewed through the help -- with the help of our contractor. Lew has provided you with a summary list, and I only count 39 here, so there may be one missing. But at the moment

I'm -- and we can go back and check our individual notes -- which one is -- did someone spot which one is missing?

DR. WADE: I will double-check -- heads will roll -- heads will roll over this.

DR. ZIEMER: But without objection, we will simply consider this a report from the subcommittee for this morning's action and we will have a chance then to formally receive and take action on these, probably as part of our Thursday afternoon work session. So without objection, we will let that stand as the report on the 5th and 6th rounds of individual dose reconstruction.

DR. WADE: I do have a -- some information to bring to the Board that relates to that topic if you would allow me.

This morning I learned that Sanford Cohen & Associates has bid on and won a contract to do dose reconstructions for DTRA at the Nevada Test Site. As you know, those are dose reconstructions for people who have non-covered cancers. People with covered cancers are compensated. That creates a conflict of interest situation with regard to Sanford Cohen

& Associates as it relates to the Nevada Test Site. It will come up in two or three areas. I mean conflicts of interest are a part of the business we're in. We've all realized that. But the reason I raise it now is it would be inappropriate for Sanford Cohen & Associates to review a dose reconstruction that related to the Nevada Test Site.

That doesn't mean the Board can't select such dose reconstructions to be reviewed, but they can't be reviewed by Sanford Cohen & Associates. The Board could try and develop another mechanism. The Board could do it themselves. I put this information in front of you so you could consider it as you make your determination on the next round of dose reconstructions to be reviewed.

It will also come into play as it relates to SEC work. You cannot ask Sanford Cohen & Associates to review an SEC as it relates to the Nevada Test Site. And again, I don't know that you're intending to do that, but it needs to be on the record that you cannot do that.

Also Sanford Cohen & Associates has completed a review of the Nevada Test Site site profile.

They did that before they secured this additional contract, therefore that review stands. Any issues to resolve, issue that might exist between NIOSH and that review, would have to take place without Sanford Cohen & Associates involved directly in that. So if the Board was to have a follow-up workgroup meeting to work through the matrix kinds of issues, Sanford Cohen & Associates couldn't be involved in that.

Again, the Board could take up that task itself. We could develop mechanisms for the Board to have additional support, but not with Sanford Cohen & Associates as it related to the Nevada Test Site.

I don't know -- John Mauro, if you're in the audience, if you have anything you'd like to add. I hope I did justice to my explanation.

DR. MAURO: Yes, you described it accurately. We --

DR. ZIEMER: Is that on?

DR. WADE: Not yet.

(Pause)

DR. MAURO: How about now? Is that better? Yes, I would say approximately a month ago SC&A

was awarded a contract with DTRA to be part of several contractors who are doing dose reconstructions for veterans from both the Nevada Test Site and the Pacific Proving Grounds. We have been provided with all of the protocols that they have developed since I would say 1978 for performing dose reconstructions, and right now we are ramping up with a team -- none of our team members -- a separate group of individuals are working on it, but nevertheless, as a company yes, we do have this contract. The contract goes through the end of -- of September of this year. It's basically to help DTRA clear a backlog of cases that have accumulated and we expect to be finished with that work by the end of September. But yes, we are doing dose reconstructions for veterans at not only Nevada Test Site, but also the Pacific Proving Grounds.

DR. WADE: Okay, thank you, John. I was not aware of the Pacific Proving Grounds, so my comments as related to Nevada Test Site will also apply to Pacific Proving Grounds.

DR. ZIEMER: Okay.

MR. PRESLEY: Dr. Wade --
DR. ZIEMER: And let me --
UNIDENTIFIED: Hold on.
MR. PRESLEY: Hey, Paul, this is Bob Presley.
DR. ZIEMER: Robert, we're having trouble hearing you.
MR. PRESLEY: I'm having trouble with you all. I've been on ever since you all started, listening, and I'm having trouble for some reason coming in on the mike.
DR. ZIEMER: Robert, I'm going to have to ask you to start over again. I guess the volume was turned down here. Could you start again?
MR. PRESLEY: I've been with you since you all started. There's something wrong with our intercom system between here and there. I can hear you beautifully.
DR. ZIEMER: Yeah, we're hearing you now. Go ahead.
MR. PRESLEY: Okay. As Chairman of the working group, need to kind of talk about this off-line when we get a chance.
DR. ZIEMER: Oh, okay. Yeah, thank you for that comment.
I would also like to ask how this affects

subcontractors of SC&A; i.e., Salient, which is part of the support group. Does that affect them equally?

DR. WADE: I would say yes, as they have a business relationship with SC&A. Again, all of these issues can be reviewed and -- and looked into in more detail, but my immediate reaction would be, as Salient has a business relationship with SC&A, I would see the same prohibitions applying to Salient.

DR. ZIEMER: Okay, thank you. Board members, do you have any questions or comments concerning that particular issue? And the implication I think, from John's remarks, is does -- does the conflict go away even after the conflict ends? I mean our conflicts of interest continue on sort of forever. You know, I was at Y-12 for one week in 1958 and I'm conflicted. Does it -- so does this carry past the end of that contract?

DR. WADE: It could well. I mean, again, we would have to look --

DR. ZIEMER: We'll have to examine that.

DR. WADE: -- at the specific details of it, but it certainly is an issue that would have to

be looked into.

Again for the record, let me say that, you know, conflict of interest are a part of what we do for all of us. It's a relatively small world and it's not surprising that conflicts exist. The important thing is that we recognize them, we deal with them and we take appropriate actions, and work goes on, so...

DR. ZIEMER: And I think that John Mauro explained that those dose reconstructions are a different population group at the Test Site. Isn't that correct? These are the veterans, as opposed to the civilians, or is that distinction made?

DR. MAURO: Absolutely. It only applies to the veterans. However, at the same time, we have looked into the matter and there's reason to believe that there are many civilians that worked side by side with the veterans. So you know, make -- that separation is real and -- administratively, but from a physical perspective, there really -- many of them were working side by side.

Y-12 SITE PROFILE

DR. ZIEMER: Thank you. Okay, let's continue

on then in this part of our agenda. We have the Y-12 site profile and the Rocky Flats site profile status reports. Mark, you gave us some preliminary comments on these as part of the subcommittee deliberations this morning. We now have I believe the matrices that were discussed. And Mark, if you'll take us through the additional comments that you have regarding these two site profiles. And again, we're directing this to site profiles, not to the Special Exposure Cohort petitions per se.

MR. GRIFFON: Okay. If -- if people have identified this matrix, it's titled "Y-12 Site Profile Review, Matrix of priority Issues potentially relevant to SEC petition review, prepared by the workgroup" and it should actually say April 22nd. This is revised as of April 22nd. It says March 27th right now.

DR. ZIEMER: So change the date?

MR. GRIFFON: Right.

DR. ZIEMER: Okay, Mark is saying to change the date on that copy that you have to April 22nd.

MR. GRIFFON: So this -- this reflects the -- the final closeout of actions after we had a April 20th workgroup conference call. And the

-- this again is the site profile issues. On April 7th we reviewed -- we received the SEC evaluation report, but we're -- we're discussing only the -- the issues that were sort of pre-identified within the site profile review context here. And I'll just go -- I'll just go through -- this is very -- fairly short matrix so I'll just go through some of the issues and give you a sense of what we -- how we -- how we moved these issues along.

If you look at Item 1a, Items 1 and 2, they -- this falls under the category of validity of bioassay data, and on -- in the workgroup process we had -- we had lengthy discussions about the -- the -- actually demonstrating that the data from internal and external, we'll get to external later, was reliable for the purposes of dose reconstruction within a compensation program. And you can see -- these actions listed 1 through 6 -- these are NIOSH's final responses to the actions. And if you go back -- refer back to matrices that I produced on March 27th and on February 27th, they follow the workgroup meetings through. So these -- these have evolved as we've worked on these

issues and this is sort of the final resolution as of the last meeting.

Now I -- I would point you to -- to several of them which -- like number 2 and number 3, at the -- at the very last line it indicates that the assess-- for in-- for example, in number -- item number 2, under issue 1a -- I know this gets a little confusing, these matrices -- but it indicates the assessment of these issues, along with documentation of interviews, has been included within Appendix 1 of the SEC evaluation report, SEC Number 0028. And the -- the reason for that reference is that that will be part of -- that's sort of rolled into the SEC evaluation report and we've also asked SC&A to help us review that report. So the matrix is finalized, but it -- it's again going to be assessed within the review of that evaluation report. All right? And that -- so the -- the -- these first items under 1a discuss the CER bioassay data validation. And most of -- most of the -- most of what this gets at is the CER bioassay data is -- is a database data, electronic database, and this electronic database, they -- NIOSH has developed models

from this to use for their coworker models. So the question becomes, you know, what is the pedigree or -- or what is the -- you know, what is the reliability of that data and have they checked it against any raw data sources. So in the process of this -- these meetings that we've had, NIOSH has gone back and -- and reviewed -- and I'm not going to summarize everything here, but they've -- they've looked for raw data, including in this case some urine punch cards. They identified health physics reports they ga-- that were -- that they were able to cross-walk with the database and demonstrate reliability. And -- and they had several different references that they looked at.

Additionally, if you look at number 6, Item number 6 in this first block at the bottom of the page, NIOSH pointed out early on in this process that -- that they had every indication that the electronic record was accepted by the Department of Energy as the -- as the official record, basically. And that suggested, at least to NIOSH, that -- the -- the implication there was that DOE had done some sort -- sort

of quality review that the program was effectively capturing and accurately capturing the data, and that the electronic record was good enough; they didn't need to maintain punch cards, et cetera. They never could find the -- the actual DOE communication, but they did find a secondary reference within a health physics report, I believe it was, by Hap West, as is indicated here, which referenced that letter being transmitted. So -- so they had a number of sources they looked at to -- to test the reliability of the bioassay data.

And then I can do on here. You'll see several of these items on the matrix -- the next four, in fact -- basically after -- we initially had them on the matrix and then after further discussions, deliberations, it was basically decided within the workgroup -- and this is with -- with SC&A and NIOSH and the workgroup involved -- that these issues were likely not SEC issues because they would not preclude the estimation of a maximum dose under plausible circumstances. So they -- they still may be a site profile concern. They still may have some minor issues, but it doesn't prevent -- these

issues wouldn't stand in the way of NIOSH determining whether there was an SEC class, and so therefore we dropped it from this -- this SEC review process and so that's why those are closed out that way.

If we can go on to Item 1b, another big category -- and these are sort of the big categories that we ended up discussing within Y-12 -- is characterized here as other radionuclides. And in Y-12 primarily a uranium -- uranium exposures at the site, but in the course of the site profile review SC&A brought up several, and I think NIOSH may have self-identified other radionuclides that -- that could have been in quantities of significant concern for exposures that needed to be addressed within the site profile. And you know, this included such things as recycled -- the recycled uranium could have had transuranics as well as fission products in it so that could have resulted in some exposures. They also had other radi-- other -- other operations within the -- the Cyclotron where they had some work with a laundry list of sort of exotic radionuclides, albeit, you know,

small -- probably small production -- or small quantities, but they did have that as an ongoing potential source of exposure, and they did have some work with plutonium separations in the very early years. So we're talking -- again, this -- this whole matrix, again -- I -- I didn't say this at the outset, it focuses on the years '48 through '57 'cause that's sort of when we're thinking about its SEC-relevant issues within the site profile, so in those early years they -- they did do some plutonium separation work, as well. And -- and so that's all sort of captured under this category of other radionuclides.

On Number 2 here, and I won't go through everything in how we've closed out all these items unless there's really questions, but on Number 2 you'll see that it was left highlighted, and I -- since this draft was created on Saturday, or whenever it was created, I have talked to -- to NIOSH and they indicated that on the -- the last conference call we actually did discuss -- they did discuss their methodology for performing the dose reconstructions with regard to these

exotics and -- and it's -- it's basically an approach that they will use on -- on identifying the data and reviewing the data. They have specific data related to the incidents around those exotic exposures. And they weren't provided necessarily in our workgroup discussions, some of them, but they -- but they can be readily pulled from this -- this other database, which we refer to as a delta view database further down here, so -- so that was highlighted, meaning that it was still an outstanding action item but I think we have that action item provided right now and I would -- you know, I would say at this point that that's sort of been provided and is sort of rolled into our SEC evaluation report discussions.

Moving on to the -- the entire next page actually -- all those were deemed not issues that would affect a decision with regard to an SEC. So it doesn't mean they're completely -- they're -- it doesn't mean they're non-issues, but it -- it -- in terms of defining an SEC, they're not relevant.

And it -- we go down to the next page, which is

external -- external radiation expo-- external dose concerns. And again Number 1a is again the validity question, and NIOSH did a similar track as they did on the internal with the external radiation records where they tried to cross-walk raw data sources with the electronic database to -- to check the reliability of the data within the database for use in coworker models. So these coworkers models are -- are -- actually I guess a -- a -- an important point here I think for Y-12 is that the coworker models are going to play an important role because I think it was up to -- up to 80 percent of the claimants do not have their own monitoring records so you'll be relying on coworker models, so it's a -- it's especially important that -- and I guess that's why we pursued this so much in the workgroup process so the -- so these items all relate to either testing the reliability of the data within the database or some questions came up with regard to the coworker model. And -- and the coworker model and the -- the sort of basis of the coworker model. I think I'll leave it at that. Then the next page has again no -- no SEC

issues.
Did I miss something?
DR. NETON: Is there a copy?
MR. GRIFFON: I thought it was.
DR. NETON: I don't see it there.
MR. GRIFFON: Maybe LaShawn only made a limited number, I don't know.
DR. ZIEMER: Apparently there are copies. Well, Jim has one.
DR. NETON: I only have the internal side. I don't have the external.
MR. GRIFFON: Oh, okay, sorry about -- there's more pages.
DR. ZIEMER: There's more pages -- actually, how many pages do you have, Jim?
DR. NETON: I have three pages.
DR. WADE: It's double-sided.
MR. GRIFFON: Oh.
DR. ZIEMER: There should be -- your external should start on --
MR. GRIFFON: We're all getting tired, huh?
MS. MUNN: It starts with the internal.
DR. NETON: Okay.
MR. GRIFFON: So then I'm -- I'm down to Item 2a on the matrix and this -- this was the

question of -- of whether the -- of badging of the maximally exposed individuals, and one of the premises laid out in the coworker model was that in the early time period the likely highest exposed workers were monitored. So we went through a series of steps asking to -- to verify that or validate that and -- and these are the actions and -- and you know, again, I think any -- there's no outstanding actions here that -- that model is further presented and elaborated on in the evaluation report, so we -- we will discuss that more tomorrow morning, I'm sure, under the SEC evaluation report review.

And I think the last -- 2b is the neutron coworker models. Am I correct in --

DR. NETON: Beta.

MR. GRIFFON: Oh, beta, I'm sorry. I'm getting Rocky and -- okay. This is the -- the beta coworker models and during this process actually NIOSH was in the process, while the workgroup -- workgroups were ongoing, NIOSH was in the process of developing and -- and modi-- and fine-tuning a beta coworker model and I think now it -- it is in final form or draft

form or -- it's in final draft form and so that was -- and also -- also it -- one of our examples included a -- a -- a dose reconstruction example that used -- they relied on that model as some...

And that takes us -- you know, that -- that is the -- the last item actually is kind of important 'cause we did ask that -- that sample dose reconstructions be provided, and really this is to -- to sort of -- as additional materials, not really a supplement to the evaluation report but as sort of supporting materials to the evaluation report, and this goes back to our -- our draft policy as a Board that we -- we asked NIOSH -- as we're doing this it would be very beneficial to all of us to see sort of proof of principle, so when we see a draft -- our sample DR is we're not talking about full dose reconstructions that have gone through the whole quality assurance process and -- and all the T's crossed and I's dotted, but we wanted proof of principle for certain key elements of the -- of how they're going to do dose reconstructions on the full set of claimants, and that's what we mean by

draft DRs, and I think for Y-12, Jim, was it 11 -- nine, nine draft DRs were provided to cover these different areas of -- of importance that were identified through the workgroup process. And that's where we stand on the site profile review, so -- so again, all these items are closed out, but several of the final models that we were getting in the workgroup process are relied upon in the evaluation report and -- and SC&A did -- did just complete a review of that report, as well, that we'll be discussing tomorrow morning, so -- or I think they're presenting it this afternoon and then we'll discuss it tomorrow morning.

DR. ZIEMER: Mark, I assume -- I think the Board has received this, is my recollection. There is a larger matrix which contains all the issues from the site profile review, so this is a subset of those, the subset that appears to be most related to the site profile (sic) issues.

MR. GRIFFON: Right.

DR. ZIEMER: Are we confident that in fact there aren't any site profile (sic) issues on the main matrix that...

MR. GRIFFON: Well, this -- this was -- you know, we -- we --

DR. ZIEMER: This is sort of consensus between --

MR. GRIFFON: Yeah, we -- we had to go --

DR. ZIEMER: Yeah.

MR. GRIFFON: -- through this process and --

DR. ZIEMER: Yeah.

MR. GRIFFON: -- S -- we asked SC&A to cull down -- you know, to -- to sort of --

DR. ZIEMER: Right.

MR. GRIFFON: -- reduce that list to SEC issues. They came back to us and really the -- the most intense deliberations of the workgroup started with this product.

DR. ZIEMER: Right.

MR. GRIFFON: But at this point, my feeling is, you know, we have the evaluation report out there so any SEC discussions -- you know, the matrix is no longer driving this process.

DR. ZIEMER: Right. And so this part of the -- of the site profile review will be helpful in our deliberations. Tell us quickly where we stand on the rest of the site profile matrix. Are there a lot of issues yet to be dealt with?

MR. GRIFFON: I don't think we stand anywhere. I -- I -- I mean I don't think it's any further along than -- than it was when it was first submitted.

DR. ZIEMER: That's -- that's remained fairly static because of this, yes. I just want to get that in the record so that everybody's aware that there still is -- for closing out the site profile, there's a ways to go yet. Thank you.

Board members, any questions on Mark's report? Yes, Roy DeHart.

DR. DEHART: Mark, if you would, just remind us how -- by whom and how you deleted these particular items, saying whether or not they're not important in order to -- to go ahead and continue to look at the SEC. They may important -- be important otherwise --

MR. GRIFFON: I mean I think -- I think, you know, by whom, it was the full workgroup process. But always when it was deleted, NIOSH and SC&A had to be in agreement that they -- you know, so there was agreement on both sides and -- and you know, again, it's not that they're not important, but they're not driving

for -- driving concerns for the SEC decision.

DR. DEHART: Right. Right.

MR. GRIFFON: For example, you know, a lot of -- a lot of -- a lot of the cases I can think of is that, you know, if -- if -- how certain solubilities were treated, for instance. And it may be something that -- that there might still be more comments outstanding on, but given that they could assume worst case if necessary, then it went away. You know, they -- they would use a claimant-favorable approach if they didn't know any differently, and that seemed to satisfy the workgroup and SC&A as far as being an SEC issue. So it's -- it's -- that's just an example. But that's -- every one of those items was agreed upon by the workgroup and SC&A before we would remove it from the matrix.

DR. ZIEMER: Thank you. Other comments or questions?

(No responses)

Again, this doesn't require any action at the moment. It's mainly to update you on the status.

ROCKY FLATS SITE PROFILE

Let's now address the Rocky Flats matrix. This one's a little longer. Well, he's going to tell us how it's not. Anyway, go ahead, Mark. Does everyone have -- this is -- is it 13 pages?

MR. GRIFFON: Yeah, 13 -- 13 pages and... Okay, the -- this again -- take note of the title. The header is important on all these matrices, and if you want to really track back the details, I've got matrices from each -- in between each workgroup meeting that sort of show how these items were closed out or where they stood when we were discussing them. And I'm -- and -- so -- so I've always referred to the previous matrix. You know, when -- when we started I actually tried to do additional columns, but I realized that I'd have, you know -- I'd need D-sized paper to put the matrix on pretty soon so we -- I referred back to the previous matrix on these items. And the -- the note on the top that -- that becom-- that comes important later, but there were -- additional issues may arise as a result of the review of the petition and amendments and NIOSH's evaluation report. And the petitioner in this

particular petition for -- Petition Number 0030 actually supplied a -- a fairly volumous (sic) report and -- and there was a number of allegations -- affidavits in there that, you know, should probably be looked into, but those were not -- as, again, we started from the site profile on this process.

So going through this quickly, comment number 2, and the reason -- again, the reason it's not a 1, it's a 2, is -- is that we asked it to be reduced to SEC items, so likely 1 got dropped off of the first matrix. Item number 2 talks about the -- the super S plutonium quest-- a question whether -- whether and how NIOSH was going to treat this super S ex-- potential super S exposures at Rocky Flats, which is a very insoluble form of plutonium. And in -- in the process of this workgroup they finalized a draft of TIB 0049. This -- this draft relies on -- it actually provides an approach for dealing with the super S based on some case data. And in the process of this workgroup discussions, NIOSH also provided the case data and USTUR data, which is the uranium -- United States TransUranium Registry data that was also

used in part to sort of check the -- the TIB 49 to -- to validate TIB 49 and -- and in the process of this workgroup NIOSH provided all those materials to SC&A and -- and again we closed out all these items 'cause -- 'cause NIOSH did present a -- a method -- methodology. SC&A did have a chance to do preliminary review of this model and -- and -- and at this point it's -- it's in final form in the evaluation report, so you know, any further comments of that is deferred to the evaluation report, I think.

For -- the next item involves the -- a question on the americium -- the americium within the plutonium mix and how -- what assumptions were going to be made with regard to the amount of americium when people were exposed to the plutonium and again NIOSH provided background material indicating how this was handled at the site and their rationale for the assumptions they made in the TBD. In discussing this issue, we -- a secondary issue was -- came out of the workgroup, which was direct exposures to americium. So the -- the first point that we're making is that we're -- we're trying to

figure out how -- it -- it's really they're using americium from the lung counts to back-calculate the amounts of plutonium that a person inhaled. And in Item Number 2 we realized that there could have been some -- some people that were directly exposed to americium 'cause they had an americium separation operation. So in that case you'd be more concerned about americium exposures than -- than americium as a way to calculate the plutonium. So there were two separate items, both of them NIOSH presented methodologies on. At this point, again, they're deferred to the evaluation report.

Item 6 and Item 7 relate to the methodology for neutron dose reconstruction at the Rocky Flats site, and for this Item 6 NIOSH provided that there -- the coworker method and -- and TIB 50, which I think is in -- again, in final draft form at this point, was provided. TIB 50 outlines the coworker approach for neutron dose reconstruction, and it has -- it has quite a few twists and turns, I think. You know, different periods of time they're -- they're using different approaches, so there's some

nuance in here that -- that -- that's not a -- you know, obviously not captured in a little matrix item like this, but that's one thing we want -- we -- we examined on the Board and, again, the full approach is, you know, any outstanding items -- any -- any further discussion on this issue is -- is deferred to the review report of the evaluation report. Item 9 -- Item 9 is -- is the -- is actually a preliminary item that talks about data integrity related to the Rocky Flats site. And this was actually -- it became a very large part of our discussions for the Rocky Flats workgroup calls. Several -- you can see several action items down here related to data integrity and/or sort of this validation of data that I described for -- a similar -- similar thing that we described for Y-12, the question of whether the electronic database could -- could -- basically refl-- reflected the raw data, so they had to check the reliability of the electronic database. NIOSH did state that for Rocky Flats the -- when I mentioned before, Y-12, 80 percent of the cases would rely on a coworker model. For Rocky

Flats they've indicated that it's a very small percentage of the cases so far found that would use coworker models, so none-- nonetheless, it's still not a -- we still pursue this because it's not clear -- at least for me it's not clear, and this -- I apologize 'cause we've been in the process of non-stop workgroup meetings for the last month or so, but it -- it -- at least in my mind it's still a little unclear as to what the claimant's records contain, whether it -- if they have raw urine cards or if they have printouts from a database. If they're -- obviously if they're printouts from a database, the same question remains about reliability against the raw -- comparison against the raw data. The printout from the database is obviously going to match up nicely with the database, we would -- we would assume. So that -- that issue may not completely go away just 'cause you're not relying on coworker models.

Item Number 5 I think on this list -- on the right side there gets into some of the concerns that -- that have come up about the practice of recording zeroes when the badges were not

turned in and, you know, we've heard this term -- I think from the petitioners, as well, the concern about zeroing the dose. And this -- a lot of this data integrity -- a lot of these data integrity issues and, to some extent, the elec-- the check of the reliability of those electronic records, remain for this evaluation report. A lot of those -- and I will cut this off at Item Number -- or Issue Number 11 on our matrix, and you'll be happy about that, aft-- after Issue Number 11, all -- I believe every one, and I may -- I may have to check this, but I believe every one of those issues relates to data integrity, and many of those issues were derived from the petition itself. Some were from SC&A's follow-up from some of the petitionary allegations, but they all revolve around this question of data integrity. And I think, especially where the petition -- you know, has several affidavits on -- on the concern and lengthy amounts of material discussing this concern, we thought it's necessary from the evaluation report -- or from the SEC review point of view to look into those and follow up on those in depth. All -- I

think that's best saved for the discussion of the Rocky Flats petition, which we'll do Thursday morning, so I'm not going to go through the rest of the matrix after -- after Item -- after Item 11.

And I skipped ahead a little bit. Item 10 was a question about this -- this -- what's called roll-up data, and this -- this gets into a little bit of the thing I described earlier. It's -- it's related to neutron -- well, I guess and -- and photon exposures in this case, but for a time period at the site they -- the electronic data -- within the electronic database the records were rolled into one penetrating dose and -- and NIOSH, for the IREP calculations for the probability of causation calculations needs -- needs to separate out photon and neutron exposures, and they've provided a meth-- a methodology within -- I think it's within TIB 50 still -- within TIB 50 to sort of deconvolute those results and provide neutron and photon doses separately and -- and that's what's described here.

And then Item 11 is -- oh, Item 11 was a very specific question about -- related to a neutron

algorithm, so it's a similar neutron dose question and I think, again, this specific one was closed out but the overall neutron coworker model will remain a discussion within the SEC evaluation report review.

And I -- I think that's it. Again, with -- with -- through the rest of the matrix I won't -- I won't go through all those items. A lot of them relate to -- I think all of them relate to data integrity. I will note that in -- in there I have tried to shade or highlight -- and on this it appears as a gray shaded area -- items that were -- that -- that were not completely resolved in our workgroup process. Responses were provided by NIOSH, but I think there -- they certainly remain as an issue to be pulled into the SEC review discussion and I -- I -- I don't think we need to go through those, but you might want to look at those as you're reviewing this tonight.

DR. ZIEMER: Thank you, Mark. Questions? As I understood it, 12 and all the way through to the end are data integrity issues. Is that right, 12 through the end?

MR. GRIFFON: Yes, data integrity issues.

There may be a few that -- that -- that are sort of, you know, maybe not completely data integrity issues, but they all either came out of the petition -- allegations by the petition, and most of those were related to data integrity, so...

DR. ZIEMER: Wanda?

MS. MUNN: Just one comment. Some of those data integrity questions were an issue that involve that one prove a negative, that you -- that you prove that something did not happen as opposed to something did happen. And for that reason, from some viewpoints it might be impossible to resolve them completely and for all time. It seems -- it seems that one of the biggest hurdles that some of us had in the working group was the issue of how much is enough in terms of ascertaining how much truth can be derived from the records that we have. And that, I think, is the ultimate question with all of these integrity issues, and one that is never going to be resolved to 100 percent certainty, especially when we're talking about trying to prove a negative. So I think it is incumbent upon the Board to come to

grips with that specific issue, how much is enough, in accordance with the wording of the law, which I believe is fairly clear that it needs to be sufficient. So I -- I -- the toughest thing, I believe, is going to be our decision about what is sufficient.

MR. GRIFFON: And I mean we -- we'll have more discussion on this when we look at the SEC, but -- but you know, some things -- discussions that we had in the workgroup was that -- and -- and actually the actions that we described, if you looked at these highlighted actions, especially the -- the last three are really worth looking at, 30 -- 30, 31 and 32 are -- are really -- are -- are -- are new action items as of the last meeting, I believe, and these came out of SC&A sort of consolidating some of these data integrity issues. And what we -- the way I tr-- we tried to word the actions was -- was to reflect sort of what -- what Wanda said, which is that, you know, we want NIOSH to attempt to go back and track these issues back, but we understand totally that we may end up with a inconclusive result, so they -- they track it to the extent they

can, understanding that if they get to certain raw records, it still may be ambiguous for -- for ex-- you know, I guess the -- the one example I can think of is that there were claims that people worked in certain hot jobs and their doses weren't recorded accurately during those time periods when they worked a hot job. Well, if you look in the database and they have records there, then if you go back to log books and you see exposure rate measurements that are high, you don't -- you still don't necessarily know if the worker was, you know, near where those surveys were done, you know, so you still may be inconclusive. But -- but we asked them to track back to the extent they could because there were reports that some of these log books and some of these documents contained at least secondary sort of dosimetry, so we asked -- again, we asked NIOSH to track back, to the extent they could, understanding that we may get a result back that says, you know, we weren't able to conclude either way or, you know -- and then -- and then we still do have that remaining question of how much is enough when we're

looking at this reliability.

MS. MUNN: And the one other point I'd like to make is with regard to the coworker data. I'd like to re-emphasize what Mark said when he pointed out that the number of cases that would be involved in the Rocky Flats petition that would require coworker data is very small indeed -- if memory serves, less than one percent of the total --

MR. GRIFFON: And I think I -- I think I -- I -- I carefully worded that when I said it, 'cause I said NIOSH stated that a very small percentage -- and I must say, as I was putting together the status report for Thursday morning's meeting I have -- I have some questions as to what exactly is meant by a coworker model and what's not meant by a coworker model 'cause seems to me for a lot of -- for many of the neutron doses they may rely on coworker adjustment factors, and I don't know if that's considered a coworker model or -- I have some questions there, you know, but that was -- that was stated, that it was a very small percentage. I don't know, we might want clarification and this might not be the time

for it. Might be -- Brant wants to speak to --

DR. ULSH: Is this on? Okay. What we're aware of right now, we've had about 1,100, give or take, cases referred to NIOSH from DOL for Rocky Flats. We've completed approximately 700 of those cases and we currently have two cases on hold for coworker data, so it is a pretty small number.

Mark, what you're referring to with the neutron coworker data I think refers to the neutron-to-gamma ratios that were calculated as part of the NDRP that will then be applied to workers who were not explicitly monitored for neutrons. So --

MR. GRIFFON: Right.

DR. ULSH: -- I don't know if you want to -- if you define that as a coworker model or not, but it's not -- it's not a coworker model --

MR. GRIFFON: Yeah, that -- that -- that's what I was thinking of, especially since the NDRP report -- I mean I think we -- we heard that the NDRP report -- the NTA film program in the early years was -- was intended to monitor the most highly exposed workers for neu-- or the most likely high exposed workers for neutron

exposures, but in the -- in the summary report they do admit that -- for instance, Building 771 was not included for the most part, or only -- only some workers were included from that building, and they -- they do admit that that was a high source of neutron exposures. So then somehow you ha-- I think you have to rely on coworker -- and that's what -- different time periods rely on different elements for neutron calculations, so that's why I'm not definitively saying this. I'm -- I'm saying I still l have a question on it --

DR. ULSH: No, I understand, it --

MR. GRIFFON: -- as to whether that was a coworker approach used to calculate their doses, and if any of those were in your claimants then I would consider that at least in part coworker -- you know, part of their dose reconstruction involved use of a coworker model, so --

DR. ULSH: Yeah, there were different time periods, as laid out in the NDRP, where they did -- they used different methodologies to reconstruct the neutron doses up to -- I think the NDRP covered up to the end of 1969, and

that was the end of the NTA film era. After that they used thermoluminescent dosimeters to measure neutron. And one of the methods that they used in the NDRP was in fact what you said, the neutron-to-gamma ratio. And so you're right that the ratios that were calculated as part of that NDRP would be applied to other individuals, you know, as appropriate. But yeah, we'll probably have to revisit that in a -- in a working group meeting, I suspect.

MR. GRIFFON: And -- and the other -- I think the other time period is '70 to '76. I don't think the TLDs started till after '76.

DR. ULSH: No, they actually started in 1970, and from '70 to '76 you had the combined --

MR. GRIFFON: That's it.

DR. ULSH: -- the combined issue that you mentioned earlier, so -- is -- is that --

MR. GRIFFON: Clear as mud for all.

DR. ULSH: Clear as mud, okay.

MR. GRIFFON: I mean that's why I'm saying there's different methods over -- over the course of time for that.

DR. ULSH: Yes.

MR. GRIFFON: Some at least relied on coworker --

DR. ULSH: Ratios.

MR. GRIFFON: -- factors or coworker --

DR. ULSH: Yes.

MR. GRIFFON: -- ratios. Right?

DR. ULSH: That is true, yes.

MR. GRIFFON: So...

DR. ZIEMER: Okay, thank you. Other comments, questions?

(No responses)

So I -- okay, a comment, Lew?

DR. WADE: No --

DR. ZIEMER: No?

DR. WADE: -- in terms of if we're done with that issue, then the two issues we carried over from this morning.

DR. ZIEMER: Right. Well, again, this doesn't require action at this point. It really updates us as to where they are in terms of -- of the site profile issues that may impact on the SEC, so --

MR. GRIFFON: I think we have the same status on the --

DR. ZIEMER: On the rest of the --

MR. GRIFFON: -- overall site profile issues that is -- is that there is no status. I mean we -- that is still outstanding, so --

DR. ZIEMER: The rest of the issues remain on the back burner.

MR. GRIFFON: Right.

DR. ZIEMER: Thank you very much.

DR. WADE: Now we have the two issues from this morning, the -- the --

(Pause)

DR. ZIEMER: Yeah, the Chair wants to -- this is a reminder to remind everybody to turn off their cell phone.

DR. WADE: Well done. Very well done.

DR. ZIEMER: Perfect timing. It's probably my wife or something.

PROCEDURES REVIEWS

DR. WADE: We have the two issues from this morning, the procedures matrix that's now in front of us and then the findings on the second 20 individual dose reconstructions. We now have those materials.

DR. ZIEMER: Right. The procedures matrix is entitled "Summary of Task III Procedure Findings Matrix" prepared by workgroup April

22nd, 2006.

MR. GRIFFON: That was a busy day.

DR. ZIEMER: Right. Now Mark, this morning you actually summarized pretty much where we were on this. Are there any additional comments that need to be made that -- we didn't have this final version before us, but our recollection is that the -- the Board actions are indicated in every case. There are some that will require follow-up, but --

MR. GRIFFON: I think it might be a good time -- it might be a good time to call Stu -- Stu, you talked about a tracking mechanism that we -- 'cause part of what we have here is in the Board actions. A lot of times they're deferred, that NIOSH will correct this, it's a -- whether it may be a low priority, high priority. Sometimes you'll see some action --

DR. ZIEMER: Statements like NIOSH will evaluate further, which kind of leaves it hanging.

MR. GRIFFON: Yeah, there are other actions here, that SC&A will review, so they might have replaced a procedure with a new ver-- a new procedure, and SC&A is doing another set of

procedures reviews, so we state in here that SC&A is reviewing the next -- the next procedure in the line.

MR. HINNEFELD: Right.

MR. GRIFFON: So some of these, you know, we're moving the ball down the road here, but we don't want to lose track of these actions. So Stu had a --

MR. HINNEFELD: Well, I've got an idea about how to -- how to keep track of the various actions that come out of these reviews, and what I -- what I would suggest is that we establish essentially an action for -- where we have committed or whether it's the -- the Board's action is recommends that NIOSH do something, whether it be amend a site profile or revise a procedure or something. We would capture that as an action item, give it the same number as the dose reconstruction number and finding. Like 1.1 would be the first finding of DR number one. Provide that action number and a name and sort of put in one last column in the matrix and then kind of leave the matrix alone after that, once we've identified the action. And then on some other -- some

other vehicle -- you know, to get away from these big things, some other vehicle track progress toward the completing of the promised action. So you know, whether that would be on a Gant chart or just a status report periodically that we could, you know, update regularly as -- as progress is made. So it kind of addresses our obligation to keep track of the things, you know, what comes of these. And I guess the only remaining question then is as we take these actions -- as, you know, we take an action that we believe fulfills the intent, is there someone who's going to say yes -- I mean will the Board say yes, we agree your action fulfills the intent, or -- or what's the -- that -- that question, that yes, we did it right sort of question.

DR. ZIEMER: Stu, this -- this can be kind of a non-ending exercise.

MR. HINNEFELD: I hear you.

DR. ZIEMER: If it says something such as NIOSH will modify the procedure, it would seem to the Chair that once you've done that, you report it, the issue is closed. Now it's true at that point there's a modified procedure out there,

but we also have an ongoing obligation to -- as we move ahead to review new procedures, revised procedures. So basically, in my view, that puts it back in the population of things that may be -- may or may not be addressed at some future time. But it -- it brings closure to the immediate thing.

MR. HINNEFELD: Okay.

DR. ZIEMER: Otherwise you -- otherwise you say okay, they'll revise it. Then do we have to approve the revision, does SEC -- or SEC, SC&A review it on our behalf? It just goes on and on and on. We need to be able to come to closure on -- on these things and I think if you do the action that's stated, that should close it. Whether or not it's the right action remains to be seen.

MR. HINNEFELD: Okay.

DR. ZIEMER: I mean of course it's always the right action, but whether we like it or not is the...

MR. HINNEFELD: Okay.

MR. GRIFFON: With the -- with this -- with the procedures review specifically I think the way we tried to handle that is that if we saw -- if

we felt that it was going to be large changes or -- or was a ver-- you know, quite different procedure that was going to be in place, we tasked SC&A with reviewing --

MR. HINNEFELD: Yes.

MR. GRIFFON: -- it anyway.

MR. HINNEFELD: Yes.

MR. GRIFFON: So we kind of captured that, and on these other ones, like IG-1 and IG-2 --

MR. HINNEFELD: Uh-huh.

MR. GRIFFON: -- I think what -- you know, a lot of it was editorial and style, you know, and I think that -- I agree with Paul that we -- you know, we would close that out and --

DR. ZIEMER: Yeah, some of -- some of these were the procedure could be written more clearly.

MR. HINNEFELD: Uh-huh.

MR. GRIFFON: Right.

DR. ZIEMER: You know, well, okay, you rewrite it and is it more clear? Someone could decide that later, but at least you've done your task at that point.

MR. HINNEFELD: Okay.

MR. GRIFFON: Can -- I was going to ask, can

you -- is it possible maybe that by next Board meeting you can provide this vehicle to us or its -- a sample of it that --

MR. HINNEFELD: Yes.

MR. GRIFFON: -- we can see how you're going to do this and how --

MR. HINNEFELD: Yeah, that was my -- my intent.

DR. ZIEMER: Okay.

MR. GRIFFON: That would be good.

DR. ZIEMER: We'll look forward to receiving that then. Yes, Roy.

DR. DEHART: I was wondering, as a point of clarification, on the action that NIOSH is taking to indicate what the action is, who the action's to be conducted by and a suspense date -- a suspense date as the last...

MR. HINNEFELD: Well, I -- I can provide a scheduled date. I mean -- are you talking about a date -- a completion date?

DR. DEHART: A completion date for that item in the matrix --

MR. HINNEFELD: Recognize that --

DR. ZIEMER: You mean an anticipated --

DR. DEHART: Exactly.

DR. ZIEMER: Yeah.

MR. HINNEFELD: The -- I think so. I don't know by next Board meeting.

DR. ZIEMER: Yeah, well, let's consider that as --

MR. HINNEFELD: The reason I say that is --

DR. ZIEMER: -- a possible...

MR. HINNEFELD: The resources that do these fixes are the same resources that do the -- the SEC petition evaluations and the dose reconstructions and -- and all the other tasks that we're doing.

DR. ZIEMER: And I think we --

MR. GRIFFON: At least have it as a maybe, you know, yeah.

DR. ZIEMER: Well, we already agreed that many of these were low priority, and you would do them on an ad hoc basis as you were able to, that we weren't going to sweat them, and I think you could indicate on the matrix if it's a low priority item that, you know, the fix -- we know how to use the item. It wasn't worded so well, but it's still useable. If you say we're going to do this in a year, I think we're all right with that, whatever it is. Right?

MR. HINNEFELD: Okay. Certainly if you put a

date -- if you put a scheduled date on something, it's more likely to get done than if you don't put a scheduled date on it. That is certainly true.

DR. ZIEMER: Yeah. But it doesn't have to be -- you've got to look at it in terms of what the real urgency is and is there a real need to do this right away.

MR. HINNEFELD: I think with flexibility on those dates -- I mean feeling like if a date slides past and it didn't get done, with that understanding that dates may have to be adjusted based on manpower loading on other tasks, along with that understanding, I have no real problem with it.

DR. ZIEMER: I think it's a living document itself and you're -- you're going to update us on a regular basis and -- and here's the changes.

MR. HINNEFELD: Okay. Wanda?

MS. MUNN: Although we all recognize we have to stay flexible with respect to some of these procedures, it is very desirable for everyone concerned to really put a period at the end of as many of these as we possibly can. As a

simple process, might it be reasonable for us to -- once NIOSH has put together the list for us so we know what the list is, then as those things are addressed, perhaps they could advise the Board that they have been addressed by electronic means, so that at the next Board we will have had an opportunity to look at the revised procedure and we can then, as a Board, actually act on what has transpired on these action items if there is an action that's necessary. Is that a reasonable process, Stu?

MR. HINNEFELD: I think so. I can provide the Board what -- whatever it -- when we finish a product I can provide the Board with whatever --

DR. ZIEMER: If you modify something, a procedure in some way as directed in the matrix --

MR. HINNEFELD: Uh-huh.

DR. ZIEMER: -- if we're provided with that -- is what you're asking. Right?

MS. MUNN: Yeah.

MR. HINNEFELD: Just tell you that it's been revised or send you the revised --

MS. MUNN: Tell us it's been revised so that we

can go look at it ourself and -- and then when we have our next Board meeting, when you give us our report then on what's been done, we will already have seen the updated procedure, and if we have some concerns we can express that at that time.

MR. HINNEFELD: Okay, sure.

DR. ZIEMER: We'll give that a try, at least.

MR. GRIFFON: The other thing I would offer is since I think we're going to try to close out the procedures review and the second set of cases and the third set of cases for the next Board meeting, and I -- I -- just glancing through again, not that I haven't looked at this matrix enough, but looking at the Board actions with this in mind, I think there's some that -- that we can fine-turn the wording on the action so that it's not a -- sort of open-ended, so I will work with -- with NIOSH and SC&A on just one final crack at a few of those final action items so that they're something that has more of a period at the end of the sentence.

MR. HINNEFELD: Okay.

DR. ZIEMER: Any other comments on this Task

III matrix?

(No responses)

Then we'll take it by consent that the attempt to do the tracking on closures will occur, and basically that will bring this to a final version with -- with Mark's final editing. Okay.

INDIVIDUAL DOSE RECONSTRUCTION REVIEWS

DR. WADE: Next we have the second 20 DRs.

MR. GRIFFON: Second.

DR. ZIEMER: Now we have the matrix on dose reconstruction findings for cases 21 through 38. You'll remember that was -- originally was 21 to 40, but there were two cases that I think were removed from the final decision list or something, I forget. So they lost their eligibility for being considered so we ended up with 18. There were 18 cases. So the matrix for those has been distributed. It's a 29-page matrix. We're not going to go through the items individually, but Mark, again, you want to summarize or make any statements on this?

MR. GRIFFON: Yeah, there -- there's -- again, we'll try our best to clo-- to make these resolutions sort of more definitive and have a

period at the end of them. There are some in here, for instance, where we -- NIOSH indicated that they were going to re-evaluate the case so they -- it became, you know, a whole new review of the case. I think that also implies that SC&A would then look at their re-evaluation. There -- there are also -- and -- and you'll see in some of the ones -- page -- I'm trying to find the page here -- page 8, for instance, has a few of the NIOSH resolutions and -- and we -- we've been back and forth with e-mail on this. This is in track change mode, obviously, and NIOSH suggested rewording these resolutions this way. Jim and I agreed to rethink this language 'cause it -- it -- I thought it didn't quite reflect what had been discussed on the workgroup calls, so there -- wherever there's highlights, and there's not that many left, we still had a little bit of disagreement -- not so much on the intent, but on the -- the way the resolution was stated. And other than that, I think all issues are closed.

I received this morning, actu-- or -- or I worked on it this morning. I received yesterday -- SC&A had some final edits, and

most of those were -- several examples are on pages 15 or so -- or 14 through like 17. There's a bunch of cases where NIOSH relied on the workbooks to a large extent for the dose reconstructions, and at the time of these initial reviews SC&A didn't have access or wasn't aware of the -- the -- the workbook use in these cases so they couldn't definitively match the numbers or, you know, cross-walk the cases. And since then they've been able to do that and they indicate the result of them -- of their research back to the actual workbooks, the Excel spreadsheets that -- that supported the written document of the case, so -- and that's sort of the summary of where we're at. The final thing that needs to be done also is a -- the last column is a Board action column, and if you remember, the first set that we did of these we have Board action, ranking -- Board actions 1 through 7. And to tell you the truth, I'll have to revisit the first matrix. I'm going to include that as a footer on each one of these matrices so that we don't forget what 1 through 7 means, but there will be a final Board action in these, as well. For --

for those who -- for those who don't or haven't looked at these matrices before, there is a distinction made between the case ranking -- it's the one, two, three, fourth column, the -- a couple of skinny columns in the middle of the page. There's a case ranking and there's a site or program-wide ranking. And these are low, medium or high in both cases, but the case ranking is did this finding -- or would -- is this finding low, medium or high as it pertains to that individual case and the decision made on that case. And the other -- or -- or in the dose estimation in that case, I should say, not -- not necessarily the probability of causation determination.

The other column is a site or program-wide rank, and that is sort of an impression of could this finding have a broader effect on all cases that were done at that si-- at that site, or, you know, program-wide cases that all relied on a certain procedure, you know, so we tried to get -- and these are -- are subjective, obviously, but -- try to give you an indication of whether it's a very low concern for program-wide, as opposed to a

higher concern program-wide, so that's what those mean if you haven't seen these before. And that's -- that's about it for that --

DR. ZIEMER: Okay. So what -- what needs to happen --

MR. GRIFFON: -- summary.

DR. ZIEMER: -- is that the workgroup would recommend the Board action, and then the Board would have to approve that at our next meeting. And just for the record, I pulled out the -- what 1 through 7 means, and I'm just going to read it into the record and here's what it is. A 1 says NIOSH agrees and accepts the findings, and basically that closes the item.

NIOSH disagrees but will comply is 2.

Number 3, NIOSH disagrees and will not implement unless the Board recommends action through HHS.

Number 4, NIOSH disagrees and the Board and NIOSH reach a compromise.

Number 5, NIOSH disagrees and the Board concurs. That is we -- we take NIOSH's position and therefore that closes the item.

Number 6, the issue's deferred to a site profile, TBD or other procedure review process.

That -- that was the case where some other aspect or some other procedure would govern that -- supersede it.

And number 7, SC&A concurs with NIOSH's view, so -- and again that would close it.

So those are the -- the various Board action possibilities, and the workgroup will make a recommendation for each of the items in the matrix, then we'll have a chance to concur with that.

MR. GRIFFON: Again, this is where Stu's tracking tool is going to come in -- into play because we -- the last matrix I think we had a fair number that were number 6, and that meant that the -- the action was deferred to the review of a site profile, 'cause we were in the process of doing a site profile anyway and we were digging in much more depth into those issues so it didn't make sense to discuss it in parallel so we deferred it to the site profile process, but we can't lose track of that action.

DR. ZIEMER: And you'll notice that there are only a couple of these that really require tracking. Most of these are closure items.

MR. GRIFFON: Right.

DR. ZIEMER: The one that requires tracking is where the -- NIOSH disagrees and will not implement the Board -- unless the Board recommends, and the other would be that the issue is deferred to a site profile, TBD or other procedure review, then we'd have to review that, so -- okay.

BOARD DISCUSSION

Any other comments on the -- on the dose reconstruction matrix?

MS. MUNN: I guess I have one.

DR. ZIEMER: Okay.

MS. MUNN: I think it's interesting to note that in almost all cases, unless I -- my memory fails me, in all cases the actual impact of the comments and concerns on the single dose itself had been -- was low. The impact -- the change that would have occurred in either case on the individual case was very low, but we -- where these were of greatest value I think was in identifying one or two items which might be much more broadly applied than to that individual case. That's been helpful I think for the working group in kind of following

through on -- on our other -- not dose reconstructions necessarily, but as they're applied across the site or across the entire complex.

DR. ZIEMER: Thank you.

DR. WADE: I have a couple of issues. We are a little bit ahead of schedule and I thought maybe we could use the time -- at least I'd like to float several issues for the Board to consider, either now or at a -- at a later meeting, and let me define them and then we can talk about them.

I mentioned one this morning, and that is you'd originally set out to audit two and a half percent of individual DRs. We're proceeding at the rate of about 80 per year. I think it's important for the Board to consider whether that original strategy and pace is still appropriate. Maybe it is. I think it would be good to get on the record a discussion of that strategy and pace.

And then the second issue, really very different than -- from that is the -- the working group that has been reporting to you is -- has taken on a tremendous amount of work,

and I think the Board should talk about that and decide whether it wants to continue loading that working group. I'm not saying it's not a fine working group and they've done outstanding work, but I think it's reasonable to pause and consider and then take action, whatever that action is.

So I think those are two issues that warrant some discussion. We have a little bit of time now, possibly we could spend that time talking about them.

DR. ZIEMER: Certainly both of tho-- both of those are important issues to consider. The -- the two and a half percent pace -- and currently we're at about -- we're at about eight tenths of one percent. We're not -- we're not halfway there on --

DR. WADE: No --

DR. ZIEMER: Well, let's see, we'll be -- if we select the next 40 cases, we will be at 240 I believe. Right? We'll have six -- no, we'll be at 120. We'll be at 120.

DR. WADE: 160. If we select the next 40, we'll be at --

DR. ZIEMER: Let's get some high-powered math

here.

DR. WADE: Okay.

DR. ZIEMER: We have -- we have selected for -- we'll have six groups of 20 selected, which is about half of where we need to be if there were no more cases.

DR. WADE: Right.

DR. ZIEMER: And -- and obviously there will be more cases, so that if -- if we're talking about the next three years, for example, then we are really in a sense behind the pace because if -- if we're -- if we're turning around 60 a year and want to get to two and a half percent of roughly 20,000 cases, you're -- you're talking about -- about 450 cases, so --

DR. WADE: Right.

DR. ZIEMER: -- we're talking about a four to five-year task there at the present rate, which is maybe a little longer than we want to go.

DR. WADE: And maybe it's not. I mean I think that's a reasonable estimate. You've got maybe another three years' worth of work to get to the target of the two and a half percent of the 20,000.

DR. ZIEMER: Now I also point out to the Board

that two and a half percent was in essence an arbitrary number. We're not locked into that by anything other than our own --

UNIDENTIFIED: (Inaudible)

DR. ZIEMER: Well, all right. The John Till group talked about two and a half percent for the DTRA program, I think, something like that.

DR. WADE: Right, there's some precedence.

DR. ZIEMER: There's a little precedent for it. On the other hand, if -- if -- if one is pacing along and you're -- you're basically doing this not to get to a magic number of any percentage, but to identify issues. So that's -- that's the -- what's really -- what you want to be doing, and are we doing that at a good enough pace.

Yes, Mr. Elliott, a comment.

MR. ELLIOTT: Yeah, if I could, I'd like to -- is this on? It's on? It's not up.

DR. ZIEMER: It doesn't sound like it's on.

MR. ELLIOTT: It's on but it's not up.

DR. WADE: Why don't you go to the one in the back, Larry.

(Pause)

MR. ELLIOTT: I'd just like to add a little

more context for your consideration. Dose reconstruction program started a little over four years ago, as you know, and we were doing what we called cherry picking at the time, as you know. We were doing overestimates/underestimates, using our efficiency process. And then as we proceeded through those easier-to-do cases through the efficiency process, we working into some what we called best estimates. You realized that I think in your third round of review that there was this kind of -- this concept of a best estimate or a full-blown dose reconstruction. You are seeing in your reviews, your 20 sets of reviews, you're seeing snapshots in time of the evolution of our dose reconstruction program and its process. And why am I saying this? Well, we have reached a pinnacle, I think, in that and in our evolution we've -- we've achieved a level where we're doing more best estimates. We're doing more difficult cases, and we're doing cases for sites where we have a -- a small number of cases and we really don't treat those, in many situations for many facilities, with a site profile development

tool. We use some other standard type approach. And I think -- you know, I'm not sharing anything that's new, but I think you need to think about this as you're looking and thinking forward in the pacing of your reviews. You're going to see different snapshots of our evolution in time, so I would just add that to -- to be a little more context for your consideration.

One other thing I'd like to remark upon. I -- as we go back and forth in the matrices comment resolution with the working groups and SC&A, I think words become very important. Words such as "issues," you'll hear us use words such as "questions" when we don't believe it's an issue. I think also that we all need to be careful when we develop a document and we put it out for display in -- in the public realm, whether it's on the table back here, on the web site or we share it in working group sessions -- that we put the appropriate labels and disclaimers on those documents. They are viewed by people as being final in nature, in some cases, and we all have to explain where they really, truly are in -- in the process of

deliberation and scientific debate. So I would just ask that you think about that, as well. And one more comment, if I may belabor the Board's time here. As -- as we hear and observe and engage each other in this exchange of concerns and ideas and issues and have this scientific debate, I want you all to realize that we take -- oh, wow -- we take those issues and comments and questions and concerns that are raised in that scientific discussion to heart, and we make changes. We're not waiting to see whether or not the Board is going to make a recommendation to the Secretary that says this has to be done. So you're going to see that, as well as -- when you look into the dose reconstructions you're reviewing and into the procedures, we are making those changes. We are taking the comments and the concerns that are raised, we're taking them to heart, we're considering them very carefully, and we are modifying either the profiles or the Technical Basis Documents that we use, and we are reflecting upon those changes in the dose reconstructions that are occurring. So I just wanted to add that for further consideration.

DR. WADE: Thank you.

DR. ZIEMER: Thank you, Larry, that's very helpful.

DR. WADE: If you -- just if I could pose the question. If you're looking at 20,000 dose reconstructions, an audit rate of two and a half percent, that's about 500. If we're doing about 60 a year, that's about eight years' worth of work. Doesn't mean we don't stay the course. I just think it's important for the Board to consider that and, you know, and reinforce its position or modify its position as appropriate.

DR. ZIEMER: Wanda, you have a comment?

MS. MUNN: It's hard to evaluate, I think, whether we have done the majority of the heavy lifting that's necessary to establish a really sound basis for future activities. My sense is that we have done that, looking -- doing the site profile reviews and doing the -- especially doing the procedure reviews. I would hope that we have all established a better basis so that we understand how we are proceeding a little better than we did the first year or so when we were first beginning.

Also, it's not clear to me how many additional site profile reviews we are going to be dealing with. It would seem likely, given what I now know, that for the next year our workload and the workload of NIOSH and our contractor, are likely to be very similar to what they've been over the last year. Following that, I would think that perhaps our work might diminish somewhat.

Given that background, I'm hesitant to suggest that we accelerate our review of dose reconstructions quite yet. I would hope we might be able to do that a year from now, but right now -- as has been pointed out before -- the same people have to do this work that are doing the work that the claimants are so painfully waiting to have accomplished.

My personal preference would be to stay the course for the time being, defer the decision on acceleration perhaps for another -- at least until we've completed these that we've chosen today, and possibly a year from now.

DR. ZIEMER: Thank you. Other comments? Roy.

DR. DEHART: As I recall, when we started looking at some way of sampling, there were two

reasons that we were going to do that. One was to assure scientific methodology, and that certainly was critical in the front end. The second is quality assurance, and that not only is front end, that is a continuation process. I would ask if we have any data on issues of reconsideration of objection or formal appeal on the part of those cases that have already gone forward, and to what impact that has had.

DR. ZIEMER: Thank you. That -- that's a more than rhetorical question. I think you're really asking NIOSH that question, and Larry, I'm not sure if you caught that fully, but -- restate it -- Larry --

DR. DEHART: The question was what have we had in terms of reconsideration of objections or of formal hearings with regard to those cases that have already been resolved initially.

MR. ELLIOTT: Well, we've not -- I don't believe that we've had -- of the 60 cases that you've finished your review on and the 20 that are in the fourth set that we have SC&A's comments on, I think Wanda stated this earlier, we have not seen any review comment that would have changed the compensation decision on those

cases.
We have heard that in some ways our efficiency process has been overly generous in some ways, and we have taken stock of that, looked at that, but we want to give benefit of the doubt to the claimants, as our rule indicates we should where -- where science does -- does not give us any further advantage.
We have not, in my understanding, had any cases out of those that have been completed and sent back to Department of Labor, I believe there's only one case that has been moved through the FAB process and into a district court situation, and I think that's a recent -- recent -- recent case. It's not a case that -- none of the cases that you all have reviewed, I believe, have had any further scrutiny within DOL's Final Adjudication Branch or have gone into a district court situation. The case that's at district court has not been part of your review.
DR. WADE: I think --
DR. DEHART: I thought you were going to answer my question totally --
MR. ELLIOTT: I'm sorry.

DR. DEHART: -- which was really the fundamental part, and I have -- I apologize for not being clear.

MR. ELLIOTT: No, I'm probably not --

DR. DEHART: Of all the awards made, of all the -- all the cases reviewed by NIOSH and the Department of Labor, what -- how many have -- have been questioned or gone in for review or whatever -- by the claimant.

MR. ELLIOTT: Oh, okay, so -- oh, I'm sorry. So you're talking about those cases that have gone on -- that have been appealed at the Final Adjudication Branch level?

DR. DEHART: That's correct.

MR. ELLIOTT: I'd have to -- DOL would have to answer that question. I don't have those numbers. I can tell you that the number of remands that we get back are less than two percent. I don't know how many -- and those -- those remands are not always on dose reconstruction methodology. They're on -- you know, the majority of those remands are on additional cancers identified after the claim has been done or dose reconstruction has been done and we have to redo the dose

reconstruction, or additional employment that might have been developed after we had completed the case. There's very -- there's -- there's been some technical concerns raised, but by and far the majority of that two percent, I believe -- less than 800 reworks, Mr. Turcic is telling me from the -- from the bleachers here, and that includes technical and -- and the other case development issues.

Does that answer your question? I'm sorry I didn't understand what your...

DR. DEHART: That's fine. I was glad to hear both parts of that. That speaks to quality assurance.

DR. ZIEMER: Okay. Thank you. Other comments, questions?

DR. WADE: John Mauro has a...

DR. ZIEMER: Yes, John Mauro.

DR. MAURO: Yes, Dr. Ziemer. I've been giving this some thought because it's a very interesting problem, and recently I think a part of the answer emerged. Bear with me for a minute.

When we were looking at the data validity issue related to Y-12, what we found out, in 19-- and

bear with me; this is related to what we're going to be talking about. In 1953 there were 14,222 urine analyses taken. Okay? That's how many samples were collected, 1953.

NIOSH went in and sampled randomly 22 of those. See -- okay. So we went over to our statistician, say what does that tell us? We went in and we sampled 22 -- and by the way, all 22 came back okay. So in other words, we went in and -- it's almost like a standard -- this is a very standard statistical tool for quality assurance. So our statistician says well, you know what that means. It means you could be 90 percent certain that less than 10 percent of those samples are bad apples. So in other words, it's a very powerful statement. The twenty-- when someone -- we -- we were surprised the answer came out that way. Stay with me for a minute.

Wow, so there's 14,222 urine samples. You go in and just randomly pick 22, and out of the 22 all come back okay. Statistically that means you could be 90 percent certain -- and you're going to hear more about this later when we talk about Y-12; Arjun will be speaking to this

-- you could say with a 90 -- at a 90 -- at a high level of assurance that -- that less than 90 -- ten percent are a problem. Now.

Now let's move on to the question before us. We sampled 80 cases. Okay? They're sort of like the 22 in the urine sample. And there are -- I don't know how many thousands of cases out there, but we pulled 80. Now here's -- here's what has to happen. Out of those 80, some collective judgment has to be made, how many of those do we feel are problematic, and there's the -- there's the nub, and that's going to be a judgment call that has to be made collectively. Now the -- granted that they may not have -- that they -- that they don't result in a reversal. Well, sure, that's one criteria, certainly, if we find one that the result wasn't -- and we don't come to that conclusion, but let's say we find that we have a certain critique, the critique is evaluated, for example. And when you're done you say oh, my goodness, yeah, we did mess this one up. This is a reversal. Well, that's certainly a problem.

But it's very hard to say out of those 80 how

many of those would collectively the Board say you know, I think that's a significant enough problem that we would consider it to be a problem, for whatever reason, a judgment is made and -- now, once you have that, let's say you decide that well -- and here's -- here's the tough problem. You want to be able to say out of the sample that we collected we want a high level of assurance that there are very few number of bad actors, and we have the wherewithal to do that. So there's a two-step process here. One is a judgment has to be made on the part of the collective judgment of the Board, I would say, or even a larger decision-making body, what -- what fraction of the total number of cases processed ha-- have to -- or -- have to be found to be -- or -- there should be -- the question goes we need to have a high level of assurance that the fraction of problematic cases is less than some percent. I don't know what that number is. But once you get to that point and you come up with that decision criteria, then the next step is okay, we reviewed 80. Out of the 80, or whatever number is picked, we come -- we walk away and

say we can say with -- and let's say -- let's say, just for the sake of argument, two -- two out of the 80 -- we sampled 80, two of them are problematic to the extent we consider them to be a problem that shouldn't have -- you know, it's -- it's an error.

(Whereupon, Dr. Melius joined the other Board members at the table.)

DR. MAURO: What I'm getting at is that is a very classic statistical problem that's very tractable and manageable. The tough question is what percent do you folks feel would represent an unacceptable situation out of the population of cases, and at what level of confidence do you want to make sure that that sample is acceptable. Do you want to get that prescriptive, because that's a -- it's almost like a suicide pact. When you start to make numbers that prescriptive, you're in a situation where it's a switch, and when you go -- once you turn that process on, it's automatic, and the outcome would be yes or no. So all I'm offering up is as a result of the experience we had looking at the 22 urine analysis samples out of the 14,222 actual urine

analyses that existed in 1953, we were able to make a statement, 90 percent confident that less than 10 percent are a problem. I think you have exactly the same situation here. Whether or not you want to engage this -- you know, this issue in that manner is -- is, I would say, an important subject that needs to be discussed. I hope that's helpful.

DR. ZIEMER: That's very helpful, John. Let me point out one difference here. That is that these cases are actually a little more complex than a urine analysis, which is very prescriptive -- a single variable situation. The other thing I'll comment, and I guess it's obvious in everybody's mind, is that the end point that is of maj-- most concern is the decision. Are we making the right compensation decision. Now we're also looking -- I think we all hope that we're not making that decision based on the wrong reason and criteria. I mean even if you came out right, you don't want to be doing it that way, so we also want to say are we doing the right science along the way, are the dose reconstructors doing it right to reach the right decision. So it's -- it is

perhaps more complex. But ultimately that issue of are -- are we suddenly finding that there's a lot of wrong decisions being made, that would be a major, major problem -- as opposed to yes, the right decisions are made, but this reconstructor did it a little bit differently but it didn't make any difference or whatever.

And Larry has a comment and Mike has a comment, I think Mark has a comment. Go ahead, Larry.

MR. ELLIOTT: Thank you, Dr. Ziemer. I just wanted to follow on what Dr. Mauro had to say. There's a whole science of what he was talking about, and that's -- you know, the military has developed that statistical approach, strategic sampling, to determine an error. There are calculations that we can present to the Board to show you how to go about sampling at a statistical significant level to achieve a sense of confidence and comfort that a inappropriate, wrong decision has not been made. If that's what the Board wants to see, we can certainly provide that in support to the Board.

I agree with you, Dr. -- Dr. Ziemer, in what

the program's policy has been, we do not want to see one -- one dose reconstruction result in a -- a negative determination on compensability that should have been compensable. That's what we've been striving for. Certainly we have seen cases go through dose reconstruction and get compensated, and some people might say that they did not deserve that. I'm not going to say that. I'm saying that our dose reconstruction was accurate in that instance. What I do not want to see happen is a case that we reconstruct a dose for and a decision is given, no, you're not compensable -- and we find out that we missed the mark. That's not what we want to happen.

DR. ZIEMER: Thank you. Michael?

MR. GIBSON: Yeah, I just -- I'd like to agree with Wanda. You know, I think that there are a lot of sites that we don't have the site profiles done for, a lot of the bigger sites -- well, I don't know how many, but several. And I'm just afraid if we go ahead and pick out cases without having all the knowledge from the site and everything else, we may be looking at dose reconstruction that perhaps NIOSH didn't

even have enough information at the time to make a decision. So I would almost rather see us maybe from back down to 20 instead of 40 and maybe slightly slower the pace until -- even if it does take a few years more out, we've got more information at hand rather than just say this looks like an interesting case.

DR. ZIEMER: Thank you. And Mark?

MR. GRIFFON: Yeah, I -- I'm reluctant to -- certainly reluctant to escalate, as well as Wanda said, and part -- part of it I think is that, you know, I'm not sure that the -- what's in our -- our pool to sample from right now. I think that might be a useful thing to -- to reflect back on. I know it's -- I know we've asked for it before, but it might be, again, time to get a snapshot because I think some -- some stuff is done batch-wise, for obvious reasons because you complete your site profiles and you -- so we may be missing some -- some sites that we definitely want to take a large sample from. So -- and also just the ongoing work, I think it -- you know, it -- it makes sense to either keep the pace the same or -- or maybe decelerate just a hair.

The other thing I think might be useful is, as we discussed earlier, having the -- the dates when cases became available in the pool -- or the dates when the cases were dose -- were -- were completed, were dose reconstructed. And the reason I asked for that is -- you know, I hear what Larry's saying is that, you know, as we're ongoing with this workgroup process and the Board process, they -- they're making changes to these things. But if -- if we're sampling from things that were done in the original, we're -- we're not going to even see those changes in what we review so we're going to come down -- you know, so that might be useful, too. We might be sort of wasting our resources to resample and find the same issues from those early cases, which we already captured and discussed thoroughly. So it might be useful to -- to have a little more information of what we're sampling and -- and get the -- you know, use our resources more wisely to...

DR. ZIEMER: Okay. Dr. Roessler?

DR. ROESSLER: I think I'm just going to confirm --

MR. PRESLEY: This is Bob Presley, can you hear me?

DR. ROESSLER: -- what a couple of people have said. I think what Mike is saying and I'm looking at is perhaps we have higher priority things to do, things where we can get more information and advance things better.

The other thing is, I'm not sure that this sophisticated statistical evaluation of this -- I don't think it's like the urine samples. I think what we have here -- it's a much more complicated situation where it's probably very difficult to put some numbers on it because it's ongoing. And like Mark says, you know, we're going way back doing some that were done at the beginning. We need to have time to evaluate that, find out where the problems are, and those problems can be corrected. So we might be looking at having done a bulk of them where things can be corrected where we don't have to go, in my view, maybe to that full two and a half percent.

MR. GRIFFON: Yeah, and -- and like I was saying, in many cases those problems may have been corrected already, but if we sample from

cases that were done before that -- that date, we're going to see the same problem and wonder -- wait a second, you know, so -- so I think we want to take that into account, you know.

DR. ZIEMER: Well, it certainly appears that there's not a big sentiment for speeding up or increasing this process right now, but to maybe stay on course, having some degree of selectivity because the procedures are changing, the pool of people is changing as well, and that allows us to be flexible as we move forward in the process.

DR. WADE: I think so.

DR. ZIEMER: And Arjun, did you have an additional comment?

DR. MAKHIJANI: Yeah, Dr. Ziemer, something -- a suggestion you might consider. We -- we spent a lot of time going through the matrices and -- both in -- well, in the dose reconstruction reviews, in the SEC reviews and in the site profile reviews, and in that context I think certain difficult issues come up where it could be very useful to audit or pick dose reconstructions that have been completed with realistic or best estimates that

exemplify the issues we've identified as difficult so that we can consider them resolved or make recommendations or the Board might want to make recommendations as to how they might be resolved, the problems, or -- so there might be a different way than if the -- if the idea is -- is not to determine if in the pool NIOSH has got good and bad cases, but rather to solve identified problems so dose reconstruction can be better, we might go through a comment resolution and pick cases that way.

DR. ZIEMER: I think to some extent that reflects the intent of some of the things we've been doing. It's basically a targeted selection or -- of -- of cases based on -- that could be one of the criteria, as well as others that we have used, so thank you for that suggestion.

MR. PRESLEY: Paul --

DR. ZIEMER: If there's no objection, let me... Yeah, go ahead, Brad. You have another comment?

MR. CLAWSON: Well, no, I just -- I was hearing Mr. Presley on --

DR. ZIEMER: Oh, Bob, are you -- Bob, we

probably have your sound turned down there. Hang on a second, we'll get you cranked up and...

MR. PRESLEY: Can you hear me?

DR. ZIEMER: Yeah, go ahead now, Bob.

MR. PRESLEY: Thank you. I didn't know where you -- I tried to comment a couple of times. I feel like the rest of the Board members. I do not think that we should increase the number of cases to review. We need to put our resources on the SEC petitions and move on with our jobs.

DR. ZIEMER: Okay. Yes, thank you very much for that comment.

Bob, what's happening here is that when you're not speaking we're turning your volume down 'cause the -- the phone hookup is kind of hissing here, so when you want to speak you'll have to yell real loud to catch our attention, then we'll crank you up.

MR. PRESLEY: I can do that.

DR. ZIEMER: Yeah. Yeah, Brad is listening for you. Let's turn our attention for a few moments to this issue of the load of the working group. Let me start with an observation and then we'll get some additional

comments.
Number one, I think the idea of having different working groups to address the dose reconstructions, small working groups, has worked rather well. Likewise, we've gone into a mode of having now individual working groups for individual sites, so I think we're moving from the one where we had a working group doing site profiles. And as we get through this process and get past Y-12 and Rocky, I'm hopeful that we'll be at the stage where we in fact do not have one working group trying to handle all of the site profile reviews.
The final piece of this is then the dose reconstruction part -- that part of the matrix, and I don't know that we would need to necessarily solve this today, but we could think about doing something similar there where we might have a team responsible for the matrix of, you know, the first 20, second 20, third 20 -- 'cause you now all have experience and, you know, we kind of developed that process and it worked well having one working group to spearhead that. And now that we're into more of an operational mode with that, that seemed

to me it would be rather easy to say okay, Gen Roessler's team will take the next 20 cases and they'll be responsible for the matrix, or something like that.

Give that some thought and maybe -- maybe at the next meeting we -- well, and -- and let me -- let me say this. The other thing I would like us to think about is -- in that connection is restructuring how we do subgroup -- subcommittee work, 'cause the subcommittee work ends up being the full committee acting as a subcommittee and there's some inefficiencies in doing that 'cause we sit together and do our work and then repeat it. So -- and if we get into this other mode, maybe most of this work could be done by workgroups and then brought back fully.

UNIDENTIFIED: Hang on a minute.

DR. ZIEMER: I'd like to hear other comments on this.

(No responses)

No other comments?

MS. MUNN: Yes.

MR. GRIFFON: Only -- I mean the only -- the only thing I would say is in the beginning we

talked about doing this as a subcommittee, but my vision of it was not a -- not a subcommittee of the full committee. It was a subcommittee. And the only -- I mean it might be worthwhile considering that because I think the important part of this is consistency, although I guess -- you know, we -- we've -- we've got some -- you know, we've got some history here with the 60 cases and then 80 cases, and as we're going forward I think it's important for -- although we all get reported -- you know, the information reported back to us, but I think there is a certain element that we want to be consistent with our actions for certain types of findings and that sort of thing. So if we have a lot of workgroups working separately, then when we put them together -- could see some inconsistencies so I don't know.

DR. ZIEMER: Yeah. Well, give it some thought. I don't think we have to necessarily change anything today.

The other -- the other thing is one of the reasons we had the subcommittee set up the way we did was to assure that there were -- the meetings were always open. But in fact the way

we're operating now, our workgroup meetings are open anyway. You know, we had that -- the distinction as a subcommittee has to be open and announced and so on, workgroups do not. But in fact we're almost operating them like subcommittees.

MR. GRIFFON: Yeah.

DR. ZIEMER: Yes, Jim.

DR. MELIUS: Yeah, I would just concur with Mark in the sense I think we need to provide -- continue some consistency on the dose reconstruction review, whereas I think sort of ad hoc workgroups for site profiles, SEC petitions, evaluations make sense, but I -- I -- I do think there's enough complication of this and so forth that we need to keep the subcommittee process going, at least for that, or at least a smaller consistent -- whether it's a workgroup or subcommittee, we can.

DR. ZIEMER: We don't have this on the agenda to do anything today, but I think Lew at least wanted us to be thinking about the workloads there.

DR. WADE: Right. And thank you. On both issues that's what I hoped we'd accomplish, a

discussion on the record and, you know, tee up some issues and we can deal with them as appropriate. I would like to again thank the workgroup that Mark chairs for a tremendous effort.

DR. ZIEMER: And we -- we all -- everyone on the Board is very thankful for that, as well. We're going to take a break and then we'll reconvene at 3:30.

(Whereupon, a recess was taken from 3:13 p.m. to 3:40 p.m.)

BOARD SEC PROCEDURES

DR. ZIEMER: Okay, we're ready to reconvene. The next item on our agenda has to do with the Board's SEC procedures. You may recall, Board members, we adopted a kind of an operating paper a meeting or so ago on how we would proceed to handle SEC petition reviews. Meanwhile we also had the contractor reviewing the issue of how they would address SEC petitions, as well as some recommendations on Board procedures. Jim Melius has headed up the workgroup on the Board's SEC procedures, so Jim, if you'll kick it off, and then I think John Mauro or one of his colleagues are going

to jump in here in a minute, as well, so...

DR. MELIUS: Okay. I have to first start by apologizing. I had a little computer glitch in my office on Friday, so when I tried to send this information to the working group, as I had promised I would do, you didn't receive it. So -- but it turns out I think we're -- I think this is relatively straightforward.

As we talked on our workgroup call a few weeks ago, SC&A had proposed a set of procedures for reviewing SEC evaluations -- reports from -- from -- from NIOSH, and we had worked out -- in our last meeting we had talked about a procedure where we would -- in terms of forming working groups and then figuring out how we get our working groups and SC&A started on doing some of the review work on an SEC evaluation prior to the -- NIOSH having produced the evaluation report -- has some obvious difficulties so I think -- I think in some cases it can be a -- it can work out, as I'll talk about in a second.

So what I'll do is I'll sort of present sort of my modifications of what SC&A proposed, and then John Mauro will sort of talk about the --

some more of the details which I was actually proposing to delegate to them to sort of work out the details from their -- procedurally. Most of it would involve modifying some of their procedures to incorporate our guidelines for SEC review.

So in the original SC&A proposal to us they had proposed three phases. I'm sort of reducing that down to two phases, and -- to make it simpler and I think it -- it works just as well. Phase one is a -- when a petition has qualified, and at that point -- up until that point we really hadn't seen the petitions. We haven't had a chance to re-- to know much about -- we may know of their existence, but we don't know scope often and Larry and his staff is going through the process of determining whether that petition does qualify for further review.

They then -- he -- Larry then notifies us, the entire Board, whenever an SEC petition has qualified. And at that point what I'm proposing is that -- or shortly thereafter. Now some of this timing may have to do with -- with where we are relative to a Board meeting

and so forth, but I think the logistics can be pretty straightforward. I'm proposing that the Board form a workgroup that would evaluate -- be ones that would monitor and evaluate that particular petition and follow it through. If we have a -- or we have a group that's reviewing a site profile for that same site, it may make sense to have them continue, which is really what we've done with -- with Y-12 and Rocky Flats. But if not, we can form a -- form a workgroup.

And at the same time we work with Lew and NIOSH to authorize SC&A to conduct some preliminary work that -- to start to evaluate that -- that petition. And what -- that's later. What that preliminary work would involve would be to, one, review the petition and the supporting documents, and there's usually -- at least we found with -- with Ames there's -- there could be a large set of supporting documents with that; to interview the petitioners to better understand what their concerns are and what other information they may have that would be in support of the petition they may not have -- have included in that petition. NIOSH may have

some additional information at that -- that point, also.

And -- and then for SC&A to start working to sort of evaluate the petition, the site profile -- any site profile review that are -- that's been done to identify sort of a preliminary list of key issues that may be important in the SEC evaluation.

Now that I would view as sort of -- not as a -- as a very in-depth review, but rather a way of getting familiar with the work, the information about the site and about the -- what the petitioners' concerns are, about the supporting documentation for the petition and so forth.

It would be essentially independent of NIOSH's work in terms of evaluating that petition, which I think is important, and it's -- keeps us at sort of a parallel path to -- to NIOSH's work I don't think -- would not unduly interfere with -- with what Larry and his staff is doing, but I think would at least get us better prepared at the time the evaluation report is -- is finally ready and published.

If -- if warranted and approved by the workgroup, SC&A could also begin review of what

I'm calling critical databases. These are the sources of monitoring data that are obviously going to be critical to the decision on the particular petition. They most likely -- they -- if they do exist they would have been things that would have been identified in the site profile. I think it would be -- most part pretty obvious datasets. They may not be -- we may not identify those on most petitions and -- and at this stage, and I don't think we want to create a lot of work here that's unnecessary, but if there is something obvious that needs to be -- be looked at, I think that it may make sense to get started 'cause that will save time at a later step in the process.

So then we get to the next phase which is what -- my phase two, which is NIOSH has published their evaluation report and at that point in time I propose that the workgroup meets again -- this may be by -- by conference call to -- you know, based on the evaluation report, to sort of re-review what's been done, talk to SC&A, what -- what have they found and they report to date, what are going to be the key issues for reviewing the NIOSH report. SC&A

will go through that part of the process based on our evaluation guidelines, so forth. As part of this, SC&A may make -- conduct -- our contractor may conduct site visits, interview key site personnel, whatever, so -- and so forth that would be relevant to that SEC evaluation review.

We would then poll -- do -- what we have been doing is having workgroup meetings with NIOSH and petitioners, be announced to the public, discuss preliminary review, resolve critical issues, develop further plans for resolving other issues and so forth and, again, process -- I think is really is what's carried out from that point in -- point in time.

So what I would like to do now I -- I would propose that -- now that I turn it over to John Mauro who then can sort of fill you in on -- on some of the details here. I think to implement this approach we would need to have SC&A do some re-writing of their procedures, not as much for the phase one and phase two as much as it is to incorporate our guidelines into -- more explicitly into their procedures for doing SE -- SC&A for SEC reviews -- too many S -- S -

- S and Cs here -- do that. But before I turn it over to John, does anybody have any questions or comments?

Yeah, Lew.

DR. WADE: Just a clarifying question, Jim. You would do this for each and every petition that qualified or you would select certain petitions to -- to engender this process on?

DR. MELIUS: I -- I think we would do it for all petitions that are generated from the outside petitions -- all outside petitions. Petitions such as Nevada Test Site that were --

MR. ELLIOTT: 83.14.

DR. MELIUS: Yeah, the -- thank you, Larry -- the 83.14 petitions, which are in some sense generated by the dose reconstruction process. I think we're going to have to make a decision on -- on -- individual decision on those. Some of them are so small -- I guess -- yeah, they're really discrete, they don't cover a lot of people and I don't think we need to generate this much work for them. When you have those type of petitions like we do with Nevada Test Site, which -- even though they're discrete, but there's a sort of a large -- larger picture

out there, I think we're going to have to decide what's the best way of engaging those. We may want to actually -- in that -- those cases, really the first we hear about those is when NIOSH produces an evaluation report, so we may want to see the evaluation report, have it presented at a meeting and then decide what the -- the prop-- you know, the best way is of -- of going forward on that. And I would also add that there may be other part of this that we -- we may -- the petitions where we may decide that we don't need to even have SC&A be involved in it. We may -- the Board may feel comfortable with -- with that. We may want to wait until the NIOSH report comes out in order to evalua-- --

DR. WADE: Yeah, my only --

DR. MELIUS: -- before we can go forward.

DR. WADE: The only purpose of my question was to get a sense of the -- the scope of this in that we have a proposal from SC&A that we're operating under now that looks at six full-blown reviews a year, and we just have to get a sense of scale and -- but that'll come later.

DR. ZIEMER: Roy DeHart and then Gen Roessler.

DR. DEHART: Jim, I assume we're talking only about those NIOSH reports that say they can do dose reconstruction. If they cannot do dose reconstruction, do we need to do further review with -- via contractor?

DR. MELIUS: Well, we're not going to know ahead of time so we're going to have done phase one, and I think at -- at the time the evaluation report is published, becomes available, and we have that workgroup meeting -- if I can go backwards -- that initial workgroup meeting to identify key issues, I think then we can decide how -- what extent do we need to engage SC&A to -- to go forward on that.

DR. ZIEMER: So there are decision points along the way that will --

DR. MELIUS: Yes.

DR. ZIEMER: -- determine where you go next.

DR. MELIUS: Right, and if I can just add that I think -- we'd also, I think, be on -- well, more solid grounds of doing so than just -- and the fact that we would have had some input from our contractor on -- on scope and they may pick up on things that we weren't...more -- more

informed decision at that point in time.

DR. ZIEMER: Gen?

DR. ROESSLER: I think I need to have you go back another slide or so. At what point does the workgroup, the Board, SC&A step in? And I think it -- like -- yeah, that was the one.

DR. MELIUS: Here?

DR. ROESSLER: No, next --

DR. MELIUS: That's Ames, but this one here.

DR. ROESSLER: This one, like interview petitioners. At that point is both the workgroup for the Board and NIOSH going to be --

DR. MELIUS: Well, NIOSH will only --

DR. ROESSLER: -- talking --

DR. MELIUS: -- have been in contact with the petitioners as part of the qualification process and so very often Larry or his staff will have spent a lot of interaction with the -- with the petitioner. I think -- I think what I'm proposing is that SC&A would also have discussions with the petitioners. We would -- could, you know, involve them in any conference calls and so forth that the workgroup or the Board has 'cause I actually think it would be

helpful to -- for the Board and our contractor to be engaged with the petitioner at an earlier phase. I -- it -- it happens later on, and I don't -- I think it would be helpful --

DR. ROESSLER: So you're moving everything up, it's going to be kind of a parallel process or --

DR. MELIUS: I think it -- I think it's -- yeah, but --

DR. ROESSLER: -- I'm not quite sure I --

DR. MELIUS: Yeah, it's a parallel process but it's not an in-depth pro-- I mean NIOSH's evaluation's much more in -- in-depth process, but I -- I think it -- it's helpful to have some level of contact with the petitioner to know what their concerns are and -- and so forth and -- for the process. Whether the workgroup do that or SC&A, I don't -- not sure how -- how that would do. I don't see it as being something very extensive or involved.

DR. ROESSLER: So the intent of your -- you're moving up the Board involvement in it and the intent is to -- to get things moving along a little faster? Is that it?

DR. MELIUS: And so that at the time the

evaluation report comes out we're more informed and in better position to go forward with --

DR. ZIEMER: Or at least a subset of the Board is.

DR. MELIUS: Subset, yeah, yeah. And -- and --

DR. ROESSLER: Yeah.

DR. ZIEMER: Probably not the full Board.

DR. MELIUS: I don't remember the number of hours involved, but like on the -- I believe it was the Ames petition, John may be able to speak to this, they actually originally proposed a lot of hours on -- on the Ames and I was actually taken aback a little bit about how much they had proposed to be involved, and when they actually did the work that I would call the preliminary work, which was reviewing the petition -- which included an extensive lot -- amount of documentation, fair amount of supporting documentation, it was a reasonable amount of -- of effort and so forth involved and we'll be talking about it later and I think John has a presentation on it. I think we'll maybe have a better idea what was involved there, but it's not -- again, I think it's being prepared without trying to avoid sort of,

you know, going down -- taking false steps or putting too much effort into something that's not needed. At the same time, I think it can -- rather than having to have a delay for four or five weeks, whatever, for them to go through that same process and for -- for us to get ready for the review, I -- I think it -- it can be helpful. And it also can be helpful for us deciding not -- that further review by our contractor on the petition is not necessary, or that they really only need to focus on one or two key issues and that they don't need to -- to do additional work.

DR. ZIEMER: Any other questions?

(No responses)

SC&A SEC TASK UPDATES

Then I think we're ready to hear from John Mauro as far as the SC&A -- sort of their half of this. And John, I -- we have a handout, I think. Is this called SC-- SC&A presentation on comparison of SEC evaluation guidelines prepared by the Board?

DR. MAURO: That's it.

DR. ZIEMER: Okay, you should all have that.

DR. MAURO: Am I live? Kathy, could you get

that -- thank you.
Before I put my slides up, the discussion that you had is sort of like one step above my presentation, so let me just make a few comments regarding what I would call the big picture, 'cause I really had a presentation on the small picture.
From the big picture, if you recall when we wrote our proposal of work related to Task V, we tried to make a distinction between focused reviews and full reviews. And I would say that the concept of a full review at that time when we sent that -- which was August 16th, 2005 -- was that this is going to be an awful lot like a site profile review. It's full review and it's a -- I call it a monolithic piece of work. Now -- now we've actually gone -- we're -- we're basically Ames, Rocky, Y-12, and the distinction is not a real distinction between full and focused, in my mind. What I really think we have here is I think very much so the concept that was laid out both in the Board's procedures or guide-- I would say criteria that -- that it's good to think of the Board's document as a criteria document and SC&A's

document as a set of procedures that implement those criteria, and that's what this -- this presentation's about. But I for one would say what we're seeing is the level of effort, the issues that we address, unfold in an iterative process with the working group and the Board. So to designate one particular SEC petition as a full-blown review and another one as not, I think what happens is even the ones that we call a full-blown review will very quickly emer-- evolve into a focused review, so -- for example, on Ames we -- a team has read the petition, has read -- and you're going to hear more about this specifically -- has read oh, maybe 70 or so documents, has held a lot of dialogues with the petitioners. Okay? Total investment, 200 working hours. Okay? So relativ-- it was a relatively large document, so there -- so that investment was made and -- now the question becomes is -- okay, where do we go from here. You're going to -- you're going to hear a presentation of what are the -- some of the issues that at this point in time appear to be emerging that we need to talk about. But do you see what just happened? It

turned -- SE -- Ames is going to turn into a focused review.

Now that may be very well because by and large the petition has been granted and there are -- but there are certainly some issues and you'll hear about that by Hans. But what I think is going to happen is the -- is large, these six full-blown petition reviews are going to go through the same process, and we're very quickly going to get to the point where we have a dialogue with the working group and start to zero in on the issues that we think are critical. So there's going to be this 200 work hour investment that's going to be made up front, which is basically what we did on -- on Ames, and then we're going to start to zero in on Ames and -- so all of a sudden it moves into the focused review. The level of effort is going to be dictated by the process of finding those issues and then -- and investigating them, interacting, re-investigating.

That's exactly what's happening on Y-12. In fact -- something interesting. Y-12 -- I'm still operating. We'll get to my slides in a minute. Y-12, something interesting happened.

We envisioned when we wrote our proposal of work that says okay, we're about to move forward. We allocated 1,000 work hours to the full-blown review of Ames. So far we only used 200. How much more are we actually going to use? It's going to very much depend on the dialogue we engage in right now. On Y-12 we said -- we said well, why -- wait -- Y-12, you're in good shape. We will review -- we were -- we had a site profile. We were I don't know how many months into issue resolution on the site profile. We're at a point where we -- we already identified the three or four issues that I think there was general consensus, but it hasn't changed very much on -- on what the -- what the issues are, so -- so we said well, you know, we're in -- we're in good shape on knowing what the issues are on Y-12 and now -- and -- and we laid out a proposal and we said, you know, we think we could do this in 200 work hours. Well, I'll tell you right now we're up to 400 work hours, so we didn't -- so we're way under budget on Ames, but we're way over budget on Y-12.

Now why has that happened? Okay. You know,

well, what happens is as the -- as you unpack the issues and -- and I don't know how many workgroup meetings we had, you know. Each one is a day's worth of work which triggers -- well, we'd better look a little further into this and -- and there's a tracking system, and each one of those items become items that need to be closed out and tracked. Now as it turns out, in my opinion, probably the majority of to track those issues lies with NIOSH, but of course, as you know, as SC&A tracks and to the degree we feel necessary is a judgment call. But right now we're at the point where I think we're about, you know, pushing 400 work hours on Y-12.

You're going to -- now you're going to hear -- now -- we're basically done. You've -- you've received our evaluation report now, and that really, within the scope of Task V, is the end product. But I have a funny feeling what's going to happen is out of those 11 or 12 issues that we're going to be talking about shortly we're going to see that there are maybe three or four that are still alive and well. There's a lot there we can put to bed. By the way, the

lesson learned is yeah, starting the process early was great because -- think of it, the evaluation report, when did it come out? Okay. It came -- now -- and we're -- and we're -- as far as I'm concerned, we are way down the road in -- in assessment and analysis of those issues. Many of the issues -- and you'll hear more about it -- we have come to -- to a sensibility, and I think that this is a tractable. It's not a -- and others, though, say wait a minute, we still have some problems. So -- but we've delivered our product and we're at that point in time, which I would say maybe we're 80 percent home on -- on -- I'm speculating, but -- and so there -- so the -- starting early on Y-12 I think brought us a lot because here we are, you know, two weeks into after the evaluation report was -- was published. We've got, I think, the majority of the issues well in hand and -- there's still more work to do and we're going to hear more about that, so it was very wi-- not only was the criteria document which embraced that concept I think the correct decision, but we're actually realizing a benefit. I'm -- I know

we're really moving aggressively forward in getting to the bottom of all the issues on Y-12.

Now certainly when the day is over we're not going to be in full agreement on everything. I know it.

Now Rocky, it turns out, we -- we put in place 500 work hours so with Rocky we're -- when we first said well, Rocky was nowhere near the level of maturity in terms of addressing all the issues, so we felt at that time that since we -- we were just beginning to look at and unpack the issues, the site pro-- the site profile issues on Rocky, that it was going to take a lot more work. Plus, as you know, the Rocky site profile -- I'm sorry, SEC petition itself is -- is quite a large document. But right now, at this point in time -- and you're going to hear a report from Joe Fitzgerald related to where are we on that -- we haven't -- we've only burned up maybe 250 work hours on -- on -- on Rocky. We set aside 500.

Now you're going to hear more about where -- now you -- you folks know that on Rocky, and you're going to hear about this, big issue is

data reliability. We've had lots of conference calls, we want to run down these issues 'cause when all is said and done, read that af-- you read the affidavits, you read the site -- the SEC petition, everything stands on that rock. That is, that data better be reliable and be trustworthy, and a lot of the allegations that are in there need to be followed up and closed out, so there's where the investment needs to be made. But you're going to hear also that a large investment was also made in the -- the high -- the high fire pro-- the high fired plutonium issue. We've -- we've looked at the -- the americium issue. You're going to hear a lot about that and where we are, and we've made a lot of progress there. You're going to hear about that, and Joyce is -- Joyce Lipsztein is here today who did a lot of work just on the high fired.

So -- but what I'm trying to get at is that when you step back, everything unfolded in a way that was different than we anticipated. Ames, 200 work hours invested and where -- and you're going to hear where we are, but we're well down the road on that. Y-12, about 400

work hours, we're well down the road on that. Rocky, we invested about 250 and I would say maybe we're halfway home on that so -- I mean -- I'm try-- it -- it's -- it's very much a living process. All right? But I'd be the first to say beginning the process as soon as the document is qualified, the evalu-- the petition is qualified, is the only way to go. Could you -- 'cause it -- you could almost imagine if we were to start the pro-- if we had started this process when the evaluation report out, we would be months behind , and I have to say we're months ahead of the schedule. I think that -- I'm optimistic that we're -- we're -- you know, we're -- we're not that far away from being able to give you the information you need to vote. I think more work needs to be done. You're going to hear more about that. And I think that starting that process early is going to provide the information -- for example, the evaluation report that you just received is -- we're going to get into that and you're going to be able to get a sense of where and where -- well, we're really not there yet. Okay?

Now given that, I'd like to move on to -- get down into the weeds a little bit about my presentation. What -- what my presentation does is -- I'm just not quite sure how to advance these things.

(Pause)

DR. MELIUS: Push the arrow key.

DR. MAURO: Okay. Well, on -- okay, help me out.

This presentation's seven slides and it says are the SC&A draft -- are the S&A (sic) draft SE-- SEC evaluation procedures consistent with the Board's evaluation criteria. The question I asked myself last week when I put this together to say okay, I had the Board's document and I -- and go on to the next slide.

(Pause)

That's the one. Okay, good. I'm not sure if we can go through any of this easily or not, but you have the hard copy.

What I did is on the left-hand side are the Board's criteria. That is if you were to read the document the Board prepared, it talks about timeliness and -- and then on the right-hand side is where in our procedure do we -- do we

address timeliness. So -- so that you could see whether or not there is a correspondence between the criteria and the procedures that effectively have been written to implement those criteria and to evaluate compliance with those criteria.

You're going to find that as you move down -- I put the page numbers so that under timeliness, the answer is yes, we have what -- we say a lot about timeliness and we talk about things that we're going to -- that we think need to be done procedurally to ensure that there is a timely review of the SEC petition and the evaluation report, and it's on page 6, 14 and 20 of our document.

Same thing goes with fairness, there -- there's a criteria called fairness, and the answer is yes, we do have -- we do address this issue of fairness and how we're going to go about doing it.

But let me say something about these procedures. In the world of procedures there are prescriptive proc-- procedures and there are what I call more performance-based procedures. In other words, our procedures are

not highly prescriptive. That is, we don't have numerical criteria, the kinds of things we were talking about before. We don't have very explicit things that you must do, must check. It's very much left up to the collective judgment of the working group on how far are we going to go to chase down particular issues. So in a way our procedures are more performance-based than prescriptive, but we can make them more prescriptive and we need -- and I think this is a subject that needs to be discussed.

For example, you're going to hear a lit-- this business of the 250 days. Here -- here -- let's say we have an SEC petition that -- where it's -- it's granted, but there's some question that -- wait a minute, what about the individuals that worked there less than 250 days, are they going to be just denied? Right now -- and -- right now the guidance we have is well, if there was a potential for exposures that were comparable to a criticality, yes, they get compensated. But you know what? I think we all agree that -- that we -- that the procedures that govern -- the guidance that

governs whether or not that compensation issue should be -- that person should be compensated, we need to -- we need to talk about that some more. Something equivalent to a criticality accident is, in my mind -- and this is in our report, part of our report -- we think that there are other -- there are procedures we could develop that would help in making that decision. In fact, quite frankly, the bottom line is that if the potential exists that over a relatively short period of time a person could have gotten exposure which could have kicked him over a POC of .5, as far as I'm concerned, that's your criteria, not this criticality issue, but that's for discussion amongst the Board. If a person was -- in theory, if the data showed such events occurred where over a short period of time a person could have got enough of an exposure that in theory could have kicked him over the probability of causation of .5, well, that probably is one criteria you want to consider. Right now we haven't talked about that.

Let me move on. The next item on the list is understandable. That was one of the criteria

in the document that was prepared by the Board is that well, you have to be able to understand the document. All -- all individuals, all stakeholders, all interested parties -- well, right now we don't have anything -- on the right-hand side you'll see we don't talk about that so we're on that particular matter.

UNIDENTIFIED: Let's try this one.

UNIDENTIFIED: Consistency.

DR. MAURO: Okay, consistency. Okay. We do cite consistency as a criteria (sic) on pages 12, 13 -- no, item number 12 and 13 on page 22. How much more we need to talk about consistency, how much cri-- do we need to develop some type of measure of consistency? Right now our procedures talk about it, but don't really go very far with it. And I think we need to decide whether we need to develop more -- more -- more guidelines about -- and what -- what types of checks you would do -- go through. We've made reference to certain cross-checking in our procedure that would -- that looks for cri-- consistency, not only within a particular document, say the evaluation report or a site profile, but also

amongst a whole array of documents, so consistency is very much addressed.

DR. ZIEMER: John, let me insert here, actually this whole document -- one of its main intents is to ensure consistency, so whether or not it has to be built in beyond that, I think -- I think that's a -- sort of the basis for even doing this and --

DR. MAURO: That's true, but -- but how do -- you know, how do you -- see, in a procedure, how do -- what do you do, what -- what does -- what does any contractor do when they're looking at a document, look -- you know, what do you --

DR. ZIEMER: I understand. You're -- you're looking at some maybe lower levels of consisten--

DR. MAURO: Lower -- yeah, how far down do --

DR. ZIEMER: This is intended to do exactly that.

DR. MAURO: Exactly that. Okay. Board -- now again -- . Scope, the guidelines talk about scope, pedigree of data, methodology, relationship to other sources. Now it turns out for -- the first three items, scope,

pedigree and methodology, we do talk about it but we don't get very prescriptive about data quality. And -- and I mentioned something before when I went up to the mike where there might be a procedural thing we could do statistically when we're looking at data and data quality and sampling of data. When you have a body of -- a dataset, and you're concerned about its validity, whether or not it's robust, I think we have -- we have a situation do we want to implement a quantitative cri-- guideline that effectively puts numbers to the question how sure -- I mean how confident do you want to be -- do you -- must be to -- that the amount of bad data is extremely small. In other words, ultimately that's what we're saying. We want to make sure the dataset that we're working, whether it's the CER database or whatever database we're working with, we -- we want data quality. The question becomes well, how much is enough and what's good enough. Right now -- we did an analysis that shows well, the 22 samples that were taken for the Y-12 CER database demonstrates that you can be 90 percent certain

that less than -- that the data -- if there is some faulty data in there, it's less than ten percent. The question is, is -- is that good enough? Right now we haven't talked about that, what's good enough, so what I'm getting at is we talk about that in qualitative terms in our procedure, but we really don't get into quantitative determination, prescriptive methods. You might want to do that.

Intern-- we have nothing -- we really don't have any guidance on the last item, internal consistency, so that's why you see it blank after that.

One of the questions I'm -- I guess I'm going to leave with -- with the Board is should we rewrite our procedure so that it has one-to-one correspondence to the criteria, so that in effect the procedure reads like this. Here are the Board's criteria, which of course mirror back to the Act, and then the next in hierarchical fashion, perhaps our procedure should be written in a way that there is a one-to-one correspondence between the Board criteria and the procedures we're going to be using to assess whether or not those criteria

are in fact met.
Right now the document that we delivered to you before this document came out is not written that way. In other words, it was very hard for me to do -- make this table. I had to re-- in other words, to read the Board's criteria and to read the document that we prepared and see how they met, you know, it took reading my document about ten times to keep -- to find the piece that goes to that. It would probably be a good idea to have it flow nice and smoothly so it's not so much work to see if in fact our procedures in fact track the Board's criteria.
Let's keep going.
Okay, the next is represent-- the next set of criteria the Board prepared is area of the facility -- basically are all the areas of the facility covered, are all the time periods covered, are all the types of workers and processes covered that is in -- in -- in the document that is being reviewed. Well, the -- the vast majority of our procedures goes to that, so in effect our procedure really, when all's said and done, was written to address -- to make sure that -- that the evaluation report

or -- or the actual petition is -- is crisp with respect to identifying the areas, time periods and the types of work and whether or not you can or cannot do dose reconstruction for all these areas, time periods and subgroups of workers, so really -- in one respect I would say -- if anything, our procedures were written for that particular group, the representative piece of the Board's procedure.

Oh, okay, feasibility. This -- these matters of feasibility, timeliness, avoidance of disparate treatment of claimants, sample dose reconstruction, in my mind they all are accomplished through the sample dose reconstruction. In other words -- for example, if -- if the evaluation report prepared by NIOSH lays out -- oh, well, we -- you know, we believe it's feasible to do it and this is the method we're going to follow, talking about whether it was chest counts or urinalysis, and we -- we can -- we think we can do it pretty easily. That's where timeliness comes in, that -- we know how to do it.

I think in the end, in order to evaluate whether or not it is feasible to reconstruct

doses in a timely fashion and don't come up with disparate results that don't make sense between different groups of people, it's the -- the methodology as proposed, it's not apparent -- it's not going to be self-evident from the methodology that it easily . What will be -- where the rubber meets the road is the sample dose reconstructions. I think that's critical to do demonstration that yes, it's feasible and can be done in a timely fashion. And our -- our procedures don't talk about that. It's very important. Sample problems that address -- that demonstrate yes, you can do it. So in a way -- and this is an important judgment -- what I'm saying is that you could have a lot of good intentions and we believe we can do -- we have the data, we believe we have the methodologies -- I'm speaking as NIOSH now -- to do X, Y and Z for all these groups and subgroups -- and you're going to hear more about that when we get into Rocky and Y-12 -- but until you see the actual application -- one -- one of the things that -- I'm sorry for taking so long, but one of the things I originally was thinking about was saying well,

listen, as long as there's a sense that yeah, I think you can do it, you don't have -- in other words, as long as a demonstration -- an argument can be made yeah, it looks like it's feasible to do it, at that point you could stop and say well, a judgment is made yeah, I think -- I think you can do those calculations given these data. But what's happening is we're starting to realize that -- I'll give you an example.

The exotic radionuclides, you're going to hear a lot about the exotic radionuclides Y-12. All right? And in principle -- during our conference call on the 20th NIOSH said well, listen, we have lots of incident reports with lots of data that will allow us to reconstruct the doses to any workers who might have been exposed to some of these exotic radionuclides that were handled in gloveboxes or as part of the Cyclotron operations and -- and -- and you know what, in principle that sounds good. So one could argue -- we -- we believe that. We believe that there are incident reports out there and if you go into it you can identify the workers that were exposed, and from the

incident reports there's enough data for you to be able to reconstruct the dose that way. You know what? I'm starting to think that -- I'd like to see those incident reports. Now they did provide one. I'm almost like taking the wind out of the sails of Arjun. I think we need to see enough of those. How much is enough is a tough question, but I think that's where the working group comes in. At some point the working group has to say I think we've seen enough to feel convinced that yes, it can be done.

So regarding this slide, what I'm getting at is feasibility and timeliness and avoiding disparate treatment of claimants all come down to the sam-- the sample dose reconstructions. You could have good intentions, could make good arguments, but until we see it done we're really not that quite sure.

Okay, I think this is the last one -- procedural. There -- under the Board criteria there was the last two pages that was called procedural. What was called a petition evaluation -- NIOSH would provide an evaluation plan that reflects the criteria provided by the

Board. We very much embrace this on page 16 of our procedures, but one of the problems we -- I think this was discussed earlier. How much can you really expect NIOSH to be able to compile in their evaluation plan? That is, you know, ideally, one -- once the document is qualified and then an evaluation plan before it, there'll be lots of material in the evaluation plan. But I suspect that's not going to be very possible. I think the reality of the situation is that as NIOSH moves through the process of evaluating the petition, SC&A would -- working through the working group -- would be there in almost real time, just exactly the way it's been going on at Y-12 and Rocky, to -- to evaluate the unfolding nature of the issues as -- and so I think -- our original intent under our procedure was that there would be a whole bunch of great material we could look at as soon as the evaluation plan -- as soon as the document was qualified. I think the reality is that's probably not going to happen. I'd certainly like to leave that to NIOSH to say whether they're in a position to do that or not, but ideally the more information that can

be made available to the working group as soon as the document was qualified, the better position everyone is going to be in to start the process that, so I'm not quite sure how -- whether or not the fir-- the petition evaluation -- whether it could start -- how early it could really start.

Site profile review. It says if a site profile exists, it should be reviewed before the SEC petition is evaluated. Well, we say that -- exactly the same thing on page 26 of our report, and of course. And I think that we very much would embrace that. That philosophy is exemplified by the way in which we handled both Y-12 and Rocky. So I -- with this presentation, trying to show that there is a large degree of correspondence between the criteria that the Board prepared and the procedures that we prepared. However, it's -- it probably needs a re-write of the procedures so it tracks the criteria in a little more systematic way. And there's also some discussion on how explicit or prescriptive we should get.

I'm concluding with two important observations,

some of which have already mentioned. One is I think we need to talk a lot more about this -- this worker who was there less -- who -- who's a member of a -- who's worked at a facility such as the Ames site, was only there for a few days -- less than the 250 days -- and what criteria are we going to -- we going to use to determine that -- whether or not his exposure was significant enough in that short period of time. I don't think those criteria exist right now. I think a little bit of work needs to be done on that.

Second, statistical criteria for data adequacy. Well, you've heard a little bit about that before. That is, when you go in and start to -- there -- if there is a -- some question, especially if it's raised by the claimants that there is distrust in the robustness, validity, completeness of the dataset, then certainly explicit steps need to be taken to -- to convince yourself and the petitioners whether or not there's a problem with the data validity. I think what NIOSH has done in Appendix 1 for Y-12 is a very good example of the kinds of things that need to be done. The

sampling on those 22 urine samples that they took out of the 14,222 is exactly the kind of thing that needs to be done.

And then -- and then -- now the only problem we have, though, is that -- the statistical acceptance criteria. Okay, all I can say right now is that tells me that I'm 90 percent confident that less than 10 percent of the -- of the samples might be a problem. We need to, I guess, come to some kind of judgment is that good enough, and that concludes my presentation.

DR. ZIEMER: Thank you. Thank you very much, John. We're ready to open this up for comments, and I think this really pertains to not only John's presentation but how it meshes with the criteria that Jim -- group developed and how they interact here. And I might observe that, for example, on -- on the issue of petition evaluation where we say NIOSH should provide a plan that reflects certain criteria, that really is directed toward NIOSH as opposed to a directive toward SC&A. So if you -- if you look at SC&A procedures, then you have to say well, what is it you do that

relates to that? Maybe what you do is something like looking at -- to see whether or not in a petition that has actually occurred, something like that. But that -- that's a detail and really you're saying what should we do with this; should we change it in some way so that there's a more of a one-to-one correspondence.

Jim?

DR. MELIUS: Yeah, what I would propose, what -- want to observe, I think NIOSH has changed the formatting and the approach for their evaluation reports to reflect those guidelines.

DR. ZIEMER: Uh-huh.

DR. MELIUS: So I think that SC&A should sort of develop a procedure document that reflects the procedures and the -- the general criteria as -- as outlined in -- in those guidelines, also, 'cause their current document does not. And I think for sake of completion -- completeness and so forth, it -- should NIOSH not address particular factor or something, that that -- want to pick up on that, but that -- you also should have procedures in place that -- that -- that address that. I don't

think that we want your procedures to be more prescriptive at this point in time. I find it -- hard-pressed to think of a statistical approach or whatever that's going to be appropriate or applicable to all evaluations and so forth. I think -- in some cases the issues are well, how do you take a samp-- you know, a small sample out of a huge number of -- of observations, but in other cases there's issues -- are particular years missing and things like that that I -- don't lend themselves as readily to an overall statistical approach. And I don't think -- I think we're better off dealing with those on a case-by-case basis. Certainly at this point in time -- we can, you know, maybe address that a few years from now or something, but I think right now it's a case-by-case -- and I think we'd be -- I'd be -- certainly be satisfied just having your, you know, procedures, you know, follow ours -- ours better, and I think that would -- would suffice.

DR. ZIEMER: So Jim, in terms of speaking for your working group, are you proposing that as a Board action, that we so direct the contractor,

or --

DR. MELIUS: If you and Roy and Mark agree, that's --

DR. ZIEMER: Now --

DR. MELIUS: -- then I can speak for the working group, I...

DR. ZIEMER: We actually, since -- since that formal recommendation never did reach us in time, but --

DR. MELIUS: Well, and actually we had originally planned to have a meeting of the workgroup while we're here, and whoever put together the agenda sort of rushed us through here a little bit.

DR. ZIEMER: Well --

DR. MELIUS: We didn't have time for a meeting of the workgroup before --

DR. ZIEMER: But we've heard the issues and --

DR. MELIUS: Yeah.

DR. ZIEMER: -- Roy, do you want to speak to this?

DR. DEHART: Actually if one will read the document that SC&A has prepared on -- in this regard, the procedures are almost there. In fact, I don't know that we need the contractor

continue that. You've done the job. I think it's a page that we're talking about that's 1, 2, 3, 4 with A, B's and C's and that's it. It's -- it's essentially been done.

DR. ZIEMER: Other comments? Wanda.

MS. MUNN: Am I missing a copy of that proposed procedure?

DR. ZIEMER: The SC&A procedure actually was distributed before our last meeting and -- Roy's got it there.

DR. DEHART: It's dated November --

DR. ZIEMER: Yeah, it was last fall.

DR. MELIUS: last fall in an e-mail.

DR. ZIEMER: It's -- it's -- we've had it --

MS. MUNN: Oh, my. Oh, my.

DR. ZIEMER: Yeah.

MS. MUNN: No wonder it's not here.

DR. MELIUS: Just -- if this helps in terms of chronology, they -- their proposed procedures came out in late November of last year. It was the same time we were discussing the guidelines, so we never really took up their procedures 'cause we were -- our meetings around that time were dealing with the overall guidelines for reviewing the proc-- you know,

NIOSH evaluations of SEC petitions.

MS. MUNN: Uh-huh.

DR. MELIUS: So we're really coming back around to addressing that, and -- and I would propose that they, you know, do the appropriate revisions. I agree, I don't think they're -- you know, they'd take a lot of effort, but take a little bit of effort and then re-present that to the Board and go from there. I think in essence we're -- they're following those already is de facto because of the evaluation reports they've received from NIOSH 'cause NIOSH is basically addressing those -- those items in -- in their reports.

MS. MUNN: Again, perhaps I need to be brought up to speed. I seem to recall early on when this Board first met that we took the position we were not going to address any decision that Congress had made with respect to this Act. Is not that 250-day prescription a part of the Act?

DR. MELIUS: Can I --

DR. ZIEMER: Yeah --

DR. MELIUS: -- it's part of the Act only as it applies to the SEC cohort groups that were

included in the original Congressional Act -- original EEOICPA Act, so -- and that applied to the enrichment facilities --

DR. ZIEMER: Yes, but there is a --

DR. MELIUS: -- and so forth so -- so -- and now the second place it's included is in the regulations -- for doing that. It was not -- it's in the part of the regulations that deal with health endangerment, and so our guidelines, the guidelines that the Board -- the workgroup did and the Board has sort of tentatively adopted did not address the endangerment issue, so it did not address the 250 days 'cause that's sort of a separate -- a separate issue and I had actually in our workgroup call -- I can't remember if you were on it during that time period or not --

-- actually proposed that we needed to discuss that -- that issue relevant to these issue -- but it's sort of a separate discussion here and -- and what's in the SC&A procedures and what's in our -- our guidelines doesn't even talk about 250 days --

DR. ZIEMER: Well, I believe our guidelines do in fact talk about 250 days, and Jim can speak

to that, but it also does allow for a shorter period of time in episodic events that are -- like criticality events, so there is already a provision. And I thin in the case that you're talking, John, then the argument would be to what extent are these events like criticality in that they deliver large amounts of dose in a brief period of time. So as I understand our current -- it would be Part A(3), I guess --

DR. MELIUS: Yeah.

DR. ZIEMER: -- it actually does allow for that. But Jim can speak to that.

DR. NETON: Right. The guidelines that were provi-- that were drafted allow for 250 days by default. That is essentially analogous to what Congress used in the legislatively-mandated cohorts, with the exception that I might add Amchitka did not have a 250-day requirement in the legislatively-mandated cohorts. But -- but by definition the 250 is a default, unless one can arrive at a -- some conclusion that there was something on the order of a criticality, the idea being that, you know, can we put a plausible upper bound on this dose reconstruction. If not, you look and see if

there were episodic type exposures versus a -- a huge, one-time exposure, so to speak. At that point then NIOSH would go and evaluate would a lesser time period be applicable. I'm a little concerned when Dr. Mauro was proposing applying litmus tests such as probability of causation calculations to allow for shorter time frames because almost by definition you get in a circular logic. You arrive at the conclusion that you can't plausibly bound the dose reconstruction, yet you're using dose reconstruction methodology calculations to determine the -- to bracket the time period of the class. So you get into some real conundrums going down that path and I just advise the Board that we've thought about this long and hard and this is where we ended up and our -- our -- our rule is for those reasons.

DR. ZIEMER: And I might also remind the Board that we had a discussion I think at the last meeting relating to the 250 days, and that was does it apply, for example, to the Pacific Proving Grounds where perhaps the individuals were in a sense exposed 24 hours a day rather than eight, and so do we mean 250 working days

and therefore talk about some kind of a weighted average like you would compare working level days for miners in terms of what a working week is.

DR. WADE: Right. Just to keep things sort of sorted, first of all, to the issue that Dr. Melius raised, the SC&A procedures and working group procedures really have never dealt with the issue of 250 days, and that's fine.

Jim did mention when the working group met that he felt the Board should discuss the 250-day issue and it's on the agenda for that purpose.

Just to -- and I've done some research with our legal people, the dose re-- excuse me, the SEC rule does talk about, under health endangerment, either presence or 250 work days. When I talk to legal people within HHS, they tell me that there is room for interpretation. That has yet to be interpreted, and the Secretary would accept from the Board recommendations that were consistent with those language-- that language, but neither of those statements is completely prescriptive.

So it does say 250 work days. If in your deliberations you want to talk about what that

means in terms of actual hours, that's fair game. If you want to go to the other side and say that you think presence of a certain duration given events that may have taken place, is an appropriate criteria, that's fine. You can do that. But it's not part of the discussion of the SEC procedures that SC&A has developed or the working group has developed, but it is an important issue for this Board to consider as it moves forward. I think it'll be framed somewhat tomorrow when you talk about the Nevada Test Site.

DR. ZIEMER: Okay. Jim, did -- you put your flag back down so I guess your comment was taken care --

DR. MELIUS: Well, I don't know whether I'll further confuse Wanda or clarify things, so --

MS. MUNN: That's easy to do.

DR. MELIUS: Well, it's easy for me to confuse people, too, so -- but we had asked that this be -- these two issues be put on the agenda separately for discussion, and actually to hear from NIOSH on -- to get some input from them on what their current process is for making determinations on non-SEC cancers and this 250-

day health endangerment-related issue, so...

DR. WADE: But both of these are fair game for the Board to discuss and offer the Secretary advice on.

DR. ZIEMER: Okay. I want to try to come to a little bit of closure on the SC&A document vis-a-vis our procedures. Jim, what was the final recommendation?

DR. MELIUS: Again, I -- I can put this in the form of a motion if necessary, but I think the -- the -- what I was proposing was that -- and I think John agreed -- was that we would have SC&A modify their procedures to reflect our guidelines and -- and bring that back to the Board and the Board would review that. I think we need -- do need to formally review that set of procedures.

DR. ZIEMER: Is there a second to that motion?

MR. GRIFFON: I'll second.

DR. ZIEMER: And it's been seconded. I think the understanding here would be that we're not talk-- nobody's thinking about this as being a major task. I think Roy's implied at least that this should be a very quick and easy fix to just get the...

DR. DEHART: I'll not only imply, I'll specifically state it should be an easy task. It should not be a very time-consuming task, and it shouldn't require a great many pages.

DR. MELIUS: And I would just add that we've actually already tasked them with developing the procedures. We have never accepted their procedures 'cause we were in the process of developing our guidelines, so we -- we do need to take action on it in some way so --

DR. ZIEMER: On their procedures, so whatever modifications are appropriate then would be the sense of the motion. Any further discussion?

(No responses)

Then let's call the question. All in favor, aye?

(Affirmative responses)

Those opposed, no?

(No responses)

Bob Presley?

(No response)

Motion carries. Thank you.

NON-PRESUMPTIVE CANCERS

Is -- is there any -- I want to take a look here again, on the non-presumptive cancers and

the 250-day, was there any formal presentation that NIOSH was expecting to make at this time? I'm not requi-- you know, suggesting that you must, but it -- it's here.

DR. WADE: I think it's important to get on the record how NIOSH is approaching this issue currently, and then the Board can react in any way it wants. It doesn't necessarily have to conclude those reactions today.

DR. ZIEMER: So this is just an update, in a sense, then.

MR. ELLIOTT: Yes, no formal presentation, but just to tell you what NIOSH's policy is with regard to SEC petition evaluation reports. It's our full intent to bring forward as sound a scientific evaluation as we possibly can in a 180-day time limit that we're working within, and to provide a class definition that originates from the petitioners' definition based upon our scientific evaluation that -- that we believe to -- to -- to be based on that scientific evaluation and not cause undue harm to any one member in the class or outside the class. We -- in this policy we are told we need to abide by the regulation; that presence

or 250 days is to be examined with regard to health endangerment and it's -- it's -- that's been our operating procedure in that policy effort and that's not to say that, you know, we're not interested in hearing what the Board had to discuss upon that or what they might recommend to the Secretary. We're certainly interested in that.

I would offer that in the rule-making for the SEC rule there is a considerable body of comment on 250 days and health endangerment that the Board might want to avail themselves of and refresh your memories about -- about those comments. They also go to -- there was comment provided -- in fact in one rule proposal that we offered we -- we offered something similar to what Dr. Mauro had -- had indicated where we would do cancer-specific POC type evaluation to try to determine, you know, if health had been endangered, and that was abandoned because of the variety of comments that we got on that point. So I would just mention that for the Board's consideration. Take a look at the public comment record that's there for the rule-making effort.

DR. WADE: The non-presumptive cancers.

MR. ELLIOTT: Non-presumptive cancer is -- is another policy-related matter that we've taken very -- taken to heart and given very strong consideration in how we examine, in our scientific review and evaluation of a petition, what dose we can reconstruct that would go to the non-presumptive cancer claimants that would not fit into that class. And as -- as our understanding and the development of these evaluation reports has evolved, we have learned -- we've learned through that process that we need to be very careful with how we couch our recommendations to the Secretary so that if there is a non-presumptive cancer that we can reconstruct dose for, we want to be able to do that and say that we can do that and clearly show and demonstrate how we would do that. So this -- this is a matter that yes, I think the Board needs to -- to take good, full consideration of as well in your deliberations. And when you see our evaluation reports, comment -- as you -- as you should -- to us about that. Make sure that we're clear and you have a clear understanding of what we say we

can't do, as well as what we can do.

DR. MELIUS: Yeah, and I know you had short notice on this, Larry, so it's not a criticism of -- of what you presented, but -- but I -- I really think on the -- the non-presumptive cancers it would be very helpful for us to have a full presentation by you or your staff on what exactly are your current procedures, with examples of -- of those, because the -- we have ventured into this area once on an SEC petition, I believe one of the Mallinckrodt petitions, on -- in making specific recommendations on this and -- and I think if we should be tempted to do so again, I think we need to be, you know, consistent with -- aware of what your current approaches are and -- and knowledgeable of those. It's -- it's, I think, a difficult area and I think we -- we need to try to address that systematically. I don't think you had time to --

MR. ELLIOTT: This was the first I heard that you --

DR. MELIUS: Okay.

MR. ELLIOTT: -- you were -- you wished to entertain such a presentation.

DR. MELIUS: Well --
MR. ELLIOTT: We offered it --
DR. MELIUS: Well --
MR. ELLIOTT: -- each one of these -- I'm sorry. Each one of these class designations have a set of circumstances around them that make them depend upon that set of circumstances, but we certainly can provide a presentation to the Board on where we're at with the current classes that we have seen added to the Special Exposure Cohort and what we're doing with regard to non-presumptive cases that don't fit into that class.
DR. ZIEMER: Is this something the Board in general would like to hear? Appears to be consensus that -- should do that at a future meeting, get that on the agenda --
MR. ELLIOTT: I think it's also important and -- and an obligation that we have when we -- when Dr. Neton presents or others -- you know, staff present an evaluation report, to speak to this matter --
MR. GRIFFON: Right.
MR. ELLIOTT: -- as well and, you know, perhaps even that should be one of the dose

reconstruction examples that -- that we may need to provide.

DR. ZIEMER: Yeah, yeah. Mark?

MR. GRIFFON: I mean just -- just to understand the -- the point further, I -- I mean these end up being what I would call partial dose reconstructions, so are -- are they used, for these non-presumptive cancers, for -- for both approvals and denials?

MR. ELLIOTT: Yes.

MR. GRIFFON: Or have you gotten that far -- yeah.

MR. ELLIOTT: Yes, unfortunately they are what we call a partial dose reconstruction, and if they -- if the cancer is of a type that we have enough dose to -- you know, we do dose reconstruction, as you know, to the organ of concern, the organ where the cancer either originated or if it's a secondary we have a list of likely primaries, and so we reconstruct dose to that particular tissue or organ. Skin cancer, if there's enough external dose, we've seen a number of skin cancer cases become compensable. Other types of cancer -- prostate cancer -- that's not on the list of 22 where we

don't have enough dose, yes, we do a partial dose reconstruction and then come out as a denied comp case, but we've given it all we can give.

MR. GRIFFON: Right, I just wanted to clarify that.

DR. ZIEMER: Thank you.

MR. ELLIOTT: Thank you for that question --

DR. ZIEMER: Okay, we need to move ahead here. We -- we actually --

DR. MELIUS: Can -- can -- can I just --

DR. ZIEMER: Jim.

DR. MELIUS: -- follow up with a -- I would respectfully request that we have this presentation at our next meeting. We will be in Washington, since -- which is I believe where we're scheduled to be, and that's where this law was written and where this -- these criteria on SEC versus non-SEC were -- were put together and I -- we've actually -- at least I've been requesting this for -- some discussion of this for a while, so I really would like to get it on the record.

MR. ELLIOTT: Certainly, and I think we'll have a goodly number of classes --

DR. MELIUS: Yes, yes.

MR. ELLIOTT: -- to provide you --

DR. MELIUS: Yeah.

DR. ZIEMER: So noted. Okay.

DR. MELIUS: Thank you.

AMES SEC TASK UPDATE

DR. ZIEMER: We want to get updates on the SC&A SEC tasks, and we've got not only the procedures but Ames, Rocky Flats and Y-12. These are just updates on the tasks. These are -- I see some handouts, and --

DR. WADE: We have Ames and we have Rocky --

DR. ZIEMER: -- I want to -- I want to give SC&A a heads-up that we're going to adjourn at 5:15, so you -- time yourselves accordingly. At least the Chair is leaving. I'm not sure about the rest of you.

DR. MELIUS: Okay. Can I just make a couple of introductory remarks --

DR. ZIEMER: You may.

DR. MELIUS: -- on Ames, that I think you're doing first. Is that -- Hans? Yeah, yeah, just to indicate we -- our workgroup meeting what, two or three weeks ago, was scheduled with some expectation that the Ames evaluation

report would be in our hands the previous week. It turns out there -- other reports were ahead of it and so we -- we received it I believe a day before or the night before our -- our meeting, so no one really had had time to review it and whatever. We did have some discussion, the -- some of the petitioners were on -- on the phone so we had some back and forth with them on -- on particular issues and -- and so forth and I think, having glanced through the slides that Hans is presenting, I think that addresses some of the issues they raised, also. So -- but I think it's -- prior to that, SC&A had done some work and I think they'd been able to do a little bit more work based on the evaluation part but we never really had time for any sort of workgroup closure on this or for full discussion.

DR. ZIEMER: Thank you. Hans?

DR. BEHLING: How much time do I have?

DR. ZIEMER: You have a total of a half-hour amongst your group. You can apportion it.

DR. BEHLING: Thank you, John. Anyway, this is a Phase I review, as Dr. has already pointed out. It's a cursory or preliminary review, and

I was asked by Arjun to make one corrective statement. It's not 200 hours, John, but only 130, so fewer hours than even John had identified.

Let me just briefly talk about two things. Purpose and scope, our objective here was to do a brief or preliminary assessment of the quality and completeness of data associated not only with worker monitoring, such as external and internal exposure monitoring and survey data, but also with the understanding of the types of radionuclides that people were exposed to, their chemical and physical properties, their quantities that define their source terms and the various processes that took place that would have potentially created certain radiological environments.

Let me briefly identify a few of the data sources that we looked at. Obviously we looked at the SEC petition itself and its support documents or attachments, among which was a 250-page PhD thesis which provided an incredible amount of background information and anecdotal data that we found very interesting. In addition to that we also looked at NIOSH's

site research query and identified about 30 documents that we felt were relevant to the issue of this review. Also SC&C -- SC&A held discussions with the petitioners, namely Dr. Laurence Fuortes, and also with one of the site experts by the name of Dr. James Worth*, who was a chemist at the time during the period of question, and he worked specifically in Pu separation.

Let me briefly talk also about the principal facility operation since there's no TBD available that you may have had a chance to read and the process at Ames for those who may not be familiar. The program at Ames really started out as a metallurgical research facility that had its intention of producing very pure, high-quality uranium and thorium. Well, as it turned out, they went beyond that and actually went into large scale production and so starting in 1942 you had some uranium work done that -- that was -- started out in terms of metallurgical bench level research that ultimately translated into large scale production. And the -- there was three basic processes. The first one was really the metal

production, taking uranium oxide, uranium fluoride and converting them into pure metal, and that was a very, very difficult task that was unknown at the time, and there were two processes for reducing these metal -- uranium metal oxides that grow as -- by way of calcium magnesium reduction and -- and we'll talk a little bit about that because they were very unique and -- and they were very dangerous processes because of their highly exothermic nature.

The second one was metal casting, so once you have your purified uranium, you obviously wanted to put them into ingots that meant melting the material in crucibles and putting them into ingots. And the third one was really -- also in addition to casting, I'll just quickly mention, was the certain amount of machining of those ingots.

And lastly there was the issue of uranium recovery. Early in the '40s there was desired by the Manhattan Engineering District to also recover uranium and in total, all -- from all the facilities combined, the Ames Laboratory recovered about 600,000 pounds of uranium in

that process.
The thorium process was pretty much a parallel. Again it was aimed at producing a pure thorium metal because the interest was one of using thorium-232 to produce uranium-233 because it's a very fissile material, and so pretty much a parallel path was conducted there in terms of metal production and metal casting. And I'll just give you a brief overview of some of the -- the quantities.
For the uranium -- as a starting point in 1942 their production was limited to making one kilogram to five kilogram ingots. By January 1943 production rose to 300 to 3,600 to 5,600 pounds per week. And in the peak per-- period of production, which turned out to be July 1943, 130 pounds of uranium -- pure uranium was produced in a single month. And in total about 2 million pounds of uranium -- pure uranium was processed during the period of '42 through '45.
For thorium, the quantity -- the total quantity of purified thorium that was produced was 65 tons of it, so there were -- we're talking about very large quantities of both uranium and thorium that were produced.

In addition to -- to the actual production there were also other research activities that -- chemical and physical property studies of uranium and thorium and plutonium.

You can go to the next slide.

The next slide has just some -- some basic review of the radiological environments and potential pathways of exposure. As -- as I just mentioned to you, just as a background, we were talking about large quantities of uranium and thorium that were processed. In addition to -- to that, we're talking about a facility at Ames that was never really designed to deal with such materials and in such large quantities. They were certainly not equipped to handle material that were airborne material because the ventilation systems, hoods and so forth, they were not really prepared to do -- to deal with those things.

In addition, these -- this was in the early '40s when the maturity of health physics was clearly in its infancy stages so a lot of things that we know now today about uranium and thorium were not understood. In fact, in those days their concern was more about the chemical

toxicity of uranium than its radiotoxicity. The radiological pathways were clearly obviously the -- dominated by internal exposure based upon the airborne environments, inhalation, ingestion and also potentially wounds and abrasions due to certain incidents, including bomb explosions where injuries and abrasions were quite common. For external exposure clearly we have a certain radionuclides that are gamma emitters, we have beta emitters and we also have neutrons with the N-alpha* reaction, so we have basically a primary concern for internal exposure and also an external exposure. As I've already mentioned, the concern was also one of episodic events that to the nature of the reduction processes of uranium and thorium and using various materials that were highly reactive and reached temperatures on the order of about 2,000 degrees Celsius and frequently reaction that led to an explosion and of course the creation of large airborne environments, contamination, et cetera.

Let me go quickly and go to the next slide, which really talks about the summary of

available monitoring data. Given the types of processes, the materials, the quantities, the radiological environments that they created, it would almost be imperative that in order for us to have a complete assessment for internal and external exposures that we would be in a position to say there are large quantities of bioassay data and complete comprehensive external monitoring data available. Well, our review showed the following, and these are just summary slides. I'll just quickly scan through them because of the time involved.

It's important to note that essentially no monitoring for external radiation took place with regard to uranium prior to -- well, actually none at all. I think there were a couple -- I saw a couple of documents that had some film data, but it was basically dismissed because the film was not calibrated , so in essence for uranium exposure there is no external monitoring data. And there's only a small number of workers who were assessed very episodically for -- by -- by urinary analysis for uranium, and -- and again the numbers of workers were in the -- a couple of dozen of the

workers or so. And what you do see were also bioassay samples involving blood, and here the assessment was not necessarily directed towards the actual assessment of the radioactivity, but was the assessment of the dysfunction of kidney and liver. They were looking at various things such as sugar, albumin, total niacin and other things, so even that sparse data is complicated by data that is questionable in terms of our usage.

Let me go to -- quickly to the next slide and briefly discuss -- discuss the thorium monitoring data. Again, if you look at the columns there, there -- our preliminary research found that there were no external monitoring data before 1952. That's the beginning of a few monitoring of personnel for external exposure, and no bioassay external monitoring before 1952. Thereafter there was a limited amount of external exposure monitoring, and also some bioassay data available.

Perhaps the most informative piece of data that I found was a comprehensive survey -- a three-day survey conducted on March 18 through 21, 1952, and that data was fairly well done. It

provided information on breathing air concentrations for thorium. It provided information on contamination levels, surface contamination levels, both fixed and smearable, and also provided dose rates in terms of ambient dose rates defined. That was probably the most detailed information that I found available. Also there was some additional data on bioassay, as I mentioned, but by and large the data was very sparse.

With regard to a -- the -- another category -- plutonium and fission products, which were there in smaller quantities, there are no monitoring data that I've found available for discussing the exposure of personnel to plutonium and fission product.

The last slide, let me just summarize it. Our conclusions with regard to this preliminary use, that there was a very sparse amount of -- insufficient amount of personal monitoring data for both internal and external. There was a very limited amount of air monitoring data. As I said, the most informative was 1952 survey data. That was a 3-day survey, but again that was only a moment in time.

There was also a question of the difficulty interpreting some of the available bioassay data, and frankly I found some that were probably from -- from reproduced microfiche that I couldn't even decipher. I don't know what the units of measurement were, and we certainly don't understand some of the bioassays that were used with -- the actual physical methods by which these data were derived, so there's a question of -- of the data integrity and the pedigree of that data. And of course very important here in this case, it's already been alluded to, was the issue of how do you account for radiological events which happened as routine measure. In fact, in one of the documents -- several documents -- there was reference to a single day in which six bombs exploded and there was even some sort of description as to how that happened, how it blew out whole wall panels and people staggering around and so forth, so you can kind of in your own mind imagine the kind of radiological conditions that we would have to have data for in order to do a comprehensive evaluation of work exposures to these very

episodic events.
And lastly there was no data on plutonium and fission products that I could find that would allow us to do any kind of dose reconstruction.
I'll go to the very last slide, and this was preliminary assessment really done by myself and -- and Arjun and at this point I guess we'll -- they seem to have some more focused issues that the Board will ask us to look at, so I hope that I didn't run too fast here, but...
DR. ZIEMER: Thank you very much. I need to ask Lew, and then maybe Jim can also comment, but action-wise what is needed on this? We're not quite ready to take final action.
DR. MELIUS: But -- could I --
DR. WADE: Go ahead.
DR. MELIUS: Lew and I have discussed this. Larry's been part of the discussion. For -- given our other workload and where -- where we were, NIOSH had planned on presenting their Ames evaluation report at our next meeting, which would have been the -- the June meeting. We actually discussed that on the conference call with the -- the petitioners, and

particularly given the issue of the acute events which they had -- explosions and so forth which they had raised in their petition, and given that they had also just seen the evaluation report the night before or whatever, the -- they seemed satisfied with that, though I did get a call Friday from -- from one of the petitioners saying can you change that and move -- move it up and what I would -- Lew and I talked about that and I think Lew -- I don't --

DR. WADE: I spoke to the petitioner. I think he's comfortable with what we're doing.

DR. MELIUS: What -- what we're doing and so forth, and -- and I actually think the next step we need to take as a Board is the workgroup, which is the SEC guidelines workgroup has got the task of dealing with Ames. We need to talk among ourselves as to do we need to have SC&A do anything more and -- and then -- then deal with it based on that, then we can make a recommendation to Lew about scheduling and so forth with that.

DR. ZIEMER: So --

DR. MELIUS: I think the --

DR. ZIEMER: -- the bottom line is this would

probably be on our agenda for action at the next meeting then.

DR. MELIUS: Next meeting. I think there's some question whether we may want to try to deal with it as part of a conference call rather than do it -- that. I think it's relatively straightforward, but --

DR. ZIEMER: Yeah.

DR. MELIUS: -- let's talk among ourselves.

DR. ZIEMER: Right.

DR. WADE: Right, just -- I mean we had originally asked SC&A to do a -- a total review of the Ames petition. I think the recommendation now is to focus on one or two issues, one issue possibly being the 250 days and the occurrence of criticality events, and to do their work in a way that would inform the Board before the Board would vote on Ames in -- in June.

DR. ZIEMER: Right. Thank you.

DR. MELIUS: And can I -- just one piece of factual information. NIOSH did a quick check during our call about the -- given the -- a number of people already filed for dose reconstruction. I believe out of what, 40 or

50, only -- there was one person that had worked there less than 250 days that they were aware of now. So given the nature of the facility and so forth, I think it probably makes -- makes sense and so forth, but we should keep that in mind also.

DR. ZIEMER: Okay, thank you. Next we'll hear the Y-12 SEC evaluation report and Ar--

DR. MAKHIJANI: Is that what you want, Dr. Ziemer, Y-12 or Rocky?

DR. ZIEMER: Well, we have both on the agenda. You -- what you're telling me is you probably can't get them both in today.

DR. MAKHIJANI: In ten minutes?

(Whereupon, Dr. Ziemer, Dr. Wade and a number of Board members discussed how to proceed in the time remaining.)

DR. ZIEMER: The suggestion is that we include these discussions at the appropriate time when we discuss both of those sites tomorrow. In other words --

DR. WADE: So we would try to do Y-12 tomorrow --

DR. ZIEMER: -- in addi--

DR. WADE: -- and Rocky Flats, either tomorrow

or Thursday morning.

DR. ZIEMER: That way we'll have a little more time for more in-depth discussion on both of these, which is very important. Is there any objection, Board members, to that?

(No audible objections.)

Okay, then -- any -- any -- oh, Arjun, did you have a question then?

DR. MAKHIJANI: So no presentation right now?

DR. ZIEMER: Right. Any other -- I -- housekeeping items, Lew, that we need to address today?

DR. MELIUS: I just have -- well, one question. You may have addressed it already; I was late. Other than public comment period tomorrow evening, I don't see any public comment period scheduled. Have we --

DR. WADE: Just tomorrow.

DR. MELIUS: That's it?

DR. WADE: Uh-huh.

DR. MELIUS: I would argue that we ought to be a little bit more flexible on that than --

DR. ZIEMER: We could probably add one for Thursday, if necessary.

DR. MELIUS: -- Thursday or -- or -- you know,

if there are people -- again, if people have -- that come during the daytime don't want to have to stay for evening, I think they should be allowed.

DR. ZIEMER: Yeah. Okay.

DR. MELIUS: Or people not speaking directly to the --

DR. ZIEMER: Right. Certainly we'll add it to the -- can we add it to the Thursday maybe --

DR. WADE: Sure.

DR. ZIEMER: We'll add that. Okay, then we will recess until tomorrow morning at 8:30.

(Whereupon, the day's session adjourned at 5:15 p.m.)

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I, Steven Ray Green, Certified Merit Court Reporter, do hereby certify that I reported the above and foregoing on the day of April 25, 2006; and it is a true and accurate transcript of the testimony captioned herein.

I further certify that I am neither kin nor counsel to any of the parties herein, nor have any interest in the cause named herein.

WITNESS my hand and official seal this the 26th day of May, 2006.

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STEVEN RAY GREEN, CCR

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