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

convenes the

WORKING GROUP MEETING

ADVISORY BOARD ON

RADIATION AND WORKER HEALTH

NEVADA TEST SITE

The verbatim transcript of the Working Group Meeting of the Advisory Board on Radiation and Worker Health held telephonically on Sept. 5, 2006.

C O N T E N T S

Sept. 5, 2006

TRANSCRIPT LEGEND

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P A R T I C I P A N T S

(By Group, in Alphabetical Order)

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ARENT, LAURIE, ORAU
BRACKETT, LIZ, ORAU
ELLIOTT, LARRY, NIOSH
GRIFFITH, RICHARD, ORAU
HOMOKI-TITUS, LIZ, HHS
KOTSCH, JEFF, LABOR
MAKHIJANI, ARJUN, SC&A
MAURO, JOHN, SC&A
ROLFES, MARK, ORAUT
ROLLINS, EUGENE, ORAU
SHOCKLEY, VERN
SMITH, CHERYL, DADE MOELLER
STAUDT, DAVID, CDC

P R O C E E D I N G S

(2:00 p.m.)

WELCOME AND OPENING COMMENTS
DR. LEWIS WADE, DFO

DR. WADE: This is Lew Wade and I have the continuing pleasure to serve as the designated federal official for the Advisory Board. And this is a meeting of the work group of the Advisory Board. Particularly this is the work group that look -- is looking at issues related to the Nevada Test Site's site profile. As currently constituted that work group is chaired by Robert Presley with Gen Roessler and Brad Clawson as members. There is a nuance to that that I'll get into briefly that -- that speaks to Wanda's role with the Board and with the work group but right now I want to make sure as to Board members on the call so Robert, I know you're on the call. Gen, I know you're on the call. Wanda, I know that you're on the call. Are there any other Board members on the call at the moment?

(No response)

DR. WADE: Any other Board members?
(No response)
DR. WADE: Brad, I assume that you're not with us at the moment?
(No response)
DR. WADE: Okay, let me deal with the situation with regard to Wanda. I harken you back to some time ago when we received notification that Wanda was going to be respectfully retired from the Board. Following that announcement and based upon that information the Board did reconfigure its work groups and in particular on this work group it constituted with Brad, Gen and Robert as chair without Wanda's membership. We have since been notified by the White House that Wanda was to be rotated back on the Board and I am now operating on instruction that Wanda is a member of the Board. And that's good news for all of us I believe. But since the Board took the legitimate action to reshuffle its working group, and Wanda was removed from the Board -- from this working group, only the Board can restore her to this working group. Therefore, technically today Wanda is not a member of the

working group. What I would decide, absent comment from anyone on the call, is that I believe very strongly that it's in the best interests of this process to have Wanda participate as fully and completely as she is willing to do. I discussed this with the chair of the working group, that's Robert Presley, and he concurs. So it is my intention, again not prejudging any comments I might hear in the next two or three minutes, to have Wanda function fully on this working group interaction, not as a member of the working group but as a member of the Board. And since again the working group will not be taking any formal action I see no reason not to do that. But before I do I would like to hear from anyone who would like to speak to that issue. So again, what -- what I'm proposing is that Wanda participate fully in this call on issues related to the Nevada Site site profile. Is there anyone who wishes to speak to that issue?

(No response)

DR. WADE: Okay. Hearing no comment, then Wanda, please join us to the degree that -- that you would like. You've always made

tremendous contribution to these activities. Let me then ask for NIOSH and members of the NIOSH team to identify themselves, and particularly to specify whether or not they are conflicted on issues related to the Nevada Test Site.

MR. ELLIOTT: This is Larry Elliott. I have no conflicts for the Nevada Test Site.

MR. ROLFES: This is Mark Rolfes. I have no conflict.

MR. SHOCKLEY: This is Vern Shockley. I do have a conflict. I worked at the test site for the University of California -- Lawrence Radiation Laboratories from 1964 to 1974 as a member of the Health and Safety Organization.

THE COURT REPORTER: Excuse me. This is the court reporter. Could I get the spelling of your last name, please?

MR. SHOCKLEY: S-H-O-C-K-L-E-Y.

THE COURT REPORTER: Thank you.

DR. WADE: Thank you for joining us, sir.

MR. ELLIOTT: And Vern, you're currently helping NIOSH out with its site profile there for --

MR. SHOCKLEY: Right. I am in Spokane,

Washington, and Ron Kathryn (ph) and I wrote the Section 3 of the site profile, which is occupational medical.

MR. PRESLEY: Vern, we're glad to have you.

MR. SHOCKLEY: Okay. Thanks.

DR. WADE: Are there members of the NIOSH team, the broad NIOSH team?

MS. HOMOKI-TITUS: This is Liz Homoki-Titus with the General Counsel's Office of Health and Human Services, and I don't have a conflict.

DR. WADE: Any other federal employees who are on this call in an official capacity?

MR. STAUDT: This is David Staudt in contracts, and I do not have a conflict.

DR. WADE: Hi, David. Welcome.

THE COURT REPORTER: I'm sorry. Who was that?

MR. STAUDT: This is David Staudt, S-T-A-U-D-T, and I'm a contracting officer.

THE COURT REPORTER: Oh, okay. Thank you.

DR. WADE: Thank you.

MR. KOTSCH: Jeff Kotsch from Labor's on the line.

DR. WADE: Welcome, Jeff. It's always a pleasure to have you with us. Any other federal employees on official duty?

(No response)

DR. WADE: SC&A team members? John?

DR. MAURO: Yes, this is John Mauro from SC&A. I do not have a conflict, but as everyone knows we do have a firewall separating folks at SC&A that are working on the Defense Threat Reduction Agency program for dose reconstruction and the NIOSH dose reconstruction work. I just wanted to let everyone know that that firewall is in place and this side of the firewall does not have any conflict.

DR. MAKHIJANI: This is Arjun Makhijani. I do not have a conflict.

DR. ANSPAUGH: This is Lynn Anspaugh from -- working with SC&A. I have a conflict that has been disclosed, and I did work at Lawrence Livermore National Laboratory from ’63 through ’96. I did participate as an expert witness in the Prescott case which involved NTS workers, and I am funded by DOE to do work on dose reconstruction in Russia at the present time.

DR. WADE: I thank the professor. We’re glad to have you with us. Other members of the SC&A team?

(No response)

DR. WADE: Anyone else on the line who wishes to identify themselves for the record?

MR. ROLFES: We have -- Lew, this is Mark Rolfes. We have other members of the ORAU team on the line as well.

DR. WADE: Okay. Please identify.

MR. ROLFES: Gene?

MR. ROLLINS: This is Eugene Rollins, R-O-L-L-I-N-S. I am with -- subcontracted to NIOSH from Dade Moeller and Associates. I was the team lead on the production of the NTS TBD.

DR. WADE: Any conflicts?

MR. ROLLINS: No conflicts.

DR. WADE: Thank you. Other members of the broad NIOSH team, ORAU -- ORAU?

MS. SMITH: Cheryl Smith. I'm Dade Moeller and Associates and I have no conflict.

DR. WADE: Other members of NIOSH, ORAU, federal employees on an official capacity, SC&A team, anyone who wishes to identify?

MR. CLAWSON: Yes, Lew Wade, this is Brad Clawson. I apologize. I just got on.

DR. WADE: Welcome, Brad. Brad is a member of the subcommittee. Brad, if you -- if you

didn’t hear my long monologue, Wanda, who is now again a member of the Board but not formally a member of this working group will be fully participating in the working group as it leads to in my opinion a considerably better product. I assume you’re okay with that.

MR. CLAWSON: That's fine.

DR. WADE: Okay.

MS. MUNN: Good morning, Brad.

MR. CLAWSON: Hi, Wanda. It’s good to have you back.

MS. MUNN: Thank you. It’s good to be here.

DR. WADE: Okay, Robert. I think it’s all yours.

MR. PRESLEY: All righty.

MR. ELLIOTT: Robert, this is Larry Elliott. Before you start if I could make an announcement, and also I have a question for Mark. Mark, do we have the document owner online here, on the call today for the Nevada Test Site? The document owner at ORAU?

MR. ROLFES: Gene, are you the document owner or are you just simply the team leader?

MR. ROLLINS: I'm not sure what the distinction is. I’m not exactly sure what the distinction

is. I am the team lead and --

MR. ELLIOTT: This is a -- This is the proposed conflict of interest policy that is currently out for review and comment. We would like, you know, to make sure that we have identified an individual on the ORAU team who is serving as what is called the document owner or the -- the editor of the full site profile, the owner if you will of -- of all of the information that is not only included but that which is excluded from the -- from the site profile. I just think it's important that -- that, you know, we identify somebody that steps up and takes the lead in that regard.

MR. ROLLINS: Okay, Larry. I just checked the -- the signature sheet and I am listed as document owner.

THE COURT REPORTER: And excuse me. Who was that speaking?

MR. ELLIOTT: That was Gene Rollins.

THE COURT REPORTER: Right. Okay, thank you.

MR. ELLIOTT: And Gene's not conflicted in that -- in that regard?

MR. ROLLINS: That's correct.

MR. ELLIOTT: Okay, Bob. The other -- The

other announcement that I had to make -- I'm sure there are -- there are working group members of the Board online that are not aware of this current situation. Dr. Jim Neton last week underwent colon surgery. He was diagnosed on Wednesday afternoon I believe with two -- two cancers in his colon and so they removed a large portion of his colon. He's doing fine but I just wanted to pass the word along that he will be out of -- out of the picture so to speak for awhile, for about four or five weeks. So just pass that announcement on for everyone who might be so interested.

MR. PRESLEY: And Larry, when you talk to him, which I know you will be doing, please tell him we're thinking about him.

MR. ELLIOTT: He gives his best regards to everyone and encourages everyone to get a colonoscopy at age 50.

MR. PRESLEY: That's right.

MS. MUNN: Yes.

DR. WADE: God bless him.

MR. ELLIOTT: Thank you for the time.

DR. WADE: Thank you, Larry.

MR. PRESLEY: Thank you, Larry. Mark?

MR. ROLFES: Yes?
MR. PRESLEY: When we -- when you sent out your comment sheet --
MR. ROLFES: Yes.
MR. PRESLEY: -- I have comments from comment 1 and 24 and 25. Were -- Were there anything in between those?
DR. MAKHIJANI: Mr. Presley, I have -- this is Arjun. I had some questions in between, mostly I don't.
MR. PRESLEY: I have some questions, too. The problem is, is I just want to make sure that -- that's all there was was the two pages.
MR. ROLFES: We did send out about 30 pages of the matrix with the comments back and forth but there weren't too many outstanding issues I believe.
MR. PRESLEY: Okay. The problem that I have, for some reason what I got only printed the first and the last page so -- and I -- I was not able to get any more for some reason on that. I don't know why, whether it's my computer or something with the email.
DR. WADE: Are you in front of the computer terminal now, Robert?

MR. PRESLEY: I am but I -- but I'm on -- Lew, I'm on dial-up so it's not going to help us. So Mark, what I suggest is why don't I take the comments from the working group --

MR. ROLFES: Uh-huh.

MR. PRESLEY: -- and we will start with comment 1 and just work all our way down through here.

MR. ROLFES: Okay.

DR. MAKHIJANI: Mr. Presley, are you working from -- from the matrix or from your sheet?

MR. PRESLEY: I'm working from my sheet.

DR. MAKHIJANI: Oh, okay.

MS. MUNN: Oh, okay. So that -- Okay.

MR. PRESLEY: The one that went out on the 28th.

MS. MUNN: All right.

DR. WADE: Is there anyone else that -- that needs that sheet e-mailed to them right now?

MR. CLAWSON: This is Clawson. I just want to make sure that I've got the right one. I've got it 8/30/06, Summary NIOSH Responses to SC&A. It's 30 pages long.

MR. PRESLEY: Okay. You got -- You got the good one. I can't -- for some reason I cannot -- have not been able to get that off my

computer.

MR. CLAWSON: But this is the correct one that we needed, correct?

MR. PRESLEY: What I'm going to do, Brad, we're going to use that one, but I'm also going to use the one that, just to start down through here with our comments.

MR. CLAWSON: Okay.

MR. PRESLEY: The one that -- that we sent out that's got everything on it that -- that the last time I sent it out was 8/27/06.

MR. CLAWSON: Okay.

MR. PRESLEY: Then we can -- we can interchange.

DR. WADE: Do you want that sent to you, Brad, or do you have it?

MR. CLAWSON: No, I -- I have it. I just wanted to make sure that I had the most current revision there that -- that mine states that it's a essence Summary of NIOSH Responses revised of 8/30/06, so I think I've got the -- I've got the right one.

MS. MUNN: I'm sorry we can't work from that matrix because I --

MR. PRESLEY: Yeah.

MS. MUNN: -- the thing I like most about the matrix is -- is having so many of them shown as complete. That -- That format is very helpful as we're going through this --

MR. PRESLEY: Right.

MS. MUNN: -- complex data here.

MR. PRESLEY: When I read one off, if nobody has a comment and it's complete, what we'll do is I'll just mark it complete with no comment on my sheet and we'll go on.

MS. MUNN: Okay.

DR. MAKHIJANI: Mr. Presley, it might be possible to work from both simultaneously.

MR. PRESLEY: Right.

DR. MAKHIJANI: This is Arjun. Because your numbering is the same as in the matrix. I've got both of them in front of me and if you like I can -- I can just prompt if there's anything in the matrix that you're not going through because I do have both of them in front of me.

COMMENT 1: RADIONUCLIDE LISTS

MR. PRESLEY: Let's do it that way, and I'll start with comment 1 and we will -- we will go through it, and then we'll -- we'll go right on down through there if that's all right with

everybody. Comment 1 was about the radionuclides and on -- on that NIOSH has agreed that the nuclides will be added for response 1a. And I think that has been accepted by SC&A; is that correct?

DR. MAKHIJANI: Yes.

MR. PRESLEY: Is there any more or further comment that we need to discuss on that?

DR. MAKHIJANI: There is one small clarification in the matrix in item 1d of 8/30/06, the one that Mark Rolfes sent out. It -- It says, or generally it says because of the pending petition. I presume this refers to the atmospheric SEC petition that the Board already voted on; or is this the next NTS petition?

MR. ROLFES: Arjun, I believe that was the atmospheric weapons testing pre-1963 time period.

DR. MAKHIJANI: Okay. I think that's a clarification, since this is I think probably going to be a public document, that might be important. I -- I understood it that way but I think maybe it ought to be --

MR. PRESLEY: Mark, can you go ahead and just

add that comment on there, please?

MR. ROLFES: Yes.

DR. ANSPAUGH: This is Lynn Anspaugh. I also have a question about that. It -- It seems to me that as long as this 250-day rule is in effect that the SEC petition does not remove the need for some of this information to be used for what I guess is known as a partial dose reconstruction?

MR. PRESLEY: I would say that that's correct. Would you not -- would everybody agree with that until we can get this 250-day question answered?

MR. CLAWSON: This is Clawson. I agree with you on that. That's still a pending question we've got out there.

MR. CLAWSON: Do we have any history on where we're at with that?

MR. ELLIOTT: This is Larry Elliott. The -- Yes, the -- the atmospheric testing SEC petition pre-1963 should become I believe effective as a designated class later this week, the 7th. Am I right on that? Mark or anybody, help me out there. And the 250-day health endangerment criteria remains a topic of

general concern, certainly one that would be specific to any class where that type of health endangerment has been prescribed.

MS. MUNN: Didn't we identify a working group for that, Larry?

MR. ELLIOTT: I believe you did.

DR. WADE: Yes, we have. And to my knowledge that working group has yet to get to meet.

MR. PRESLEY: That -- That would tell me that we really can't do anything with this response until after they make their decision and it comes back to the Board. This is Bob Presley.

DR. MAURO: Bob, this is John Mauro at SC&A. I think the -- at least with regard to this list of radionuclides and the need to complete the list as thoroughly as possible. Certainly there's agreement that that in fact is going to be acted upon by NIOSH and certainly is applicable to issues related to the site profile. However, what I would say is that it's -- the degree to which having that information, namely these other radionuclides, will only help us when the day comes when we have to deal with the less than 250 work day issue. So I think that it's -- I hate to say

it this way but I think that we're moving -- moving forward in the way we planned to move forward on this particular issue is only going to benefit us not only here on the site profile but also on any issues that might arise from the 250 work day new task order that we're going to be engaging in.

MR. ROLLINS: John, this is Gene Rollins. I -- I went back and looked at the original comment, 1d. It -- It was more or less specific to internal dose, and that's the reason we decided we could -- we could drop it off with the SEC petition because we'll not be doing internal doses prior to '63. However, in response to your concern about how we're going to calculate external doses, we are working on that. As we move through our discussions today I think we'll be able to explain to you how we're going to approach that. But we're not -- We're not throwing these radionuclides away. We're just -- We're just trying to address the comment as it was originally written, and it was concerning specifically internal dose.

DR. MAKHIJANI: This is Arjun. I -- I agree with Gene because NIOSH has said they cannot

calculate internal dose up to and including 1962, so however the 250-day issue is resolved, NIOSH hasn't said that they can calculate for less than 250 days but not for more than 250 days. So -- So the 250-day issue is going to just have to -- resolution of that will have to take into consideration the fact that NIOSH has said they cannot calculate the doses and it's a separate thing from dose reconstruction. It's a -- It's how do you estimate health endangerment when you cannot do dose reconstruction in a particular category. I mean maybe -- maybe Mr. Elliott might -- might correct me if my understanding of that is wrong.

MR. ELLIOTT: Arjun, I think you said it very clearly and much better than I tried and attempted to earlier.

MR. PRESLEY: This --

MR. ELLIOTT: Right on target.

MR. PRESLEY: Okay. This is Bob Presley. And with what's been said it looks like that 1a, 1b, 1c and 1d are all answered and that the 250-day change will come down the road and fall out where it may.

DR. MAKHIJANI: Yes, I -- I think, Mr. Presley, it might be useful to just specify that that issue is pending but that NIOSH has already said that internal doses can't be calculated. Maybe -- Maybe some editorial clarification is necessary here so this misunderstanding doesn't arise.

MR. PRESLEY: What we can do then is put a comment there that says that we will add something to this comment after that concerning the 250-day decision when it comes down.

MS. MUNN: The current NIOSH response on the matrix is NIOSH will add the radionuclides that concern this table 2-2 along with the areas of concern. It shouldn't be a problem to add a comment about the 250-day there, should it? It already says NTS TBD tables that identify radionuclides of concern will be reviewed and revised as appropriate. That's probably the appropriate place to add a comment about 250 as well, is it not?

MR. PRESLEY: Right. Where's that at, Wanda?

MS. MUNN: That's the original NIOSH response.

MR. PRESLEY: Okay.

MS. MUNN: Similarly under the meeting comments

from the 25th we indicated that -- that the nuclides are going to be added. So are we going to add another column to our matrix or are we going to perhaps put a dash underneath our site profile comments from 7/25 and add comments from this meeting? It might be simpler to do that.

MR. PRESLEY: Simpler to do that or, Mark, do we want to go back and use your matrix and put another column there or not?

MS. MUNN: The problem with adding columns is we end up with a new column every time we have a work group meeting.

MR. PRESLEY: Right.

MS. MUNN: And in other -- other work groups we found that to be a bit too cumbersome.

MR. PRESLEY: Why don’t we just add a comment then about the 250 days at the end of this where we have those other comments started. And I’ll add something in there, a comment about that before --

MS. MUNN: Perhaps we could change the -- the title of the column to comments from the most recent working meeting.

MR. PRESLEY: Yeah, comments from the --

comments from today's meeting.

MS. MUNN: Yeah.

MR. PRESLEY: Okay. We can do that.

MS. MUNN: Should work. Mark?

MR. ROLFES: Yes?

MS. MUNN: Will that work for you?

MR. ROLFES: That works fine for me.

MS. MUNN: Good.

MR. ROLFES: That'd be great.

MR. PRESLEY: Okay.

DR. ROESSLER: This is Gen. It's somewhat difficult to hear. It sounds like someone maybe is on a speakerphone and there's a lot of noise in the background.

DR. WADE: Unfortunately that's me at an airport. If it's really difficult then --

DR. ROESSLER: Okay.

DR. WADE: -- then I'll hang up and I think with Liz and Larry on the line you'll be okay but --

DR. ROESSLER: No, I think we need you.

DR. WADE: Okay. I'm trying as best I can to shield that but I -- I'm somewhat limited. Sorry.

MR. PRESLEY: Okay. Are we ready to move on to

Comment 2?

MR. ROLFES: Yep.

COMMENT 2: TBD INADEQUATE GUIDANCE

MR. PRESLEY: Okay. With this we said that NIOSH will revisit and evaluate this item and revise the TBD to reflect the findings and right now the Board has no further -- or the working group has no further action. Mark, did you have anything marked?

MR. ROLFES: I may have, saying that we'll revisit and evaluate this and revise the TBD to reflect any findings.

MR. PRESLEY: Arjun, did you have anything?

DR. MAKHIJANI: Mark? Mark?

MR. PRESLEY: No, NIOSH.

DR. MAKHIJANI: Makhijani? Were you asking me, Mr. Presley?

MR. PRESLEY: Yes, uh-huh.

DR. MAKHIJANI: Mr. Makhijani?

MR. PRESLEY: Yes, sir.

DR. MAKHIJANI: Arjun?

MR. PRESLEY: Yes, Arjun.

DR. MAKHIJANI: Yeah, I -- I didn't have any -- I had a question between item 2a and 2b and c, the new notes that have been added by the ORAU

team. Under 2a it said, this is not a complex-wide issue. And then under 3 -- 2a and -- I'm sorry, excuse me -- 2b and 2c it says this is a complex-wide issue. I kind of got a little confused about how those distinctions are being made and what that means in the context of this complex -- this resolution. Does it mean that when it's complex-wide there will be some kind of complex-wide technical information bulletin or will it be -- I -- I got confused as to -- as to the nature of those notes and the comment resolution process.

MS. MUNN: I can see how that would be a problem. When I -- When I read it myself, Arjun, I took that to mean that they were being very specific with respect to the -- to that portion of the comment but I can see your concern with respect to the complex-wide issue because we have the same thing with the 250-day issue, all of the hot particle issues, the mouth breathing issues.

DR. MAKHIJANI: Right.

MS. MUNN: All of those things (phone static) complex-wide.

DR. MAKHIJANI: Ms. Munn, some -- some of these

things are -- seem to be specific; the 2b and 2c seem to be very specific to NTS. And some of them do have implications for other sites --

MS. MUNN: Yeah.

DR. MAKHIJANI: -- like Hanford and Idaho.

MS. MUNN: Yeah.

DR. MAKHIJANI: But like the Idaho reactor got stationed there but I -- I did get confused as to what it means about our comment resolution.

MR. ELLIOTT: Mark, or Gene Rollins, can you help out with some understanding on what is meant by these terms in this matrix?

MR. ROLLINS: Well, this is Gene Rollins. From our point of view we will take the data as it was presented in the referenced report and we will apply that as appropriate to the Nevada Test Site. That methodology, if it is deemed to be useful -- I would imagine if it is deemed to be useful across the complex or across the project then that would be up to OCAS to decide whether or not they wanted to try and take those same methods and use them for other applications at other sites. We -- We fully intend to -- to do it specifically for NTS.

DR. MAKHIJANI: Oh, okay. That -- That

clarifies it for me anyway. And then maybe from -- if that might be, yeah, actually useful in that context to identify what might be applicable to other sites and I -- and I do agree that, you know, these 2b -- 2b and -- and 2c may be applicable to other sites but drillback and tunnel re-entry and so on may not be applicable to other sites. I agree with that.

DR. ROESSLER: This is Gen. Gene, what report are you referring to?

MR. ROLLINS: This is the NRDL report.

DR. ROESSLER: Okay. That’s what I assumed. Thank you.

DR. MAKHIJANI: Yeah, it’s -- it’s -- I have enough explanation for me.

MR. ROLLINS: Okay.

DR. MAKHIJANI: That's fine.

MS. MUNN: This is Wanda. From a -- From a Board point of view this raises again the -- again the same question that we’ve wrestled with in other working groups with respect to the Board’s follow-up and understanding of whether these actions have in fact been taken. And I’m -- I’m not certain we are clear yet on

how the Board is going to be able to track that. Lew or -- or Larry, do either of you have any better information than I do about our system for assuring that these potential action items like this one where we're discussing the possibility of some process being incorporated into perhaps a workbook or a TIB? Do we have any current information on exactly how the Board is going to track those?

MR. ELLIOTT: I think that is something that we need to work out together with the -- with the Board and across all the working groups of the Board. We are -- are finding ourselves dealing with whether a comment -- a review comment is site specific or does it have general, more broader impact and application across sites. And so I think we're going to have to talk through a process of identifying and tracking those generic issues so that they don't get lost and so that we do keep momentum in resolving those issues.

MS. MUNN: We talked about this before but to my knowledge we have never actually put anything in place.

DR. WADE: This is Lew. We've talked about

this sort of overarching matrix but I think at the September meeting we need to have a formal agenda item to decide not only that that's a good idea but who is going to carry that out and right now it's falling through -- between the cracks for working groups. I think it's something on NIOSH's agenda though. So I'll make sure that that's an agenda item for September.

MS. MUNN: Thank you, Lew. That was what I was going to suggest.

DR. MAKHIJANI: I had one other comment in this regard. It says here under 2b in the middle column that this evaluation will need to reflect current Project positions related to hot particle dose reconstruction at other DOE sites. I -- I didn't -- I thought that there would be an evaluation for NTS that would be reflected at other sites. This seemed to say the opposite thing.

MR. ROLLINS: We're actually -- this is Gene Rollins again. There is currently in existence guidance on how to assess particle -- doses from discrete particles. And this would be strictly from an external skin point of view.

DR. MAKHIJANI: Uh-huh.
MR. ROLLINS: What we want to make sure of is that we don't get crosswise with that guidance. That if that guidance needs to be changed we'll review that but we -- we want to stay in concert with it as much as possible.
DR. MAKHIJANI: Right. So that -- you might change that guidance or draw from it?
MR. ROLLINS: Correct.
DR. MAKHIJANI: Okay. All right.
MR. PRESLEY: Any more comments on 2?
MR. ELLIOTT: I think -- This is Larry Elliott again. I think we have a tendency to talk in jargon here. And Gene and Mark, maybe this point and 2b in the middle column that Arjun just raised would be better served if we provided an edit for clarity. I think you -- you guys can read this and understand what it means but -- but folks on the outside perhaps get lost in our jargon and we need to be very clear and specific in -- in our intent, in our words.
MR. ROLLINS: Okay.
MS. MUNN: True. Project position doesn't mean much to me.

MR. ELLIOTT: Right. I know it means something to these guys but on the outside, to everybody else it means nothing perhaps.

MR. ROLFES: Okay. I think we can work on clarifying that language a little bit, Larry.

MR. ELLIOTT: Thank you.

MR. PRESLEY: Okay. Thank you, Mark.

MR. ROLFES: Thank you, Bob.

MR. PRESLEY: Are we ready to go on to Comment 3?

DR. MAKHIJANI: Mr. Presley, I'm sorry. This is Arjun. I see on Comment 2d some work has been completed and I wonder whether the reports that have been digitized can be put on the O drive so they can be looked at.

DR. ROESSLER: Did you say 2b or --

DR. MAKHIJANI: 2d as in David.

DR. ROESSLER: David? Okay. Thank you.

DR. MAKHIJANI: In the middle column there, four of the reports have been fully digitized.

DR. ROESSLER: I see it. Thank you.

DR. MAKHIJANI: And then later on something else; 2e is also completed. And so there are a number of completed items and I just had that request.

MR. ELLIOTT: Well, Mark and Gene, can you help me out here? I don't know what these reports contain. Are they something that we can put on the -- the drive, the shared drive for folks to view?

MS. MUNN: This is Wanda. My question was do they need to be -- do they need to be scanned for content?

MR. ROLLINS: I was just going to make the comment this is -- this is pretty fresh data -- this is Gene Rollins again -- and I'm not sure that it's been -- had a complete internal review.

MS. MUNN: Yeah.

MR. ROLLINS: And I'd be hesitant to put it up there until internally we were satisfied with it.

DR. MAKHIJANI: Oh, okay. I thought that some work had been completed.

MS. MUNN: Well --

DR. MAKHIJANI: That one -- I guess 2e is completed.

MS. SMITH: This is Cheryl Smith. The reports that this data is based on are on the O drive.

DR. MAKHIJANI: Oh, okay.

DR. MAURO: This is John Mauro. I'd just like to emphasize that the subject we've been talking about is probably going to be an extremely important one in terms of superficial dose from -- in talking about the Hicks tables and the Baneberry test and the fact that we're concerned with superficial exposures to skin. So this issue is going to be -- how we come to grips with the dealing with the particles of skin dose and superficial dose; it's going to be very important because as you know, those particular cancers are -- we will have to deal with, notwithstanding the fact that we have -- will have in the future perhaps an approved SEC for the pre-'63. So I see this particular subject as being something that we're going to need to look at real closely as we move through the process.

MR. PRESLEY: Okay. Any more comments?

(No response)

MR. PRESLEY: Are we ready to move on to 3?

MS. MUNN: The -- Under response to the TBD Team Input, that it's the -- essentially the same note that we discussed earlier with reference to Project position. Any change in

language that we make to the preceding statement perhaps should be carried through to 2f plank as well.

MR. PRESLEY: Okay. We can do that. Any more comments?

(No response)

COMMENT 3: NON-RESPIRABLE PARTICLES

MR. PRESLEY: Well, let’s move on to Comment 3. NIOSH had a response that they agreed that large particle ingestion and skin deposition could be important for individuals resolved -- or involved in underground testing. On that one the comment was --

MS. MUNN: They’re going to revise the TBD.

MR. PRESLEY: That's correct. Yes. Has anybody got any comments to the fact that the TBD will be revised?

DR. MAKHIJANI: No, I didn’t have any comment about that, but I just want to make sure. This -- This relates to internal dose, right? No, it says actually skin also so the atmospheric testing should -- should -- should make that exception to skin dose because it says NIOSH does not intend to extend these evaluations for individuals involved with atmospheric testing

but I thought that NIOSH is -- I'm a little confused because from the second column talks about internal dose but the first column talks about skin dose also.

MR. PRESLEY: First the original response mentioned ingestion and skin dose.

DR. MAKHIJANI: Right.

MR. PRESLEY: Mark, do you have a comment on this?

MR. ROLFES: Well, for the pre-1963 SEC period we won't be constructing internal doses; however we will still evaluate any external doses received from large particle deposition on the skin surface. So I believe we are working on that. Just haven't approached it in a technical basis document.

DR. MAKHIJANI: Yeah. So the 3a response actually doesn't say that. It said due to pending SEC petition for workers involved NIOSH does not intend to extend these evaluations. And above it's talking about -- it says internal and external dose guidance in that same item there.

MR. ROLLINS: We should probably qualify that response to only refer to internal dose prior

to ’63. I see where your concern is.
MS. MUNN: That would be helpful.
MR. ROLLINS: Yeah.
THE COURT REPORTER: Was that Mr. Rollins?
MR. ROLLINS: Yes, it was.
THE COURT REPORTER: Yes, thank you.
MR. PRESLEY: You all will change that response then?
MR. ROLFES: Yes, we can do that. That will update the response to show that it’s for external dose reconstruction.
MR. PRESLEY: Good. Okay. Does anybody have any problem with 3c?
MS. MUNN: Did we jump over 3b?
MR. PRESLEY: Yes, I did. I'm sorry. 3b, large particle ingestion and skin disposition (sic).
MS. MUNN: The same -- ditto response from 3a I think.
MR. PRESLEY: Right.
DR. MAURO: This is John Mauro. I had -- just had a thought that I’d like to throw out to the working group. As NIOSH works through these issues the degree to which consideration is given while they’re in the literature and

developing methodologies looking at data to address these issues and the associated I'll say revisions to the site profile, the extent to which the -- the time period of exposures might be relevant -- for example, whether we're dealing with underground testing or we're dealing with above ground testing, the degree to which the kinds of information we'll be looking at will shed some light on this 250 work day issue. We may be able to what I call -- kill two birds with one stone. Rather than going back to revisiting that issue again later on when we are engaged into the less than 250 work day issue, it would be very helpful to accomplish as much as we could on -- because these issues are going to surface again with the 250 work day issue. So while you're in the literature looking at that it might be helpful to the other working group to keep that in the forefront while you're working the problem.

MS. MUNN: Good comment, John.

MR. PRESLEY: That's a good comment. Anybody have any more comments about 3b?

(No response)

MR. PRESLEY: Okay. 3c?

MS. MUNN: And response is applied.

MR. PRESLEY: Anybody have any more comment?

(No response)

COMMENT 4: ORO-NASAL BREATHING

MR. PRESLEY: Okay. Moving on to comment 4. Comment 4 is one that we had issue with. It has to do with oral nasal breathing. And the working group and SC&A has a issue with oral nasal breathing. NIOSH will revisit and evaluate -- and evaluate comments and prepare written comments for the next working group meeting. Mark, is this going to take effect? Is somebody going to give a report at the next meeting on this?

MR. ROLFES: I will have to speak with Larry about this, and I guess Brant Ulsh, to see what we can have by the next working group.

MS. MUNN: This is another of those complex-wide issues that keeps coming back to haunt us.

MR. ROLFES: Yes, I think we can get you an update maybe in September. We are evaluating the oro-nasal breathing issue and that will be -- be able to get some updates for you.

MR. PRESLEY: Is that going to be in a -- in a working group meeting or do you want to discuss

anything like that with the full Board?

MR. ROLFES: Larry, is this something that we could discuss -- or Lew?

MR. ELLIOTT: I think we would be making a presentation to the full Board on how to handle oro-nasal breathing as a general issue cutting across many sites.

MR. PRESLEY: That's what I'd like to see done.

MR. ELLIOTT: And then, you know, we'll take up whatever changes need to be made or reflected upon that or referenced to that particular technical basis or technical information bulletin, whatever it may be in certain site profiles where it's become an issue.

MS. MUNN: It would be very helpful to put this to bed, Larry. Thank you.

MR. PRESLEY: Is -- Larry, can that be done at -- at Nevada or --

MR. ELLIOTT: Well, I don't -- I don't imagine it's going to be something we're ready to present in Las Vegas this next Board meeting. Jim Neton, as I mentioned earlier, is going to be out for a few weeks and I know he was -- he had been working on the framework for this. I don't know exactly where it's at but it's

certainly not ready I don't believe for prime time yet.

MR. PRESLEY: Okay. Then what we can say is that -- that this will be given to the full Board sometime in the -- in the future; is that correct?

MR. ELLIOTT: If you would, please.

DR. WADE: Correct.

MS. MUNN: Hopefully we can do that at the meeting following Nevada.

DR. WADE: All right.

MS. MUNN: I think it holds up several things.

DR. WADE: Yeah, I'll put it on the agenda for the meeting after Nevada.

MS. MUNN: That would be helpful.

MR. PRESLEY: Thank you, Lew.

MS. MUNN: It's good to know Jim has something going on it. That's -- Thank you.

COMMENT 5: RESUSPENSION MODEL

MR. PRESLEY: Comment 5 has to do with the resuspension model, and the response was way too long on this to -- to list. The working group had a issue with this that SC&A used Dr. Anspaugh to help with this and I think this is being acted on and worked on as we speak; is

this not correct?

MR. ROLLINS: This is Gene Rollins. I can give you an update as to where we are on this. I have developed a mass loading model and have proposed a revision to section 4.2.2. That proposed revision is under review right now but I believe it will -- and in addition to new air concentrations and intakes predicted by the mass loading model I also have provided some guidance to dose reconstruction about considerations for minimizing and maximizing for -- for compensable and non-compensable cases. I think once we get -- once we finish internal review on this I think we -- we can probably provide that to you for your review. So that's -- that's where we are on this right now.

MS. MUNN: This is Wanda. Gene, do you have any -- any reasonable feel for how long your internal review is likely to take?

MR. ROLLINS: I don't -- I don't think it's going to take very long because this is -- this is pretty straightforward -- pretty straightforward calculations.

MS. MUNN: Okay. Excellent. Thank you.

DR. ANSPAUGH: This is Lynn Anspaugh and I -- I also wanted to say that I'm preparing a report for review by the SC&A folks, and my report should be done sometime next week.

MS. MUNN: Good.

DR. ANSPAUGH: Okay.

MS. MUNN: Thank you.

MR. PRESLEY: The working group going to be able to get a copy of that?

DR. ANSPAUGH: Certainly.

MR. PRESLEY: Okay. Anybody else have any comments or anything to --

DR. ROESSLER: Does that --

MR. PRESLEY: Go ahead, Gen.

DR. ROESSLER: Does that report -- this is Gen. I'm sorry, Bob. That report will come from Lynn before the September meeting?

DR. ANSPAUGH: Well, I'm going to send it to Arjun and John and if they agree with it I suppose it could be, but it's up to them.

MS. MUNN: Okay.

MR. PRESLEY: Okay. If not then maybe they can supply us with a copy when we get to Nevada.

DR. MAKHIJANI: Mr. Presley, we were being extra cautious in this case to subject this to

appropriate review before giving it to you as our report because of the conflict.

MR. PRESLEY: No problem.

DR. MAURO: Yeah, we -- This is John Mauro. We have only recently went through a vetting process for the conflict issues. But I'm very happy to hear from Lynn right now that he has made some progress on that. Let me ask a question though of the working group. It sounds like we've got two work products in the middle right now dealing with this issue of resuspension. One is the work that -- the new work that Gene is working on in terms of using what I believe to be a mass loading approach. But in parallel, Lynn Anspaugh is looking at the problem as characterized in the site profile as it currently exists, which is based on a resuspension approach. Bear with me for a minute. Are we in a -- in a position where the process would be best served is once we get these two work products in the hands of the working group, we may very well be at a point where a special conference call could be held if it's, you know, where well in advance -- let's say a week before the -- the meeting in

Las Vegas because I have a funny feeling that what's going to happen here is we're going to be critiquing a work that's currently in the site profile based on -- based on conventional resuspension factors. Meanwhile Gene will be coming out with a -- a new model which basically say, listen, we're not doing that any more. And it'd be great if we could sort of get together, maybe for an hour or so and say I think we've got this problem licked or -- or where does the problem actually -- whether or not there's still some residual problems we have to deal with.

MR. ROLLINS: John, I think your point is -- This is Gene Rollins. I think your point is well taken because it sounds like Dr. Anspaugh is going to be critiquing a -- a method that we have abandoned.

DR. MAURO: That -- That -- Thank you. That's exactly what I was saying.

DR. MAKHIJANI: Well, I have a slightly different suggestion because I -- I -- I really am concerned that we should have some internal review because when you -- we've set up a process to deal with the conflict of interest

question and -- and I think as a person who did the TBD review I'd like a chance for -- for John and me to -- to -- to -- to look over Dr. Anspaugh's material before -- before because it should be presented to the public as -- as -- and so I guess if I'm supposed to be the document owner of this thing so I'm especially concerned that -- that I should be. And so -- And I think that if we get the report from Dr. Anspaugh sometime next week we have to digest this material and then compare it to what Gene Rollins is doing. It might be better as a process since NIOSH has abandoned their resuspension approach for -- and Dr. Anspaugh's earlier paper anyway recommended that resuspension not be used many years down the line for calculating doses many years after initial deposition, that maybe Dr. Anspaugh should review what -- what NIOSH is currently doing. And if it's close to ready maybe -- maybe we ought to suspend that part of Dr. Anspaugh's review while the rest of his review goes on until we see something from NIOSH. I don't know; that seems like a -- like a better process rather than reviewing something that's

no longer being used.

MR. PRESLEY: This is Bob Presley. Arjun, I agree.

DR. MAURO: Lynn, how far away -- did you say you were about a week away or less to delivery? See, it sounds like you're in the home stretch to getting something to Arjun and I, might as well let that finish. But if you feel as if you've got a lot more to do maybe we should sit tight and wait for Gene's work to come through the pipeline.

DR. ANSPAUGH: Well, I'm kind of in the home stretch and I'm -- I might say I'm also quite concerned about how the source term is treated in terms of what radionuclides at what time. So it's not just mass loading versus resuspension factors.

DR. MAKHIJANI: Right.

DR. ANSPAUGH: So I think it might be better to just proceed because I think there are some significant issues other than just mass loading versus resuspension factor.

DR. MAKHIJANI: Oh, yeah, I agree with you, Dr. Anspaugh, that there are -- there are lots of other issues and I also agree with your

characterization of them. I was just -- my comment was more oriented to -- but I'm also -- I've got some other commitments next week and it's going to be very, very difficult for me to give this the kind of time it needs. But I wasn't aware the -- this is a new development for me in terms of my own agenda and so it -- it's a little bit complicated unless it can be done sometime this week.

DR. MAURO: This is John Mauro. It sounds like we have to let this play out because we're dealing with not only resuspension factor versus mass loading but also issues related to I guess the picocuries per gram vertical profile in any given location --

DR. MAKHIJANI: Right.

DR. MAURO: -- at Nevada Test Site, upon which the dust loading or the resuspension factor would operate. Yeah, I guess we let –- we just -- we let -- let nature take its course and let -- let Lynn finish up and deliver his report. Arjun and I will do our best to quickly review it and get it into the hands -- finalize it, get it into the hands of the working group. Gene, I guess you -- you -- you do the same and

then we'll just take it from there.

MR. CLAWSON: But -- This is Clawson. You know, something that's been happening that I may not be as astute at this as my colleagues but I sure get an awful lot of stuff at the very last minute that we're expected to work on. I would really like to be able to have some time to be able to review this and give it the inspection that it needs, too.

MS. MUNN: It's the problem we have universally perhaps. There's just nothing we -- we have too much material to deal with for each of our -- our meetings and we've -- as working groups we have to get through them before the full Board meets, and as contributors to the process, both our contractor and our NIOSH and ORAU people, have an enormous amount of work to do before they can produce material for us to look at. So we're constantly behind the curve. And you are not alone in your desire to have the material earlier but I think everyone who's involved in this feels the pressure of time and -- and none of us has quite the time we'd like.

DR. ROESSLER: So Wanda, I think addressing both comments, one question I have on this

issue, and I'm looking at the notes that we have on it and I think this is probably my wording. I was wondering at the time of our working group meeting how significant this particular evaluation was when -- when it comes to the compensation issue. Is this high on the priority list or is it down a ways? Is it something that we really need to push to -- to get a resolution?

MS. MUNN: And I have the same concern that you have, Gen. My problem is that without a work product like the things that Dr. Anspaugh and Dr. Rollins are producing, without the two to compare I'm at a loss to try to evaluate whether it really and truly is a large enough factor to be taking this kind of resource space.

MR. ROLLINS: This is Gene Rollins again. The -- The first time we responded to this concern I provided to you some tables that gave some examples of dose to various organs under certain assumptions. And the mass loading model that I'm currently working on is -- is probably going to end up on the higher end of the doses that were given to you in those

tables. So if you have the responses that were -- that were sent out on a 7/16/06 document then you can go in there and see doses that would result to various organs for 30 years of exposure. And these are 50-year CEDE doses.

DR. ROESSLER: I don't have that with me. I remember we had it at the work group but what I recall is that those doses were very, very low.

MR. ROLLINS: They are with the exception of certain respiratory organs.

MS. MUNN: And how would you rank those?

MR. ROLLINS: Well, the highest would be the thoracic lymph nodes. And -- And this would be on the upper end of -- of all the types of intakes that we discussed which would be comparable to what my mass loading model is -- is producing now. We're talking -- to the thoracic lymph nodes we're talking six rem. To the lung we're talking one rem. Now, one rem to the lung may sound like a lot but over 30 years, especially if an individual was a smoker, that's not going to do much to the POC.

MS. MUNN: No..

MR. ROLLINS: I really don't see that these would make much of a difference in very many

cases. However, in the instructions that I have recommended to be put into the TBD there are instructions about what to do to minimize and maximize, and when it appears that these doses may make a difference in the probability of causation between compensable and non-compensable. That's when they -- That's when the dose reconstructor has to -- has to sharpen his pencil. And I provide instructions in there about how to do that. So it's really a package that's based on -- it's not going to be just a hardwire thing, you -- you either use it or you don't. But I -- I do have what I think is a simplistic way to over estimate that I believe most of us could agree would be an overestimate. Any underestimate really is not -- is not really an issue. But until we can get it reviewed and in your hands I don't know if we can discuss it. But the point that I'm making is I don't see it as a huge issue from a probability of causation viewpoint. Something else that I would like to point out, and I ran these calculations, that the upper end of the intakes that the current mass loading model is assuming -- let me find that piece of paper

now.

MS. MUNN: While you're looking --

MR. ROLLINS: If you -- If you -- If you assume that the material was a Super Type S material, and these intakes are going to be just for your information a little over 200 becquerels per year for plutonium 239/240. Using the chest count NDAs that were in effect at NTS, if they had constant exposure at that level then chest count would detect it in 1.3 years. And if you were just analyzing urine and it was Type S material, then these large magnitude intakes would be detected after two years of exposure. So I -- I really do believe that these may represent an upper bound.

DR. MAURO: Gene, this is John Mauro. Are we talking about post-'62 or does -- do these statements also apply to --

MR. ROLLINS: This wouldn't -- This wouldn't matter. I'm just talking about plutonium right now and that could be anytime.

DR. MAURO: Okay. Now, the reason I -- I -- I hear what you're saying related to the doses that you're coming up with. You see, I sort of

have an eye on toward the less than 250 -- whatever models and approaches strategy that's developed here, the scenarios and the assumptions. That's going to be our first step toward dealing with internal exposures for less than 250 days.

MR. ROLLINS: Well, internal exposures we're not going to do for the SEC group.

DR. MAURO: But they -- But there is an issue there as it relates to the less than 250 days unless I'm -- unless I'm incorrect. In other words, the day will come when we're going to be looking at resuspension as an issue for people who worked at the Nevada Test Site pre-'60 or pre-'63 for a few weeks, you know, less than the 250 workday time period. And these models in the approach that you're taking would have applicability there. And I guess my -- what I have in my head right now for better or worse is that there might be relatively short periods of time post- above ground test where the exposures from resuspended material could be relatively high for a short period of time, all of which would be missed by either, you know, subsequent urinalysis or chest count. Is that

something that's on the table right now? In other words, am I bringing something up that really is overreaching? Should we only be worried about the post-'62 chronic type of a situation where the short-lived radionuclides have in fact decayed away and we're on into a stable situation? Or are we engaged in a discussion that is going to have implications related to the above ground testing less than 250-day scenarios?

MR. ROLFES: John, this is Mark Rolfes. I believe the less than 250-day issue is being addressed separately and what we are speaking about right now only concerns 1963 forward.

DR. MAURO: Okay. That's very helpful. It does help parse out the problem so that we can deal with it in, you know, appropriately because I think that the -- the less than 250-day pre-'63 resuspension exposure is going to be very important, and the models that are used, the approach that's taken to look at that problem may very well be very different than the way you're coming at the problem let's say for the -- for the more chronic situations post-'62.

DR. ANSPAUGH: This is Lynn Anspaugh and I'd like to remind you that some of these situations may not have been chronic. For example, in area 19 the source term was actually laid down in 1968. And so if you were there in 1968 the situation would have been very different than what you're assuming for the chronic. And likewise if you were in area 11 in 1956 you could have gotten a very big snootful (phonetically) of plutonium.

DR. MAURO: Yeah.

DR. ANSPAUGH: And I'm -- I would venture to guess that it might not have been detected.

MS. MUNN: And that's a potential for significant acute dose, wouldn't it?

MR. ROLLINS: Haven't we already agreed that we can't do internal dose prior to '63?

MS. MUNN: I thought we had pretty much discussed that and come to the conclusion that that was -- right. I thought there was even a comment in our -- in our matrix somewhere to that effect.

MR. ROLLINS: It's my understanding --

DR. MAURO: This is John Mauro. That's correct. And like I said, I may be raising an

issue but I'm thinking in terms of, well, the people, the cohort that's covered pre-'63 has to have worked at the site for more than -- more than 250 work days currently as the current evaluation report stands. And --

MS. MUNN: As the law requires.

DR. MAURO: Right. But we have been asked, and you folks have seen our proposal of work, to look at the -- all these folks that worked at the site for less than 250 days which are automatically excluded from the cohort unless somehow a demonstration can be made that the exposures to those people pre-'63 for less than 250 days could very well have been substantial. And I -- I realize I'm blending -- blending into this conversation the 250 days only because I realize that it's going -- it's going to be very important when we move into that phase of work. And the models that are being developed right now, I just want to make sure it's clear, models that are being looked at and being developed now are in fact being developed not -- not specifically to deal with the pre-'63, although Lynn points out it may also -- we may have some surprises post-'63. I think the

degree to which we all understand what the -- this particular issue is and once Gene finishes the work what its constraints are; that is, it will be used for a particular purpose. And it may not be designed or intended to be used and that's fine, for these pre-'63 short term exposure scenarios.

DR. ROESSLER: Thank you, John. I think that's what we're looking for is when they finish this work, Lynn and Gene, that we have some explanation and evaluation of the significance of it.

MR. ELLIOTT: This is Larry Elliott. Let me try to clarify something here. The -- The class designation that the Secretary has made for pre-1963 Nevada Test Site workers is based on the evaluation reports claim that we find it not feasible to do internal dose reconstruction for that time period. So what -- what Gene is working on now as I understand it will deal with post-1963 intakes.

MR. ROLFES: That's correct, Larry. This is Mark.

MR. ELLIOTT: It was not -- It will not be developed to say -- let me say what it won't do

at this point in time because we're not -- we're not expending resources at this point in time on a site specific basis to attend to health endangerment for less than 250 days.

DR. MAKHIJANI: Okay. John, you know, and -- and Mark -- Mark, I think it really would be helpful if there were a general note with this matrix that says, does not cover any issues relating to internal dose up to December 31, 1962 because of the SEC petition; that none of the new methods will apply to that. And really, you know, John, you -- you and Dr. Anspaugh and I and -- and Jim Melius and the working group will have to define the parameters for what we're going to consider in the development of this less than 250-day issue because, you know, Dr. Anspaugh said this before, that -- that the -- the chronic doses are not the issue. Perhaps in that case it might be the impulse doses, you know, very short term doses like in 1956. And -- And exactly how we're going to consider that should -- should really be developed on -- on its own merits and -- and we need -- we need a chance to look -- look at the -- and Dr. Anspaugh,

you're going to do a separate paper for us on that question, right? That was my understanding that we were going to approach this in two discrete steps. Or are you rolling -- if you're rolling the things into one that's all right, too. I mean we can -- we can look at it.

DR. ANSPAUGH: I intended to roll a lot of stuff into one report.

DR. MAKHIJANI: Oh, okay, fine. All right. Then -- Then -- Then I expect we'll -- we'll see this from you next week and -- and -- and -- and when we're done we can -- we can share that both with Mr. Presley as well as with Dr. Melius so that both working groups can look at it.

MR. PRESLEY: I think that would be a good idea.

DR. MAKHIJANI: Is that okay, John?

DR. MAURO: That's perfect. I just needed that clarification so we know where we are. Thank you. And I -- I'm okay now.

DR. WADE: This is Lew. With regard to the 250-day issue that's still open, that's a question of whether health was endangered for

workers who worked less than an aggregate of 250 days. That's a judgment that the Board will have to make and a recommendation they'll make to the Secretary. It's not that NIOSH is proposing to do partial dose reconstructions to people exposed to less than 250 days so they're very different questions and they really need to be dealt separately. And I -- I realize that there's sort of an overlap of the questions, but you have to keep that clearly in your mind.

MR. PRESLEY: Lew, this is Bob Presley. Let me ask a question. When -- When we do this 250 days or less than 250 days, are we going to make that site specific?

DR. WADE: Really you have to follow the evidence and the materials presented. I don't think there's anything limiting you from being as fine in your definition as the data supports.

MR. PRESLEY: Okay.

MS. MUNN: My memory of discussions that have taken place is that this has focused primarily on the site that we're looking at now because of the different method of -- of employment and

the fact that people actually lived on-site.

DR. WADE: I took Robert's question as site specific to be sites within the Nevada Test Site.

MR. PRESLEY: No. No, what I mean on that is we have the Nevada Test Site and we have the Bikini-Atoll where people lived on site. And then we also have the area up at Amchitka where people lived on site that would be less than 250 days.

DR. WADE: I think these issues as currently identified are -- are being looked at for the Nevada Test Site period for Pacific Proving Grounds period. And then there is an issue for the Ames site that's being looked at. So I mean I think a judgment needs to be rendered on each of those specifically. Whether or not the Board chooses to draw broader conclusions from its efforts and extend them beyond is for the Board to consider. I thought your question was inwardly focused, Robert, to say, might this 250-day judgment be made on sub-areas of the Nevada Test Site. All of that is open to the -- to the Board and the working group's prerogative at this point.

MR. PRESLEY: We can -- We can do the sub-sites too because that's no problem. But I had a -- I was wondering because we had discussed the other sites as well.

DR. WADE: I think the Board will render a judgment on the Nevada Test Site. It will render a separate judgment on Pacific Proving Grounds and a separate judgment on Ames. Now, maybe those judgments will be the same but I think it's appropriate for the Board to take up each in turn.

MR. PRESLEY: Thank you. I agree with that.

MS. MUNN: That certainly is reasonable.

MR. PRESLEY: Yes.

MS. MUNN: It would be a mistake I think to make an -- an overarching statement with respect to the 250-day issue that covers all sites. They're so -- so unique in their character.

DR. WADE: Yes.

MR. PRESLEY: Do we have anything else on Issue 5 then?

DR. MAKHIJANI: Just as a -- John, I think that this is correct. Correct me if I'm wrong -- This is Arjun -- that the proposal as it is

currently written and I believe approved or in the process of approval, and Dr. Melius has seen this I think, is that we would do these three sites -- do a technical study of these three sites, Nevada, BPG and Ames. And if there are any lessons that might be more broadly useful that we would try to draw them technically without arriving at any -- it's not -- I understand that we're not making any policy judgments or anything and are not authorized to go there. But if there are any technical pointers that we -- we might draw some technical conclusions as to what areas of inquiry or how -- what the procedure might be to address this issue at other sites. I do believe that that much generalization potentially is part of the current scope of work as I understand it.

DR. MAURO: Yes, Arjun, you're correct. That language is in fact in our proposal of work and certainly the full Board has our proposal before them; if there's any aspect of that proposal of work that's overreaching -- we've been there before. We will, you know, make the appropriate changes. But right now certainly

at a minimum we are going to look very closely at what the potential short term doses, high end doses might be at the three loca-- facilities and characterize them. Say this -- whether they're external, whether they're internal, and the magnitude of the -- the annual doses and the committed doses. And -- And then that story will be told. What it means in terms of whether or not that constitutes something that one would consider comparable to a criticality exposure, that's -- that's going to be a subject that I think the working group and the Board will, you know, be engaged in. The degree to which, you know, we take it a step further and say, okay, here's the results of our investigations which will be just quantitative or semi-quantitative in terms of doses and durations of exposure, you know, time periods over which they occur. Then taking it that next step is really -- if you'd like us to try to reach some generalizations of what we found that might be helpful, great. We can try to do that. Or if you feel as if it would be overreaching we certainly will withdraw that.

DR. WADE: This is Lew. I don't want to pre-judge that, John. I -- I think it's just important that we look at what needs to be done at -- at a minimum and that is the Board will need to render judgments on those three sites individually. Beyond that I leave it to the Board's wisdom in terms of how it might want to provide guidance. But it's critical that the Board be in a position to render judgment on each of those three sites individually.

MR. PRESLEY: Thank you, Lew. Any more comments?

MR. CLAWSON: Bob, this is Brad Clawson. Is there any time frame that we have got set for the group to be able to look into this 250 days? The only reason I throw that out is it sure seems like this is coming up an awful lot. It seems like a stumbling block every time we kind of address it. And I was just wondering if there's any kind of in the foreseen future the opportunity for this group to be able to get together?

DR. WADE: I think there is pressure for the group to get together. I mean you have to understand that this was waiting the clearance

of the issues with regard to SC&A's conflicts so we started a bit behind. But I know that Dr. Melius, the chair of the working group, feels the pressure and is looking at scheduling an interaction as soon as possible.

MR. CLAWSON: Okay.

MR. PRESLEY: Are we looking for something prior to our meeting in Nevada or are we looking for something after the Nevada meeting, Lew?

DR. WADE: I don't want to pre-judge. I mean my hope is before but I don't want to pre-judge what reality would actually be.

MR. PRESLEY: I understand. We have a lot to do before -- before Nevada as it is.

DR. WADE: I understand.

MR. PRESLEY: Okay. Any more comments on Response 5, Comment 5?

(No response)

COMMENT 6: AIR CONCENTRATION VALUES

MR. PRESLEY: Let's move on to Number 6; the issue had air concentration values and this is one that SC&A agreed with NIOSH's belief that dose reconstruction involved ambient internal dose at the test site and there was no further

action required on this subject. Anybody have any more comments?

DR. MAKHIJANI: Isn't this part of the resuspension review? I'm a little confused.

MR. PRESLEY: I don't think so. Not on this one.

MR. ROLLINS: This is Gene Rollins. I think we'll find that it is part of the resuspension model -- I mean of the mass loading model. And it'll probably hinge to some degree on some of the -- some of the work that Dr. Anspaugh is doing.

DR. MAKHIJANI: Okay.

MR. ROLLINS: I think we'll find that's true or at least that's what my notes indicate for -- for our response to Comment 7 also.

DR. MAKHIJANI: Yes, because it says here resolution will be included in work performed for Item 5. In Item 6 in the middle column you wrote resolution will be included in work performed for --

MR. ROLLINS: I think if I -- if I could come up with a model that we can agree on is bounding, then I think that takes -- that will take care of Comments 6 and 7.

DR. MAKHIJANI: I agree. I had a question about the column 2 in the middle where you say table 4.2.2-3 represents a reasonable underestimate. Actually what is a reasonable underestimate? I thought we did reasonable or best estimates and maximum estimates and minimum estimates. I have not come across reasonable underestimates before.

MR. ROLLINS: That may have been just me trying to find the right word to describe it but the minimum intakes represent trivial doses to all organs.

DR. MAKHIJANI: Okay. Yeah, because this is not a category that belongs in the regulation. But for compensable cases you're supposed to make a best estimate giving the claimant the benefit of the doubt. But an underestimate doesn't do that.

MR. ROLLINS: The -- The revised guidance that I have proposed basically says for compensable cases we need not consider these intakes.

MS. MUNN: And Arjun, one of the --

DR. MAKHIJANI: Oh, okay.

MS. MUNN: One of the concerns some have is with respect to unreasonable overestimates and

underestimates regardless of which is being done. I guess the -- again we're probably hung up a little bit on our own wording and the way we use terms in one group as opposed to the way we use terms in another group. That -- That was one that made perfect sense to me. But I can understand why you have concern with the language.

DR. MAKHIJANI: Yeah, I -- I -- I agree with you regarding unreasonable either way. We should not be making unreasonable estimates in either direction because the idea should be scientifically sound. But I -- this -- I had not come across this term before and so I got puzzled by it. Maybe it's one of those editorial things. Maybe Larry can clarify where this belongs in the larger scheme of things.

MS. MUNN: We probably need to consult a (unintelligible).

MR. ROLLINS: This is Gene Rollins. Don't read too much into that word because that was just whatever happened to come off -- came off the end of my pencil when I wrote it.

MS. MUNN: Well, that would have been the same

word that came off the end of my pencil had I been writing it but the way we were using the term perhaps we -- perhaps Arjun has a point. It might be wise for us to adjust the term just a little bit.

MR. PRESLEY: Gene, this is Bob Presley. Can you -- Can you do that? Can you look for a better word there than unacceptable?

MR. ROLLINS: How about reasonable? Reasonable underestimate.

MR. PRESLEY: Yeah, reasonable underestimate.

MR. ROLLINS: What if we just take the word reasonable out, just say underestimate?

MR. PRESLEY: That's fine. Does anybody have a problem with that?

MS. MUNN: Well, the only --

MR. ELLIOTT: I'm lost. I'm trying to figure out where -- where this reference is. Can you help me out Arjun or somebody?

DR. MAKHIJANI: Page 11, Larry, in column 2 in the middle.

MR. ELLIOTT: Comment 6 or Comment 7?

MS. MUNN: Response 6, halfway down. Page 11, response 6, halfway down, column 2 under NIOSH Response. Table 4.2.2-3.

MR. ELLIOTT: Okay. Is this the second column?
DR. MAKHIJANI: Yes.
MS. MUNN: Uh-huh. Yes, under NIOSH Response. First column is SC&A Comment Summary. Then it's NIOSH Response.
MR. ELLIOTT: Represent a reasonable overestimate?
MS. MUNN: No, that's under it.
DR. MAKHIJANI: That's a little bit further down.
MS. MUNN: That's two lines above it.
MR. ELLIOTT: Represent a reasonable underestimate.
MS. MUNN: Reasonable underestimate. And I, as I said, I understand that but the way we've been using reasonable in a more --
MR. ELLIOTT: I think it's best if you just delete reasonable and then it would read correct I believe. Read, represent an underestimate.
DR. MAKHIJANI: That would correspond to the minimum dose, right?
MR. ELLIOTT: Right, right. If the claim is compensable just based on the dose at hand that's an under -- underestimate.

MR. ROLLINS: Then we'll just remove the word reasonable from the response there.

MR. PRESLEY: Thank you, Lynn (sic).

MR. ELLIOTT: I think the word reasonable is appropriate when used in conjunction with overestimate. We want to make sure that our overestimates are plausible and reasonable.

MS. MUNN: Hey, you just used a good word. You just used the word that would be -- well, it would certainly be acceptable to me and I think have the same connotation. A plausible underestimate.

MR. PRESLEY: Right.

MS. MUNN: May we put plausible instead of reasonable? We can use reasonable overestimates and plausible underestimates.

DR. MAKHIJANI: I -- I am really confused by this discussion because the regulations specified three different kinds of doses and here we've got only two. And that's part of my confusion is that the best estimate in which you give some benefit of the doubt in terms of parameters which makes an overestimate but it's not a maximum efficiency type of estimate. And then there's a minimum efficiency type of

estimate. And the thing that is confusing me is here we've got a whole new lexicon that is replacing our regulatory lexicon that we've been dealing with for all this time. And -- And it's con-- that's -- and there are only two terms here where in -- in the actual regulation I presume, in the way the calculations are being done, there are three different types of calculations.

MR. ELLIOTT: Well, in the regulation we only talked about efficiency measures and best estimate doses.

DR. MAKHIJANI: Right. But there are two efficiency methods.

MR. ELLIOTT: The efficiency methods would cover an underestimate or an overestimate.

DR. MAKHIJANI: Yes. But here there is no -- not -- no talk of a best estimate.

MR. ELLIOTT: That's true. Yes, you're right, Arjun.

DR. MAKHIJANI: So that's what's confusing me is they only talk about a method for efficiency as I understand it, and that's okay, if that's -- that's the intent. And that we're not doing anything for best estimate in this context.

That's -- That's my question I guess is that is this going to apply only to minimum and maximum cases or is it going to be -- include the best estimate type of case?

MR. ELLIOTT: No, a best estimate dose reconstruction would in and of its nature consider all types of radiation dose. And certainly I think this comment deals with the average air concentration values. And so in a best estimate sense we'd want to include that. So I think that -- I think this needs to be re-couched to reflect how this information would be used in any type of dose reconstruction whether it be an efficiency measure or a best estimate case.

MR. ROLLINS: This is Gene Rollins. That information and that guidance has been proposed in my revision that hopefully you'll be seeing soon.

MR. ELLIOTT: Okay.

MR. ROLLINS: That was not meant to be done in this matrix.

DR. MAKHIJANI: Okay.

MS. MUNN: And Arjun, I don't think there is any question in anyone's mind with respect to

the, as you stated, the lexicon of the -- of the statute and what we're doing here, of the guidance that we're following. But if we see this language as explanatory rather than specifically related to the guidance then from a purely explanatory point of view when a person like me reads it, I see plausible underestimate; that means something very clear to me. It doesn't have anything to do with the guidance that's being followed. That's just an explanation of whether or not this is in fact a reasonable number to use for an underestimate or an overestimate either for that matter.

DR. MAKHIJANI: Ms. Munn, I agree with you. I think I'm clear after what Larry said. I have no problem now.

MR. ELLIOTT: I think the sentence that I guess this is Gene's wording; or I don't know whose wording it is but, you know, this is -- and later on in that same passage it says for cases where compensability is affected by the maximum intake a dose reconstructor must make every effort to obtain work locations and apply intakes for those locations provided in Table 4.2.2.2. To me that goes to the best estimate

issue.

MS. MUNN: Agreed.

DR. MAKHIJANI: All right. I guess I -- I -- I guess I just got confused. I'm -- Yeah.

MR. ELLIOTT: It's easy to get hung up on words, isn't it?

MS. MUNN: It sure is. Semantics just kills us.

MR. PRESLEY: Moving right along --

MS. MUNN: Please do.

COMMENT 7: RESUSPENSION OF DOSE

MR. PRESLEY: Comment 7 has to do again with resuspension of dose. And again I think that what we did here with 6 also applies to 7; is that correct?

MS. MUNN: And it's all in the draft response that's in internal review right now, correct?

MR. PRESLEY: That's, as I understand it, that is correct.

DR. MAURO: This is John. Yes, I see that I guess 5, 6, and 7 are all -- all the same cloth. And once we get through this process with Lynn and -- and Gene we'll probably be able to address all three issues.

MR. PRESLEY: Okay. That'd be great.

COMMENT 8: EXTERNAL DOSE FOR 1963 TO 1966

MR. PRESLEY: Comment 8 has to do with external dose for 1963 to 1966, that it is not claimant favorable. And NIOSH agrees -- or SC&A agrees with NIOSH's response and we have no further action required. Does anybody have a question with this?

MS. MUNN: This is another one of those issues we discussed earlier that leaves us with the understanding that some change is going to take place but we don't have the feedback mechanism for the Board to be aware that -- when it's complete.

MR. PRESLEY: That's correct. Arjun, do you have any -- any other response on this?

DR. MAKHIJANI: No, Mr. Presley, I don't.

MR. PRESLEY: All right.

COMMENT 9: ENVIRONMENTAL EXTERNAL DOSE, 1968 TO 1976

MR. PRESLEY: How about let's go back -- go down to 9, lack of internal environmental dose for '68 through '76.

DR. MAKHIJANI: External.

MR. PRESLEY: External I mean. I'm sorry. SC&A agreed with NIOSH's response and we had no further action required. Anybody have

anything?

MS. MUNN: From the matrix it shows completed.

MR. PRESLEY: Right.

DR. MAURO: This is John Mauro. I just want to point out the reason this is a non-problem is universal badging beginning in ’57.

MS. MUNN: Uh-huh.

MR. PRESLEY: That's correct.

DR. MAURO: Universal badging puts us in a position -- puts us all in a very good position to address external doses.

MS. MUNN: Yeah.

DR. MAURO: I guess this would be partial dose reconstructions for pre-’63 people and post-’63. So the key here is this universal badging after 1957. The degree to which -- so we’re -- we’re in agree-- we’re in agreement that that certainly will solve the problem with universal badging. The degree to which the Board or the working group would like us to look into that data set, that statement, you know, we’re -- at this time we’re not taking any action; we’ll look for direction from the Board as to whether or not you’d like us to follow up, perhaps going on the O drive and looking at that data.

That -- The type of thing we're doing, for example, at Rocky in terms of following up on data sets for air sampling and urinalysis and that sort of thing.

MS. MUNN: This is true of Comment 9 and Comment 10; is that correct?

MR. PRESLEY: That's what I was going to say. Nine and 10 are almost the same thing.

MS. MUNN: John raises a good issue with respect to whether or not the Board is going to feel follow-up is required with respect to the data itself. This is a bit of a sticky wicket and it's both a time consuming issue and almost an ethical issue in terms of the reliability of the data. I have a tendency to feel that unless there are very clear evidence cited which leads us to believe that there's some sort of pervasive shortcoming in this data, that we can spend an enormous amount of time looking at it and find some shortcomings one place or another but seldom find any ongoing, continual site-wide problems with data reporting. I don't know how the rest of the working group feels about that. Certainly in some other working groups an enormous amount of

time has been spent on this question.

DR. MAURO: Wanda, I can help add a little bit. You'll see as we move on, as we move into Comment 10 and 11, the fact that we have universal badging post-'57, and then of course the implications being we can -- all -- all workers and all claimants who, you know -- where you would want to do a partial dose reconstruction. But there's still issues related to, for example, correction factors associated with Number 11. There are issues related to Number -- Comment 10 which have to do with co-worker models where you're going to use the post-'50 to '57 data as a surrogate for pre-'57 external exposures. So I -- All I want to do is alert the working group that this universal monitoring of data, film badge data for all workers post-'57 -- '57 and onward is a rock that we're all going to stand on and -- because from there everything will flow. And the working group and the Board has to be confident and comfortable with -- with that rock.

MR. PRESLEY: John, this is Bob Presley. I know we're on 9 but when you get into 10 the

working group asked NIOSH to develop a co-worker model for workers from ’51 to ’57.

DR. MAURO: Right.

MR. PRESLEY: And I’m just wondering if this could be used, if they -- if NIOSH does this then if we could go back and look at this and use it as a model to say that yeah, everything is going to be all right to use this data after 1957.

DR. MAKHIJANI: Well, this is Arjun. I think -- I think this -- this -- the -- the -- problem of data integrity regarding what’s on the badges and what portion of the worker’s dose was actually recorded on the badge because they were taking it off because of work rules and financial incentives, has come up as a -- an important problem in all of our worker site expert interviews. It came up when Kathy DeMers and Tom Bell went to Nevada and interviewed Martha DeMar (phonetically) and her colleagues completely independent, as one set, and they came up also quite strongly when I interviewed Mr. Brady who unfortunately passed away in -- in July. And -- And, you know, I -- I think -- I think NIOSH’s proposal to

examine statistically whether there is a problem or not appears reasonable. But I made this comment at the last working group meeting that I think -- I think this evidence has been -- we do need to determine how pervasive it was if -- if that can be done. But this evidence has been -- not been put forward as an anecdotal piece of evidence. It's been put forward by the responsible health physics authorities on the site, the site experts. And if we are going to disregard it I think the introduction of site expert evidence by NIOSH as for instance in Bethlehem Steel as regards the integrity of how the air sampling was done, would also be in question because it is exactly the same type of evidence. And because it was from the experts who were responsible for doing that thing at that time. And I -- I just don't see -- it's -- it's quite different than somebody down in the trenches doing one thing and not being responsible for health physics. Or for instance taking what Roger Falk said about Rocky Flats seriously because he was the responsible health physics official for internal dose at the time and had a big picture

view, worked in the labs, took the samples and so on. I mean I'm presuming he did all that. So I -- I think that -- I think that this -- this piece of evidence for Nevada is different than other pieces of evidence because of how systematically it has come forth and from whom it has come forth in my opinion.

MS. MUNN: Arjun, you and I have had a brief exchange about this kind of thing before, and as I tried to point out then, not very well as I now find having read the transcript of that, I do believe that you're going to find these kinds of stories on almost every site that you visit. And it is I believe fair to say many such stories were told routinely as a part of the macho image that many of our workers liked to present. This I know from my own experience listening to the stories and listening to people talk about the way they went about doing their job. It was considered a manly man thing to do and there was no hesitance about bragging about not always using your badge in the way that it was intended; whether you had been instructed to do so or not was a secondary issue. The question arises how much effort

needs to be put into identifying how pervasive that was when I don't know that there is any way we can actually determine that. Nor is there any way that we can assess who did and who did not actually do such things. It's a little bit like locker room talk. You hear a lot of stories that's very hard to get to the real truth of. So the question becomes really how much effort needs -- do we need to officially devote to tracking these issues? Certainly they need to be tracked; no question about that. But there's an issue with respect to how much checking needs to be done and how it needs to be done if we are going to make the best possible use of our time and try to be as realistic as possible in addressing these very human issues which affect all of the sites.

MR. PRESLEY: Wanda's got a real -- This is Bob Presley. Wanda's got a real good point there, you know. I've -- I've heard this stuff and been around it for years. I honestly think that things like this are -- let's see. How do I say this? They may have happened but they didn't happen as much as a lot of people would lead us to think. And I don't know how

much effort that we really need to put into something like this.

MS. MUNN: I certainly agree with Arjun that we need to address it. This needs to be addressed. The issue is to what depth and how much.

DR. MAKHIJANI: Ms. Munn, I mean that's all -- all I was trying to say. And of course, how much effort, this is entirely the Board's discretion, especially as it concerns somebody like me or -- or John or SC&A.

MR. ELLIOTT: Arjun, this is Larry Elliott. I heard you say that you had indication of this coming from the health physics experts there at the site. Can you name those for us or --

DR. MAKHIJANI: Oh, yes. I thought I did. It was Jay Brady.

MR. ELLIOTT: Okay, Jay Brady.

DR. MAKHIJANI: And also I believe it is -- if I -- now, this is from memory, Larry. I believe it is also documented in the interviews that -- that Kathy DeMers and Tom Bell did with Martha DeMar and her group. I was not present there and the last time I looked at it sometime back. I will check the conversation there.

MR. ELLIOTT: I think your -- with me your point is well taken. If there are people who were in the monitoring program that observed this or, you know, we'd like to know who those folks are so that we can --

DR. MAKHIJANI: Yeah.

MR. ELLIOTT: -- talk to them about it --

DR. MAKHIJANI: Right.

MR. ELLIOTT: -- to determine how pervasive it was, whether it was localized in a certain era, time frames or certain facilities or what -- what -- what triggered, you know, this kind of a -- of an action to tell a worker to park their badge and not wear it for a day or two. I think we also need to -- I agree. We need to treat this -- we need to address this -- this as a general issue and -- and I'm not sure, you know, how best to go about doing that but I would offer this for the working group's consideration. I -- I think it goes to an understanding, trying to arrive and achieve an understanding of what impact this might have on an individual's dose reconstruction. And from that point I think -- I think you can quickly hone in on the most likely type of dose

reconstruction where this might have an impact; it would be a best estimate. And from there how many days would this have occurred and what kind of exposure was not really monitored by -- by this type of behavior? So I think we have to speak to all of those aspects when -- when we address this.

MS. MUNN: Larry, there was a considerable conversation about -- I shouldn't say considerable -- some conversation about this in -- you might find in earlier transcripts where SC&A was talking to us about Brady's assertions during their interviews with him. And it's enlightening to hear those but not particularly surprising I think, although as Arjun points out, having an individual who was responsible for some of these activities to make some statements like that is a fairly weighty thing.

MR. ELLIOTT: Uh-huh.

MS. MUNN: It's unfortunate that he's no longer with us but that is one -- I -- I wouldn't be surprised that SC&A would have the transcript or at least their notes with their conversation with him. It might be helpful for you and your group to take a look at those notes if you --

Arjun, have they been provided for NIOSH already, Brady's notes?

DR. MAKHIJANI: Ms. Munn, the -- the -- as I said, this came up independently in two reviews. I'm looking at them now. Attachment 4 of our site expert interviews consists of a summary where the site experts are not identified but as I said, I believe that Ms. DeMar was one of them. And I think that NIOSH has also extensively been in contact with her in their TBD review process. And the -- And the -- that's in our site profile review.

MS. MUNN: Okay. I knew I'd read it somewhere. I just didn't know where.

DR. MAKHIJANI: Yeah. Mr. Brady's interview is also on our site profile review. Now, in regard to the site expert interviews, we have more detail, we have the individual interviews that were conducted and that went through a declassification review -- well, all of it went through a declassification review but the individual interview records are much more extensive than the master summary and -- and -- and I presume that we could provide that to the Board and to NIOSH. I believe that they --

they should be in a proofread condition to be provided.

MS. MUNN: Good.

DR. MAKHIJANI: And if -- if you would like I will -- I will call Kathy and review them and have them sent along.

MS. MUNN: Would that be helpful for you, Larry?

MR. ELLIOTT: Oh, yes. Yeah, it'd be most helpful, Arjun, if you could, you know, make sure Mark's aware of where he can access this to share with the site profile group.

DR. MAKHIJANI: Well, should -- should I, John -- somebody give me some guidance here.

DR. MAURO: Yes. The only -- Arjun, the only thing to keep in mind is the -- the notes themselves that you folks took, as I recall some individuals did not want -- I guess if we treat this as Privacy Act information; I'm not sure. The fact that some of the interviewees would have preferred us not to name them, not to reveal their names.

DR. MAKHIJANI: Well, that's true. How do we handle that?

DR. MAURO: Now, in your notes, though, the

names are there I presume.

DR. MAKHIJANI: Yes. We normally, unless we have explicit permission from the interviewee we normally don't publish the names. We sometimes do publish and I -- I personally when I make interviews I do try to get the permission from the interviewee to publish their name because -- because the whole process becomes easier for all of us that way. But -- But I think that many interviews have been published without the names because of that. I do not know from Nevada Test Site who -- who were the people who might have requested this because I didn't go through the whole process. Kathy DeMers did that.

MS. HOMOKI-TITUS: Can I just remind you that as employees of Health and Human Services there shouldn't be any privacy concerns with sharing names with NIOSH or with Board members, although I realize you can't make them public.

DR. MAKHIJANI: Yeah, my -- my question goes to just our own interview process where, not as a matter of privacy but where we tell people that we will only publish their -- they might be afraid of I don't know, job issues or anything

like that. I'm not quite sure how that is to be handled and whether we should --

MS. MUNN: No, but by the same token it's very difficult for people in the position of overviewing what has transpired to take very seriously any significant quantity of anonymous data. You know, it's --

DR. MAKHIJANI: Yeah.

MS. MUNN: -- that's pretty hard to do.

DR. MAKHIJANI: Yeah, I mean we have the notes. I -- I -- And --

MS. MUNN: Oh, I understand.

DR. MAKHIJANI: I'm happy to have whatever guidance. And they were -- they were produced under -- under the -- under the request of the Board obviously. And so I just -- I just needed some guidance because we -- we've conducted them on one basis and perhaps we need to go back to them and tell them that we're doing this or -- or something.

MS. MUNN: It would be helpful I think to be -- to be up front about individuals who maintain that improper procedures were followed and that they were a part of it. That would -- I think be part and parcel of accepting this statement

as being realistic.

DR. MAKHIJANI: Yeah, Mr. Brady did say that he was a part of it and --

MS. MUNN: Yes.

DR. MAKHIJANI: -- in his interview.

MS. MUNN: I remember that.

DR. MAKHIJANI: I do not believe that any of the others said they were a part of it. I think they just said that these things -- or some of them may not have gone back. I think we did identify the time frame. This -- This is not alleged to be a current problem or --

MS. MUNN: No.

DR. MAKHIJANI: -- or recent memory problem. It's a problem that's supposed to have gone on maybe to the mid-'60s or the early '70s. It's sort of -- the end date is unclear but -- but it seems by general agreement that -- or by the testimony of the people that -- that this stopped sometime three decades or more ago.

MS. MUNN: Yeah, in early times it was common locker talk, that's true.

DR. ROESSLER: This is -- This is Gen. It seems Wanda has brought up a very important issue and we're basing an awful lot on what one

person has said; we can no longer ask him any further questions. I'm just wondering if there -- I just think we need to go a little bit further on this and identify other people who are willing to have their names go on the record who would provide information in support of Mr. Brady.

MR. CLAWSON: This is Clawson. Didn't we have some of these things, when these people did this, as an affidavit? I guess me and Wanda's got into this a little bit before. I keep hearing the terminology that we have a expert. And basically I take a little offense because I can tell you right now I know more about my facility than my health physicist does because I just had to escort mine through the facility but he wrote my whole site profile for it. One of the things that we've got to be able to do, and what we've been chartered with to do is to be able to get the information and get it as most correct as possible, and in doing this we need to look at all avenues. And a lot of times -- what's the old expression, that if it -- if it looks like it nine times out of ten it is it. It may be locker room talk but usually

there's good reason for that locker room talk.

DR. MAKHIJANI: Also, Ms. Roessler, the -- the -- the -- this is not just one person and that was the reason for my statement. It was -- Mr. Brady was or did retire as a principal health physicist. He was there almost throughout the whole period of testing. And this also came from other health physics ex-site personnel who were interviewed, which is also documented in our review, so this came independently from two separate directions from the health physics people. And my specific -- I mean Mr. Clawson's concern is an important type of concern and -- and the one I was expressing was complimentary to that I think, is that if these views are not taken seriously I think it will have some implication for a lot of other conclusions and documentation that has been put forward on the same basis for demonstrating that dose reconstruction is feasible.

DR. ROESSLER: Well, I'm -- I'm suggesting that we do need to take it seriously, but I'm looking for other names or other support for Mr. Brady's statement.

DR. MAKHIJANI: Oh, yes. I -- I -- And I'm

not suggesting anything otherwise.

DR. ANSPAUGH: This is Lynn Anspaugh. I'd just like to comment that there are certain time periods and certain activities where this was much more likely to have occurred than others. And I think we can narrow down the time period, the activities and the people potentially engaged in this practice by doing a little more work.

DR. ROESSLER: That's what I would support. I think we need more work. Right now it seems like there's a big question hanging there.

MS. MUNN: But the bottom line, the issue that we as a working group need to address and address today is how much effort, how much detail are we asking anyone to put forth? That's the real question. Not what -- I think from our conversation it appears there's a general consensus that it needs more looking at. The question here is how much looking at? Because some of the other working groups have gone into such extensive looking at that we run into serious trouble in trying to accomplish some degree of closure.

MR. ELLIOTT: Wanda, this is Larry Elliott. If

I -- If I could make a comment here I'd -- I'd sure like to, and it goes -- my comment goes to the use of the term affidavits. And I don't want us to get -- I don't want people on the working group or supporting the working group to get confused about affidavits. I'm not sure if SC&A in doing their interviews -- maybe John or Arjun can speak to this -- if they -- if they treat that interview process in a similar manner as acquiring an affidavit type of testimony.

DR. MAKHIJANI: No.

MR. ELLIOTT: When we use affidavits -- when we take affidavits, either in a -- in a -- the computer assisted telephone interview of a co-worker for a survivor or a claimant, there is a -- there is a acknowledgement that the information is being provided as truth. Otherwise it's considered, you know -- it could bring repercussions as being, you know, fraudulent and --

MS. MUNN: Correct.

MR. ELLIOTT: -- and that. And so we take that very seriously when we do the computer assisted telephone interviews. Or if we -- if we talk

to workers and we -- and they want to give us this kind of information, then when we start talking about affidavits to attest to the veracity of the -- of the input we find that gets to be very -- very tenuous.

MS. MUNN: Yes.

MR. ELLIOTT: Some people walk away, won't -- won't --

MS. MUNN: Won't do that.

MR. ELLIOTT: Won't attest to the veracity of the information they're giving, while others will. So I would just offer that. I -- I don't know. Has SC&A approached these with an affidavit-like interest or --

DR. MAKHIJANI: No.

MR. ELLIOTT: -- are these just --

DR. MAKHIJANI: At least I have never told anybody I'm interviewing that this is equivalent to a legal type of setting. I -- I -- I trust that the person is giving me the best --

MR. ELLIOTT: Sure.

DR. MAKHIJANI: -- of what they know and their memory, and we provide if our -- our normal process is to do the interview, document it in

notes, and provide the notes to the interviewee for correction. And if, you know, the -- if it's in a certain type of facility then it goes through a declassification process.

MR. ELLIOTT: And I think that's perfectly the appropriate way to handle it, Arjun. I don't like getting legal with these folks either. It chills -- It chills many folks.

DR. MAKHIJANI: Exactly.

MR. ELLIOTT: They won't -- don't want to contribute. And I think we do need to have their contribution. But I would offer that at a point in time where let's say the Department of Labor is following up on the eligibility of an individual, they're very strong on the use of affidavits and whether or not that leads to fraudulent or perjury, you know, in the actions of the -- of the interview, you know, I just think we need to keep that all in mind. I don't want to see us, you know, force ourselves to use affidavits to -- to achieve a test of verifying the -- the contribution that's being made. But I do want to make sure that everybody understands how that word affidavit is used in the program.

DR. MAKHIJANI: Yeah, Larry, this is an explanation for -- I've said how we do it, and generally in my experience, the use that we make in our conclusions is that we don't treat any of the materials in the interviews as true or not true. To the extent possible within the context of the review we -- we might try to verify it or document it or raise it as a concern. In this particular case what I did was I -- I looked at whether there was any supporting evidence in terms of why this was being done, and there was. There's a -- There's a -- There's a historical record that there were pay practices associated with being in forward areas and people were afraid of being laid off or -- or sent back to non-radiation work which was lesser paid. That is reasonably well documented. And -- And so where we left it was not at a conclusion that this actually happened, but this was an issue in dose reconstruction that needed to be addressed before you could be confident that -- that you had a set of data that was good.

MR. ELLIOTT: I understand and I applaud you. I think your approach is appropriate. And

we'll make the best use of it as we can.

DR. MAKHIJANI: Right.

DR. WADE: Excuse me. This is Lew. I've got to get out. I'm in a security situation here at the airport so I'm going to have to break away. Liz and Larry, I will leave it to you, okay?

MR. ELLIOTT: Okay.

MS. MUNN: What airport are you in, Lew?

DR. WADE: Cincinnati Airport, and something's going on. I don't know if you can hear the ruckus in the background.

MS. MUNN: Yeah, we can hear the ruckus.

DR. WADE: Sorry.

MS. MUNN: Good luck.

MR. ELLIOTT: Get outside the gates, Lew.

DR. WADE: Yeah.

COMMENT 10: PRE-1963 EXTERNAL ENVIRONMENTAL DOSE

MR. PRESLEY: Okay. In response to Comment 9 and 10, I don't think we have any further action for 9. But if NIOSH could get with SC&A to make this model and use the comments that SC&A has, I think that that would probably satisfy the working group with the outcome; is that correct?

MS. MUNN: Well, we have Comment 10 is shown on the matrix as completed now so I guess we -- if -- if that's correct it was -- I thought it was correct when I read it.

MR. PRESLEY: Well, now, what I have on Comment 10 says it has to do with the after the 1957 all workers were badged.

MS. MUNN: Uh-huh.

MR. PRESLEY: But NIOSH did agree to develop a co-worker model for workers from 1951 through 1957 --

MS. MUNN: Uh-huh.

MR. PRESLEY: -- through April 1st, '57.

MS. MUNN: Right.

MR. PRESLEY: And if they could work with SC&A with what comments they have it might be a -- that document that would come out of that a co-worker model might have to work through in our deliberations as far as the badging and the -- the -- the need for additional environ-- or external dose data.

MS. MUNN: So you just see that as a delivery item before we close out. Would that be correct?

MR. PRESLEY: I -- I do now. I sure do.

MS. MUNN: Rather than as a follow-up item that falls into the category of needing to be tracked.

MR. ELLIOTT: How close are we, Gene, on a co-worker model?

MR. ROLLINS: Cheryl, are you on the line?

MS. SMITH: Yes, I am. There was a revision to the TBD, the external, Section 6, TBD, that included a workup and an average co-worker dose that could be assigned for the years ’51 to ’57. And I don't know where that is in the review process.

MR. ELLIOTT: Okay. Well, maybe you can check and Mark can check and we’ll -- we’ll ascertain where -- what the status is and how quickly we can --

DR. MAURO: This is John Mauro. This is -- hearkens back to what we talked about before. I think -- I think we’re all in agreement that there is a -- there is a need for a co-worker model. NIOSH agrees and we felt the same way. NIOSH is moving forward with a co-worker model so there really is -- there really is no disagreement at this time. There is agreement that this is -- this -- this in fact is an

issue. And it's being -- And we all agree that it needs to be dealt with and it is being dealt with. Now, this goes back again to the question, okay, once it is put in place; you know, we have had lots of experience now involving looking at co-worker models and in some cases we've agreed, yes, that looks like -- it looks fine and -- but in other places we came away -- we're still struggling with a co-worker model on Y-12 for example. So it's really in the hands of the working group how to sort of I guess package this. Yes, this is completed. The co-worker model is being -- is going forward. Everyone's comfortable with that. Whether or not we're all going to be comfortable with the final form that model takes, that's -- maybe that should be something that -- I don't know whether that's part of this matrix or something else. And that goes toward the very beginning of this conversation when Lew had mentioned we really haven't come to grips with this aspect of the closeout process.

MS. MUNN: That was my concern, John.

MR. PRESLEY: Yeah.

MS. MUNN: But it looks like this item is closed for the most part for us. It's just that as Bob says, he -- if there's -- if there are implications in the final model for other parts of -- of what we're looking at and it behooves us to be very interested in when that co-worker model is going to be available.

MR. PRESLEY: This is Bob Presley. I think what we need to do is -- is that may be something that somebody from NIOSH can report on when we get to Nevada is when that would be -- could be made available to the working group.

MR. ELLIOTT: I don't know if we can make it by Nevada.

MR. PRESLEY: No, no. Just give us an update, Larry.

MR. ELLIOTT: Okay. An update, that's fine.

MR. PRESLEY: You all have --

MR. ELLIOTT: As you might expect, with Jim Neton's absence we're -- we're scrambling here to fill all the gaps and holes, and I don't want to take on something I, you know, I would hate to commit to here.

MR. PRESLEY: No, no. That's fine.

MR. ELLIOTT: I'll have a status for you.

MR. PRESLEY: I don't see that we're going to be able to make any kind of commitment on the NTS anyway. We just got too many things -- too many things going.

MS. MUNN: Too many things still outstanding.

MR. PRESLEY: That's correct.

MS. MUNN: And you're right, Larry. Jim leaves some pretty big holes when he's gone.

MR. PRESLEY: Is everybody content with Comment 9 and 10 and ready to move on to 11?

DR. MAKHIJANI: I am, Mr. Presley.

MR. ROLFES: Bob, this is Mark.

MR. PRESLEY: Yes, Mark.

MR. ROLFES: I'll see if I can get you an update in the next couple of days. I can check into this and see if I can send out an email --

MR. PRESLEY: That'd be great.

MR. ROLFES: -- something like that.

MR. PRESLEY: That'd be wonderful.

MR. ROLFES: Okay. Great.

COMMENT 11: GEOMETRY OF ORGANS RELATED TO BADGE

MR. PRESLEY: Comment 11 has to do with the external environmental dose due to the geometry of organs related to the badge. There were

one, two, three, four, five responses to this. Anybody have anything on Response a, NIOSH will develop a corrective -- a correction action or a correction factor for this?

MS. MUNN: Appears reasonable to me.

MR. PRESLEY: Okay.

MR. ELLIOTT: Bob, this is Larry. Just a suggestion. Maybe instead of going through each one of these if we could just pick up a comment and -- and if you could see if there's any news to report, any status update to be given, or if there are any questions relevant to what has already been put to paper here.

MR. PRESLEY: That's good.

MR. ELLIOTT: I mean just for the sake of time I'd like to see if --

MR. PRESLEY: Yeah, and we are running way late.

MR. ELLIOTT: Yeah. Well, I don't know when -- how long is this call open for, Mark? Is this just --

MR. ROLFES: Well, it's scheduled until 5:00 p.m. and so --

MR. ELLIOTT: Okay. Because at some point the -- the conference line will drop and I wasn't

sure when; so we got until 5:00. Good.

MR. PRESLEY: Has anybody got anything to add to the -- to the -- any of the responses for Comment 11?

DR. MAURO: This is John Mauro. Only one thing, and it's good news. On 11d it appears that the co-worker model will engage the issue of data integrity. I don't know if you have that in front of you. You'll see that regarding 11d one of the NIOSH -- the words deal with this issue. NIOSH will provide an adjustment dose for workers that hid or did not wear badges. So this hearkens back to the previous issue we've discussed. If it's possible, notwithstanding the outcome of the data integrity question, apparently NIOSH is investigating, well, if we do have an issue related to that that's -- that's real, the co-worker model is at least going to make a -- make a run at trying to deal with that issue.

MR. PRESLEY: I agree.

DR. MAURO: Important to point out.

MR. PRESLEY: Anybody else have any questions or any comments on 11?

DR. MAKHIJANI: I had a question about 11c. In

the second column it says claimant favorable assumption near the bottom there. 11 -- I think it's 11 -- yes. Claimant favorable assumption is made that photon energy range is 100 percent 30 to 250. And then in the next column it says minimizing assumption is 25 and 75 percent. I guess that's all right. I'm sorry. That's okay.

MR. PRESLEY: I was going to say --

DR. MAKHIJANI: That's okay.

MR. PRESLEY: -- that we agreed at our last meeting that it would be --

DR. MAKHIJANI: Yeah, I think that's fine.

MR. PRESLEY: -- a 25 to 75 split or best estimate.

DR. MAKHIJANI: Yeah, that's --

MR. PRESLEY: Okay?

DR. MAKHIJANI: Yeah, that's -- what is there seems fine.

MR. PRESLEY: All right. Any more comments on 11?

(No response)

COMMENT 12: RADON DOSE AND G TUNNELS

MR. PRESLEY: Comment 12, responses 12a, b and c had to do with radon dose and the G tunnels.

And they -- They say that they are not claimant favorable. Had to do with the radon dose and the gravel gerties. Does anybody have any other responses or comments for 12a, b, or c?

MS. MUNN: Well, the OCAS-related matrix shows OCAS is drafting a response and sending it to Rollins for incorporation into chapter 4 so obviously that's underway.

MR. ROLFES: That is correct, Wanda. I recently provided Gene Rollins with some information regarding radon measurement at the Nevada Test Site.

MS. MUNN: Good.

MR. ROLFES: So we're continuing to look for additional information.

MR. PRESLEY: Okay. Well, we can say that that's ongoing; is that correct?

MS. MUNN: Uh-huh. Yes. They are underway, in process.

MR. PRESLEY: Excellent.

COMMENT 13: RADIUM 131

MR. PRESLEY: Okay. Item 13 was the environmental dose used for the (telephonic interruption) or radium 131 (telephonic

interruption). And NIOSH agreed that current guidance in the TBDs may not be accurate or adequate, and that they will revise the technical basis document. Mark, do you have any comment with this?

MR. ROLFES: I do not.

MR. PRESLEY: So that's -- that's being -- that's being worked on as we speak; is that correct?

MR. ROLFES: That's correct. Gene, is that correct?

MR. ROLLINS: Yes.

MR. PRESLEY: Arjun? Arjun, do you have anything?

DR. MAKHIJANI: That's fine. That's fine. No, I'm fine with that.

COMMENT 14: INTERNAL MONITORING

MR. PRESLEY: We'll go on to 14, had to do with the internal monitoring data until late 1955 or '56, plutonium from then, tritium from '58, mixed fusion products from '61. And the comment or response there that SC&A petition will take care of cases for the years 1951 through 1957. NIOSH -- NIOSH will prepare a comment for the worker cases from '57 to '62

and then SC&A would add -- they would like to see that added from 1962 to 1967. Arjun, do you have a comment on that?

DR. MAKHIJANI: Well, I -- I thought that -- that we agreed that the internal dose doesn't need to be addressed up to 1962 so --

MS. MUNN: And that's what I see --

DR. MAKHIJANI: '57 to '62 can be deleted from there. It's a little confusing as it stands. But the -- Mark's last comment I think in the fourth column is appropriate. At the working group meeting it was agreed that our resolution would be limited to '63 to '67. That -- That's the thing that I believe needs to be done.

MR. ROLFES: And Arjun, I can take care of those statements of clarification earlier on --

DR. MAKHIJANI: Okay.

MR. ROLFES: -- in the matrix as well --

DR. MAKHIJANI: Yeah.

MR. ROLFES: -- so that -- so that the SEC issue is better addressed in our approach.

DR. MAKHIJANI: Yeah, I think that this can be simplified.

MS. MUNN: And the late-breaking station is

sensitivity study is currently in progress, right?

MR. PRESLEY: Okay. Is everybody comfortable with 14?

(No response)

COMMENT 15: RESUSPENSION OF RADIONUCLIDES

MR. PRESLEY: Fifteen, resuspension of radionuclides by the blast wave. Let's see.

MS. MUNN: Shows on the matrix as complete.

MR. PRESLEY: It does, and there was no further action for the working group. Does anybody have any comments?

DR. MAKHIJANI: This will be covered, you know, in that separate process in the 250.

MR. PRESLEY: Okay.

COMMENT 16: PHOTON DOSE

MR. PRESLEY: Comment 16, photon dose.

MS. MUNN: Same process.

MR. PRESLEY: Same thing, no action to be required by the working group. Anybody else have any comments?

(No response)

COMMENT 17: INGESTION OF DOSE

MR. PRESLEY: Okay, 17 is the ingestion of dose needs to be better evaluated. Our comment was

SC&A agreed with NIOSH's response. No further questions required by the working group.

MS. MUNN: Complete.

DR. MAKHIJANI: Well -- Well, the -- the -- the final resolution here is that it'll be resolved as part of the resuspension dose question. But there's some work to be done here, but it's not explicit under this item.

MS. MUNN: Right. Do you think we need additional words in there, Arjun?

DR. MAKHIJANI: Well, I don't -- I don't know what Dr. Anspaugh has in mind in that regard actually. I -- I neglected to point that item out to him.

MS. MUNN: Well, in view of the fact that the -- our meeting notes say it's part -- this is part of the reconstruction dose investigation.

DR. MAKHIJANI: Right.

MS. MUNN: Does that cover your concern?

DR. MAKHIJANI: Yeah, right. Exactly.

MS. MUNN: Oh, good.

MR. PRESLEY: So we're all right with 17?

MS. MUNN: Uh-huh.

COMMENT 18: OTIB O-2

MR. PRESLEY: Eighteen recommends use of ORAU

OTIB's O-2 and NIOSH has agreed with O-2 Technical Information Bulletin. You get down to the last thing we've got on here is no further action required by the working group, that SC&A agrees with NIOSH's response.

MS. MUNN: Right.

MR. PRESLEY: Put that one to bed?

MS. MUNN: They seem to be done with OTIB 2.

MR. PRESLEY: What did you say, Wanda?

DR. MAKHIJANI: I believe -- I believe, Ms. Munn, that's actually a revision to the site profile and to the dose reconstruction here. Is that right, Mark?

MR. ROLFES: Yes, that's correct.

MR. PRESLEY: So that's a revision to the site profile?

MR. ROLFES: That's correct. Yes.

MS. MUNN: That's good. I missed that note, looking at the OTIB.

MR. PRESLEY: All right. We'll put that in there then.

COMMENT 19: BETA DOSE DATA UNTIL 1966

MR. PRESLEY: Okay. Comment 19 is another one where we had issue. It has to do with the beta dose data until 1966. NIOSH will revise the

beta dose -- beta dose issue for up to 1966. Mark, do you want to comment on that?

MR. ROLFES: Do we have Richard Griffith on the line?

MR. GRIFFITH: Yep.

MR. ROLFES: Yes, could you give us a little update, Dick?

MR. GRIFFITH: Okay. Well, a lot of this has been involved in digitizing the Harry Hicks fallout data and then applying beta to photon conversion ratios, nuclide by nuclide, summing it over each of the situations and then putting them into a summary table that allows us to pick an upper bound for the -- as a function of time from one hour to 50 years for the -- the fallout scenarios. Then -- And we find that for any given test series that the -- the values time by time are pretty close to each other so that there's not a -- a wide scatter that we have to worry about.

MR. ROLFES: Thanks. Okay. And this will all be incorporated in the technical basis document.

MR. GRIFFITH: Yeah, actually we have just finished a draft revision of the document and

there is a new appendix -- well, there is an appendix D which has been revised that includes basically a fair amount of this information already.

MR. PRESLEY: We decided that the technical basis document will be revised to incorporate the changes; is that correct?

MR. GRIFFITH: That's correct. The revision has already begun.

MR. PRESLEY: Okay. Any further questions or comments?

(No response)

COMMENT 20: INTERNAL NON-USE OF BADGES

MR. PRESLEY: The 20 has to do with the internal non-use of badges and circumstances. I think we've probably beat this question to death. As we have the same response as 11d, no further action required. Does anybody have any more questions on that?

MS. MUNN: OCAS is going to draft a response, right?

MR. ROLFES: That's correct. We're going to take a look.

MS. MUNN: Okay.

COMMENT 21: EXTREMITY DOSIMETRY

MR. PRESLEY: Okay. Comment 21 has to do with the technical basis document not containing information about extremity dosimetry -- extreme dosimetry, I'm sorry. Status of bomb assembly workers is unclear. NIOSH has developed a guidance for assembling the dosimetry and has incorporated the information in the TBD revision. Is that correct, Mark?

MR. ROLFES: That's right. We're taking a look at this.

MR. PRESLEY: More will come out in the future; is that right?

MR. ROLFES: Yes. Gene, are we going to be doing this specific to the Nevada Test Site for extremity dosimetry?

MR. ROLLINS: I think we were going to be relying on some data from Pantex.

MS. MUNN: I was interested in Gene's comment about core sampling being an issue. It seems to me it certainly would be. I can't imagine why it would not be.

MR. PRESLEY: What was your comment, Wanda? I'm sorry?

MS. MUNN: Under -- Under the Input Column, the third column on the matrix, Gene had -- had

made a -- a -- had posed a question whether core sampling was an issue and pointed out that assembly was at Lawrence Livermore and LANL personnel and some Sandia folks doing core sampling. And I was commenting that I thought it was an appropriate issue to raise and it appears to me that people who handled the cores certainly would be individuals that would be concerned with extremity doses.

MR. ROLLINS: That's a good point. We'll be looking at -- at those activities. This is Gene Rollins again. I believe we'll be looking at those activities also.

MS. MUNN: That's good.

MR. PRESLEY: Okay. Comment 22 has to do -- Arjun, did you have a question on 21, first?

DR. MAKHIJANI: No, Mr. Presley.

MR. PRESLEY: All right. You discussed that quite heavily the last time.

DR. MAKHIJANI: Right.

COMMENT 22: NEUTRON DOSE DATA

MR. PRESLEY: Has -- 22 has to do with neutron dose data, no neutron dose data until 1966. Partial data until 1979. The response on that was NIOSH will look for additional information

on neutron-photon ratios and demonstrate that the issue is a moot point based on scoping issues. Mark, do you have a comment on this?

MR. ROLFES: I do not but Gene, have we done any calculations to show that during atmospheric weapons testing periods that the neutron dose would be below say one millirem?

MR. ROLLINS: Richard?

MR. GRIFFITH: Yes.

MR. ROLLINS: He's on the line. I'll let him respond to that.

MR. GRIFFITH: Yeah, now, you're -- you're talking about the direct dose as a result of atmospheric testing, right?

MR. ROLFES: I believe that's the issue.

MR. GRIFFITH: Yeah -- Yeah, there is another new appendix in the TBD where two different approaches have been used to look at the potential neutron exposure to someone who was, you know, not -- not protected or was outside. And basically both of the calculations point to the fact that if they were at least six kilometers away from the test point that the doses would be under a millirem.

MS. MUNN: Uh-huh. Okay.

MR. PRESLEY: Okay.

MS. MUNN: And the note says you're incorporating that in chapter six?

MR. GRIFFITH: Been done.

MS. MUNN: Done? It's done? Good.

MR. GRIFFITH: Yeah.

MS. MUNN: Wonderful.

MR. PRESLEY: Complete then.

MR. GRIFFITH: That's our new appendix E.

MS. MUNN: Excellent.

MR. GRIFFITH: We're starting to run out of appendix --

MS. MUNN: Yeah.

MR. GRIFFITH: -- numbers.

MS. MUNN: Well --

MR. PRESLEY: You got -- You got A, B, C and D to go through.

MR. GRIFFITH: Yeah. I hope this is it.

MS. MUNN: I hope so, too.

MR. PRESLEY: Yes. Okay. Anybody else have any more comments on 22?

(No response)

COMMENT 23: ADEQUACY OF SOIL DATA

MR. PRESLEY: How about Comment 23, adequacy of soil data for estimating resuspension dose.

And it said that SC&A agrees with NIOSH's response. No further questions or -- from the working group.

DR. MAKHIJANI: Yeah, this is -- Mr. Presley, this is part of the same resuspension question.

MR. CLAWSON: Is that going to be taken care of in Chapter 4?

MR. ROLLINS: Yeah, that's correct. Section 4.2.2.

MR. PRESLEY: 4.2.2. Okay. So we can mark this one complete. Okay.

COMMENT 24: HIGH FIRED OXIDES

MR. PRESLEY: Twenty-four. It has to do with the presence of high fired oxides. And on this one the technical basis document is being revised to reflect -- to reflect additional guidance. Mark, do you have anything on that?

MR. ROLFES: Yes, then we're also considering that I believe on a site-wide basis as well. Definitely -- Definitely some information into the Nevada Test Site to represent the TIB that's being drafted.

MS. MUNN: I could hardly hear you. Did you say site-wide or complex-wide?

MR. ROLFES: Site-wide. There's information

that is -- I'm sorry, well, complex-wide. I -- I apologize.

MS. MUNN: That's okay.

MR. ROLFES: It's -- It would be complex-wide I believe.

MS. MUNN: I would think so.

MR. ROLFES: And I thought that would be -- would be putting some information into the technical basis document for the Nevada Test Site but we can reference the OTIB that is being crafted.

MS. MUNN: How far along are you with the draft?

MR. ROLFES: I can definitely check on that as well. I know that it's in the process right now. Although when it will be completed I -- I couldn't guess.

MS. BRACKETT: This is Liz Brackett. Sorry to interrupt.

MR. ROLFES: How are you doing, Liz?

MS. BRACKETT: Good. Hi. I'm not actually drafting it but there's two issues associated with this. We currently have a draft that's the merging of the original OTIB that addressed only lung doses. And then there's the one that

OCAS had written to address all other organs that has been reviewed by SC&A. But I believe they're still reviewing the cases that we used to model it, and they're a few weeks out on that. So I think between the two of us we still have a few weeks to get to the end point of -- of finishing up -- finishing up the draft. And then on the SC&A side to finish reviewing those documents or -- or those cases.

MS. MUNN: Did we -- Did we continue to hang your name on this, Liz, or did someone else?

MS. BRACKETT: Yeah, my name is not on this document. The original authors were Don Bihl, Roger Falk and Tom LaBone. Tom LaBone is kind of -- we've given it to him to -- to -- to merge the two documents and -- and I am reviewing it right now but -- but Tom LaBone is the one who's putting it together at this point.

MS. MUNN: Okay. I'll be glad to see that. That's another one of those things that keeps coming up over and over and over again.

MS. BRACKETT: Yes, it does.

MR. PRESLEY: Mark?

MR. ROLFES: Yes, Bob.

MR. PRESLEY: When y'all give us your update in Nevada on the actions that's been, can you go ahead and make this part of that update, please?

MR. ROLFES: Yes, I will.

MR. PRESLEY: Okay. And that way everybody will hear what's -- what's going on. Arjun, do you have any --

DR. MAKHIJANI: No. No, Mr. Presley. I -- I think this is okay.

MR. PRESLEY: Okay.

COMMENT 25: INTERVIEW DATA

MR. PRESLEY: Okay. We're down to Comment 25. This has to do with documentation of the site expert interviews -- the inadequacy of the critical site expert reviews. We've probably beat this to death. The working group has an issue with this. Provide -- And we have asked NIOSH to provide interview data to SC&A site experts and with what SC&A is going to provide NIOSH would you all not be working back and forth on this problem?

MS. MUNN: This is essentially a -- isn't this pretty much the same thing we discussed earlier?

MR. PRESLEY: That is correct.

DR. MAKHIJANI: Ms. Munn, it is -- it is not. The -- The -- Earlier we discussed -- the SC&A interviews are -- are documented and it was just, you know, going through a little bit of a process to be respectful of the people we interviewed before we took the -- sent them along. We have all the documentation. The -- The issue here was that the NIOSH interviews that were conducted do not seem to be well documented at least so far as we could determine or the documentation was not -- a mixture of that and the documentation not being available. And that was part of our site profile review that when we asked for the documentation, the documentation was incomplete by NIOSH's own description. So that was an issue as to how NIOSH was documenting interviews and that they should be better documented.

MS. MUNN: Okay. So there -- what -- Larry, do you know the status of this right now? Do you know whether these things are in the hands of a classifier yet or -- or whether they're still being compiled?

MS. ARENT: This is Laurie Arent. I've been in and out of this call this afternoon and I actually have compiled all of the information that the TBT -- TBD team has submitted, and it was sent to the -- the classifier at the Nevada Test Site on Friday, September 1st.

MS. MUNN: Good.

MS. ARENT: It's -- It's approximately -- It's close to 200 pages and I do not have an estimate from the classifier at this point how long that's going to take so we've done what we can do to move that along.

MS. MUNN: Good. It's good to know it's in the hands of the classifier.

MS. ARENT: Yes.

MR. PRESLEY: All right. So then this -- this issue then will be resolved as soon as it comes out of classification back to NIOSH to give to SC&A; is that correct?

MR. ELLIOTT: Well, we will see. This is Larry Elliott. We will see what the derivative classifier review says to us. But I think the bigger issue here is how, as I read the comment from SC&A, is how well or how poorly we have -- have referenced these interviews. How -- How

can one track what has been provided and contributed to our understanding by -- by the site expert. Is that clear? So we -- you know, whatever comes out of the classification review, we still need to do a better job I think in this site profile of documenting site expert contributions.

DR. MAKHIJANI: Larry, the question that was raised in the review based on information that NIOSH gave us -- NIOSH/ORAU -- which is there in the review, you know, is part of our exchanges in conference calls and so on, was that we were told that what is documented in the course of the interview is what the interviewer thinks might be important later on. And -- And my -- our feeling was that you have to take the interviewees' information as they tell you and document it and then make a technical judgment of whether it's sensible, whether it's not sensible, whether it meets the test of credibility and what level -- what level of attention to give it in dose reconstruction. But if you never document something you don't get the chance to make that judgment. And -- And it's not that one has to

hang on every word. We don't do that either but we try -- we try to be complete, to -- to write down all the technical issues that are raised. And I think it's my impression at least that that is not being done.

MR. ELLIOTT: Well, we'll have -- we'll deal with the impression. I thank you for that clarification. We -- We -- My estimation here, we still need to deal with that impression. We need to address it. So I would look to Mark and to Gene to -- to resolve this.

DR. MAKHIJANI: And I'll send you the reference. You know, I'll send you a little bit more -- it's not just an impression I think. I wouldn't -- I wouldn't say something like this if -- if it weren't based on information supplied by NIOSH to us, and I'll send you the reference to that.

MR. ELLIOTT: Okay.

MR. PRESLEY: Then can we say with this response that SC&A will -- will work with NIOSH to -- to reconcile this issue?

MS. MUNN: After -- After the material has come back from the classifier.

MR. PRESLEY: Right.

MS. MUNN: I think it's important that our note shows that it went to the classifier on September 1.

MR. GRIFFITH: Does anybody happen to know if Bart Hacker is still alive and well?

MS. MUNN: I don't know but in any case we've -- we've talked about his publications earlier. The position that I took as an individual was that those historic observations and interestingly titled documents of his are -- should be considered only insofar as their original documentation may have been concerned. I don't know what his current status is. I believe he's still teaching students somewhere in a university if I remember correctly. The last time I -- No, he left the university. He's writing the last I knew.

DR. ROESSLER: Was he in health physics, Wanda?

MS. MUNN: No, he was not. He's a historian.

DR. ROESSLER: Oh, then okay, then. Thanks.

MS. MUNN: Yeah.

MR. GRIFFITH: The last I knew he was working at Livermore but that's been quite some time.

MR. PRESLEY: Yeah. Bob Presley. We've gone through the 25 issues and responses. There's

quite a bit of work to be done still by NIOSH and some by SC&A, getting back with NIOSH on some of the issues that we have. We are not going to be able to make any type of a recommendation that I can see on the test site, I mean site profile review at this time. I don't think we're going to be able to do that at the test site or at Nevada at all. What I'm wondering is if -- Lew, did you get back on?

MS. MUNN: I think he's gone in the security sweep of the Cincinnati Airport.

MR. PRESLEY: Okay. At this time I do not have or have not seen any type of an agenda to know where the work -- this working group has to make their report, and what day. If Larry -- has any of you all seen -- have you all seen that?

MR. ELLIOTT: No. Lew -- Lew will be here tomorrow and we will discuss the Board's agenda and map it out as I understand, tomorrow. I can certainly convey to Lew where folks stand on this issue. I would encourage you to think of some report to give to the full body of the Board about your progress to date though, given the potential audience. I -- I think it would

be proactive of you to do so in front of Nevada Test Site claimants and petitioners since we're going to be there in Vegas. You'll -- I -- I think you'd be remiss in not saying something about your work on this site profile.

MR. PRESLEY: That's -- That's what I was going to ask, if you could make sure that we are not on the first day. What I would like to do is as far as the working group to send me any comments that they have on this meeting today. And then if we have time we will come up with a response. If we don't, I would like to have a little bit of time maybe the first day or the first morning or something like that when the working group can get together and -- and come up with our response to be given out there at the -- at Nevada.

MS. MUNN: Bob?

MR. PRESLEY: Yes, ma'am.

MS. MUNN: This is Wanda. My suggestion would be that -- that we do feed as much information as possible in to you and my suggestion would be that we prepare a small PowerPoint presentation for you to give, about ten minutes' worth, just roughly identifying

matters that have been closed out and identifying the two different types of outstanding issues, which in the larger picture in my mind constitute site specific issues as opposed to complex-wide issues that are being worked in some way so that we can give a -- a very broad overview of this many things -- these many issues have been closed. These are open for this reason, and where they are.

MR. PRESLEY: We'd like to do that. I don't have PowerPoint. It will just have to be a bullet type presentation.

MS. MUNN: Well, it's easy enough to do a PowerPoint once you get the material.

MR. CLAWSON: Bob, this is Brad. I'd give yourself more than ten minutes though.

MR. PRESLEY: I'm afraid we'll have more than ten minutes of questions to ask, yes.

MS. MUNN: Oh, well, that's -- I'm -- I'm talking about presentation time, not question time, Brad. That's a different thing.

MR. PRESLEY: Yeah. Lew -- I'd say Lew will probably give us 20 or 30 minutes to do this.

MR. ELLIOTT: We'll talk about this tomorrow and I'll make sure that I convey your

interests.

MR. PRESLEY: Okay. Please do. And if anybody has any comments, and this goes for SC&A, too, please get the comments to me. We are leaving at 6:00 a.m. on the 10th and the only way that you all will be able to get in touch with me is by cell phone. So what I want to try to do is have this thing pretty well wrapped up by the 10th of September.

MS. MUNN: Well, perhaps your working group can get suggestions to you fairly promptly --

MR. PRESLEY: Right.

MS. MUNN: -- which would -- with ideas about how this might be constructed so that it flows properly. You have a first-class editor on hand who should be able to help you pull together at this point.

MR. PRESLEY: Sounds like a winner.

DR. ROESSLER: I'm not sure who you're speaking of. We're going to offer to Bob, if you have things that you want to put on PowerPoint, then send it to me. I could put it together into a presentation.

MR. PRESLEY: Okay. I may do that then. I may let you. I may give you my comments that we

have here and I'll do that with everybody's. Does anybody have anything else for the good of the working group?

MR. GRIFFITH: Well, this is Dick Griffith. I'm not sure if it's for the good of the working group necessarily but who's going to be talking to Jim Neton in the near future?

MS. MUNN: I hope that would be Larry.

MR. ELLIOTT: I will be, Larry Elliott.

MR. GRIFFITH: Okay. Well, would you extend my regards? He was on an ICR -- one of my ICRU report committees and tell him if he -- if he gets bored and is looking for something to do we've got a sequel that's coming down the track so --

MR. ELLIOTT: Okay.

MR. GRIFFITH: Okay.

MR. PRESLEY: And we'll get started on this working group or the presentation, go ahead from there. Larry, do you have anything else, you or Liz?

MR. ELLIOTT: I do not other than to say this has been I think a very helpful session this afternoon and I thank the working group on behalf of the Institute and the Secretary.

MR. PRESLEY: Well, we -- we -- we certainly thank you all for your help. Mark Rolfes has been very, very good to work with. And SC&A, do y'all have anything?

DR. MAKHIJANI: No, Mr. Presley, I do not.

DR. MAURO: This is John Mauro. There is going to be a site visit on Monday, the -- the 18th.

MR. PRESLEY: That's correct.

DR. MAURO: Is there going to be any information provided? I -- I signed up for it. I just -- I'll be flying in Sunday night late. You folks I guess have been on these kinds of trips before. Is there any -- going to be any information provided to the participants?

MR. PRESLEY: Yes. I just talked to the lady today. We will be leaving the hotel, which is the Westin, at no later than 6:15. I was going to tell everybody to be in the lobby at 6:00.

MS. MUNN: That is so ugly, Bob.

MR. PRESLEY: If you'll remember last time we were out there we had to wait on two or three individuals because they couldn't get up.

MS. MUNN: Uh-huh.

MR. PRESLEY: She is revising the agenda. I

will send it out to everyone along with a change. Your lunches are going to be $13.00 instead of 12.00 and two people have asked for vegetarian lunches, and I think they're going to be 8.00 -- $8.00. But she was -- I talked to her at about 11:30 today and she was supposed to get the information back to me, and I will forward it on to every -- to all the Board members and to NIOSH and SC&A as soon as I can get on the computer. And if it's on there we'll -- we'll send it on.

MS. MUNN: Good.

MR. PRESLEY: But right now the tour is from like 6:00 in the morning until about 5:00 in the afternoon. And they have made arrangements for us to go where -- everywhere that we asked to go including the tunnels.

MS. MUNN: Excellent.

MR. PRESLEY: We won't get to go into the tunnels but we will have a presentation at the tunnel.

MS. MUNN: That's good.

MR. PRESLEY: So, and again, we're going to get to see where people lived and things like that so I think this tour is going to be more

informative to the Board than the last one we had.

MS. MUNN: I'm certainly glad to hear that. I'm assuming that it's okay for us to bring our own drinking water and candy bars?

MR. PRESLEY: That's correct. I'm sure they'll have drinks and water on the bus but we will stop and pick our lunches up, and make sure everybody's got $13.00 to pay her. And we'll go at it from there; I'll get the information out.

MS. MUNN: This bodes walking shoes.

MR. PRESLEY: Right. We need good walking shoes. Does anybody have anything else?

THE COURT REPORTER: Bob, this is Ray.

MR. PRESLEY: Yes, sir.

THE COURT REPORTER: I need to speak to Larry and/or Liz at the conclusion of this if that's possible.

MR. ELLIOTT: We'll stay on.

THE COURT REPORTER: I thank you.

MR. PRESLEY: Everybody else gets off and we'll have Larry and Liz stay on. Ray, I appreciate your help today.

THE COURT REPORTER: Certainly.

MR. PRESLEY: I hope we made it easy on you.

THE COURT REPORTER: Yes, everyone was especially good about identifying themselves and I appreciate that.

MR. PRESLEY: All right. Well, it's now ten minutes -- nine minutes 'til 5:00. I will close the working session.

MS. MUNN: Good. Thank you all, and good night.

MR. PRESLEY: Thank you all. Good evening.

(Whereupon, the working group meeting was adjourned at 4:50 p.m.)

CERTIFICATE OF COURT REPORTER

STATE OF GEORGIA

COUNTY OF FULTON

I, Steven Ray Green, Certified Merit Court Reporter, do hereby certify that I reported the above and foregoing on the day of Sept. 5, 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 9th day of November, 2006.

_____

STEVEN RAY GREEN, CCR

CERTIFIED MERIT COURT REPORTER

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