

UNITED STATES OF AMERICA  
CENTERS FOR DISEASE CONTROL

+ + + + +

NATIONAL INSTITUTE FOR OCCUPATIONAL  
SAFETY AND HEALTH

+ + + + +

ADVISORY BOARD ON RADIATION AND  
WORKER HEALTH

+ + + + +

92nd MEETING

+ + + + +

TUESDAY  
JULY 16, 2013

+ + + + +

The meeting convened at 8:30 a.m.,  
Mountain Daylight Time, in the Shilo Inn, 780  
Lindsay Blvd., Idaho Falls, Idaho, James M.  
Melius, Chairman, presiding.

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## PRESENT:

JAMES M. MELIUS, Chairman  
HENRY ANDERSON, Member  
JOSIE BEACH, Member  
BRADLEY P. CLAWSON, Member  
R. WILLIAM FIELD, Member  
MARK GRIFFON, Member  
DAVID KOTELCHUCK, Member  
JAMES E. LOCKEY, Member  
WANDA I. MUNN, Member  
JOHN W. POSTON, SR., Member  
DAVID B. RICHARDSON, Member\*  
GENEVIEVE S. ROESSLER, Member  
PHILLIP SCHOFIELD, Member  
LORETTA R. VALERIO, Member  
PAUL L. ZIEMER, Member\*  
TED KATZ, Designated Federal Official

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## REGISTERED AND/OR PUBLIC COMMENT PARTICIPANTS

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BARKER, CHRIS\*

BARRIE, TERRIE

BURGOS, ZAIDA, NIOSH

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CHMELYNski, HARRY, SC&amp;A\*

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FITZGERALD, JOE, SC&amp;A

HINNEFELD, STU, DCAS

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

2 8:33 a.m.

3 CHAIRMAN MELIUS: Okay. Welcome  
4 to the whatever meeting we are, what is it?

5 MR. KATZ: 92nd.

6 CHAIRMAN MELIUS: Number 92  
7 meeting of the Advisory Board on Radiation and  
8 Worker Health, and I'll turn it over to Ted  
9 for preliminaries.

10 MR. KATZ: Thank you. Right,  
11 welcome everybody, on the line as well. So  
12 let me remind folks on the line and we'll try  
13 to do this periodically, to please keep your  
14 phones on mute, except when you're addressing  
15 the group. Press \*6 if you don't have a mute  
16 button. That will mute your phone, and then  
17 pressing \*6 again will take your phone off of  
18 mute.

19 The other thing for everybody on  
20 the line is please don't, at any point, put  
21 the call on hold. But hang up and dial back  
22 in if you need to, because hold will disrupt

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1 the audio for everybody. Thank you.

2 So the materials for this meeting  
3 are posted on the NIOSH website. That's all  
4 the presentation materials and some other  
5 background meeting as well, background reading  
6 materials as well. They're on the NIOSH  
7 website under the Board section, under the  
8 Meetings page for today's date.

9 So you can follow along that way.  
10 We're also, for the first time, running this  
11 meeting with Live Meeting as well, Live  
12 Meeting for the presentations. So the  
13 presentations, as they're being shown here,  
14 you should be able to watch them on Live  
15 Meeting, and that information, to log into  
16 Live Meeting, is on the agenda, which is on  
17 that NIOSH website.

18 So if you log in there, you should  
19 be able to see the presentations as they're  
20 shown here, although if you have a problem  
21 with Live Meeting, again the presentations are  
22 all posted on that website, and you can just

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1 pull them up and look at them yourself,  
2 changing the pages yourself if you want to.

3 Okay. Public Comment tonight is  
4 from 5:00 to 6:00 p.m., and as usual we'll  
5 start with people, commenters in the room, and  
6 then we'll have folks who want to comment on  
7 the line. I have a couple of inquiries  
8 already for people who would like to comment  
9 from afar and that's great. Happy to have  
10 you.

11 Okay. Let's go to roll call, and  
12 with roll call, I will -- as I do roll call,  
13 I'll address conflicts of interest that relate  
14 to today's sessions. There are not that many.

15 (Roll call.)

16 MR. KATZ: That covers it for roll  
17 call, and Jim, it's your meeting.

18 CHAIRMAN MELIUS: Okay, and the  
19 first item on our agenda is a NIOSH Program  
20 Update.

21 MR. HINNEFELD: Well good morning  
22 everyone. Those of you on the phone this is

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1 Stu Hinnefeld, Director for DCAS at NIOSH.

2 As is our custom, I'll give a  
3 short program update. There are a number of  
4 statistics here I'll go through pretty  
5 quickly. If you have any questions on those,  
6 or any questions on those, or any questions at  
7 any time, please just let me know.

8 In terms of the program news, it  
9 occurred to me, as I was putting the slides  
10 together, we're in the process of essentially  
11 rebidding our dose reconstruction contract. It  
12 was originally scheduled to end at the end of  
13 April of this year. Some time ago, working  
14 with our Programs and Grants Office, we  
15 granted a six-month extension to the existing  
16 contract, to provide, essentially provide time  
17 for an orderly procurement process.

18 We are at the stage now where the  
19 RFP has been on the street for a while, and  
20 the proposals from potential, from the bidders  
21 were due last Tuesday. So the proposals are  
22 in. I am not on the Technical Evaluation

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1 Board, so the Technical Evaluation Board are  
2 the people who know about the responses, you  
3 know, who and how many.

4 So but they -- I do know they have  
5 work to do. So one or more entities responded  
6 to the proposal. So that will be proceeding.  
7 We'll see how that procurement, with any luck,  
8 will go a little smoother than last time, when  
9 we tried to rebid the contract and it was a  
10 very, very difficult procurement process  
11 involving a number of short term extensions.  
12 We're hoping we can get this one done in the  
13 autumn time frame, and just go ahead and make  
14 the award, and then move seamlessly into a new  
15 contract.

16 I wanted to mention chronic  
17 lymphocytic leukemia a little bit. Everybody  
18 knows we've added that as a covered condition,  
19 you know, essentially removed the radiation  
20 risk factor of zero from chronic lymphocytic  
21 leukemia, and by making a regulation change, a  
22 rule change some time ago.

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1           In doing that, we developed a dose  
2 model which was a relatively complicated dose  
3 model. Rather than having one target organ,  
4 you have target lymphocytes, which are  
5 distributed throughout the body, with some  
6 uncertainty in which organs they are located  
7 in.

8           So you have an uncertainty  
9 distribution on the location of your target  
10 organ, and you have an uncertainty  
11 distribution of the doses apportioned to those  
12 organs or tissues, where the target  
13 lymphocytes might be.

14           So it's a pretty complicated  
15 arithmetic problem to put all those  
16 combinations together, and it's being built  
17 into our dose reconstruction tools for site by  
18 site. So we're still working through that. We  
19 made a lot of progress on completing those  
20 revised tools and rolling them out.

21           So many of the chronic, most of  
22 the chronic lymphocytic leukemia cases now

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1 have a way to be done and are being done. But  
2 there's still a handful that we're working  
3 through the models on, in order to complete  
4 all of those. So those are, those cases are  
5 not all quite available yet.

6 We continue to participate in  
7 outreach activities. I don't talk about  
8 outreach activities very much. But we  
9 participate in a Joint Outreach Task Group  
10 with the Department of Energy and the  
11 Department of Labor, you know, for this  
12 program, and also for the Former Workers  
13 Monitoring Program, and they are here, by the  
14 way today.

15 The Former Workers Monitoring  
16 Program folks from here in Idaho are here, and  
17 they're hopeful to find some additional former  
18 workers for their program.

19 We've participated in joint  
20 outreach task activities this year in Chicago  
21 not long ago for Argonne and Fermi Lab, and  
22 somewhat earlier than that, we participated in

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1 the sort of an ad hoc outreach activity in  
2 Attleboro, Massachusetts for the site we know  
3 as nuclear, let's see, Metals and Controls, an  
4 AWE site up there.

5 That was really done at the behest  
6 of the Congressman from that area, Congressman  
7 Kennedy. So we participated in that. In  
8 addition, through our outreach contractor, we  
9 do dose reconstruction SEC workshops with  
10 affected populations, whether they be claimant  
11 advocates in Labor, a lot of local Labor  
12 officials.

13 We've done a couple of those in  
14 the Los Alamos area for, one for the Los  
15 Alamos building trades folks and one for the  
16 fire and security services. And then we  
17 expect to do a workshop, a longer workshop in  
18 Cincinnati, for collection of people from a  
19 number of sites toward the end of September.

20 So those outreach activities  
21 continue on as part of our work to the, with  
22 the claimant community. Also not on the

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1 slide, but something I think I probably should  
2 talk about briefly, is we've had occasion to  
3 examine our conflict and bias policy, conflict  
4 or bias policy recently, and our use of it and  
5 our behavior with respect to it, and  
6 historically our behavior with respect to it,  
7 based on some emails that go back a number of  
8 years.

9 Our conflict and bias policy has  
10 evolved quite a lot in the last ten years,  
11 since I've been on the program. We started  
12 with sort of a common understanding, that if  
13 you had worked in the radiation safety program  
14 at the site, you should not do a dose  
15 reconstruction from that site.

16 So that was essentially the  
17 starting, the starting block of this, and  
18 whether you should not do it or review the  
19 dose reconstruction. So that, you know, I'm  
20 conflicted at Fernald. I can't do those dose  
21 reconstructions.

22 Now it's gone beyond that. We've

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1 been, through experience, have recognized  
2 additional considerations that should be added  
3 into that process as we go forward. For some  
4 time, we identified what we call "key program  
5 functions," and decided that not only should  
6 you not do dose reconstructions; you should  
7 not do any of these key program functions that  
8 are for site-specific documents if you're  
9 conflicted at a site.

10 That's things like author of the  
11 Site Profile, worked on the SEC Evaluation  
12 Report, things of that sort. Then some time  
13 later, and I'm thinking this was on the order  
14 of three years ago, although I'm going by  
15 memory here on dates, and so I may not have  
16 the dates exactly right, on advice from -- we  
17 always get advice about these things from  
18 counsel and the Office of Ethics.

19 On their advice, we expanded the  
20 policy a little farther, to line up more  
21 appropriately, I guess in the eyes of the  
22 attorneys, with the language in the law and

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1 the regulation that cover such things. That  
2 gets into language that people like me don't  
3 understand, things like a specific, or a  
4 particular item with a specific party or a  
5 particular -- what's the language?

6 CHAIRMAN MELIUS: Particular --

7 MR. HINNEFELD: Okay. There are  
8 general matters and there are specific  
9 matters, and there are --

10 So language that I can't remember  
11 and don't understand.

12 (Off mic comment.)

13 MR. HINNEFELD: Yes. I know what  
14 I can't do, and so it's -- in order to  
15 interpret that, then it became a little  
16 broader application, in terms of what people  
17 are allowed to do, and we've -- to the point  
18 where we are today.

19 So that if someone is to  
20 participate even, you know, not author but to  
21 participate in this, someone who is employed  
22 by the program needs to be treated like

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1 someone who is not employed by the program.

2 So if someone wants, you know, if  
3 the people working on the Fernald, I'll just  
4 keep using myself, although I'm not a terribly  
5 good example because I've got an authorization  
6 to participate.

7 But if I did not have an  
8 authorization to participate in Fernald, and  
9 somebody wanted to get my input about what  
10 happened at Fernald, then you know, somebody  
11 on my staff, then they would have to interview  
12 me, document the interview, just like they  
13 would with any other, any other former Fernald  
14 employee who's not employed by the project. So  
15 there's been this evolution of items that  
16 could be done.

17 So that's also then affected how  
18 we've behaved. I mean many years ago, quite a  
19 long time ago, I attended some Fernald Work  
20 Group meetings. But then we adopted this  
21 latest policy that said you shouldn't  
22 participate if you have a conflict.

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1 Not only should you not have, you  
2 know, I wasn't performing a key program  
3 function, but I would go to the Fernald Work  
4 Group meetings. Then when the latest revision  
5 of policy comes out that says you shouldn't  
6 participate, well then I didn't. I stopped  
7 participating in the Fernald Work Group  
8 meetings, until I got authorization from the  
9 Office of Ethics to again participate.

10 So during this whole evolution,  
11 there were, and because of the evolution,  
12 because of the specific nature of the  
13 requirements, and because of some things some  
14 of our folks said in emails from a number of  
15 years ago, that maybe -- and the email  
16 actually predates the effective date of the  
17 latest policy, but was sort of during the  
18 rolling implementation of the latest policy.

19 We needed to make sure that  
20 everybody was aware of what does this really  
21 mean, what does this policy mean in terms that  
22 we can understand? So we've put out a message

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1 to all the staff, saying this is what's  
2 expected.

3 Now naturally when you do that,  
4 you get questions. People think of well what  
5 about this situation and what about this  
6 situation, which you know, frankly I didn't  
7 think about when I wrote the message  
8 originally.

9 So we're working with the Office  
10 of General Counsel to arrange some answers and  
11 probably a briefing, a give and take sort of  
12 question and answer briefing period for the  
13 people that are affected, to make sure that  
14 we're implementing this correctly.

15 Made sure everybody knew that this  
16 is a company policy or an Institute policy,  
17 and it's to be complied with. Just like any  
18 other policy, if you don't comply with  
19 policies, you're subject to discipline. So  
20 that was part of the message we sent.

21 So that's the message that we've  
22 taken from that, and I think periodically we

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1 probably just need to remind ourselves about  
2 what this policy says and how we're supposed  
3 to behave, in accordance with it. So I'll be  
4 glad to answer any questions about that or any  
5 of the other news items I've got here.

6 CHAIRMAN MELIUS: Questions for  
7 Stu?

8 (No response.)

9 CHAIRMAN MELIUS: If not, I'll --  
10 I have some. First of all, just on the topic  
11 you just brought up, and I'm not sure if  
12 everybody on the Board is aware of the latest  
13 round of emails. But I only get Stu, it's a  
14 question of, you know, the timing of when  
15 policies went in place.

16 There is one email there from an  
17 individual who says that states that he has,  
18 knows he has a conflict of interest, but still  
19 feels obligated to participate and provide  
20 information and a recommendation on the site  
21 that he has conflict on.

22 So I mean I don't think it's a

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1 question of when that was put in place; it was  
2 a question of someone thinking that they were  
3 not bound by any conflict of interest  
4 policies.

5 I think that's a very serious  
6 problem, and needs to be addressed.

7 MR. HINNEFELD: Well that's  
8 certainly the intent of the message. The all-  
9 DCAS message that I sent was that hey, this is  
10 the policy and you're subject to discipline if  
11 you don't follow it.

12 CHAIRMAN MELIUS: But you know  
13 obviously, in retrospect, it should have been  
14 dealt with at the time, because it wasn't a,  
15 you know, an email just to one individual.  
16 Others were aware of it.

17 Secondly, I think with these  
18 emails, there's certainly a person who  
19 information relevant to a Class Definition at  
20 the site, which is the Mound Site, was not  
21 brought forward, information that was  
22 pertinent to that, until it was finally

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1 revealed some months later and was brought to  
2 attention.

3 My understanding from talking to  
4 Stu is that once it was brought to his  
5 attention, then there was follow-up. But  
6 there was a period of months when information  
7 that essentially would have and did  
8 significantly change the Class Definition, was  
9 known to people in the program; it was not  
10 dealt with. That delayed, at least to some  
11 extent, maybe a month or two, maybe longer,  
12 the action.

13 I think that's also a serious  
14 problem. There were clearly people that  
15 objected to the -- didn't like the Class  
16 Definition, didn't like what was being done  
17 with that at that particular site, and were,  
18 you know, again taking steps to try to  
19 undermine that.

20 I think that seriously hurts the  
21 integrity of the program, and I'm hoping that  
22 will be addressed also. Now that individual

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1 is no longer involved in the program, so it's  
2 not someone we're currently dealing with. But  
3 I think it's a pretty serious situation, at  
4 least as reflected in those emails, which  
5 again may not be complete. There may be other  
6 information. But it certainly appears.

7 I think we'll be hearing from the  
8 petitioner involved in the public comment  
9 period, who also has views on this.

10 MR. HINNEFELD: Yes. I understand  
11 that, and I can tell you that we are trying  
12 our best to be diligent and make sure we see  
13 all the evidence. Now if it's not, you know,  
14 say in making sure that people are aware of  
15 their obligation to do that. They do that  
16 through performance, a review and performance  
17 intervention.

18 CHAIRMAN MELIUS: Yes, and I would  
19 add that in that same set of emails, the  
20 person, one of the people involved also made  
21 some disparaging remarks about Board Members  
22 who were involved in this, because they, this

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1 Board Member disagreed with them, and was  
2 asking questions, which is also, I think, not  
3 appropriate.

4 MR. HINNEFELD: That's not  
5 appropriate.

6 CHAIRMAN MELIUS: The disagreement  
7 can be, it may be appropriate, but expressing  
8 it and using that as a reason for taking some  
9 of these actions, I think, also doesn't speak  
10 well.

11 MR. HINNEFELD: Yes, and that was  
12 actually, that's come up before in email  
13 exchanges, and attitudes toward the Board and  
14 the quality of the research we present to the  
15 Board.

16 CHAIRMAN MELIUS: Yes, yes.

17 MR. HINNEFELD: I can say that  
18 it's something we're aware of, and we're  
19 attempting to address. You know the three of  
20 us, four of us in the room, counting Josh from  
21 Cincinnati. I think you know that we're  
22 trying to pursue and make sure we have a basis

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1 for the things we put in front of the Board.

2 CHAIRMAN MELIUS: Yes, and we  
3 appreciate that. But again, to make everyone  
4 aware. One other subject on budget. One is,  
5 I'll update the Board on is with the  
6 sequester, Stu and I had a telephone call,  
7 once Stu figured out sort of how much money  
8 they had. As you remember, the ORAU contract  
9 was hit particularly hard or  
10 disproportionately because of the, just the  
11 nature of what could be done.

12 At that time, it was the, sort of,  
13 I won't say the target. It wasn't targeted,  
14 but it ended up it's basically bearing the  
15 brunt of the sequester, and Stu worked with  
16 them and he and I had a conversation, Ted was  
17 involved also, to talk about making sure that  
18 the -- we were in tune on terms of what  
19 priorities would be for handling that.

20 We prioritized obviously towards  
21 the outstanding Special Exposure Cohorts that  
22 needed to be actioned on and stuff that could

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1 be done in, you know, a reasonable time period  
2 and so forth, affected by the sequester,  
3 obviously keeping the dose reconstruction and  
4 other activities going.

5 I think that's worked out as well,  
6 though not to say that the sequester didn't  
7 have an impact on what could be done and  
8 certainly could slow down resolution on a  
9 number of items. I think we've had to, and we  
10 may continue to have to put off or delay, at  
11 least not get certain things done, Site  
12 Profile reviews and so forth, as quickly as we  
13 would may like to, because of budget issues.

14 The budget for next year is still  
15 up in the air, and we won't know in, I think  
16 until -- well, hopefully we'll know before  
17 October 1st, but we'll see.

18 MR. HINNEFELD: I'll give you 2 to  
19 1 odds that we'll start on a continuing  
20 resolution. I'll give you 2 to 1 at least on  
21 that.

22 CHAIRMAN MELIUS: Yes, yes.

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1                   MR. HINNEFELD: Yes, thanks Jim. I  
2 neglected to bring up the money issue. There's  
3 essentially no good budget news, but if you  
4 want to look for a silver lining, ORAU had to  
5 absorb a year's worth of sequestration cuts in  
6 six months, and this coming year, they'll be  
7 able to plan the cuts over 12 months. So it's  
8 an easier per month adjustment maybe.

9                   You know, you never know what's  
10 going to happen in the future. We may lose  
11 more money. So that's it, plus we've saved  
12 money in other areas. The travel, the  
13 budgeted travel expenditures are quite a lot  
14 down thanks largely to Ted and the use of Live  
15 Meeting. We've had some attrition, and so our  
16 PS&B is down noticeably from last year.

17                   So there's chunks of money that  
18 are programmatic money, and we're working with  
19 FMO to see exactly what we can get on the ORAU  
20 contract, and what we'll have. Of course,  
21 next year we just expect, everybody expects a  
22 continuing resolution, because the three

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1 budgets, the President's, the House and the  
2 Senate are just not even remotely similar. So  
3 everybody expects a continuing resolution for  
4 next year.

5 CHAIRMAN MELIUS: And I would just  
6 add for Board Members, I think it's important  
7 that for, you know, Work Groups to keep some  
8 of the budget constraints in mind when you're,  
9 you know, assigning work, because whenever we  
10 look into something in a Work Group, it  
11 usually means work for SC&A, which is not been  
12 as affected this time.

13 But we don't know going forward,  
14 and also for, you know, NIOSH has to respond,  
15 or are you asking NIOSH to elaborate on  
16 something or whatever. I think again, I think  
17 everyone's doing fine on that. But do keep it  
18 in mind and, you know, at least if you have  
19 six things that need to be followed up on from  
20 say a Site Profile review, try to prioritize  
21 those, so that at least the more important  
22 ones, the ones that may have the most impact,

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1 will get done first.

2 That's not always easy to judge  
3 until you've done it, but I think we all need  
4 to do the best we can on that.

5 Finally, I have a question on,  
6 which actually came up after last meeting. But  
7 what is the notification now for -- how does  
8 word get out about these Board meetings?  
9 Because some people last time had felt that  
10 they, in the Augusta meeting, that they had  
11 not heard about it ahead of time.

12 MR. HINNEFELD: I checked on that.

13 CHAIRMAN MELIUS: Yes.

14 MR. HINNEFELD: The notification  
15 goes to claimants within a geographical area.  
16 I want to say it's 100 miles, 50 miles,  
17 something like that, who have active claims.  
18 In other words, the claim has -- they've  
19 submitted a claim, and it has not been sent  
20 back with the final dose reconstruction. So  
21 that's the notification list.

22 And you know, we've not made any

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1 adjustments to that for this meeting. I don't  
2 know, you know, where else to go with the  
3 notification.

4 CHAIRMAN MELIUS: But my  
5 recollection, we used to do outreach to the  
6 local newspapers --

7 MR. HINNEFELD: Oh, I think we do  
8 send those.

9 CHAIRMAN MELIUS: To the local  
10 unions, the programs and so forth, the  
11 screening programs.

12 MR. HINNEFELD: I don't recall if  
13 we've contacted unions in the past. I believe  
14 we still send a notice to the newspaper.  
15 Whether they run it or not, I think, is a  
16 newspaper's option.

17 (Off mic comment.)

18 CHAIRMAN MELIUS: Okay, because  
19 for some reason, something slipped up and I  
20 guess I don't know what happened.

21 (Simultaneous speaking.)

22 MR. HINNEFELD: -- there was a

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1 particular guy that got up at Savannah River  
2 and said hey, I didn't know. I should have  
3 known. Well, he was not an authorized rep for  
4 any active claims, and so he didn't get the  
5 notice.

6 CHAIRMAN MELIUS: But he was a  
7 petitioner, I thought. I thought that was --

8 MR. HINNEFELD: No. The one who  
9 complained about not being noticed is  
10 essentially wants to function as an  
11 administrative rep, or is an administrative  
12 rep. But he has not been an administrative --  
13 he was not a rep for anyone with an active  
14 claim.

15 CHAIRMAN MELIUS: Yes. We're  
16 thinking different people then.

17 MR. HINNEFELD: Okay.

18 CHAIRMAN MELIUS: I'm talking  
19 about a petition, petitioner.

20 MR. HINNEFELD: Okay. The  
21 petitioner didn't know. I would have thought  
22 the petitioner would have been told.

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1                   CHAIRMAN MELIUS:    Yes.    Well, I  
2    don't know.  But anyway, just make sure, and I  
3    think that's critically important, because  
4    there are delays now in setting up the  
5    meetings and so forth, and we need to make  
6    sure that word gets out as timely as you can,  
7    given some of those constraints.

8                   MR. HINNEFELD:  Right.

9                   CHAIRMAN MELIUS:       Any other  
10   questions, comments for --

11                  MR. HINNEFELD:       Are there any  
12   questions on any of the statistics?  I didn't  
13   run through those, but there's no real need if  
14   you've got them all.

15                  CHAIRMAN MELIUS:  Yes.

16                  MR. HINNEFELD:  It's the same --

17                  MR. KATZ:        Oh, and for Board  
18   Members on the line, just Zaida has muted all  
19   the lines.  So you'll have to press \*6 to come  
20   off mute, in case you don't know that.  
21   Thanks.

22                                    (Off mic discussion.)

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1 CHAIRMAN MELIUS: Okay. Yes,  
2 Brad.

3 MEMBER CLAWSON: Who is handling  
4 the media outreach and stuff for NIOSH?

5 MR. HINNEFELD: Josh, Josh Kinman.

6 MEMBER CLAWSON: So like for this  
7 meeting, where did it go?

8 MR. KINMAN: Every local TV  
9 station --

10 MR. HINNEFELD: Josh, Josh. Can  
11 you speak into the mic?

12 MR. KINMAN: I'm sorry. So the  
13 notices will go out to all of the, any media.  
14 I pull everything up that I can find within  
15 the areas. I've been finding that most of the  
16 time, there is very little media interest in  
17 Board meetings.

18 They're shared with any outreach,  
19 and as far as the petitioner, we document all  
20 of our interactions with petitioners, notify  
21 all of them, and if -- I'll look into what  
22 happened at Savannah River and find out if

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1 that was the case and why. But generally, as  
2 far as media, there's very little interest.

3 CHAIRMAN MELIUS: Okay, thank you.  
4 Anybody else?

5 (No response.)

6 CHAIRMAN MELIUS: Okay. Thank  
7 you, Stu, and now we'll hear from the  
8 Department of Labor, which is --

9 (Pause.)

10 CHAIRMAN MELIUS: Welcome, Chris.

11 MR. CRAWFORD: Good morning.

12 CHAIRMAN MELIUS: Tell Jeff we  
13 miss him, but --

14 MR. CRAWFORD: As it says on the  
15 slide, my name is Frank Crawford, and I'm  
16 delivering the DOL presentation today, in lieu  
17 of Jeff Kotsch, who couldn't be here. These  
18 are very tiny arrows, so okay.

19 It's quite a large slide  
20 presentation, so I'm going to have to skip a  
21 lot of the detail. I'm told that it will be  
22 on the DCAS NIOSH site, for people who aren't

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1 here. I won't go over the enactment of the  
2 EEOICPA, which I think by now everyone here is  
3 familiar with.

4 The case statistics, just one  
5 little caveat. They're looked at in several  
6 different ways, and some of the Part B  
7 statistics you will see will be only  
8 radiation-related cases, that is, cases  
9 handled by DCAS essentially, whereas some of  
10 our other statistics will be based on all Part  
11 B cases, which includes chronic beryllium  
12 disease and silicosis. So if you see some  
13 obvious number discrepancies, that's part of  
14 what we're seeing here.

15 So to date, apparently we've had  
16 163,912 cases filed, and we paid out over 9-  
17 1/2 billion dollars in total compensation.  
18 That's for the entire EEOICPA program.

19 We had 40,108 cases referred to  
20 NIOSH for dose reconstruction, 37,917 cases  
21 were returned by NIOSH, 32,000 with dose  
22 reconstruction and about 5,800 without a dose

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1 reconstruction. On the latter, probably many  
2 of those were recalled for SEC processing. But  
3 there are other reasons too sometimes a dose  
4 reconstruction doesn't get done. There are  
5 2,191 cases currently at NIOSH, by our count.

6 Of the 32,000 cases returned with  
7 a dose reconstruction, we see that 26,000 of  
8 those have a dose reconstruction and a final  
9 decision, of which 9,300 were approvals and  
10 16,800 were denials. Now these, I believe,  
11 are radiation-related cases, because of the DR  
12 coming back. The next slide has a different  
13 view.

14 Of the Part B cases filed we see  
15 in this colorful pie chart, NIOSH really is  
16 only handling about 34 percent of the normal  
17 radiation-related cases. That other category  
18 is going to be primarily beryllium disease and  
19 silicosis. It's a pretty large category. I  
20 hadn't been aware myself of how big a part of  
21 the program that is.

22 Then we have SEC cases. Some are

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1 referred to NIOSH and some are not, and then  
2 some smaller part of RECA cases, 10 percent.

3 Of the Part B cancer cases with a  
4 final decision to accept, we have 8,623  
5 accepted DR cases, with over 12,000 payees  
6 and 1.28 billion paid in compensation. Of the  
7 accepted SEC cases, we have 19,363 cases, with  
8 32,000 payees and 2.89 billion in  
9 compensation. So the SEC cases quite  
10 outnumber the DR cases.

11 Cases accepted based on the SEC  
12 status and having a PoC of greater than 50  
13 percent, that is with a dose reconstruction  
14 done, 633 cases in that category, with 770  
15 payees and about 95 million in paid  
16 compensation. The totals of all accepted SEC  
17 and DR cases, 28,619, with 45,000 payees and  
18 4.26 billion in compensation paid out.

19 This is special for Ms. Munn. This  
20 time we went back to the top four work sites  
21 for the quarter. These are Part B EEOICPA  
22 cases, and we'll see. As Stu mentioned

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1 earlier, the only surprise on this list is one  
2 of our old favorites, Hanford, Savannah River  
3 and Los Alamos, with the additional of Metals  
4 and Controls.

5           Jeff and I asked about this, and  
6 it turns out that Representative Kennedy from  
7 Massachusetts had a town hall meeting  
8 specifically for Metals and Controls, which  
9 generated a lot of cases all at once. So  
10 that's why the quarterly ranking is so high.

11           The EEOICPA Part B cases, final  
12 decisions. We have 51 percent approved and 49  
13 percent denied. These would include, I  
14 believe, the SEC cases as well. We have now a  
15 bar chart with percentage of new cases for DOE  
16 versus AWE sites, and we see there's -- if  
17 anything, there's a trend of more AWE cases in  
18 recent years, although still a great majority  
19 of the cases are DOE sites. Metals and  
20 Controls would be an example of the AWE sites.

21           DOL also participates in the Joint  
22 Outreach Task Group, and these include town

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1 hall meetings and traveling resource centers.  
2 In the cases of small SECs, press releases are  
3 issued. From what we just heard Josh Kinman  
4 say, we don't know where they go from there.

5 Also, the outreach people have  
6 been hosting informational meetings regarding  
7 medical benefits, which is quite a complicated  
8 subject, provided under the EEOICPA. I think  
9 we've all seen this. The Joint Outreach Task  
10 Group has many departments and Members.

11 They're all monthly conference  
12 calls, and there's a JOTG meeting scheduled  
13 for September, tentatively. There's no chance  
14 of reading all of these meetings, but I will  
15 mention that this is for fiscal year 2013.  
16 That is from October 1st, 2012 through  
17 September 30th, 2013.

18 We've had SEC meetings at Hanford  
19 and Clarksville. We've had SEC and medical  
20 benefits meetings at Oak Ridge X-10. Also at  
21 Fermi National Accelerator Laboratory and  
22 Argonne National Laboratory.

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1           At Los Alamos, we also had an SEC  
2 and medical benefits meeting. We're up into  
3 February 20th now. Then in Knoxville, which  
4 was a little bit enigmatic, there was medical  
5 benefits meetings for physicians and health  
6 care providers. Presumably, this is for  
7 people who are living in the Knoxville area,  
8 and need information about medical benefits.

9           Then in Hanford, it was a town  
10 hall for claimants and medical benefits  
11 meeting just last month. Santa Fe,  
12 Albuquerque and Grants, New Mexico had medical  
13 benefits meetings in June also, and then  
14 Jolingbrook, Illinois -- Bolingbrook, sorry,  
15 Illinois, had one also in June. This was a  
16 meeting of the Joint Outreach Task Group.

17           Now this week, it looks like,  
18 there was a Portsmouth, Ohio medical benefits  
19 roundtable. As you see, claimants' physicians  
20 and home health care providers will be  
21 attending these meetings.

22           Now we come to a slide on SEC

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1       Petition Site discussions, which was the  
2       ABRWH's agenda for March 2013. We see that  
3       Rocky Flats, Baker Brothers and Pantex are  
4       represented here on this chart. I won't go  
5       through the individual numbers, there are too  
6       many of them.

7                       We can see that progress is being  
8       made, I think is the main message here. Also,  
9       same topic. We see figures for the Feed  
10      Materials Production Center, Idaho National  
11      Laboratory and Brookhaven National Laboratory,  
12      and here we go.

13                     This slide, Employee Eligibility,  
14      just reviews the slightly different provisions  
15      under Part B and Part E of the Act, with  
16      respect to coverage, and we'll see the next  
17      slide, I think, with respect to survivors.

18                     Both parts of the Act, B and E,  
19      cover DOE contractors and subcontractors. For  
20      DOE federal employees, however, only Part B  
21      covers them. They're not covered under Part  
22      E. For AWE employees, it's the same. They're

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1 covered under Part B, but not E. The same for  
2 beryllium vendors. RECA, however, employees  
3 there are covered under both Parts B and E.

4 Covered conditions. We see, again  
5 we're contrasting Parts B and E here. Chronic  
6 beryllium disease is covered under both Part B  
7 and Part E. Beryllium sensitivity, which is  
8 covered by Part B but only for medical  
9 monitoring. Under Part E, it's covered for  
10 compensation and health benefits.

11 Chronic silicosis is covered under  
12 both parts of the Act. Cancer under both  
13 parts of the Act, and any condition related to  
14 toxic exposure, as you might expect, is not  
15 covered under Part B but is covered under Part  
16 E.

17 Survivor definitions, just to make  
18 our life more complicated, are not the same  
19 for Parts B and E. However, there's some  
20 overlap. Certainly spouses at the time of  
21 death covered under both parts of the Act.  
22 Children under age 18, under age 23 if full-

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1 time students or any age if medically  
2 incapable of self-support, are covered under  
3 both parts of the Act. Adult children,  
4 however, are covered only under Part B. Part  
5 E has no coverage for adult children.

6 Benefits are complicated,  
7 particularly for Part E. Under Part B, as we  
8 all know, I think by now, \$150,000 benefit can  
9 go to the employee. I think this should be  
10 "or the survivor." There's a plus sign here.  
11 Under Part E, the impairment is measured as a  
12 percent, and you get \$2,500 per percentage of  
13 impairment. That's for the employee.

14 Under RECA, there's a \$50,000  
15 benefit under Part B. Under Part E, there is  
16 a wage loss of 10 to 15 thousand dollars per  
17 year for the employee. There's also \$125,000  
18 survivor benefit for RECA employee survivors.  
19 There's also a cap of \$400,000 for Parts B and  
20 E benefits combined.

21 (Off mic comments.)

22 MR. CRAWFORD: Then are there any

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1 questions?

2 CHAIRMAN MELIUS: Any questions of  
3 DOL? Okay.

4 MR. CRAWFORD: Thank you.

5 CHAIRMAN MELIUS: Thank you. I  
6 actually, come back. I have a question.

7 (Laughter.)

8 CHAIRMAN MELIUS: Actually, I have  
9 a suggestion actually.

10 MR. CRAWFORD: Yes.

11 CHAIRMAN MELIUS: It seems to me  
12 if Congressman Kennedy can get a big, you  
13 know, large number of claims by holding a town  
14 meeting near one of the AWE sites, that the  
15 Joint Outreach Group should also consider  
16 doing some of those sites, because a lot of  
17 them have a large number of employees that are  
18 there, and I think we've always sort of  
19 assumed that maybe not many would be living in  
20 the area, or they might be hard to reach, due  
21 to the age of groups and so forth.

22 But the Congressman seems to have

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1 found some way of attracting them, and it may  
2 be something to consider for some of the other  
3 sites. There's a number of them around the  
4 Boston area, I recall, Ohio and so forth we've  
5 looked at that are, have numbers.

6 I think you did one for -- did  
7 they do one for Cincinnati, General Electric?  
8 I can't remember.

9 MR. HINNEFELD: We did a GE-  
10 specific I think SEC meeting.

11 CHAIRMAN MELIUS: Yes.

12 MR. HINNEFELD: Just from that,  
13 the Joint Outreach Task Group at DOL's urging  
14 actually is considering a meeting in exactly  
15 that area, the Massachusetts-Connecticut area.  
16 I don't know if they're -- that's what they're  
17 trying to decide, because there are a lot of  
18 AWEs. There are also a lot of AWEs in the  
19 Niagara Frontier in Western New York.

20 So that might be another place  
21 they want to go. But this whole Metals and  
22 Controls thing, I think, kind of brought home

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1 to them that there are these sites up there.  
2 Not only that one, but also Connecticut Area  
3 Aircraft Nuclear Engineering Laboratory,  
4 CAANEL.

5 CHAIRMAN MELIUS: Yes.

6 MR. HINNEFELD: You know, I think  
7 it's Pratt.

8 CHAIRMAN MELIUS: That was again a  
9 large --

10 MR. HINNEFELD: Pratt and Whitney.  
11 I think that's a Pratt and Whitney --

12 CHAIRMAN MELIUS: Yes, Pratt and  
13 Whitney is a large --

14 MR. HINNEFELD: Yes. And so we've  
15 heard some interest through our Worker  
16 Outreach contractor from that site, from Pratt  
17 and Whitney. So that kind of fits into DOL's  
18 plan, to kind of go up into that area. So I  
19 think they were planning to do that under the  
20 Joint Outreach Task Group.

21 CHAIRMAN MELIUS: You know, like  
22 again, Pratt and Whitney has a very active

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1 union and active union retiree group there in  
2 Connecticut, and I'm sure some of these other  
3 facilities do. So I'm glad they're doing  
4 that. It was, you know, I think again, maybe  
5 not as many as the larger sites in terms of  
6 potential claims, but we've already done a lot  
7 of meetings at the larger, bigger sites.

8 MR. HINNEFELD: Right.

9 CHAIRMAN MELIUS: So good. Okay,  
10 thanks. Next, Department of Energy.

11 MR. LEWIS: And while Stu's  
12 queuing this up, just to clarify, one of the  
13 issues with the Joint Outreach Task Group  
14 holding meetings by the AWEs is that for  
15 Department of Energy, our main interest in the  
16 JOTG is for our Former Worker Medical  
17 Screening program, and the Former Worker  
18 Program does not cover AWE facilities. It  
19 only covers Department of Energy.

20 So that doesn't at all preclude  
21 the other groups of having the meetings. But  
22 we would not be the driving force behind a

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1 meeting for an AWE. Okay, so --

2 CHAIRMAN MELIUS: And Brad, can  
3 you hold your questions, please? Let him  
4 start.

5 MR. LEWIS: I'll try to address  
6 some of them during my presentation, but I'll  
7 leave plenty of time for questions.

8 Good morning, everyone. My name  
9 is Greg Lewis. I'm with the Office of Health  
10 Safety and Security within the Department of  
11 Energy.

12 (Pause.)

13 MR. LEWIS: There we go. Okay.  
14 So I'm here to talk to you about our role in  
15 the EEOICPA Program. As most of you know, our  
16 main role is to provide records. We provide  
17 records and information to NIOSH and  
18 Department of Labor, so they can reconstruct  
19 dose and adjudicate claims.

20 We do this in primarily three  
21 ways. The first is information related to  
22 individual claims. So when someone files a

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1 claim with Department of Labor or needs a dose  
2 reconstruction with NIOSH, they'll send a  
3 request to the Department of Energy site or  
4 sites where the person might have worked and,  
5 you know, we'll go scour our records and  
6 provide information back to them.

7 The second is for large-scale  
8 records research projects like Site Profile  
9 reviews, Special Exposure Cohort research  
10 projects, or the Department of Labor Site  
11 Exposure matrix. The third is to work with  
12 both Department of Labor and NIOSH to do  
13 research on covered facilities.

14 Our site point of contacts are the  
15 individuals out at each DOE site that manage  
16 and drive our records research activities.  
17 They coordinate with NIOSH, the Advisory  
18 Board, Department of Labor and all associated  
19 contractors. They set up tours, site visits,  
20 worker interviews. They identify subject  
21 matter experts on site that might be able to  
22 find the right records or answer the questions

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1 that these researchers have, and they also  
2 work with the workers on site on occasion.

3 Sometimes, you know, they'll point  
4 them in the right direction. They'll help  
5 them file their claim if need be, or they'll  
6 answer questions about, you know, where the  
7 records are or what Department of Energy is  
8 doing to pull those records. Just for  
9 reference, Richard Dickson is our Site Point  
10 of Contact for the Idaho National Lab.

11 So for individual records, we do  
12 about 16,000 records requests per year.  
13 Recently, these are all now going through our  
14 SERT system, Secure Electronic Records  
15 Transfer System, which I think I've talked  
16 about in some previous meetings. But that's  
17 really enhanced our ability to send and  
18 receive requests from Department of Labor and  
19 NIOSH. It's also helped us with tracking and,  
20 you know, managing our responses.

21 Many times individuals worked at  
22 multiple sites, particularly in the Oak Ridge

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1 areas or, you know, with certain sites, with  
2 the labs in the Nevada Test Site, for example.  
3 So we'll often have to go to multiple  
4 different locations for one individual. Our  
5 records packages can often be hundreds of  
6 pages long, and in certain cases, they've been  
7 boxes and boxes of information just for one  
8 individual.

9           You know, we have established  
10 procedures at each site, and we often check  
11 many different locations. At one site,  
12 there's over 40 different places that someone  
13 could go, particularly if someone had a 30-  
14 year career. Oftentimes, as contractors  
15 changed or as technology changed, there will  
16 be multiple different databases that we  
17 migrated into.

18           So they might have to check one  
19 database from 1970 to '75, and then a separate  
20 database from '75 to '82 or something like  
21 that. You might also have to go to  
22 microfiche, microfilm, hard copy paper

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1 records. There's a lot of different places  
2 that we might go for records, and we have  
3 these search procedures and our Site Point of  
4 Contacts and their staff help determine, you  
5 know, where the right places to go for each  
6 individual are.

7 So with the large-scale records  
8 research projects, obviously those are driven  
9 by Department of Labor or NIOSH. So we  
10 respond to their inquiries, and try to work to  
11 answer their questions or provide them the  
12 information that they need.

13 We also, we review many of these  
14 due to classification, but we believe we have  
15 procedures in place that allow that to be  
16 done, for the most part, without causing any  
17 significant delays. I know records that,  
18 documents or reports that come through  
19 headquarters we turn around very quickly.

20 On occasion, due to the site's  
21 workload or staffing, it can take a little bit  
22 for large requests to get reviewed for

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1 classification out at the sites. But for the  
2 most part, you know, we do that without undue  
3 delays.

4 So I put up -- these are some of  
5 the sites. This isn't all, but these are some  
6 of the sites where we're supporting SEC  
7 research, and that's to varying degrees. Some  
8 of these we've provided most of the  
9 information, and now it's at the point where  
10 NIOSH may be coming back for smaller, more  
11 targeted questions, and in some of them we're  
12 still providing quite a bit of information.

13 One of the ones I want to talk  
14 about up there, which I think I would get  
15 questions either way, is the Savannah River  
16 Site. I know that we have been really pushing  
17 the site to respond a little bit quicker than  
18 they have been. We're continuing to work with  
19 them. We've approached their management on  
20 numerous occasions and their management has  
21 been working with us to try to find a way  
22 around some of the challenges we've faced.

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1           In short, most of the issues are  
2 caused by some existing, you know, budget cuts  
3 and staffing issues out at Savannah River, but  
4 are over and above the EEOICPA program. Due  
5 to the sequestration and, you know, budget  
6 cuts down there, they've had a few different  
7 reduction in force, you know, episodes, and  
8 they've been down in staff at some of the key  
9 locations, particularly the records center,  
10 but also in dosimetry.

11           So we have been working with  
12 management. Mr. Podonsky, my boss within HSS,  
13 is very involved. We're going to be sending a  
14 formal letter down there within the next  
15 couple of weeks, as just another effort to try  
16 to expedite this.

17           We do think that at this point  
18 we've started to make some progress, just  
19 within the last couple of weeks. We believe  
20 within the week, a representative from SC&A  
21 will be upon the unclassified network within  
22 Savannah River Site, and able to do all of the

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1 keyword searches himself.

2           So we think that's going to be the  
3 key to resolving the request for unclassified  
4 keyword searches. We're also moving forward  
5 with setting up interviews. I know that SC&A  
6 again is working with the site, and they're  
7 starting to contact workers and, you know, see  
8 who's available for interviews and when they  
9 can do them, moving towards a site visit.

10           We have not been able to complete  
11 the classified keyword searches. That's one  
12 of the things where staffing had been a  
13 significant challenge for the site. As of  
14 last week, they've told us they've now  
15 identified a staff member to do those searches  
16 and, you know, we're following up to see how  
17 quickly they can do those searches.

18           We don't believe it should take  
19 too long once they get the staff assigned and  
20 on it. But we're going to see, and we also  
21 hope this formal letter will give that a nudge  
22 to move forward as well. So again, we're

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1 continuing to work with the site, but it has  
2 been a challenge to get that done in, you  
3 know, in a timely manner.

4 I know, I think the Board's  
5 expectation has been that it would be moving  
6 forward quicker than it has. So we're doing  
7 the best we can to get there.

8 I think I talked about document  
9 reviews a little bit earlier. Again at  
10 headquarters, the average turnaround time is  
11 about eight working days at the sites, and  
12 that's also because the headquarters documents  
13 are NIOSH reports, which are typically, you  
14 know, shorter, whereas the site requests are  
15 for source documents, and it can be many  
16 source documents, you know, boxes and boxes of  
17 records.

18 So they do take a little bit  
19 longer, but for the most part, we believe  
20 we've been able to do those in a timely  
21 manner.

22 Then the third function that we

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2 database of over 300 covered facilities,  
3 beryllium vendors, AWEs and Department of  
4 Energy sites. The full listing is on the  
5 website with the link on your screen there,  
6 and for those on the phone, that's going to be  
7 in my presentation, page 13.

8 We are working with DOL, NIOSH and  
9 a few, you know, different facilities, trying  
10 to refine the years or make sure we have the  
11 correct years.

12 Outreach. Again, I think Chris  
13 covered the Joint Outreach Task Group. So  
14 I'll move forward, and I think he's, he was  
15 correct. I think September and October, the  
16 next meeting is tentatively scheduled for the  
17 Bay Area, both Livermore and Berkeley, and  
18 then we just had a meeting in Chicago about a  
19 month ago. We targeted Fermi and Argonne  
20 workers.

21 So the Former Worker Medical  
22 Screening Program is a program that my office

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1 funds and supports through cooperative  
2 agreement holders. It's a program that offers  
3 a free medical screening to all Department of  
4 Energy federal contractor and subcontractor  
5 workers from all DOE sites.

6 We provide screenings close to  
7 their location. We have certain cooperative  
8 agreement holders that do local programs  
9 around the larger DOE sites. But for the  
10 smaller DOE sites or for an individual that  
11 say has retired to Florida or moved out of the  
12 area, we have a supplemental screening program  
13 that contracts with local clinics throughout  
14 the country to provide these screenings.

15 The local screening programs for  
16 the Idaho National Lab are -- for the  
17 production workers, it's the Worker Health  
18 Protection Program, and there's  
19 representatives from the WHPP, as they're  
20 called, out in the lobby to talk to folks. For  
21 construction or trade workers, it's the  
22 Building Trades National Medical Screening

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1 Program, and the contact information is on my  
2 slide here.

3 So I think with that, are there  
4 any questions?

5 CHAIRMAN MELIUS: Seeing none --  
6 oh Brad. What a surprise.

7 MEMBER CLAWSON: Greg, I know that  
8 you do a lot of work on this and stuff like  
9 that. But you realize what this makes it look  
10 like with Savannah River. When we have to  
11 have, we've been trying for how long to be  
12 able to get in there.

13 My question to you is there  
14 anything that the Board can do to help  
15 facilitate or assist? Looking at it from the  
16 claimant's standpoint, there's all this  
17 information out there and we can't get to it.

18 It really, it really puts us in a  
19 bad situation. I'm wondering is there  
20 something as a Board that we can do to help  
21 facilitate this?

22 MR. LEWIS: Well offhand, I would

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1 say from the Board's standpoint as far as  
2 research or being accommodating or trying to  
3 work with us or work with the site to come up  
4 with creative solutions to get the research  
5 done, I think the Board has really done  
6 everything in their power.

7           Again, I said the representative  
8 from SC&A has gone down there to Savannah  
9 River, received training on their networks,  
10 general employee training, received a site  
11 badge, and is now going to be able to do all  
12 of the searches himself from offsite.

13           So I think in some ways, that will  
14 make it easier from now on, you know, for the  
15 Board to do this research. But on the other  
16 hand, it was a pretty significant hurdle to  
17 get this set up. So from that standpoint, I  
18 think the Board is doing everything in its  
19 power.

20           I would say, though, being a  
21 Presidentially-appointed board, you certainly  
22 have some influence and could, you know, let

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1 us know formally about your expectations.  
2 That's certainly an option. I don't want to  
3 encourage that one way or another, but that's  
4 still, that's certainly something you could  
5 do, that would be taken seriously at DOE, both  
6 by HSS and by the sites.

7 You know, but we are continuing to  
8 try to make every effort from my office,  
9 Health Safety and Security standpoint, to  
10 expedite this. So you know, I realize it's  
11 been a little bit longer than you would like,  
12 than we would like, but we continue to make  
13 every effort.

14 MEMBER CLAWSON: Well Greg, I was  
15 wondering if it would help to have a letter  
16 from the Board to Savannah River or to DOE  
17 headquarters, because really, and I don't mean  
18 to put -- this is beyond really a joke  
19 anymore, you know. They can come to it or  
20 whatever else.

21 But when we can't even get access  
22 to this classified information, it's fallen

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1 really quite fast. I just -- if there's  
2 something that we can do as a Board to assist,  
3 I think that it would be very beneficial for  
4 all parties. So if there's something we can  
5 do, I would appreciate it.

6 MR. LEWIS: You know from my  
7 standpoint, you know, I think all I can say, a  
8 letter would, you know, is certainly an option  
9 available to you, and I don't think would  
10 hurt. Again from my standpoint at HSS, we are  
11 already doing everything we can. But, you  
12 know, a letter is certainly an option.

13 MEMBER CLAWSON: And I do realize  
14 that you guys are. It just seems like to me  
15 sometimes it's falling on deaf ears, and I  
16 wonder who the contractor really is working  
17 for, because when they're not listening to  
18 their own boss, that's kind of hard.

19 CHAIRMAN MELIUS: I mean my  
20 understanding, and I'm not sure Greg's sharing  
21 all of this, but there's pretty good high  
22 level attention to this within DOE. Glenn is

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1 really working hard to, Podonsky, to get this  
2 addressed, and I think we're already seeing  
3 some progress. I think we have a way of  
4 monitoring it, and I'm not sure being more  
5 formal about it at this time is necessarily  
6 helpful.

7 I don't think it would be  
8 unhelpful, but I just think that -- I think  
9 we're working to get it resolved, and it's  
10 certainly something we're keeping an eye on,  
11 and I've been informed quite regularly, as  
12 this has gone along and so forth. So I think,  
13 you know, I think we're making some progress.

14 I think the unfortunate thing  
15 about, you know, it's a big site. We have a  
16 wide, a large SEC potential there, a lot of  
17 data, which makes -- you know again, means  
18 that more information's being requested and so  
19 forth. Unfortunately, it's at a time when  
20 there are budget cuts going on within the  
21 federal government, that are impacting this.

22 I think what we need to do is make

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1 sure one, that we're doing this cooperatively,  
2 which I think we certainly are and everybody's  
3 working together on this, and secondly, that  
4 we're, you know, prioritizing appropriately in  
5 terms of requests. These aren't just, you  
6 know, sort of shotgun requests for tons of  
7 information that really isn't relevant.

8 But I think they are as focused as  
9 they can be, you know, given it's a large site  
10 and you don't know what's there until you've  
11 seen some of it and so forth. I think that's  
12 probably the main thing we can do, is make  
13 sure that our requests are appropriate.

14 At the same time, we need to do a  
15 thorough and credible job of evaluating the  
16 SEC, evaluating that site. So it's not  
17 something that can be done easily or quickly

18 MR. LEWIS: And first, I do want  
19 to say that the Board, their contractor and  
20 NIOSH have been very accommodating and very  
21 reasonable with the request. They've been  
22 very targeted and when we've asked some

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1 questions or said do you really need all of  
2 this, you know, they've been very  
3 accommodating, trying to narrow it down,  
4 trying to work with us.

5 So I would say it's been a  
6 pleasure working with the Board and the  
7 contractor. And then another thing, just to  
8 reiterate what Dr. Melius said. Glenn  
9 Podonsky, my boss, is very aware, engaged and  
10 involved. Pat Worthington and I briefed him  
11 last week, and I've been briefing him, and he  
12 has been applying pressure and will continue  
13 to do so, to expedite this.

14 CHAIRMAN MELIUS: Yes, and  
15 certainly tell Glenn we appreciate his  
16 involvement and effort. Any other questions,  
17 comments?

18 (No response.)

19 CHAIRMAN MELIUS: Okay. If not,  
20 thank you very much, Greg. I'm sure Brad will  
21 have a few more comments and questions before  
22 you leave the room.

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1 (Pause.)

2 CHAIRMAN MELIUS: I hope I need no  
3 introduction. State your name, right. This  
4 is the Jim and Jim presentation. We've been  
5 working with the SEC Evaluation Work Group  
6 with NIOSH cooperatively, to try to address  
7 the issue of sufficient accuracy, and we're  
8 pursuing that. NIOSH has done sort of two  
9 background White Papers that were helpful but  
10 really didn't sort of get to the core of the  
11 matter.

12 So at the meeting we had a few  
13 months ago, we asked NIOSH to draft up an  
14 outline of what they thought sort of the key  
15 issues were, in terms of approaching  
16 sufficient accuracy. That was a three-page, I  
17 believe it is outline. It's been in all that  
18 voluminous material that we were all sent  
19 before this meeting by the shortest, next the  
20 agenda.

21 I don't know if anything else made  
22 it under 20 pages or 50 pages or three pages.

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1 So hopefully you've had a chance to read it. I  
2 will sort of go through it a little bit. We're  
3 going to continue this discussion after our  
4 break this morning, because coworker models  
5 are I think one key area of this issue that  
6 we're going to have to deal with.

7           They're coming up.           They're  
8 becoming more important. They're important  
9 for the Savannah River Site evaluation;  
10 they're important for Fernald, they're  
11 important for a number of sites we've dealt  
12 with in an ongoing fashion, and how we  
13 evaluate those is in some ways tied back to  
14 the whole issue of sufficient accuracy.

15           So I'm just going to go through a  
16 few quick slides, mainly summarizing the NIOSH  
17 outline. Again, remind us all of the  
18 regulation, radiation doses can be constructed  
19 with sufficient accuracy, if NIOSH has  
20 established the access to sufficient  
21 information.

22           Estimate the maximum radiation

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1 dose for every type of cancer for which  
2 radiation doses are reconstructed, that could  
3 have been incurred in plausible circumstances  
4 by any member of the Class, or NIOSH has  
5 established, has access to sufficient  
6 information to do it more precisely than the  
7 estimate of the maximum radiation dose.

8 So this is the regulation we've  
9 lived with for quite a number of years now,  
10 and continue to try to interpret that and  
11 apply it to all of the sites that come up, in  
12 terms of making some assessment on,  
13 particularly on SEC evaluations. Just to go  
14 through briefly through the NIOSH outline,  
15 there's a section there, what they refer to as  
16 preliminary steps.

17 But what probably are the most  
18 time-consuming, and the most important part of  
19 what we do, and probably the most influential  
20 is really what are the actual facts about the  
21 site. We then have to try to apply our  
22 evaluation and NIOSH applies theirs to those

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1 set of facts.

2           What information's available, what  
3 was done at the site, identifying the exposed  
4 populations, trying to understand better about  
5 what information's available on those  
6 populations. Probably on, my guess is 90  
7 percent of the sites, it's relatively  
8 straightforward, and that information is  
9 really what guides our assessment of, you  
10 know, whether or not dose reconstruction can  
11 be done at that site.

12           It's time consuming, but it also  
13 usually gets us to the answer most readily, in  
14 terms of what we're trying to make our  
15 evaluation. Then, as it goes through the  
16 outline, divided into sort of two types of  
17 data.

18           One is personal monitoring data  
19 that is available, at least to some extent on  
20 most of the sites and covering a significant  
21 proportion of the people that work on some  
22 sites, not on others. So when personal

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1 monitoring data, what NIOSH is trying to do is  
2 number one, demonstrate that the highest  
3 exposed workers were covered; one can bound  
4 the dose.

5 That everybody at the site was  
6 monitored, which is probably a rarity, but not  
7 necessarily for external exposures; and/or  
8 that the monitor group included those that  
9 were, had the highest exposures. Again, the  
10 concept of bounding.

11 So if not everyone was monitored,  
12 than it's clearly important to understand who  
13 had the highest exposures and that there's  
14 information on them, on that. The monitoring  
15 method is important in a practical way  
16 obviously, and then NIOSH for a number of  
17 years applied coworker models for sites where  
18 not everyone was monitored.

19 Again, we'll be spending some more  
20 time on that after our break today. But the  
21 concept is that the coworker models, they must  
22 be inclusive. They need to cover everybody

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1 and be able to be applied to everybody at the  
2 site, and second, that they need in some way  
3 to account for what's referred to here as  
4 stratification, but that there may be people  
5 that were monitored in a different way or  
6 worked in a different part of the site, or had  
7 different, did different tasks at a site or  
8 worked in different buildings at a site.

9 So that that -- that at least has  
10 to be evaluated. If a coworker model's going  
11 to be used based on personal monitoring or  
12 even on other data, that stratification  
13 becomes one of the important things that's  
14 looked at. Again, I think the one we most  
15 commonly dealt with has been the issue of  
16 construction and maintenance workers, and  
17 whether they are, essentially have the same  
18 method of monitoring, as well as the same  
19 distribution of the results of that monitoring  
20 as do the production workers, and that's often  
21 been a problem at many sites.

22 I'll just add that all this is

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1 also assuming we, in a practical way, that one  
2 has a way of placing people within those  
3 stratas, if there is stratification, really  
4 placing people within however one breaks down  
5 the coworker model and uses that. There can  
6 be more than one coworker model at a site,  
7 depending on where people work, and it can  
8 apply to different types of exposures.

9 In some, it may be very good for  
10 it. Typically for external exposures, it's  
11 much more data. So the coworker model is much  
12 easier to develop and to evaluate, whereas for  
13 internal exposures, there's often less data.  
14 Methods have changed over time, and it's a  
15 much more difficult endeavor to try to deal  
16 with that. That's typically where we found  
17 the most difficulty, in terms of dealing with  
18 Special Exposure Cohort petitions.

19 Now the outline also identifies  
20 some other types of data, and I'll sort of  
21 briefly summarize that. But obviously there  
22 can be air monitoring, source-term, surrogate

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1 data available. It can be something that has  
2 to be evaluated for its sufficient accuracy.

3           These, at least in a practical  
4 sense, are much more problematic, because they  
5 usually indicate the personal monitoring  
6 wasn't available for that, though in some  
7 cases they can be used to fill the holes or  
8 gaps in the personal monitoring, or combined  
9 in some way, because for certain exposures one  
10 has personal and other exposures one doesn't  
11 have personal monitoring available.

12           Basically, what NIOSH's usual  
13 approach here is to develop some sort of  
14 summary of that monitoring, or develop a model  
15 based on that monitoring, that one has to  
16 account for the highest exposure; again, it  
17 has to be bounding, but at the same time has  
18 to be plausible.

19           For this type of data, that's  
20 maybe more difficult than for personal  
21 monitoring, because again you're using sort of  
22 indirect indicators of exposure under that,

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1 and one doesn't have as comprehensive a set of  
2 data. So it can be much more difficult both  
3 to bound it, be sure you're bounding, but be  
4 sure that you're bounding at the same time,  
5 you're not being unrealistically high with  
6 that bounding.

7 Then finally, and one that we  
8 probably have not dealt with it much, but it  
9 is the question of, you know, what is  
10 sufficient accuracy. How much, how accurate  
11 do we need to be? To date, I think our main  
12 pattern, in terms of how we've evaluated that,  
13 is that for, and this has evolved I think over  
14 the last several years for the program, is for  
15 situations where there's a very low potential  
16 for exposure.

17 I think, you know, the easiest  
18 example is the residual periods, where  
19 operations have ceased; there's some  
20 contamination on the site, but usually it  
21 involves a lower level of exposure. I think  
22 we've been willing to accept a lesser degree

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1 of accuracy, in terms of the information,  
2 because one, we usually don't have as much  
3 information; it's usually less personal  
4 monitoring for example, or whatever.

5 But also, the range of exposures,  
6 the variability of exposures is probably going  
7 to be much less and at a much lower absolute  
8 value than would be found during production  
9 periods. But we've never really sort of  
10 looked at that in any very rigorous way, or  
11 tried to set a level.

12 For those of you that are new to  
13 the Board or not even that new, we wrestled  
14 with all of these same issues, and the issue  
15 of defining sufficient accuracy when we first  
16 started the Board, first started the program  
17 and when the first set of regulations were  
18 developed. We didn't have good answers then,  
19 and I'm not sure we have easy answers now.

20 But it's not -- all this is not a  
21 new issue, but it is something that I think is  
22 becoming more important as we deal with maybe

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1 some of the more difficult Special Exposure  
2 Cohort evaluations.

3 Then the other area where I think  
4 this is also going to become key is how much  
5 accuracy, you know, what is sufficient  
6 accuracy with the coworker models, which will  
7 be presented a little bit later today, this  
8 morning.

9 It's sort of how do we evaluate,  
10 for stratification? How much difference, how  
11 much differences there have to be between  
12 people in one building or people in different  
13 tasks, between construction workers and  
14 production workers, in order to say that a  
15 single coworker model is adequate and  
16 sufficient for that particular group of  
17 workers?

18 Does one need a separate one for  
19 construction workers or for people in Building  
20 A versus Building B? How we evaluate that  
21 and, I think as we'll see, look at  
22 percentages, when one starts trying to do that

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1 at a say more rigorous statistical approach,  
2 then what's the test of that? How much  
3 accuracy does that statistical test have to  
4 meet? What parameters do we have to use for  
5 that test?

6 So I think that's where we are  
7 now. The Work Group had a short conference  
8 call to discuss the outline. We want to,  
9 since it's a key issue, we cant to keep  
10 bringing it back to the Board for review and  
11 discussion. We'll continue. I think we can  
12 maybe talk some more after we've gone through  
13 the coworker issue, because that, as I said, I  
14 think is one major aspect of that.

15 Let me give Jim Neton a chance to  
16 fill in, if you want to, or make comments.

17 DR. NETON: I think Dr. Melius did  
18 a great job of summarizing what was in the  
19 three-page outline that we put together, and I  
20 don't know if I have too much more to add,  
21 other than I do think that this concept of  
22 small low level exposures and sufficiency

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1 accuracy in one consideration needs to be  
2 addressed at some point.

3           Because we have been behaving that  
4 way pretty regularly in the residual  
5 contamination period, and that's something  
6 that I'd be very interested in discussing  
7 further. The other pieces of the document  
8 really sort of follow out of what we've been  
9 practicing. It's sort of a practical  
10 discussion of how we've been behaving all  
11 along, using the hierarchical model and that  
12 sort of thing. I think that part seems okay  
13 to me.

14           CHAIRMAN MELIUS: Yes, and I think  
15 from our discussion in the Work Group with  
16 NIOSH, I think what we're probably aiming for  
17 is not a new definition of sufficient accuracy  
18 or, heaven forbid, a new regulation, but  
19 something that would, a set of guidelines like  
20 we've agreed on for reviewing SEC evaluation,  
21 reviewing sufficient accuracy.

22           We have them for surrogate data.

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1 We have them for SEC evaluations in general.  
2 Yet these are the parameters you need to look  
3 at and evaluate in reaching conclusions. Not  
4 strict criteria, because I think there are  
5 just too many, these sites are too  
6 complicated, the situations are too  
7 complicated, that to try to develop criteria,  
8 we'd spend lots and lots of time, and we  
9 already spend enough time doing this, all this  
10 work.

11 So but I think as a set of  
12 guidelines, so at least we're consistent in  
13 the approach that we use, and that we consider  
14 what needs to be evaluated as part of doing  
15 that. Again, it wouldn't have specific  
16 criteria, and I think sometimes people look  
17 for those in looking at these guidance.

18 They're not that. They're  
19 guidelines for how to do the evaluation, what  
20 should be done. I think we would come up with  
21 a, hope to come up with the same for this. But  
22 again, we're looking for input from all of the

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1 Board. Again, it should be something that  
2 we're all comfortable with and that we all  
3 would find helpful.

4 So let me open it up for comments  
5 or questions. Yes, Gen.

6 MEMBER ROESSLER: You brought up -  
7 - by the way, that was really a very good  
8 summary of the outline and everything, and I  
9 think we want to keep this in front of us for  
10 a reminder. My question has to do with the  
11 questions that come up, like how much accuracy  
12 is sufficient. That's the basic question.

13 It seems like to answer a question  
14 like that and to keep consistency across the  
15 program, we ought to go back and look at those  
16 SECs that were denied, or also maybe the ones  
17 that were awarded, and try to see what we have  
18 done.

19 Is there a consistent pattern? Are  
20 there some things in the past, and you  
21 referred to what we've done in the past, and  
22 how important that is. But are we planning to

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1 do anything like that?

2 CHAIRMAN MELIUS: Well, I think  
3 we've already done it in the two White Papers,  
4 and I think those were, I believe Ted  
5 distributed them again to people. I think  
6 what we found is though they were helpful,  
7 they didn't really identify an approach to  
8 dealing with sufficient accuracy, and some of  
9 that is because they were so dominated by the  
10 circumstances at a particular site.

11 So the practical issues, you know,  
12 what monitoring was done, what information was  
13 available at the site, what they did at the  
14 site and so forth, really drove those  
15 decisions much more than -- you might think in  
16 retrospect, and I think what may be a way of  
17 approaching it, again thorium.

18 Thorium, you know, was the one  
19 that probably led to, you know, a number of  
20 SECs early on. But then, you know, as we get  
21 into some of the other sites, we found that  
22 had sufficient information there to be able to

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1 do dose reconstruction.

2           It was just a practical, you know,  
3 situation of what was available at a  
4 particular site, that allowed us to reach  
5 those conclusions, rather than any sort of  
6 principal or any sort of calculation or  
7 difference in approach on sufficient accuracy.  
8 I think what we, what may be worthwhile doing  
9 is after we've come up with a set of  
10 guidelines, is then think back do these make  
11 sense in terms of our past? Do these capture  
12 our past decisions, and do that.

13           I mean I'll -- when NIOSH first  
14 gave us this outline, I sort of skipped over  
15 the beginning. I said oh well, we do that all  
16 the time. This is sort of the second slide I  
17 showed with, you know, what are the practical  
18 issues.

19           But when you think about it, those  
20 really are what drives so much of what we've  
21 done. It's our evaluation of the information  
22 available on the site, and being consistent in

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1 how we approach that, making sure we don't  
2 miss, you know, what happened in different  
3 buildings or something like that, that we have  
4 as complete information as possible.

5 But I think we can go back and do  
6 that. It just didn't seem to be, I don't  
7 think we had the right way of approaching it  
8 early on. Maybe we picked the wrong example  
9 with thorium. Maybe there are some other  
10 examples that would be, would have been  
11 better.

12 But right offhand, I think we all  
13 thought that would have been the best example,  
14 because we had, you know, SEC evaluations,  
15 sort of granted SECs, we had not granted SECs,  
16 and we had some tough decisions on those,  
17 where the Board wasn't certain what to do. But  
18 that appeared to be more due to the  
19 information available. But that is something  
20 we can revisit. Henry?

21 MEMBER ANDERSON: Yes. It seems  
22 to me one of the other things that we've

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1 struggled with is, and it's sort of wrapped up  
2 into variability, and that's kind of the range  
3 of exposures, where I think we're comfortable  
4 in the residual period that by and large the  
5 range of the exposures is quite manageable,  
6 where if you have orders of magnitude  
7 differences, then you get into choosing a  
8 highest variable, and then say well, that will  
9 be bounding, that that bound then starts to  
10 press the plausibility issues.

11 So one of the key factors that I  
12 think we have to come to grips with, is there  
13 a range of exposures where unless we've got  
14 lots of data, it suggests there's, it's  
15 problematic where we start applying these  
16 various statistical things.

17 Then it's well, that seems too  
18 high, so let's just come up with something a  
19 little bit lower, and that seems -- and then  
20 we get into very much of a subjective decision  
21 process. That, I think, is really a  
22 challenge. So good description of the

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1 variability in what is an acceptable range of  
2 variability, if we're going to apply some of  
3 these, I think, is really a critical thing to  
4 look at.

5 CHAIRMAN MELIUS: Yes. No, I  
6 agree, and then I mean I think we all have in  
7 the back of our mind, even though we may not  
8 have a number for health endangerment. We do,  
9 you know, think to what extent is this  
10 exposure going to affect, you know, dose  
11 reconstruction? Is it going to have an impact  
12 in that?

13 If it's a relatively low exposure  
14 and the variability is contained, you know, in  
15 a practical way by the circumstances, then I  
16 think we say well, it's not really going to,  
17 you know, affect -- very unlikely to affect  
18 individual dose reconstruction involved, and  
19 therefore we're comfortable because we --

20 We're comfortable with both the  
21 bounding and we're comfortable that even  
22 though maybe we don't have as much

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1 information, monitoring information, we have  
2 enough that we can feel that it's a fair  
3 approach, and that NIOSH is again, being a  
4 claimant, giving benefit of the doubt to the  
5 claimant in terms of doing that, but at the  
6 same time coming with an actual, you know,  
7 conclusion that we can do dose reconstruction  
8 with sufficient accuracy, for that particular  
9 exposure.

10 Yes, and there are circumstances  
11 where, on the residual where we have not,  
12 where there's construction going on or some  
13 other activity on the site, that we know that  
14 that range would have been much, could have  
15 been much higher. I can't see who -- Phil,  
16 yes.

17 MEMBER SCHOFIELD: The one word  
18 that really bothers me at some of the  
19 facilities, say like a Rocky Flats or Savannah  
20 River or Oak Ridge, is "plausible."

21 (Off mic comment.)

22 MR. KATZ: Phil, your mic's off.

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1 Phil.

2 MEMBER SCHOFIELD: Oh, okay. All  
3 too often we've had personnel at some of these  
4 facilities have been close to the unplausible.  
5 So this definition of what is plausible and  
6 what is not, at some of more the complicated  
7 and the sites where the risk factor is much  
8 higher. I think we need to try and narrow  
9 that definition a little more stringently.

10 CHAIRMAN MELIUS: Well, I mean I  
11 think that's what we're sort of looking at  
12 really, is what is plausibility, because a  
13 bound, you know, we can come up with a high  
14 number and bound any exposure. I'm sure  
15 there's someone who will have a counter-  
16 example, but what we've encountered so far at  
17 these sites, we can always bound.

18 But is it a plausible bound, and  
19 that's what we really, I think, wrestle with  
20 that, and you're right. We need to come up  
21 with some better parameters on and  
22 consistency on how we do that, at least try to

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1 capture what we've done so far, so we all have  
2 the same understanding and can apply that.  
3 Wanda.

4 MEMBER MUNN: Some of these  
5 comments are certainly well-received. The  
6 problem, the basic problem that we have is we,  
7 and in very simplistic terms, trying to  
8 eliminate all of the technical information  
9 that puts layers of complication on what we're  
10 looking at, is the fact that we do not have a  
11 situation where we have cause and effect of  
12 what we're talking about.

13 We have a situation where we have  
14 an influence on the outcome of exposure, but  
15 the fact that simple exposure does not  
16 translate to either harm or benefit is, leaves  
17 us with a situation where we have no clear  
18 defining line. Without a clear defining line,  
19 where we can say anything below this kind of  
20 exposure for this different type of radiation,  
21 is not going to be of deleterious effect to  
22 anyone.

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1           But there's a point where anyone  
2 would agree that there is going to be harm  
3 above that limit. But that limit cannot be  
4 defined, despite the fact that we have over  
5 100 years of experience in defining outcomes  
6 and recording outcomes. Until we can come to  
7 some grips in this body, of what we consider  
8 to be the gray area, then it's hard to see how  
9 we can address the question of sufficiency.

10           We probably cannot even agree on  
11 where the gray area is, below which there's  
12 not likely consequence and above which there  
13 certainly will be consequence. That's a very  
14 large gray area, and although I really  
15 appreciate the work that's being done in  
16 recent months, trying to pin this down better.

17           It turns out to be a statistical  
18 ball of tar, and for those who are not really  
19 well-versed in statistics, it becomes a  
20 problem of definition, which although  
21 eliminated by our discretions and by the  
22 papers, still does not show a clear path on

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1 how we come to our decisions about the  
2 definition of those terms.

3 I'm at a loss to see how we're  
4 going to get past that, in the absence of  
5 cause and effect, and in the absence of clear,  
6 bright lines from which we can say here's our  
7 standard by which we have to make our  
8 decision. We're dealing in an extremely  
9 amorphous area when we're trying to define  
10 these terms, and if we're going to insist on  
11 defining them clearly, in order for everybody  
12 to be in the same boat, then I guess I'm  
13 saying what I suspect most people feel. This  
14 is a thorny issue, and I'm not at all sure  
15 that we can resolve it.

16 I commend your efforts to try to  
17 get us to an agreement point. I'll be very  
18 interested in seeing how we get there, if we  
19 can get there.

20 CHAIRMAN MELIUS: We'll see. I  
21 just would point out that, yes, I guess two  
22 things. We wrestled with trying to define

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1 health endangerment when we first started  
2 here, and then for some of the reasons you  
3 stated, we decided that, you know, a  
4 quantitative definition was not going to be  
5 necessarily feasible to do and reach.

6 But also, I think we have to also  
7 remember that the risk, the evaluation of risk  
8 that we're feeding information into is the  
9 IREP model. That's what Congress set for us,  
10 and we're doing what Congress, you know, we're  
11 implementing this Act, is what NIOSH is doing  
12 and so forth, and they defined what, you know,  
13 the level of risk is through the -- and who  
14 gets, at least in terms of compensation for  
15 these workers, through the IREP models.

16 So it's what we're feeding into  
17 the IREP model is what we're focusing on, and  
18 can the exposure part of that be reconstructed  
19 with sufficient accuracy, to be then fed into  
20 the IREP model. So the risk determination for  
21 purposes of compensation are in some ways out  
22 of our hands.

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1           It doesn't mean that the bigger  
2 questions don't, that you put out, aren't  
3 still there. But we in some ways have a more  
4 limited role than determining whether or not  
5 this level of exposure, presuming we agree on  
6 it and so forth, is sufficient in terms of  
7 compensation. We have a more prescribed sort  
8 of approach to that.

9           For Board Members on the phone,  
10 Paul's part of the Work Group. I don't know  
11 Paul, if you're still on, if you have comments  
12 or David or others? Ted probably has them  
13 muted.

14           MEMBER RICHARDSON: Dr. Melius?

15           CHAIRMAN MELIUS: Yes.

16           MEMBER RICHARDSON: Can you hear  
17 me?

18           CHAIRMAN MELIUS: Yes, we can.

19           MEMBER RICHARDSON: Okay. I  
20 appreciate the discussion. I was, and I agree  
21 with what you've characterized with how we've  
22 been operating, in terms of dealing with

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1 settings where, for example, residual periods  
2 where effective dose we weren't more  
3 comfortable I think coming to where it was  
4 bound and why.

5           It's led me to think a little bit  
6 about, I think actually the language,  
7 sufficient accuracy is probably good if, you  
8 know, in the kind of more standard sense of  
9 accuracy as being how close is the assigned  
10 dose or distribution of assigned dose as to  
11 the worker's true dose.

12           I mean you want something that's  
13 accurate, from that sense. So it shouldn't be  
14 biased, and if there's also an aspect of  
15 precision there, how close are the agreement  
16 of the values in the distribution there. So  
17 that's, I mean that led me to think we have  
18 like a situation of residual period where we  
19 can, you have relatively good precision in  
20 applying those doses, because the range at  
21 distribution is relatively narrow.

22           You have a good precision and it's

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1 unbiased with a -- it's sufficiently accurate.  
2 But when the bounding gets large, I would  
3 imagine you've got poor precision, where the  
4 accuracy is low over a wide distribution.

5 So it might be that we -- I'm not  
6 sure if this is helpful or not, but as you  
7 start to think about the, you know, pulling  
8 the language of sufficient accuracy out into  
9 issues of bias and precision, I think that's  
10 getting at some of the discussion.

11 You want assigned values that are  
12 close to true values, and we want to be able  
13 to do that with little or no bias hopefully,  
14 and as the precision of those estimates get,  
15 of the distributions we're talking about get  
16 wider, the accuracy is less.

17 I mean I've gone around and around  
18 in my head trying to think about what we were  
19 talking about. We could try a little bit more  
20 to have a, something that ties -- but what I  
21 think what we were saying is something that  
22 ties the, what you described as the absolute

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1 value of the assigned dose, which is kind of  
2 the precision of the range of the values from  
3 zero to the bounding dose, giving us a sense  
4 of if the precision is good or poor, and  
5 therefore whether the accuracy is good or  
6 poor.

7 CHAIRMAN MELIUS: No, I think that  
8 is certainly the way I've been thinking about  
9 it more, and I think the coworker model issue  
10 sort of brings that concept forward, because  
11 that's -- because we're trying to deal with  
12 that in more statistical approaches, and I  
13 think, you know, in terms of precision and  
14 bias and which at least us epidemiology people  
15 are used to dealing with are, become important  
16 in evaluating those.

17 MEMBER RICHARDSON: Yes, and we  
18 have decisions or discussions that turn on  
19 both of those, like in a sense are they  
20 bounding? I mean are the values, is there  
21 good trueness to the assigned values. But we  
22 also have discussions about the precision of

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1 the distributions.

2 I think intuitively, I tend to  
3 feel like when we get to places where we're  
4 talking about bounding doses which have, you  
5 know, are not accurate, you know, in closeness  
6 of the assigned dose to the person in a  
7 relative sense. But as you said in an  
8 absolute sense, the magnitude of the kind of  
9 dose is relatively small, meaning the  
10 precision is relatively good, and we start to  
11 feel comfortable bounding a dose there.

12 CHAIRMAN MELIUS: Yes, okay. Thank  
13 you, Dave. Paul, are you on the line and wish  
14 to comment?

15 (No response.)

16 CHAIRMAN MELIUS: Okay. Anybody,  
17 any other Board Members? Okay, good. So our  
18 plan is we'll talk more later and sort of  
19 moving forward here. I'll tell you what  
20 happened in the Work Group call. We went over  
21 the outline and said well, what's the next  
22 step? Should we develop the outline to a

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1 full, more complete report and --

2 MEMBER ZIEMER: Can you hear me?

3 CHAIRMAN MELIUS: Oh yes, now we  
4 can. Sorry. Go ahead.

5 MEMBER ZIEMER: Yes. I thought I  
6 was off mute, and it didn't seem to work. Yes,  
7 this is Ziemer. Most of my comments have  
8 already been said in the Work Group, and I  
9 kind of agree that we're not really looking  
10 for a bright line or a numerical bat or  
11 anything like that. We're looking for a  
12 process --

13 CHAIRMAN MELIUS: We lost you  
14 there, Paul.

15 MEMBER ZIEMER: Can you hear me  
16 now?

17 CHAIRMAN MELIUS: Yes, we can.

18 MEMBER ZIEMER: Thank you. I  
19 don't think we're looking for any kind of a  
20 bright line or value, or necessarily even a  
21 specific range in every case. It may be very  
22 site-specific. But we have to have a process,

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1 I think, where we are able to make the  
2 evaluation, have reached sufficient accuracy  
3 for this situation, and that's where we need  
4 criteria rather than numbers.

5 Keep in mind, for example, we do a  
6 lot of dose reconstructions where precision or  
7 let me keep it with accuracy, accuracy is not  
8 the issue. The cases where we already passed  
9 the 50 percent value with just the external,  
10 and we don't have an accurate dose. We have a  
11 dose that gives us a point where we can make  
12 an accurate decision on compensation.

13 That often happens, where we have  
14 cases where we have already accumulated enough  
15 dose to go over the 50 percent mark, without  
16 completing the total dose reconstruction. So  
17 we don't necessarily need accuracy for  
18 individual doses. We need to make sure that  
19 we have done what is sufficient to get what I  
20 would call an accurate decision on  
21 compensation.

22 So we need to keep that in mind,

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1 and whether it's with coworker doses or  
2 individual doses, it's the process that makes  
3 sure that we have the information that's  
4 necessary to make a correct decision on  
5 compensation. So this is not a straight  
6 statistical thing. This is a combination of  
7 both the science and the policy.

8 You know, we already know that in  
9 cases where the uncertainty is great, that it  
10 tends to favor the claimant. So we need to  
11 keep those things in mind as we think about  
12 sufficient accuracy.

13 CHAIRMAN MELIUS: Thanks, Paul.  
14 Jim Lockey.

15 MEMBER LOCKEY: Jim, when I was  
16 listening to David in your review, just for my  
17 clarification, if in the residual periods, in  
18 moving forward, where we're getting the lower  
19 exposure situations. Is it the group's  
20 thought that maybe more precision should be,  
21 precision in relationship to the maximum dose  
22 or the highest range, plausible concentration

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1 perhaps is more important than precision under  
2 that, or is it a combination of both?

3 CHAIRMAN MELIUS: I think it's a  
4 combination of both. It's sort of the range  
5 that we're operating in, and the absolute  
6 value of that range, of that. I'm not sure  
7 we've gotten to a point where we're -- whether  
8 we really evaluated that part of it, because  
9 I'm not sure how that extends beyond that.

10 I think we're all comfortable with  
11 the residual period approaches given, you  
12 know, the circumstances most commonly found  
13 there. I'm not sure how we then, are we all  
14 comfortable? Are we ready to extend that out?  
15 How do we extend it out beyond those ranges?

16 MEMBER LOCKEY: So if we had, if  
17 we felt very comfortable that the bounding  
18 dose was very precise, that in itself would  
19 not be enough, because we don't have, we may  
20 not have enough precision in relationship to  
21 the lower exposure situations under that  
22 bounding dose, maximum bounding dose?

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1                   CHAIRMAN MELIUS:    Yes.    I think  
2    some of -- how does it apply to that  
3    population, because if the bounding dose is  
4    very high, the range is high of exposure with  
5    the population.    You can have a precise  
6    bounding dose.    It only may apply to -- how  
7    well, is that sufficiently accurate for  
8    everybody else in that exposure circumstance,  
9    everyone else in that building or whatever.

10                  MEMBER LOCKEY:    So that it breaks  
11    down to job position, job task, and would it  
12    fall under that?

13                  CHAIRMAN MELIUS:    Yes, yes.    I  
14    think we have an example coming up.    Anybody  
15    else?    Okay.    Thank you.    We'll, I guess we  
16    can talk more about moving forward later after  
17    we've done the coworker, and we have some  
18    Board work time.

19                  We are on our break, and since we  
20    are a little bit past, and since, if I told  
21    people to come back in 15 minutes they might  
22    not anyway, why don't we plan on what -- we're

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1 not really scheduled. So a 25 minute break.  
2 So yes. So come back at quarter of. Is that  
3 fair? Okay.

4 (Whereupon, the above-entitled  
5 matter went off the record at 10:22 a.m. and  
6 resumed at 10:49 a.m.)

7 CHAIRMAN MELIUS: Okay. We'll get  
8 started again. I think LaVon. No, keep him  
9 on his toes. We're going to talk about  
10 coworker models, and Jim Neton and Arjun will  
11 be speaking, and between now and lunch, and  
12 based on, is it OTIB-53? And then there's an  
13 SC&A review of that, which everybody received  
14 ahead of time and is memorized, so the quiz  
15 will be later. So go ahead, Jim.

16 DR. NETON: Testing. That's good,  
17 thanks. Okay. Thank you, Dr. Melius. I thank  
18 you for setting the stage with the sufficient  
19 accuracy. I think you're absolutely right. A  
20 lot of what I'm going to talk about might fit  
21 into your, especially with the coworker model,  
22 approach that NIOSH has been using for quite

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1 some time now.

2 I think we started, TIB-19 was the  
3 first procedure or whatever that we put in  
4 place back in 2005, and we've had various  
5 iterations of coworker documents since then,  
6 specifically to address more and more detailed  
7 and sophisticated analyses, including censored  
8 data, number of data sets and most recently  
9 stratification of data in Report 53.

10 So I'm going to try to get sort of  
11 an overview of where we were and where we  
12 ended up with 53, to get the conversation  
13 going. But I would like to acknowledge that a  
14 lot of this work was done by some very  
15 talented statisticians that included Tom  
16 LaBone, Nancy Chalmers and Daniel Stanescu.  
17 Tom and Nancy are with ORAU and Daniel's on  
18 our staff.

19 So just I'm going to have a few  
20 slides of background, just for those maybe who  
21 are new to the Board, and just to make sure  
22 everybody's on the same page. The reasons for

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1 using coworker data are pretty obvious. The  
2 workers were unmonitored, and more  
3 significantly, they were potentially exposed.

4 I mean there are a number of  
5 workers that are never monitored, and the  
6 potential for exposure can be very small or  
7 zero. So we need to keep that in mind, as we  
8 move through in this discussion.

9 But for workers that were  
10 monitored and who were potentially exposed,  
11 the data could have been either lost or  
12 destroyed, and this one was envisioned in the  
13 Act. Or, as Dr. Melius talked about earlier,  
14 monitoring methods were not reliable. The  
15 data couldn't measure what they purported to  
16 measure, something to that effect, the  
17 neutrons early on in the complex, maybe  
18 something like that.

19 Or lastly, available data  
20 insufficient to complete a dose  
21 reconstruction. You may have a few data  
22 points, but a person's career spanned 20-30

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1 years, and those few data points aren't  
2 sufficient, so you need to rely on some other  
3 source of information.

4 We have developed, I think since  
5 2005, at least a dozen coworker models for  
6 internal and probably an equal number for  
7 external dose at various sites, and the data  
8 has come from any of these four different  
9 sources.

10 Preferably, we end up using the  
11 cover facility databases that we can obtain,  
12 which would include the urinalyses results,  
13 the GLD measurements, the film badge  
14 measurements, that sort of thing, and those  
15 are the best sort of data if they're complete  
16 and accurate and have very well identified. We  
17 prefer to use those.

18 But lacking that information, we  
19 have used epidemiologic study data that was  
20 collected at ORAU for the Center for  
21 Epidemiologic Research, or even CEDR, the  
22 Comprehensive Epidemiologic Data Resource that

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1 lists epidemiologic data sets in a de-  
2 identified fashion, which is kind of important  
3 in this discussion.

4 But we've used that, and also  
5 there's a TIB out there that talks about using  
6 claimant data. If we don't have any other  
7 sources and we have a fairly robust set of  
8 claimant data, and we can demonstrate, at  
9 least statistically, that the claimant data  
10 are not a biased sample of the entire  
11 population, we've even used that in the past.  
12 So there's a large number of locations where  
13 we can obtain data for these models.

14 The general approach is to look at  
15 the data of the moderate population, and of  
16 course we looked at the pedigree of the data,  
17 determined the measurements reliable,  
18 established if the monitoring population is  
19 represented in the work force. That's pretty  
20 much the key on this slide, is that we're the  
21 highest exposed people monitor, okay. That  
22 gives us a good handle.

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1           Or, at a minimum, we're the  
2 representative, a representative sample of the  
3 workers monitored. If it's a representative  
4 sample that was monitored, then we have a  
5 fairly reasonable accurate model. If the  
6 highest exposed workers were monitored and  
7 we're applying a coworker model, then we'll  
8 probably have a slightly biased high estimate  
9 of the workers. We'll talk a little bit more  
10 about that later.

11           The statistical approach for doing  
12 the coworker evaluation is well-described in  
13 Procedure 95. That basically says you review  
14 the data and apply a statistical distribution,  
15 which is fit a log-normal distribution. It's  
16 been well-established log-normal distributions  
17 are applicable to environmental and  
18 occupational data, and group the data as  
19 appropriate.

20           Sometimes, when the data are  
21 sparse, one has to go to monthly, annual and  
22 sometimes up to three years' worth of data to

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1 fill a gap. Then one generates a summary of  
2 statistics, evaluates a fit to the data. It's  
3 a pretty straightforward regression analysis  
4 that was done early on these procedures, and  
5 like I say, those early models that we  
6 developed did exactly just that. I'll show  
7 you a couple of examples.

8 As Dr. Melius alluded to earlier  
9 though, the external coworker models are much  
10 more straightforward to apply to internal.  
11 There's a variety of reasons for that. Many,  
12 many more people were monitored for external.  
13 There's little interpretation required in the  
14 internal world, as I'll talk about a little  
15 bit later.

16 The excretion values that you  
17 obtain really don't provide information as to  
18 what a person's intake was. It has to be  
19 converted to some sort of an intake to be  
20 meaningful. That's really the trick, and I  
21 want to really emphasize that in my discussion  
22 here.

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1           This is just an example, I think  
2           it's probably too simplistic, but a coworker  
3           distribution for external dosimetry of an  
4           untransformed data set where, you know, it's  
5           pretty clearly log-normal. I've truncated the  
6           distribution at 500. It extends way out.

7           But to get that nice little  
8           characteristic log-normal shape, I left it  
9           truncated at 500. But you get the idea of  
10          what I'm talking about, and many of the data,  
11          most of the data we have looks similar to  
12          this.

13          If one transforms, takes a lot of  
14          the data and plots it on what we call a Z-  
15          score plot, which is a standard normal variate  
16          with a Z-score of zero being a central  
17          estimate of the data set, and then the values  
18          to the left and the right in units of  
19          essentially standard deviations, one normally  
20          obtains a plot that looks similar to this for  
21          external data.

22          Here, we'll have a geometric mean

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1 of about 130 millirem, and a fairly large GSD.  
2 I mean you can see here's six and a half.  
3 Interestingly, this is an aside, if you see  
4 where that site of administrative dose limit  
5 is, that tailing off at the top, this is very  
6 frequently seen in external dosimetry results,  
7 where, as workers approach the site  
8 administrative limit, they start pulling them  
9 out of the workforce and fewer and fewer  
10 measurements are obtained in that area.

11 But internal is what I really want  
12 to talk about today, because I think it's the  
13 most complicated thing, and is really the  
14 subject of TIB Report 53. In the internal  
15 world, we often have multiple bioassay results  
16 per monitoring period. They'll have a routine  
17 monitoring program, but sometimes workers are  
18 sampled more frequently than others, based on  
19 the potential for exposures or even in cases  
20 where there's incidents, one will take  
21 multiple samples.

22 In that situation, if you're

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1 trying to model one year's worth of exposure,  
2 you can have many bioassay results for several  
3 people, and few bioassay results for the  
4 remainder of the population. That tends to  
5 skew the results, if one uses all of those  
6 data.

7 In fact, the bioassay results from  
8 one individual are going to be correlated,  
9 because it's the same individual being sampled  
10 repeatedly, and that violates the presumption  
11 of statistical independence of the data. So  
12 given that, I'm going to talk about this a  
13 little later.

14 In Report 53, there's this one  
15 person/one sample concept that we've adopted,  
16 that heretofore had not been applied in most  
17 of the coworker models. As I mentioned  
18 earlier, the raw data must be converted to  
19 intake and then dose. So you can have 1,000  
20 bioassay results in one year that say .03  
21 picocuries per liter are being excreted on  
22 average by this population.

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1           But what does that mean in terms  
2 of dose? What is the intake the population  
3 was breathing in? That's critical here, and  
4 if you're going to build a coworker model for  
5 external, the exposure pattern has to be  
6 presumed. If you measure a film badge, you  
7 measure a film badge and it represents that  
8 exposure period.

9           Here, what is the exposure  
10 potential? Acute, chronic, mixed? In this  
11 situation, we talked about this a long time  
12 ago. We have defaulted in these coworker  
13 models to chronic exposures, and we believe it  
14 is a claimant-favorable approach, to assume  
15 that the geometric mean of the distribution  
16 represents a constant. Everyone would have a  
17 constant excretion that was unmonitored at the  
18 geometric mean of that distribution.

19           So this is just a summary of what  
20 possible calculations go into a coworker  
21 model. In the first box on the upper left, of  
22 course you have the urine data, the raw data

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1 that we obtain from some database. In the  
2 second box we have the, what we call the one  
3 person/one sample urine data.

4 In 53, we've adopted an approach  
5 where if you're modeling one year, you will  
6 take the average value of the person's urinary  
7 excretion in that one-year increment, and use  
8 that as one of the data points in the coworker  
9 distribution. In our opinion, that actually  
10 is more reflective of intake than any other  
11 method you could use, such as using all of the  
12 data by itself in that one-year increment.

13 If you think about it, it's almost  
14 like -- you take the average value of the  
15 person's urinary excretion in that one-year  
16 period, and multiply it times a day, the  
17 monitoring period, you have picocurie per  
18 liter days. An integrated estimate of that  
19 person's exposure over that one period. It  
20 just makes perfect sense to us.

21 The third box on the lower left  
22 shows that we will take, using the one

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1 person/one sample urine data, the 50th and  
2 84th percentile of the data. That's  
3 generating a log-normal distribution plot, and  
4 then the subsequent in Box 4. You take the  
5 50th and 84th percentile intake rates and  
6 calculate geometric mean and geometric  
7 standard deviations.

8 That's where the rubber meets the  
9 road. That's where you're converting a  
10 bioassay excretion value, an average bioassay,  
11 a 50th percentile bioassay excretion value  
12 into some chronic intake over a period of  
13 time. Of course, and in Box 2, 3 and 4 is  
14 where we can actually look into the, peer into  
15 the inner workings of the models, and see how  
16 they behave.

17 We can't do anything in Box 5,  
18 which is person-specific intakes and doses.  
19 That gets into some very -- that was coworker  
20 model by cancer type and all of that sort of  
21 thing. It's just not possible. Of course,  
22 the final outcome is Probability of Causation.

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1           As Dr. Ziemer mentioned earlier,  
2 the real question here is do we have a model  
3 that provides an accurate compensation  
4 decision for a worker?

5           Okay. This is just an example of  
6 the probability of distribution for a single  
7 year for urinary excretion. Here you have the  
8 standard normal quantiles on the X axis. My  
9 geometric mean line's a little off; I wasn't  
10 perfect in lining it up.

11           But you can get the idea that the  
12 geometric mean of this distribution is .7,  
13 with a geometric standard deviation of 4.  
14 Fairly large, but this is fairly typical. In  
15 this case, N was 332 bioassay measurements.  
16 Little N was 196 uncensored, one person/one  
17 sample uncensored bioassay measurements.

18           So you get the feel here, and I  
19 want you to remember this graph, because I'm  
20 going to refer back to it a few times. But  
21 this is the distribution that one would see in  
22 the monitored population. You can see that on

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1 the Y axis, the quantities vary from .2 up to  
2 basically 20. So you've got a couple of  
3 orders of magnitude variability in the  
4 distribution here.

5 So just to refresh, this is a  
6 distribution for a single year. This is what  
7 we would calculate for one year, and this is  
8 what would go into the intake model. But on  
9 the next slide I want to point out to you,  
10 there's a number of points here. I think  
11 there's 14 points here representing different  
12 years.

13 So if the previous slide  
14 represented one year, where am I going here,  
15 wrong way. If the previous slide represented  
16 distribution for one year, that is represented  
17 by say the first dot right here. That would  
18 be the geometric mean of that distribution on  
19 this curve.

20 Now we would take subsequent years  
21 of data and fit, and plot them here as well,  
22 and then fit the best intake retention curve

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1 we can. It's essentially a linear square  
2 regression analysis through these data points,  
3 and this is where the rubber meets the road.  
4 This is the intake that's going to be assigned  
5 for, to this cohort, these unmonitored workers  
6 over a period of 14 different years.

7 So if there's a difference in any  
8 one of these little points, it may not make a  
9 practical significant difference in this curve  
10 that's fit, because if you see the values  
11 here, the curve predicts that the chronic  
12 intake is something like .96 DPM per day, with  
13 a standard deviation of .22 DPM per day, a  
14 fairly substantial error.

15 This is above and beyond the  
16 uncertainty associated with the individual  
17 coworker models. That needs to be kept in  
18 mind. So what we would do here is we fit this  
19 50th percentile distribution, and then re-run  
20 the calculation using the 84th percentile  
21 distribution to establish the GSD of the  
22 intake for this entire 14-year period.

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1           So this is where Report 53 talks  
2 about what's the practical significance of any  
3 differences in the individual annual coworker  
4 models. This needs to be kept in mind.

5           So the application of the coworker  
6 model, as I mentioned earlier, is based on the  
7 potential that the monitor worker -- with the  
8 potential, the exposure potential for the  
9 unmonitored worker that we're trying to  
10 reconstruct. The person would receive either  
11 the full distribution, i.e. the 50th  
12 percentile with the geometric standard  
13 deviation as the input parameter, or the 95th  
14 percentile of the distribution.

15           So for this distribution, they  
16 would either, when it's converted to intake  
17 and dose, of course, but it's all  
18 proportional, it's not that the person gets  
19 just the 50th percentile. The entire  
20 distribution is input into IREP as well, and  
21 that is sampled as representative of our best  
22 estimate of the worker's intake for that

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1 particular period.

2           So it's not accurate to say that  
3 they're just getting the 50th percentile. We  
4 take advantage, well we acknowledge the  
5 uncertainty in the data set itself, and  
6 incorporate that distribution. So that's an  
7 important point to remember.

8           So each situation is evaluated on  
9 a case-by-case basis, and I don't want to get  
10 into the judgment that's used there. I talked  
11 about that in the past, whether you have  
12 administrative workers versus clerical versus  
13 chemical operators, that sort of thing, and  
14 that's taken into consideration.

15           But there is the issue that Dr.  
16 Melius mentioned of potential stratification  
17 of the data. That's where Report 53 has been  
18 issued, and it's our attempt to statistically,  
19 provide a statistical framework, which one can  
20 analyze data sets for potential  
21 stratification. I mentioned earlier that  
22 Report 53 introduces the concept of one

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1 person/one sample, OPOS as we call it, and  
2 I've got a slide here that basically  
3 summarizes what that means.

4 I mentioned earlier, minimizes  
5 issues related to correlation of data. It  
6 minimizes issues related to one person driving  
7 the distribution. I think there's one data  
8 set we have. There could be 50 samples from  
9 one person and then 100 samples from another  
10 person. That person's samples would drive the  
11 distribution, totally not appropriate.

12 So to use the data, the concept of  
13 the maximum possible mean was developed, which  
14 is oftentimes you have a combination of  
15 censored and uncensored data. Censored data  
16 of course just meaning that the data report is  
17 below some limit of detection.

18 So I have three examples here to  
19 sort of point out how this one person/one  
20 sample would be calculated, given different  
21 scenarios. In the first example, you have  
22 four data points of 10, 3, 5 and 6. We would

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1 simply just take the mean of those data points  
2 and they would be put into the distribution as  
3 6, the average value of those four.

4 In the second example, if you have  
5 the same data points but the 3 and 5 were  
6 censored, the report is less than values, you  
7 would still report the data as 6. That's  
8 where the concept of the maximum possible mean  
9 is. It probably wasn't a 3 or a 5, but it  
10 certainly is no higher than a 3 or a 5. So  
11 we're just going to assume, for claimant-  
12 favorableness, that it was that.

13 In a third example, if you have  
14 all censored data, it would -- the average is  
15 still 6, but it would be reported as a  
16 censored data point, using in the database as  
17 a censored datapoint as less than six. That's  
18 a pretty simple statistical calculation, but  
19 that's very important as to how we treat the  
20 data.

21 So to get to the issue of  
22 stratification, the monitored population is

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1 really, has got to be a conglomerate of a  
2 number of subgroups. You know, you take an  
3 entire 500 point data set. There's going to  
4 be different subgroups in there.

5 As I mentioned earlier though, the  
6 single distribution can be applied if the  
7 highest exposed workers were monitored, or  
8 workers were sampled representatively,  
9 representative workers were sampled of the  
10 workforce.

11 You took -- it wasn't biased in  
12 some particular means, such as only the lowest  
13 exposed workers were monitored or something of  
14 that nature. If you do, however, suspect  
15 stratification, it can be statistically  
16 evaluated, and Report 53 introduces the  
17 concept of the Monte Carlo permutation test  
18 and the Peto-Prentice test, and I'm just going  
19 to briefly describe those today.

20 The Monte Carlo permutation test  
21 has some assumptions that the data can be  
22 described by a log-normal distribution, which

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1 we know to be the case, and that the data is  
2 not heavily censored. No more than 30 percent  
3 of the data should be censored.

4 We do believe that it is an  
5 important criterion that the data, if you're  
6 going to stratify data, it has to be based on  
7 some a priori criterion. You can't just go  
8 data mining, looking for differences and  
9 saying "aha, I find a difference here,"  
10 because statistically, if you do enough  
11 calculations, you're going to start finding  
12 differences that really aren't necessarily  
13 based in any reality.

14 The a priori criteria could be as  
15 simple as, and this shows up Savannah River  
16 construction workers versus non-construction  
17 workers at Hanford Area 100 versus 200 Area  
18 workers. But we feel very strongly that one  
19 needs to have an a priori criterion before you  
20 start investigating stratification. You have  
21 to have some reason to believe why they're  
22 different.

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1           For each of these strata, you  
2 calculate the geometric mean and the geometric  
3 standard deviation. So you have a delta. You  
4 have a difference between the geometric means  
5 and the geometric standard deviations of the  
6 two strata, okay. Stick with me here. It  
7 gets a little more complicated.

8           You calculate, as I mentioned, you  
9 calculate the difference between the two, and  
10 these differences comprise one data point,  
11 with an X-Y coordinate. You're going to have  
12 the geometric mean on one side, geometric  
13 standard deviation on the other. You plot a  
14 single point.

15           Now what you do is you take the  
16 entire data set and you randomly pull  
17 distributions out of that data set. Say you  
18 had 300 samples. 200 were from one strata and  
19 100 were from another. You would sample 100  
20 random points out of that data set, calculate  
21 a geometric mean of standard deviation, and  
22 plot it.

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1           Then you would take, what did I  
2 say 200? You take the 100 data points and do  
3 the same thing, and you keep resampling this  
4 distribution 10,000 times, until you generate  
5 a plot of the possible distribution of all of  
6 the differences between the geometric means,  
7 the standard deviations within that one data  
8 set.

9           That gives you sort of the  
10 universe of possible issues, and what you have  
11 here is one of these plots that has a 95  
12 percentile confidence envelope. It's an  
13 ellipse, and the line drawn around the points  
14 there is where 95 percent of the data fall.

15           If the difference that you  
16 calculated between the two strata in the first  
17 place falls within that ellipse, as shown  
18 here, at the 95 percent -- falls within the  
19 95 percent confidence band, then it is  
20 concluded that the two strata that you  
21 attempted to evaluate are not statistically  
22 different.

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1 I just have an example here of one  
2 where you do the same calculation. This  
3 difference over here, this point on the right,  
4 is way outside the ellipse. Therefore, it  
5 would be concluded that the strata are  
6 statistically different.

7 Sounds complex, but it's fairly  
8 easy to perform on computers to get these  
9 results, and it's visually, it's pretty visual  
10 too. I mean it gives you a nice feel for how  
11 the, where the data are going.

12 Now the benefits is that you can  
13 easily compare whether the different strata  
14 are different obviously. But the limitations  
15 does require some a priori decision on the  
16 distribution of the data points. Here, we  
17 assume they were log-normal, which is pretty  
18 reasonable.

19 It doesn't work, though, if the  
20 data are heavily censored. You end up getting  
21 too many random draws of zero. Essentially,  
22 you can't -- the censored data is going to

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1 come up zero, and they just can't plot the  
2 points.

3 In this case, our statisticians  
4 have researched, and it has been determined  
5 that the Peto-Prentice test is the most  
6 powerful test that can be used to compare two  
7 strata in this situation.

8 The Peto-Prentice is really a  
9 sophisticated version of a rank order Wilcoxon  
10 rank order test that we're all familiar with,  
11 the range values. I don't want to belittle  
12 it. It's much more sophisticated than I'm  
13 going to present here, but essentially the  
14 same thing as a Wilcoxon rank sum test.

15 It's a non-parametric test. In  
16 other words, no a priori distributions  
17 assumed. You merely rank the data points in  
18 the distribution. It can handle censored  
19 data. It's built to do that, and you can  
20 compare whether the strata are different at  
21 some p-value. Here we chose the .05 level of  
22 significance.

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1           We've done some testing and for  
2 cases where both the Monte Carlo and Peto-  
3 Prentice are applicable, they typically lead  
4 to the same conclusion. So it seems to be a  
5 reasonable test. So just to give you an idea,  
6 let me go back to this graph here.

7           This is the distribution of all  
8 the samples. So in the Peto-Prentice test,  
9 what one must do is you rank the samples in  
10 this order. It's a cumulative probability  
11 plot. It's a survival curve basically. But  
12 in this case, it will be a cumulative  
13 probability plot, and you take adjacent data  
14 points on the curve, add them together and  
15 subtract one, and you get a value.

16           So you take the first data point,  
17 add it to the second data point, subtract one,  
18 get a value, and you do that all the way  
19 through the distribution. So you get a series  
20 of values. You also, though, keep track of  
21 which data points came from which data set. So  
22 if I generate all my series of values here, if

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1 I had more data in the high values from one  
2 strata, you can imagine you get a much higher  
3 number, because the higher values are  
4 appearing from that strata in the higher end  
5 of the distribution.

6 So it gives you a way of looking  
7 at are the data grouping in some particular  
8 manner in these distribution of samples. It's  
9 kind of very nice, interesting test. Okay. So  
10 moving on with the graph, here are two graphs  
11 of samples that we've tested using the Peto-  
12 Prentice test, and on the left you have the  
13 data were combined into a single data set, as  
14 we've talked about earlier, evaluated, and in  
15 this particular instance, in the Peto-Prentice  
16 test we concluded data were not significant.

17 The p-value I think was -- you  
18 can't read it very well, but it's like .17 I  
19 believe, and the data are -- you can say that  
20 they look different, but they're not  
21 statistically different by this test. In a  
22 second set, the data points, the data are much

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1 more further apart, and as concluded here, the  
2 data are significantly different at the .05  
3 level. P-value is very, very, very small.

4 So that's used for when you have a  
5 very highly censored data set, as opposed to  
6 the Monte Carlo permutation test.

7 So in summary, I just point out  
8 some of the obvious things I've been talking  
9 about here, is that we believe that coworker  
10 models can be used to reconstruct doses. But  
11 one needs to be mindful of why the workers  
12 that are being reconstructed weren't monitored  
13 in the first place.

14 I mean you really have to come up,  
15 come to grips with that scenario. I mean, you  
16 know, if construction workers are different,  
17 yes and they're a little higher, but then what  
18 were the exposure potentials for the non-  
19 monitored workers in that construction, in  
20 that construction group?

21 You've got to be careful and  
22 review the data for applicability and

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1 representativeness, of course, quality. We do  
2 need to be mindful of stratification. We also  
3 believe this one person/one sample approach is  
4 the way to analyze these data sets. It really  
5 makes a lot of sense to us, and the  
6 stratification can be evaluated as we propose,  
7 using these standard Monte Carlo permutation  
8 tests or the Peto-Prentice test.

9 I think that's all I have to say.  
10 I'd be happy to try to answer any questions.  
11 If not, I think I have some crack  
12 statisticians on the phone, phone a friend as  
13 they say.

14 CHAIRMAN MELIUS: We'll keep the  
15 phone muted as a real test. But Jim, you do  
16 get the prize for the best graphics so far.

17 DR. NETON: Oh, thank you.

18 CHAIRMAN MELIUS: The Monte Carlo  
19 permutation and LaVon, you'd better get to  
20 work, come up with something here.

21 (Off mic comment.)

22 CHAIRMAN MELIUS: So questions for

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1 Jim?

2 MEMBER KOTELCHUCK: Dave  
3 Kotelchuck. Your Monte Carlo test uses,  
4 assumes a log-normal distribution. But when  
5 you evaluate your OPOS data points that make  
6 up the distribution, you use an arithmetic  
7 mean rather than a geometric mean, which is to  
8 say a median. That may not be very different,  
9 but with limited numbers of points, those  
10 would differ.

11 DR. NETON: Yes.

12 MEMBER KOTELCHUCK: Why do you do  
13 that?

14 DR. NETON: When one normally  
15 calculates an intake, it's a weighted least  
16 squares analysis of the data, and if one boils  
17 down the calculation for an intake value, it  
18 ends up being the sum of the mean value of the  
19 excretion values, divided by the mean value of  
20 the intake retention fraction.

21 That's how one would calculate an  
22 intake, and so this mean OPOS value is really

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1 sort of a surrogate for an intake value, if  
2 you want to think of it that way.

3 MEMBER KOTELCHUCK: That allows  
4 you to work backward.

5 DR. NETON: Right. If I had three  
6 data points sampled on a person, I would take  
7 the average value of the urinary excretion,  
8 divided by the average value of the intake  
9 retention fraction, and I would get my intake.  
10 That's what's -- and that, believe or not,  
11 ends up being a weighted least squares  
12 analysis.

13 MEMBER KOTELCHUCK: Okay, thank  
14 you.

15 CHAIRMAN MELIUS: Other -- yes,  
16 Gen.

17 MEMBER ROESSLER: This makes me  
18 wish that I'd taken more statistics, a lot  
19 more statistics. A simple question. If the  
20 Peto-Prentice test is always better than the  
21 Monte Carlo, why don't you always use that?

22 DR. NETON: I don't know if it's

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1 always better.

2 MEMBER ROESSLER: Okay. I had got  
3 that impression.

4 DR. NETON: I mean I think we get  
5 similar results when we compare the two. But  
6 I'd have to defer to our statistician as to  
7 why one is more preferable. I think if you  
8 assume -- I think taking advantage of the full  
9 knowledge of the distribution of the data  
10 would give you a better statistical test, is  
11 my opinion, for the Monte Carlo permutation  
12 test.

13 Once you start assuming that  
14 there's no distribution and such, you lose  
15 some power, I think, in your calculation.

16 CHAIRMAN MELIUS: That's correct,  
17 Jim.

18 DR. NETON: Thank you.

19 MEMBER ROESSLER: Then I have one  
20 more question. When you're talking about the  
21 highest exposed group and then the  
22 representative group, what criteria do you use

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1 to decide whether a group is representative?

2 DR. NETON: Now that's the \$50,000  
3 question or \$64,000 question, however you want  
4 to phrase it. That requires a lot of digging  
5 into the data sets themselves, as to -- I  
6 think it's time-dependent. If you look at  
7 some of the earlier sites that have been added  
8 for SEC already, the data, I would say, were  
9 not maybe representative.

10 But as you get more closer into  
11 time, it's my opinion that the programs  
12 started to more and more monitor the highest  
13 exposed workers. I believe that's true. I  
14 think early on maybe there were sort of cohort  
15 model, cohort exposure evaluations, where they  
16 would sort of sample a person from the  
17 workforce, looking at the highest exposed  
18 workers.

19 But it's a very judgmental thing.  
20 One needs to look at the data set very closely  
21 to determine that. One thing I didn't mention  
22 is you notice these large GSDs on these

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1 values, and it's typical, 4, 5.

2 So, you know, one of the  
3 criticisms of this test is that you can't see  
4 very small differences. Well that's true. I  
5 mean we prefer to let the data speak for  
6 themselves and say if I can't see a small  
7 difference between two data sets that have  
8 very large similar GSDs, I think that's sort  
9 of obvious that you can't do anything with  
10 that. I mean that's just the way statistics  
11 works.

12 So to presume that they are  
13 different at the get-go to me just seems sort  
14 of a violation of basic scientific hypothesis  
15 testing. But just my opinion.

16 CHAIRMAN MELIUS: Yes, Bill.

17 MEMBER FIELD: I was curious that  
18 you had the opportunity, and maybe there's  
19 data sets that aren't even available, that are  
20 pretty complete, to actually assess the  
21 validity of the coworker models by self-  
22 censoring, and then making comparison using

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1 these coworker models.

2 DR. NETON: Yes. We've actually -  
3 - that's one of the commitments we have for  
4 the ten-year review, is to try to do that, and  
5 we did take a data set of tritium results at  
6 the Savannah River Site, and did some  
7 preliminary analyses and completed it.

8 At the end of the day, I'm a  
9 little bit concerned about interpretation of  
10 some of the data. But the original estimates  
11 that we came up with demonstrated that the  
12 50th percentile seemed to be fine, with a full  
13 distribution for workers who we expected would  
14 be in that category, and the 95th percentile  
15 worked fine in the other direction.

16 But you know, that's N equals 1.  
17 Tritium is sort of like the easy one, you  
18 know, the low-hanging fruit. So I'm not sure  
19 how you would, you know, even if you could  
20 find and do this for two or three sites and  
21 say yes, it looks pretty good, you're always  
22 going to have the doubt in the back of your

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1 mind well, does it really work for Site X or Y  
2 or a more complicated site.

3 I think right now, the big  
4 question in my mind is the construction trade  
5 workers, because there, it seems like you have  
6 at least the ability to define who was a  
7 construction trade worker and who wasn't. As  
8 Dr. Melius pointed out earlier, many of these  
9 other sites, you really don't know.

10 I mean you have an idea that this  
11 guy was working here, but you really only know  
12 that he was working there for that particular  
13 year, and maybe he changed jobs. So it  
14 becomes very problematic to identify and  
15 segregate people in most cases except maybe  
16 construction workers is a unique example.

17 CHAIRMAN MELIUS: Henry.

18 MEMBER ANDERSON: Yes. Just kind  
19 of on the issue of stratification, it seems  
20 that it's, you know, it's all heavily  
21 dependent on statistics, and you know, a level  
22 of statistical significance. We've all had

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1 relatively small databases, and the statistics  
2 says oh, it's not statistically significantly  
3 different when you look at it.

4           You know, you do, your one where  
5 you said "oh, this isn't significantly  
6 different" changed the scale, and they're  
7 really quite different visually. So you know,  
8 is there any thought about, you know, what is  
9 the level of statistical significance? You're  
10 using .05, which is just a convention  
11 basically.

12           You could, it seems that the  
13 impetus here is to say there aren't  
14 significant differences, so therefore we can,  
15 you know, one size fits all for the, you  
16 know, everybody was the same and you talk to  
17 the workers and they say well geez, you know,  
18 that's crazy, that we were all very different  
19 and we did this different. We're in a  
20 different facility, different things.

21           But the measurements, you know,  
22 statistically seem to be similar. So you

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1 might think in terms of, you know, what is  
2 that p-value or whatever you're using, to say  
3 that isn't stratified or not. You could  
4 loosen that.

5 I mean we often on the epi side,  
6 you know, when you try to say what goes into  
7 your multiple logistic models, you put them  
8 in, if it's .01 or .02 or things like that. So  
9 you know, how the level of certainty you're  
10 asking for to declare that they are different,  
11 you know, makes a difference.

12 DR. NETON: You raise a good point  
13 and, you know, 95th percentile, of course, is  
14 standard convention, which is what we've  
15 adopted. But I'd also like to point out  
16 again, I can't over-emphasize the intake  
17 retention model that we developed, that is  
18 really -- ideally, I think the statistical  
19 test should be done at that intake retention  
20 level.

21 You put the data points in there,  
22 and you look for differences between those

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1 models. But you can't always do that, because  
2 it's a somewhat more subjective analysis.

3 So the idea here with this looking  
4 at the data sets themselves and comparing  
5 statistical differences at the one person/one  
6 sample distributions was to say if we can say  
7 up front that there's no difference here, we  
8 don't need to go back and look at the  
9 practical significance in the model. It's a  
10 kind of two-part test.

11 Because really, the intake that  
12 you're assigning is the important thing. I  
13 showed you that. Fourteen years' worth of  
14 data is 14 years' worth of bioassay points,  
15 50th percentiles. If a few of them are  
16 different, I'm not sure it's going to make any  
17 statistically significant difference in the  
18 intake retention fraction, intake retention  
19 function that we apply.

20 So but I hear what you're saying.  
21 I think you're probably going to hear  
22 something similar to what you're describing

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1 from the next speaker.

2 CHAIRMAN MELIUS: I would just add  
3 to that I think it's also -- your one  
4 person/one sample also ignores error in that.  
5 I mean you're taking a mean of that and you're  
6 not really addressing the error that's in  
7 that, you know, the variability in that  
8 person's testing. So that can be problematic  
9 to do that.

10 Brad, do you have a question, and  
11 then we'll move on to the next presentation.

12 MEMBER CLAWSON: Yes. Genevieve  
13 already took the \$50,000 question, but part of  
14 my, and I'm not a statistician or a speaker,  
15 but the problem that I see with this is it all  
16 comes back to the data and the reliability of  
17 the data that you get.

18 At so many sites, as you said,  
19 very well put, that in the later years, you  
20 started to see more of a representative  
21 sample. The highest people started to become  
22 sampled. But you go back into the earlier

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1 years, and we're looking at very, very small  
2 amounts of sampling.

3 Some can call it event-driven or,  
4 you know, you can say well that means it would  
5 be the highest exposed. Sometimes they used  
6 those to just get a baseline of what some  
7 people were getting and what the other people  
8 got.

9 What I really see on this is it  
10 comes down to the integrity of the data in  
11 question, and the representativeness of the  
12 sample of exposed workers was conducted. It  
13 all comes down to this, and I'll be right  
14 honest. In the early years, we haven't seen  
15 too many sites that were that way.

16 DR. NETON: I 100 percent agree  
17 with you. One thing I was going to do is to  
18 look at the early years, and which sites --  
19 many of the sites that have large data sets  
20 like this are already SEC in those very early  
21 years, for really not reasons related  
22 necessarily to the coworker model, but because

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1 of other issues.

2 But nonetheless, they are SECs,  
3 and so they're, you know, that issue has sort  
4 of been dealt with in a different way. But I  
5 do believe for the more recent years, the  
6 data, as you say, are much better and can be  
7 used.

8 CHAIRMAN MELIUS: Board Members on  
9 the phone have questions?

10 MEMBER RICHARDSON: Yes, this is  
11 David Richardson.

12 CHAIRMAN MELIUS: Go ahead, David.

13 MEMBER RICHARDSON: One question I  
14 had was you have those great slides that are  
15 showing the difference between mean and  
16 standard deviation of the distribution of the  
17 two groups, and I wondered what is closest to  
18 standard deviation for let's say Stratum B.  
19 What is closer to the standard deviation in  
20 that second stratum?

21 CHAIRMAN MELIUS: I'm sorry,  
22 David. I couldn't get your question. You

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1 were breaking up quite a bit.

2 MEMBER RICHARDSON: I have a  
3 starting question. What factors influence the  
4 standard deviation for what are the strata  
5 that you want to look at?

6 DR. NETON: What factors influence  
7 the standard deviation? I really don't know.  
8 I mean it's what the data said it has in it. I  
9 mean if I knew all the factors, I guess, that  
10 contributed to it, I could tease them out.  
11 But I mean a priori, I would have no way of  
12 knowing why there's a GSD of 4 versus a GSD of  
13 5.

14 In some cases, it is true when  
15 they start reporting the data that are below  
16 the lower limit of detection, you in effect  
17 end up having two distributions.

18 There's an entire report that  
19 deals with that, I think it's 44, that talks  
20 about a normal distribution underlying the  
21 very low data, which is a distribution about  
22 background, and then you have this

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1 superimposed log-normal distribution from the  
2 truly exposed workers, and you combine those  
3 two and you end up with like extremely large  
4 GSD on face value, until you do a maximum  
5 likelihood evaluation and you can tease out  
6 the two distributions.

7 But aside from that, I don't know  
8 of any other way to ferret out the factors  
9 that influence the standard deviation.

10 MEMBER RICHARDSON: Let me put it  
11 another way. Let's assume that you had two  
12 samples drawn from the same population, and  
13 one sample was four times bigger, and our  
14 question is are those, do those two groups,  
15 those two samples, do they arise from the same  
16 population or are they a mixture of two  
17 normal, two different normal populations?

18 DR. NETON: Right.

19 MEMBER RICHARDSON: It would seem  
20 to me that the fact that one sample was four  
21 times larger than the other one would  
22 influence the standard deviation.

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1           So if we did a test to say do they  
2           come from the same underlying population or  
3           not and a null hypothesis since they have the  
4           same means and the same standard deviation, we  
5           might reject that simply because one was  
6           bigger.

7           So if one was one-fourth the size,  
8           then the log of the geometric standard  
9           deviation for the smaller one would be about  
10          twice as large as the one --

11          DR. NETON:    Yes.    I guess that's  
12          not intuitive to me, that that would be the  
13          case.    But I'd have to think about that,  
14          David.

15          MEMBER RICHARDSON:    I mean the  
16          standard deviation is a function of 1 over N.

17          DR. NETON:    But if it's the same  
18          distribution and you just have a smaller  
19          sample size, yes, yes.

20          MEMBER RICHARDSON:    So I guess,  
21          you know, I mean I'm thinking about that  
22          scatter plot, the null hypothesis is that

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1 those two samples have the same mean and the  
2 same standard deviation, and that seems to  
3 hinge on the fact that, you know, that this  
4 one worker subgroup is estimated as precisely,  
5 which means we have as much information about  
6 it as the other, let's say larger group. I  
7 don't know why that would be my starting null  
8 hypothesis.

9 DR. NETON: Is Tom LaBone on the  
10 phone? He was possibly going to be able to  
11 join us by phone. If he could maybe entertain  
12 that question? Tom, are you on? Are you on  
13 mute?

14 (No response.)

15 DR. NETON: Okay. Well, I guess I  
16 can't answer the question off the top of my  
17 head. So we'll have to take that under  
18 consideration.

19 CHAIRMAN MELIUS: Any other  
20 questions from Board Members on the phone?

21 (No response.)

22 CHAIRMAN MELIUS: Okay. We'll

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1 move on, but don't go away completely, Jim.  
2 Arjun will present SC&A's review of OTIB-53.

3 (Off mic comments.)

4 DR. MAKHIJANI: Thank you very  
5 much, Dr. Melius. I'm really a surrogate for  
6 Harry Chmelynski, and I hope he's on the  
7 phone.

8 (Laughter.)

9 CHAIRMAN MELIUS: What is a  
10 surrogate? Don't we have a policy on this  
11 about surrogate, surrogate data? We should  
12 have surrogate experts.

13 (Laughter.)

14 DR. MAKHIJANI: I just wanted to  
15 put that caveat in. No, but I did review this  
16 report. But what I'm presenting is  
17 essentially Harry's work. So Dr. Melius, you  
18 talked about sufficient accuracy and Jim Neton  
19 went over the broad concept of coworker  
20 models, and we've reviewed a number of those  
21 other reports, Report 75, Report 44, Report 95  
22 I think it was.

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1           This particular presentation and  
2 review focuses on Report 53, which is  
3 essentially when do you compare two groups of  
4 workers, and how do you conclude whether their  
5 measurements were drawn from the same  
6 distribution or not?

7           So the essential question is can  
8 you join all the data into one coworker model,  
9 or do you need more than one coworker model,  
10 and how do you decide that question? This  
11 Report 53 came out at the same time as a  
12 number of Savannah River reports, which used  
13 the method in Report 53 specifically in  
14 comparing construction workers with non-  
15 construction workers, and that's a central  
16 question of SRS as you know.

17           So I'm not going to read all of  
18 the slides. I'm just going to give you an  
19 overview of some of the things we concluded,  
20 and Harry, please feel free to jump in.

21           One of our central conclusions was  
22 that when you're comparing two groups of

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1 workers, the sampling protocols of the workers  
2 should be same. That is if you're routinely  
3 monitoring one set of workers, the other set  
4 of workers should also be routinely monitored,  
5 and then you can compare the distributions and  
6 say well, one was much more exposed than the  
7 other. They were drawn from different  
8 distributions.

9 But if their monitoring protocols  
10 were different, then you can't really be  
11 comparing those two and saying are the  
12 distributions the same or not, because a  
13 priori, their monitoring protocols were  
14 different. In the specific case of Savannah  
15 River Site, a number of those reports,  
16 including Report 56, which was I think, I  
17 think Report 56 was for trivalent, I can't  
18 remember.

19 Anyway, Report 56 and 58 deal with  
20 specific radionuclides at SRS, and both 56 and  
21 58 say that construction workers had  
22 potentially a different bioassay monitoring

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1 protocol. We talk about whole body monitoring  
2 protocols, which is a whole different and more  
3 complicated issue actually.

4 So one is being routinely  
5 monitored and other not, then we don't feel  
6 those can be compared. So the comparisons at  
7 Savannah River Site are in question, at least  
8 when urine data are being used in that regard.  
9 So there's a question of representativeness of  
10 the data. So we have people who are  
11 monitored. How do they -- I'm sorry for the  
12 unclarity of the slide. How do they compare  
13 with the people who are not monitored, and  
14 what are the characteristics of the  
15 unmonitored population?

16 So to give you a specific example,  
17 if pipefitters were not monitored, were they  
18 the same as construction workers in general?  
19 Were they the same as the general monitored  
20 population of construction and non-  
21 construction workers?

22 So there's a question of

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1 representativeness of data. We feel that  
2 based on our prior work that we submitted to  
3 the Board and the Work Group, that at least at  
4 Savannah River Site, which we've examined in  
5 detail, it was necessary to compare subgroups  
6 of construction workers, because different  
7 construction workers have different exposure  
8 potentials.

9 I might mention here, Dr. Neton  
10 mentioned, you have to select a priori whether  
11 there was a difference in the groups or not,  
12 and to some extent we can see that the types  
13 of work construction workers did, some  
14 carpenters or electricians and pipefitters  
15 were different types of work, that may have  
16 had different exposure potential.

17 So there's some technical  
18 underlying reason to look at groups of  
19 construction workers, and that was borne out  
20 by the examination of some of the data that we  
21 already presented to the Board in previous  
22 reports.

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1           So you have to actually at  
2 Savannah River Site, we show that you have to  
3 examine by job type and area of work. So you  
4 have to do multiple pair-wise comparisons. So  
5 one, simply saying construction workers versus  
6 non-construction workers may not be enough.

7           Now we don't know whether it would  
8 be enough at some other site. It may be  
9 perfectly okay at some other site or not. The  
10 detailed examples that we have done in terms  
11 of analysis are from the Savannah River Site.

12           So I'm just using those to put the  
13 caveats on the report, not saying generally it  
14 would be necessary to do it. But it should at  
15 least be examined whether there are groups of  
16 construction workers that are different from  
17 each other.

18           Once you start parsing one group  
19 of workers into subgroups, then you run into  
20 data problems, because you have to have a  
21 minimum of 30 samples for each category. It's  
22 not necessary that 30 samples may be enough,

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1 as I will show. But you have to have a  
2 minimum of 30 samples in each category.

3 That you run into practical  
4 hurdles, because non-construction workers were  
5 monitored more frequently. But with  
6 construction workers, you do run into  
7 monitoring problems.

8 Another problem is that when you  
9 aggregate the data, you're not averaging into  
10 one person, one sample, a large number of data  
11 points over a single year, and sometimes NIOSH  
12 aggregates over two years or three years even.  
13 But we know from interviewing workers that  
14 sometimes somebody may start out as a  
15 construction worker, and may be then hired by  
16 the contractor and become a non-construction  
17 worker.

18 So within the period of averaging,  
19 their job designation may change, and yet we  
20 didn't see that NIOSH has a method of actually  
21 getting in and sorting out an individual  
22 worker's data. Perhaps they do it in

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1 practice, but we haven't actually examined in  
2 detail, you know, the entire compilations. But  
3 we haven't seen it actually done.

4 That would take a fair amount of  
5 work to actually go and find examples of  
6 workers whose job designations were changed.  
7 But we do know that job designations did  
8 change, and this is a little bit of a problem  
9 that needs sorting out. It may be a non-  
10 problem if job designations didn't change very  
11 often relative to the number of data points.

12 So we have some problems with the  
13 power concerns, which was Finding No. 8. Now  
14 there are a number of ways to do comparisons.  
15 So you can start out with a null hypothesis,  
16 as Jim Neton says, that you assume that they  
17 are the same, and if you don't know anything  
18 in advance, this is a pretty reasonable way to  
19 start out the comparison.

20 We say we're going to assume the  
21 same unless proven that they are different,  
22 and that is the approach of Report 53.

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1 Confidence level of 95 percent is set, that  
2 you don't want to falsely reject the  
3 hypothesis that they are the same, and you  
4 want to be very sure of that. But that's  
5 called a Type 1 error.

6 But there's the other type of  
7 error, that you may falsely accept the null  
8 hypothesis that they are the same, when in  
9 fact the underlying distributions are  
10 different. So that is a problem, because  
11 these two types of errors are in tension with  
12 each other, if you don't have a sufficient  
13 amount of data.

14 To pick up Dr. Richardson's  
15 question, the dramatic standard deviations and  
16 the relation of those standard deviations with  
17 the geometric mean ratios comes into play. So  
18 you may actually run into a problem, where  
19 even 30 samples may not be enough, and I will  
20 illustrate that. Let's see.

21 So again, I apologize. Let me go  
22 to the graph. It might be easier to see it.

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1 So this is a chart that illustrates this  
2 problem. So here, you have this Type 1 error,  
3 and this is the power level that is set, 95  
4 percent confidence, and these strips show the  
5 Type 2 error rate.

6 So you can see in this third  
7 dimension is the geometric standard deviation.  
8 As the geometric standard deviation increases,  
9 and remember now the ratio of the geometric  
10 means is fixed. So this is a very simplified  
11 calculation. The number of non-detects is  
12 fixed. The ratio of geometric means is fixed.

13 So we're only examining the  
14 influence of the geometric standard deviation  
15 on the error. If you keep the Type 1 error at  
16 five percent and the geometric standard  
17 deviation increases, you are falsely accepting  
18 the null hypothesis. That is, you're saying  
19 they're the same, when they're not actually  
20 the same.

21 If your geometric standard  
22 deviation is small, then your Type 2 error and

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1 Type 1 error can both be controlled, and  
2 you're in very good statistical shape, but not  
3 always. And of course, if you have a small  
4 number of data points with high variability,  
5 you're often going to wind up in the region  
6 where your geometric standard deviation is  
7 large.

8           And as we have examined, I don't  
9 have ready examples for you to present, but I  
10 think you will see, as we complete our work on  
11 Savannah River report, that this is a pretty  
12 big problem in practice. But this a  
13 simplified example, and real life actually  
14 gets much more complicated than this.

15           So we examine what is the effect  
16 of small sample sizes. Let me show you this  
17 table. Sorry, there's a table here. So this  
18 is a table of neptunium data from Savannah  
19 River Site, number of all posts, you know,  
20 these consolidated one person/one sample by  
21 year, and you can see except for the 60's, in  
22 fact we went into the 70's, '74, they're only

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1 ten OPOS data points for construction workers.

2           Throughout the period, you  
3 actually don't meet the minimum number of data  
4 points that you need. They're never more than  
5 30 in the entire '74 to 1989 period. The  
6 practical effect of that is you could have the  
7 geometric means being different in 1974 by as  
8 much as 3.8 or a different test, as much as  
9 3.5, and you would still say that the  
10 distributions are the same.

11           So you wind up in territory that  
12 could be very claimant-unfavorable, when  
13 you're saying you're going to ascribe doses to  
14 construction workers based on all monitoring  
15 data, which is dominated by non-construction  
16 workers, because they were the most frequently  
17 monitored, and for -- you could be off by as  
18 much as a factor of 3.8, 10, 12, 15, 11.

19           You could be off by a very large  
20 factor. So you could be very claimant-  
21 unfavorable, and this is shown in the chart.  
22 So this chart kind of illustrates when you set

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1 a Type 1 error rate that is at this 95 percent  
2 level, you have this whole gray region  
3 basically of indecision.

4 You could wind up in a situation  
5 where you're saying yes, they're the same,  
6 when applying that hypothesis could result in  
7 a very non-claimant favorable dose or intake  
8 calculation.

9 So this is a very significant  
10 problem, because in practice you run into  
11 these data limitations, and very often when  
12 you have even more than 30 data points, if  
13 your geometric standard deviation is high,  
14 then your Type 2 errors that is falsely  
15 accepting the null hypothesis can get out of  
16 control.

17 If you relax the Type 1 error from  
18 95 percent to 90 percent, because there's a  
19 tension between these two errors, you can  
20 reduce the Type 2 errors. But you know, it  
21 depends on how big your -- your geometric  
22 standard deviations and geometric means are in

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1 certain relation to each other, you can't fix  
2 this problem without a sufficient number of  
3 data points.

4           There are alternative approaches  
5 available. You could do a different test. We  
6 started with a test. NIOSH started with a  
7 test that will assume they're the same. Of  
8 course, you could start with the opposite  
9 test, which is more or less the same thing.  
10 You have opposite definitions of Type 1 and  
11 Type 2 errors.

12           But you could also start with a  
13 test saying non-construction workers were  
14 typically more exposed than construction  
15 workers, and you could test that hypothesis  
16 using the same set of data. You could start  
17 with the other tests, saying non-construction  
18 were less exposed than construction workers,  
19 and you could test that.

20           Typically, that second test would  
21 be more claimant-favorable if what you're  
22 examining is construction workers. The first

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1 test would be more claimant-favorable if what  
2 you're examining is non. So it's not a priori  
3 given; at least we don't agree that a priori  
4 you should set a null hypothesis that says  
5 they're the same, and examine whether they're  
6 different or not.

7 In fact, some of the data indicate  
8 that they are different, so there's no a  
9 priori reason to assume that they're the same  
10 and test that hypothesis. So that concludes  
11 my presentation. Harry, did you want to jump  
12 in and say something supplementary?

13 DR. CHMELYNSKI: Yes. Arjun, can  
14 you hear me?

15 DR. MAKHIJANI: Yes.

16 DR. CHMELYNSKI: Okay. Earlier in  
17 the morning here, there was a discussion on  
18 sufficient accuracy, and I believe the latest,  
19 the last figure, which is Figure 2 on page  
20 ten, shows from a statistical perspective what  
21 we mean by sufficient accuracy. It's really  
22 the width of that gray region.

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1           In other words, how much different  
2 do they have to be before I know I can tell  
3 them apart? I see no information on that sort  
4 in Report 53. The reason the tests are  
5 adopted is, as stated, that they were powerful  
6 tests. But we don't know how powerful they  
7 are, given the kind of variabilities that we  
8 have with the GSDs being high, and also how  
9 well the data themselves are reflecting the  
10 distribution.

11           Earlier also this morning, we had  
12 a discussion about OPOS. One of the problems  
13 with OPOS values are if you complete an OPOS  
14 value with one person's data for the year, and  
15 all we had was a couple of samples, you get a  
16 highly variable estimate of the OPOS mean.

17           On the other hand, if you have  
18 another worker who had a lot of samples, part  
19 of a regular protocol sampling, and in fact  
20 they may most likely be the non-construction  
21 workers, then that OPOS value is estimated  
22 much better.

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1           So there's a basic problem of  
2 heteroscedasticity that's introduced once you  
3 start using OPOS values, and then trying to  
4 conduct tests on these values, where you're  
5 assuming they are independent samples, just  
6 doesn't make much sense to me, because that's  
7 not what they are anymore.

8           So the gray region isn't the  
9 really hard question here, I think. It's how  
10 far apart do they have to be before we're  
11 going to say they're different. I have yet to  
12 hear anybody answer that question. So we  
13 don't know what we're trying to do here with  
14 the test.

15           Granted, we could always say, hey,  
16 95 percent will tell me whether they're  
17 significantly different. Well yes, but if you  
18 don't have enough data, you're always going to  
19 say that they're not significantly different,  
20 so the test really doesn't tell you anything.

21           The right way of doing these tests  
22 is to define how big a difference you have to,

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1 that you want to be able to detect, and then  
2 calculate the sample size that will allow you  
3 to detect that size of difference when there  
4 is a lot of variability.

5           Thirty may be enough, certainly no  
6 less than 30. But once you get up into the  
7 GSDs, as shown in the other figures, once you  
8 get up into GSDs of 5 and 6 and you're  
9 comparing these populations with a 95 percent  
10 confidence level, it's very hard to show that  
11 they're different.

12           To me, that's not very claimant-  
13 favorable. What we're saying is that the  
14 construction workers have to prove they're  
15 different. Now they don't even -- they don't  
16 know that we're asking them to do this, of  
17 course. But what we're going to say is oh,  
18 you guys are all the same, unless somebody can  
19 produce sufficient data to show you're  
20 different.

21           Well, we already know there isn't  
22 very much data. So you know, the idea of

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1 starting out with that null hypothesis that  
2 they are the same leaves me very unsettled. I  
3 guess that's the gist of what these 15 slides  
4 are trying to say.

5 DR. MAKHIJANI: Well, a lot of  
6 Harry's remarks relate to the analyses we've  
7 done on numbers at Savannah River Site. It  
8 may not always be true, but it's certainly  
9 true at Savannah River Site, that because of  
10 the nature of data, very often you don't have  
11 enough data.

12 The result is very claimant-  
13 unfavorable. If you conclude they're the same  
14 and apply that coworker model in all the years  
15 that we're looking at to apply this data, '74  
16 to '89, you would be applying a result that  
17 would be very claimant-unfavorable. So that  
18 in this specific instance -- now it may not  
19 always be true.

20 So there's the caveat. This is  
21 what we've examined so far, and are continuing  
22 examinations into thorium or along the same

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1 lines, but we haven't finished. So we have  
2 some significant problems with the practical  
3 implications of the OPOS approach. I mean we  
4 don't, we don't disagree with the idea that if  
5 you have an incident and somebody sampled many  
6 times, that you have to take that into account  
7 somehow.

8 But in practice, I think applying  
9 the OPOS approach as proposed in the  
10 comparison of the two workers doesn't seem to  
11 work very well, in terms of claimant  
12 favorability, among other problems.

13 DR. CHMELYNSKI: Then Arjun, I'd  
14 also like to add that there's two topics we  
15 haven't addressed on these slides. One of  
16 them is the use of the regression on order  
17 statistics, and in our review of PROC-95, we  
18 indicated that there is a problem with the ROS  
19 method, because the data you're using in it  
20 are auto-correlated and heteroscedastic.

21 The auto correlations are quite  
22 high, around 0.6, 0.7, something like that. So

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1 because of this, the diagnostic statistics we  
2 see for those log-normal distribution fits  
3 really are not supported by the data. In  
4 other words, even when we say that there's a  
5 confidence level of 95 percent, that may not  
6 be the right answer.

7           The second issue here that we  
8 haven't talked about is that the use of OPOS -  
9 - I'm sorry, in the first five pages, as we  
10 talked about how the data set should be  
11 derived using the same protocol, I think all  
12 those conclusions apply regardless of whether  
13 you use OPOS or not.

14           Now OPOS introduces another  
15 dimension to the problem of comparison, but  
16 again, if you're using data that's collected  
17 under one protocol and then trying to compare  
18 it to another set of data that's collected  
19 using a different protocol, I just -- I don't  
20 see how a statistical test is going to tell  
21 you anything. I guess I'm done.

22           CHAIRMAN MELIUS:           Thank you.

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1 Questions for -- go ahead, Dave.

2 MEMBER KOTELCHUCK: I have to say  
3 that in terms of claimant favorability, using  
4 a one-sided test really doesn't make sense. It  
5 is, I mean as you know, in a lot of scientific  
6 studies you always use the two-sided test.  
7 It's the hardest thing to prove, because you  
8 would really like to be confident of the  
9 result.

10 But in this case, we know that --  
11 we believe that the construction workers  
12 probably have a lower, they should have a  
13 lower exposure than the people who are the  
14 non-construction workers. So even with a 95  
15 percent probability but a one-sided test,  
16 we're much more claimant favorable.

17 I wouldn't take a position about  
18 90 versus 95, except in terms of what you  
19 said. It would ease things. But at a simple  
20 level, a one-sided test would be an  
21 improvement in terms of claimant favorability,  
22 and I don't think that it would involve --

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1 Jim, I don't think that it would involve major  
2 changes in the work, in the tests that you  
3 had proposed, right?

4 DR. MAKHIJANI: The one comment I  
5 would have is just to refer to the last thing  
6 that Harry said, is that the comparisons are  
7 based on an underlying assumption that the  
8 monitoring protocols were the same.

9 MEMBER KOTELCHUCK: Yes.

10 DR. MAKHIJANI: And so a lot of  
11 the problem that we're having with the  
12 monitoring protocols, we either know are not  
13 the same and, as we've looked at whole body  
14 counting data, we're not able to establish a  
15 monitoring protocol because, in some cases,  
16 monitoring was quite infrequent, and you know,  
17 protocols are supposed to be annual.

18 It's very complicated to establish  
19 a monitoring protocol sometimes. In case of  
20 urine data, you can actually talk about it,  
21 and sometimes you can't.

22 MEMBER KOTELCHUCK: I agree. That

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1 is the major problem. Nevertheless, a one-  
2 sided test would be an improvement, and it's  
3 fairly simple to do.

4 DR. MAKHIJANI: Yes. That was one  
5 of our recommendations, that NIOSH should  
6 examine whether a one-sided test would be  
7 better.

8 DR. CHMELYNSKI: What I might  
9 interject here is that the Monte Carlo  
10 permutation test may not be amenable to  
11 turning it into a one-sided test. Certainly,  
12 you can do that with the Peto-Prentice test.  
13 But I'll leave it to NIOSH to decide how they  
14 would do that with the Monte Carlo permutation  
15 test.

16 MR. LaBONE: Hello? This is Tom  
17 LaBone. Can you hear me?

18 CHAIRMAN MELIUS: Yes, we can.

19 MR. LaBONE: I'm sorry. I could  
20 not master the \*6 back when Dr. Richardson  
21 asked the question, and I was wondering if I  
22 could address that now.

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1 CHAIRMAN MELIUS: You sure can. Go  
2 ahead. Sorry.

3 MR. LaBONE: Okay, okay. A number  
4 of the concerns that are being raised, I think  
5 if you think about this, these are  
6 retrospective studies. We do not get to plan  
7 the data that we get. We're presented data  
8 and we were asked to make the best statistical  
9 analysis we could of each data set.

10 So everything Dr. Richardson was  
11 saying is correct, is that if you happen to  
12 have a smaller -- construction trade workers  
13 or a smaller number of individuals, then you  
14 have issues with that. That's basically what  
15 we have.

16 The other point is that there's a  
17 common thread here is that failure to reject  
18 the null is not equal to higher doses for the  
19 construction workers. Is that -- that's not  
20 necessarily true at all. But you might come  
21 away from this conversation that it is.

22 So for example, the coworker model

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1 built from the combined data set might  
2 actually give higher doses to the construction  
3 trade workers. It depends where are they  
4 relative to the other subgroups of workers.

5 The other thing is that a lot of  
6 the issues being raised are generic problems  
7 with null hypothesis testing, this failure to  
8 reject the null, the issues with power and so  
9 forth. There are other ways of handling this  
10 that can get around that. But what we have to  
11 do is you have to define what is practically  
12 significant.

13 I think Harry alluded to this, and  
14 this is a very difficult thing to establish.  
15 If you take these data sets and it's  
16 neptunium-237 in urine, what is the  
17 practically significant difference in the  
18 concentrations of neptunium in urine?

19 We looked at that, and we just  
20 can't come up with a way to generically do  
21 that for every data set we look at. But that  
22 would get around the problems of this null

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1 hypothesis testing, where you fail to reject  
2 the null, which is basically an unacceptable  
3 answer apparently.

4 So that was just -- and the last  
5 thing was again, the OPOS process is not an  
6 ideal solution. But we feel that it actually  
7 solves more problems than it creates and,  
8 again, this can go into some more technical  
9 details. But those are a couple of issues I  
10 wanted to point out.

11 CHAIRMAN MELIUS: Thank you, Tom,  
12 and we appreciate how complicated this is, and  
13 you're right, that you have to make -- we're  
14 dealing with retrospective data, and trying to  
15 make the best we can from it. It's difficult,  
16 and I think it's also difficult to do this  
17 without knowing sort of, I think Harry  
18 described, what gray area are you aiming for,  
19 and what parameters are you trying address  
20 here.

21 Those are not defined, and that  
22 makes it even more difficult. Thank you,

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1 Arjun.

2 DR. MAKHIJANI: May I make a couple  
3 of comments? I agree with Tom. I wouldn't  
4 want you to go away with the impression that,  
5 you know, applying this formula in  
6 construction workers and non-construction  
7 workers will always come up with something  
8 that's not claimant-favorable. I believe I  
9 actually did say that during my presentation.

10 It's just that in these examples,  
11 and with the specific data sets that we've  
12 looked at from Savannah River Site that is the  
13 result, and partly it may be the result  
14 because the monitoring protocols are  
15 different.

16 If you look at the neptunium  
17 report that we have submitted from the same  
18 data set, you'll see some considerable  
19 discussion of this very point, that are you  
20 coming up with higher results because the  
21 monitoring protocols were different, or were  
22 the monitoring protocols deficient and missing

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1 routine doses.

2 So there are many permutations and  
3 combinations of this problem. I would also  
4 agree with Tom, and then we said this when we  
5 looked at external dose data for Savannah  
6 River Site in the context of a different  
7 procedure, that applying this procedure, you  
8 could give higher doses than the working  
9 conditions warranted for some groups of  
10 construction workers.

11 If you look at the report that we  
12 submitted on tritium some time back, a couple  
13 of reports that are referenced to you, you'll  
14 see that that is actually the case. It can  
15 also vary by period. The point here of saying  
16 that you should, you need to parse the  
17 construction workers into subgroups is because  
18 the nature of their work was actually  
19 different, and their exposure conditions were  
20 different, and the data actually show that  
21 their exposure conditions were different.

22 So while this formula may be

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1 claimant-favorable for many construction  
2 workers, it will also be claimant-unfavorable  
3 for many other subgroups of construction  
4 workers. Whence the need to parse  
5 construction workers into groups, and the need  
6 for a lot more data. As it is, we don't even  
7 have enough for construction workers as a  
8 group quite often. Sometimes you do actually  
9 have enough data.

10 CHAIRMAN MELIUS: Thank you. Any  
11 other comments, questions? It's getting  
12 towards lunch time, I can tell. Yes. What I  
13 would like to do is let's talk when we do our  
14 Board work, why don't we come back and talk  
15 about next steps then? I have some thoughts,  
16 but I want to talk this over with NIOSH and a  
17 few other people before I put my foot in my  
18 mouth or something here.

19 I will say even though Arjun, I  
20 like your three-dimensional power graph there,  
21 I still think that Jim wins the graphics prize  
22 --

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1 DR. MAKHIJANI: I yield.

2 CHAIRMAN MELIUS: Or whoever came  
3 up with that. So that's what someone's going  
4 to have -- that's still the top graphic for  
5 this meeting. We'll take lunch and we'll  
6 return at 1:30.

7 MR. KATZ: Just one administrative  
8 thing for Board Members. Those of you that  
9 haven't sent in your updated ethics form that  
10 was requested, that I sent to everybody,  
11 either email it yourself to the email address  
12 that they give you in that, or you can fill it  
13 out here.

14 It doesn't take any time to fill  
15 out really, and sign it here and give it to me  
16 and I'll give to Zaida or we'll get it there  
17 somehow, if you can't scan it in yourself,  
18 whichever.

19 (Whereupon, at 12:09 p.m., a  
20 luncheon recess was taken.)

21  
22

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A F T E R N O O N   S E S S I O N

1:41 p.m.

CHAIRMAN MELIUS: Okay, if we can return to business here, reconvene. Ted, do you need to do attendance or anything?

MR. KATZ: Yeah. Let's just check to see who we have from the Board on the line, that's all.

Dr. Ziemer, are you on with us again?

MEMBER RICHARDSON: This is David Richardson.

MR. KATZ: David, welcome. You sound really nice and clear now.

MEMBER RICHARDSON: Thank you. I feel clear.

MR. KATZ: Very good. Paul Ziemer, are you on the line too?

(No response.)

MR. KATZ: Okay, maybe I should just check. Dick Lemen, are you on the line?

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1 (No response.)

2 CHAIRMAN MELIUS: Okay. But we  
3 have a quorum and we can proceed. Okay. This  
4 afternoon will be the LaVon Rutherford  
5 presentations, so hang on. We're ready, and  
6 we'll start with an update on the Rocky Flats  
7 petition. I believe LaVon will present and  
8 Mark will comment, and then we'll hear, open  
9 up for questions from the Board, and we'll  
10 also possibly hear from the petitioner.

11 Rocky Flats SEC Petition Update

12 MR. RUTHERFORD: Okay. Thank you,  
13 Dr. Melius. I'm going to talk about the Rocky  
14 Flats petition evaluation, where we currently  
15 stand, what's -- and what we're going to get  
16 done here in the future.

17 A little reminder. We completed  
18 our Evaluation Report and issued it on  
19 September 5th of 2012. We presented that to  
20 the Advisory Board and the public on September  
21 18th, 2012 at the Advisory Board meeting in  
22 Denver.

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1           At that time, the Board made a  
2           determination at the meeting that we needed to  
3           do additional review, needed to send it to the  
4           Work Group, SC&A and the company or the  
5           Board's contractor to look at, and we needed  
6           to do some additional interviews and  
7           discussion and document review.

8           So our follow-up efforts that we  
9           conducted since we presented the evaluation,  
10          we've done data capture, both classified and  
11          unclassified, Los Alamos National Lab, OSTI,  
12          the Office of Scientific and Technical  
13          Information, EMCBC, which is Environmental  
14          Management Consolidated Business Center, and  
15          DOE Legacy Management. We did those in  
16          Denver. We again as I said out in Los Alamos,  
17          and yeah, Los Alamos and at OSTI.

18          We also had secure discussions,  
19          and I say secure discussions, because these  
20          were classified discussions over different  
21          things internally. We also secure interviews  
22          and we also had unsecured interviews, roughly

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1 19 interviews that were conducted. We  
2 discussed during those interviews not only the  
3 tritium issue, which was the main focus of the  
4 evaluation, but we also discussed things like  
5 the neptunium and other things that had come  
6 up during our additional data captures and  
7 review that became open issues, that we felt  
8 needed further follow-up.

9 Both the Work Group and SC&A and  
10 ourselves internally felt we needed further  
11 follow-up. Then we also did some additional  
12 dose reconstruction modeling. If you remember  
13 back in the evaluation, when we had presented  
14 the evaluation, we had come up with a bounding  
15 exposure of roughly 700 millirem, that based  
16 on the 1973 incident for tritium.

17 During our presentation of that,  
18 we committed to look at that, to see if we  
19 could come up with a little more of a precise  
20 analysis.

21 So to give us a status on where we  
22 are since these additional efforts, we have

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1 completed or we have five White Papers that  
2 we've worked on, two of which have been  
3 completed, and I'll discuss them a little  
4 further. Those five White Papers are made up  
5 of follow-up efforts on the tritium issues;  
6 evaluation of petitioner concerns about data  
7 falsification and/or data invalidation in  
8 Rocky Flats Plant Building 123, based on  
9 worker allegations; a White Paper on U-233 and  
10 thorium strikes; and a White Paper on  
11 neptunium.

12 The final White Paper we're  
13 working on is other thorium activities, which  
14 came about from our additional data capture  
15 reviews and interviews. The first White Paper  
16 on tritium, we actually issued our report  
17 after we had done the data captures, the  
18 interviews, went back and looked at all the  
19 additional information, and we updated  
20 basically our position on the tritium  
21 exposures at Rocky Flats.

22 We issued that White Paper on the

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1 25th of June. We provided that to the Work  
2 Group on the 26th and the petitioner  
3 unfortunately did not get that until 7/3, July  
4 3rd, because it was at ADC review. At that  
5 point, we had made a point to -- a note that  
6 we recognized that we were giving very little  
7 time to the petitioner, very little time to  
8 the Work Group and SC&A to prepare any  
9 responses for the Work Group meeting. So that  
10 was pointed out.

11 Based on that, the discussion was  
12 that we would present that paper at that Work  
13 Group meeting, and then allow additional time  
14 for the Board or Work Group and the petitioner  
15 and SC&A to review that information, and have  
16 a follow-on Work Group meeting at a later  
17 date.

18 The second White Paper that we  
19 presented was on the data falsification and  
20 data invalidation. This actual White Paper  
21 was brought about by a petitioner, by one of  
22 the co-petitioners, who had identified a

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1 document that presented a potential  
2 falsification or validation, lack of  
3 validation of data at Building 123, just based  
4 on worker allegations. It was an interview  
5 that was conducted by the FBI and the EPA.

6 We issued our report on that June  
7 25th. We provided it to the Work Group and  
8 the petitioners on July 3rd. We presented  
9 that to the Work Group at the Work Group  
10 meeting on July 8th, and again we pointed out  
11 that we recognized the short review time of  
12 that information, and based on that, the Work  
13 Group intended to do a more detailed review  
14 and have a follow-up at a later meeting.

15 There are three other White Papers  
16 that we're working on. I'd say thorium  
17 strikes U-233. This was an issue that was  
18 actually, it was evaluated during the first  
19 petition at Rocky Flats, SEC 30 I believe, and  
20 we went back and based on some additional  
21 discussion during our classified interviews,  
22 and some of the reviews that we'd done, we

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1 decided that this needed to be revisited.

2 We had indication of additional  
3 thorium strikes that weren't previously  
4 identified. So we committed to develop a  
5 White Paper for that. That White Paper is  
6 very close to completion. It's not only going  
7 to look at the exposure from the strikes, but  
8 it also looks at the U-233 exposure. Again,  
9 this is very close to completion. We plan on  
10 having this out later this month.

11 Neptunium. This is another issue  
12 that actually came up during our classified  
13 interviews and discussions, and also during  
14 our document reviews. We went back and we  
15 looked at the transcripts and what had been  
16 done in the previous evaluation for neptunium,  
17 and felt like that issue really had not been  
18 thoroughly vetted.

19 So we committed to Work Group that  
20 we would put together a White Paper on the  
21 neptunium. We have come up with some  
22 additional issues on that; however, we do plan

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1 on having that complete by the middle of  
2 August, in support for a Work Group meeting  
3 prior to the October Board meeting.

4 "Other Thorium Issues" is another  
5 White Paper that we're working on. This is  
6 again another item that during our classified  
7 reviews and some of our interviews, some  
8 additional items that we felt had not been  
9 really looked at closely previously and during  
10 the previous evaluation. We felt it needed a  
11 little more of a thorough look.

12 So we've put together, we're  
13 working on another White Paper. It's called  
14 "Other Thorium Issues." It's basically  
15 looking at the other activities outside of  
16 thorium strikes associated with thorium. We  
17 have included, based on the Work Group  
18 suggestion, the magnesium thorium discussion  
19 that was brought up by Terrie Barrie. So we  
20 are going to include that in that White Paper.

21 I think that's it for me for an  
22 update on where we are. Actually, out of the

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1 Work Group meeting, I will make a couple of  
2 comments, and I'm probably stealing some of  
3 Mark's thunder, but I apologize.

4 We are, had some things come out  
5 of the Work Group meeting. We are going back,  
6 and we're going to look at some information  
7 out of Pantex, to determine, based on some of  
8 the modeling that we had done, whether changes  
9 in the Pantex program had occurred after the  
10 1973 incident at Rocky Flats. So we're doing  
11 some additional work there.

12 We're also doing some additional  
13 interviews on the data falsification/data  
14 classification. We're going to interview some  
15 of the former workers that worked at that time  
16 period, to see if we can get a better  
17 understanding if there was any change in their  
18 analysis techniques between before and after  
19 the raid that occurred in 1989.

20 There were a couple of other items  
21 that came out, action items that came out of  
22 the Work Group meeting that we are following

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1 up on as well. That's it.

2 CHAIRMAN MELIUS: Thank you,  
3 LaVon. Why don't we hear from Mark, and then  
4 we'll open up to questions.

5 MEMBER GRIFFON: And I don't  
6 really have much -- that was a good summary by  
7 LaVon. I didn't catch whether you mentioned  
8 the timing for our next scheduled meeting. Did  
9 you --

10 MR. RUTHERFORD: No, I didn't. The  
11 date is September 12th or 17<sup>th</sup>. 12th,  
12 September 12th.

13 MEMBER GRIFFON: September 12th,  
14 yeah. So the hope is by then we'll have a lot  
15 of these items that you mentioned in complete  
16 enough form, that we can --

17 MR. RUTHERFORD: We are, I think  
18 we're putting a lot of priority on getting  
19 these done. I know that the focus is for the  
20 Denver meeting in October. So we're going to  
21 put a lot of effort towards that and hopefully  
22 get it done, and a little better time frame

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1 for the petitioner and the Work Group.

2 MEMBER GRIFFON: Yeah, and we set  
3 that time to allow, hopefully to allow SC&A  
4 enough lead time to also review all this  
5 stuff, because the last meeting we had, it  
6 ended up being a phone call meeting, because  
7 we were kind of -- the documents didn't get to  
8 us with very much lead time. So hopefully  
9 that's resolved, yeah.

10 MR. RUTHERFORD: Yes.

11 CHAIRMAN MELIUS: Is that a  
12 promise?

13 MR. RUTHERFORD: You know, it's  
14 hard to promise when -- it's just hard to  
15 promise.

16 CHAIRMAN MELIUS: Okay. Do Board  
17 Members have questions?

18 (No response.)

19 CHAIRMAN MELIUS: If not, I'll  
20 start. I'm just a little puzzled by the  
21 presentation. I'm trying to understand. Are  
22 we making progress, I mean in terms of

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1 addressing issues or not? This is all sort of  
2 what's happened and what's been produced. But  
3 the only content I sort of see is from some of  
4 the petitioners' comments, which you'll hear  
5 in a second.

6 I mean we'll come back after that,  
7 okay, if that's how you want, would rather do  
8 it. That's fine. I just didn't, I'm just  
9 trying to understand where we really are with  
10 this. I thought we were sort of farther along  
11 or that we were resolving things.

12 MEMBER GRIFFON: I mean I guess  
13 we're in the midst of, you know, we got some  
14 assessment of these issues, but we got it at a  
15 very late stage, right before the Work Group  
16 meeting.

17 MR. RUTHERFORD: Right, right.

18 MEMBER GRIFFON: So we had sort of  
19 a preliminary discussion on the Work Group  
20 call, but SC&A's really got to come back with  
21 a little more analysis on those issues, and  
22 see if we --

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1                   MR. RUTHERFORD:   Yeah.   The time  
2 period on the papers, I mean, was our fault. I  
3 mean I should say it was from our end and, you  
4 know, we had initial reviews of the White  
5 Papers that came through. We identified our  
6 concerns, you know. We had the sequestration  
7 came through and dealing with all that.

8                   I'm not pushing it all on that.  
9 I'm just saying that we wanted to get out a,  
10 you know, a product that we could live with.  
11 So it was, it took a little time.

12                  CHAIRMAN MELIUS:       No.       We've  
13 already concluded it was your fault.

14                  (Laughter.)

15                  CHAIRMAN MELIUS:       No matter what  
16 you say. I guess let me put this in a way  
17 that's a little bit more fair. You know, and  
18 this is both for NIOSH and the Work Group. Do  
19 you think that we've, through these additional  
20 White Papers, have identified key issues that  
21 will address and I won't say close out the  
22 SEC, but will make significant progress for

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1 the time for the October meeting.

2 I mean you can't judge what else  
3 is going to be found when you're still  
4 collecting data and reviewing stuff. So I  
5 don't think it's fair to ask that. But at the  
6 same time, are we going to be ready to make a  
7 recommendation by October?

8 MR. RUTHERFORD: I think the only  
9 White Paper that's going to be the holdup is  
10 the Other Thorium Issues. Yeah, you can see  
11 it's a September date, and it's just whether  
12 we can get all the information pulled together  
13 on that one or not.

14 The other White Papers, I don't  
15 see a problem in getting them together. I  
16 think I'm going to, you know, we're working  
17 with Joe, Joe Fitzgerald at SC&A. We're going  
18 to make sure he's involved and any of the  
19 other Work Group Members that want to be  
20 involved with the interviews that we conduct  
21 for the data falsification.

22 We'll make every effort we can to

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1 have it -- at least answer everything, and  
2 get the papers out in support of a Work Group  
3 meeting, that we can try to get some  
4 resolution.

5 CHAIRMAN MELIUS: Okay. Mark, you  
6 have anything?

7 MEMBER GRIFFON: Yeah. I mean I -  
8 - that's why we set this Work Group meeting to  
9 September, was because we wanted some  
10 significant progress, you know, and something  
11 to report in the October meeting. I mean I'm  
12 a little, I am a little concerned about the  
13 thorium, and I think that's a big issue  
14 obviously, the whole Other Thorium and you  
15 know. I'm not sure we're going to be able to  
16 resolve that in time for the October meeting.

17 But I think we'll definitely make  
18 progress. We have to make some progress.

19 CHAIRMAN MELIUS: Again, explain  
20 to me what the Other Thorium issue is?

21 MR. RUTHERFORD: Well, I'll just  
22 yeah. I won't get into details, but there

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1 were other thorium activities that occurred,  
2 and we're trying to determine the scale that  
3 they occurred, what they occurred, and that I  
4 don't think were previously addressed in the  
5 last evaluation.

6 CHAIRMAN MELIUS: Okay. That  
7 makes sense then. Okay, okay. Thank you.  
8 Other Board Members? Board Members on the  
9 phone with questions?

10 (No response.)

11 CHAIRMAN MELIUS: Okay. If not,  
12 then I think the petitioner has comments, or  
13 one of them.

14 MS. BARRIE: Thank you very much.  
15 Yes, and I will keep this as brief as  
16 possible. The petitioner himself had some  
17 health issues to deal with, and he asked me to  
18 read his comments.

19 CHAIRMAN MELIUS: Okay. Can you  
20 just identify yourself?

21 MS. BARRIE: Oh, I'm sorry.

22 CHAIRMAN MELIUS: We know who you

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1 are, but the people on the phone --

2 MS. BARRIE: My name is Terrie  
3 Barrie, and I'm the co-petitioner for the  
4 Rocky Flats workers. I want to thank you for  
5 this opportunity and thank everyone who has  
6 helped me, you know, Rocky Flats workers and  
7 other advocates on this presentation on the  
8 SEC.

9 The interviewee, the EPA  
10 interviewee attested that the bioassay samples  
11 sat on the shelf. NIOSH said there is no  
12 scientific basis for concluding that sample  
13 counting performed weeks after collection  
14 would compromise the results.

15 Really? NIOSH said he couldn't  
16 find any bioassay procedures for Rocky Flats,  
17 which I find very odd, especially since the  
18 original author of the Site Profile was the  
19 manager of the Health Physics Lab.  
20 Fortunately, the LANL petitioners shared a  
21 section of his petition, and the NCRP report  
22 states, and I quote, "All biological samples

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1 are subject to deterioration by  
2 bacteriological action that may interfere with  
3 subsequent analysis."

4 I would think that the health  
5 physicist would know that. And what about  
6 tritium assays? If a sample's slated to be  
7 checked for tritium exposure, sat on the shelf  
8 for a week or two, would the bioassay results  
9 be accurate? I don't know the answer to that.

10 That is something that I think NIOSH needs to  
11 address.

12 NIOSH also interviewed a Mound  
13 employee, and the Mound employee said that it  
14 is high opinion that, and I quote, "It's a  
15 valid assumption that Mound procedures would  
16 be representative of other DOE sites."

17 However, I found a 1995 document  
18 that states otherwise, and it says, Slide 3,  
19 "The information gathered from these  
20 questionnaire responses illustrates the  
21 diversity of international dosimetry practices  
22 at DOE facilities."

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1           So it cannot be assumed that the  
2 Mound dosimetry procedures are representative  
3 of all other DOE sites. I am thankful that  
4 DOL is willing to check with their Legal  
5 Department, on whether it would be possible to  
6 petition the Court to unseal the records  
7 seized during the FBI raid.

8           ANWAG and other advocates will be  
9 happy to submit briefs to the Court supporting  
10 this proposed motion. But I still don't  
11 understand why DCAS is insistent that there  
12 was no problems at the Rocky Flats plant, both  
13 with regards to the bioassay program and the  
14 worker protection program.

15           I have discovered a few documents  
16 with support worker statements that all was  
17 not well at Rocky Flats. I won't be able to  
18 go into and explain every one of them, but  
19 I'll be happy to talk with you individually if  
20 you need some explanations.

21           These following slides from DNFSB  
22 shows a variety of problems here. We have

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1 concerns here with the Rocky Flats plant in  
2 1993, with worker air monitoring and "air  
3 monitoring in the workplace at Rocky Flats is  
4 not in compliance," and like I said, there's  
5 others on this projection.

6 I'm just going to skip back to the  
7 GAO report. So even the GAO identified worker  
8 protection issues pre-FBI raid. This report  
9 also notes that there was improper use or  
10 placement of air monitors, and a year later,  
11 they identified a lack of adequate  
12 measurements and documentation on extremity  
13 doses for certain workers.

14 So let's move on to the tritium,  
15 since there is just small time limit here. My  
16 understanding about tritium is like the  
17 element itself. Information seeps into my  
18 brain and just as easily it's seeped out. Some  
19 knowledge remains, though. So a good portion  
20 of this presentation is just going to be  
21 observations or questions to the Board, NIOSH  
22 and SC&A.

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1           Okay. In Slide No. 9, which is  
2 before this one, we had asked DCAS to explain  
3 to find other information about tritium  
4 stripping on Building 444 in 1987. This has  
5 not been addressed as far as I can tell in the  
6 tritium White Paper, and I think that's  
7 important, that we need to get to the bottom  
8 of that.

9           Is there more documentation? What  
10 is tritium stripping on or in Building 444? I  
11 think the workers need to understand that, and  
12 the Board also obviously.

13           You should also note on this  
14 slide, this is the document seized during the  
15 raid, which refers to a tritium release from  
16 Building 776 in April of 1989. I just located  
17 this, and that's why it hasn't gotten to, very  
18 far before today.

19           I'm not sure if DCAS was aware of  
20 release, of this release. If they were, did  
21 they determine that this release was less than  
22 the levels in 1973 and '74? But this is one

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1 thing I would appreciate an answer on.

2           During last week's teleconference,  
3 Dr. Makhijani asked NIOSH if metal tritides  
4 were present at Rocky Flats. NIOSH replied  
5 no. There are many Rocky Flats workers who  
6 are helping us, and one such worker informed  
7 me that tritium metals and tritium oxides were  
8 indeed on site, and experiments were done in  
9 Building 559, Glove Box C-1 by [Identifying  
10 information redacted] using tritides.

11           Many of the workers interviewed  
12 during the focus group and other interviews  
13 mentioned the fact that tritium alarms went  
14 off frequently. I know some of those accounts  
15 occurred after 1974, including one from the  
16 petitioner. Did DCAS find any information on  
17 tritium alarm incidences, and if so, did they  
18 rule out those alarms were caused by releases  
19 that were less than the 1974 exposure?

20           Special tritium compounds, where  
21 does that fit in, or does it fit in when it  
22 comes to reconstructing dose for tritium

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1 exposure? Considering the documents that I  
2 located on the monitoring insufficiencies at  
3 Rocky Flats, there are serious doubts in my  
4 mind that the records NIOSH is using to  
5 reconstruct dose are true and accurate.

6 One more slide here. Which brings  
7 us up to this document. I have that document  
8 right here, a copy of it, and it's a 1996 memo  
9 from Mr. Mark Silverman that says "Stop  
10 destroying Rocky Flats records." So it's easy  
11 to assume that even though the documents that  
12 say we're not going to destroy records and we  
13 have everything, they were still doing it in  
14 1996.

15 I'd like to leave you with one  
16 last thought from me before I read  
17 [Identifying information redacted] quick  
18 response, and while this SEC petition is two  
19 years old, that's kind of short in the time  
20 frame in SEC petitions, these Rocky Flats  
21 issues have been around for eight years.

22 We deserve an answer and quickly.

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1 It's not like these are brand new issues to  
2 anyone. They need to be investigated sure,  
3 but not another eight years down the road do  
4 we need an answer. I've been working on sick  
5 worker issues for 18 years. I want to retire  
6 in two. So I would like to have this resolved  
7 by then.

8 Now for the quick response from  
9 [Identifying information redacted]. "While  
10 will DCAS believe the workers or other experts  
11 that fit into their predetermined position?  
12 We have tons of people telling DCAS that  
13 records are missing, that they have a zero for  
14 a badge reading, that instruments were  
15 recalibrated to show a background reading that  
16 was higher than what the workers' badges read.

17 "Could the reason all of these  
18 zero readings be that the lab was remiss in  
19 following scientific protocols? No one has  
20 believed these workers. We supplied the EPA  
21 interview to bolster the workers' testimony.  
22 It came from someone who had direct knowledge

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1 of the lab's practices, and worked in the lab  
2 for a number of years.

3 "It is unforgivable that NIOSH  
4 would dismiss this important information. Yes,  
5 the raid happened because of environmental  
6 crimes. But the Tiger Teams looked at the  
7 whole plant.

8 "Does NIOSH have all four  
9 assessment team reports, or just the  
10 environmental one? If they do have the four  
11 reports, did they review them all and  
12 determine that the Tiger Teams found similar  
13 problems with personal bioassay lab  
14 procedures, or didn't they?

15 "If they had the reports but  
16 didn't read them, why didn't they? If all  
17 four reports are not available to DCAS, why  
18 not? Who has them? If DCAS cannot obtain all  
19 four reports, how can they emphatically assert  
20 that there were no problems with the worker  
21 bioassay program? Will we ever learn the  
22 truth?

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1           "I too want to thank all the Rocky  
2 Flats workers, and the other advocates who  
3 have helped me with this petition. I hope in  
4 October, when the Board comes to Denver, we'll  
5 have as much time as need to explain our  
6 position." Thank you very much, and we'll  
7 take any questions.

8           CHAIRMAN MELIUS: Okay, thank you  
9 very much, Terrie. LaVon, responses or --

10          MR. RUTHERFORD: We got Terrie's  
11 presentation with her, and we're going to  
12 follow up on every one of the things she put  
13 in there, and we'll make sure that we provide  
14 a response to the Work Group as we work  
15 through these issues.

16          CHAIRMAN MELIUS: What my  
17 recollection is from when the Evaluation  
18 Report was first presented, that you were  
19 following up on the other tritium scripting  
20 time frames, weren't you, or is that --

21          MR. RUTHERFORD: No, not the  
22 tritium stripping issue.

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1 CHAIRMAN MELIUS: Okay, okay.

2 MR. HINNEFELD: Yeah, the specific  
3 phrase of "tritium stripping" I don't think  
4 was in front of us at that point.

5 CHAIRMAN MELIUS: Okay.

6 MR. RUTHERFORD: I would like to  
7 say that some of the issues, you know,  
8 recognize that we went back and we looked at  
9 the issues that one, we didn't feel had been  
10 fully vetted in the previous evaluation, and  
11 new issues that came up during our classified  
12 interviews or other interviews and our  
13 document reviews.

14 So some of the things that  
15 occurred in the previous evaluation haven't  
16 come back on our radar as well, I'll say. So  
17 you know, I think we've caught all the issues  
18 that I know of, and I certainly have been  
19 talking with, or following Terrie's  
20 presentations in her documents that she sends  
21 over when we look through issues, and we'll  
22 follow these up as well.

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1 CHAIRMAN MELIUS: Okay. Thank  
2 you. Mark?

3 MEMBER GRIFFON: I mean I just  
4 going to ask while you're there, LaVon. One  
5 question, I don't know if someone can answer  
6 or maybe answer before the meeting's over.  
7 Terrie mentioned, I guess it's really an  
8 assessment report, right? It's not a Tiger  
9 Team. But this four volume report that  
10 exists, does NIOSH have this?

11 MR. RUTHERFORD: Yeah. I'm going  
12 to say I believe we do, because I believe  
13 those were part of those that were looked at  
14 during the previous evaluation under SEC 30.  
15 I'll verify that we have them, and get you an  
16 answer before the end of the meeting.

17 MEMBER GRIFFON: Okay, and maybe  
18 if they can be posted or somewhere where  
19 others can look at them, you know, that would  
20 be useful, I think.

21 CHAIRMAN MELIUS: Any other Board  
22 Members have questions or comments? I want to

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1 indicate just in response to one of your  
2 comments, Terrie. I think everyone's trying  
3 to, doing their best to keep this moving  
4 along, and we agree.

5 It's a long time, and although  
6 it's -- I don't think we even are comfortable  
7 saying it's only two years, because it's  
8 something you try to resolve, but try to  
9 resolve thoroughly. But every attempt to move  
10 it along.

11 I think it's a part of NIOSH and  
12 everybody else involved. But we appreciate  
13 your input, and input of the petitioners.  
14 Thank you. Okay. Let's see where we are, a  
15 little bit ahead of time. Hear from somebody  
16 new now. LaVon. Is LaVon here?

17 SEC Petitions Update

18 MR. RUTHERFORD: Okay. I'm going  
19 to give the status of the upcoming SEC  
20 petitions. This is a report that we routinely  
21 do at the Board meetings, give you an idea.  
22 Gives the Board Members an idea of current

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1 status of existing SEC petition evaluations,  
2 what SECs do we have that have just recently  
3 qualified and 83.14s that we're working on.

4 It also gives them an idea that  
5 on, so they can prepare for future Work Group  
6 meetings and Advisory Board meetings.

7 Petitions. We are, as of July  
8 5th, we're up to 213 petitions. We have two  
9 petitions right now that are in the  
10 qualification process, and one petition that's  
11 actually in the evaluation process. If you  
12 remember, the last couple of meetings, we  
13 haven't had any really new petitions. So we  
14 have received some new petitions here  
15 recently, and I'll talk about those shortly.

16 Currently, there are a number of  
17 petitions that are with the Advisory Board.  
18 They have had some action taken since they  
19 were initially presented to the Advisory  
20 Board, but they have not been completely  
21 closed out. Some of these I'm thinking or  
22 hoping are going to come off the table during

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1 this meeting.

2 We've got the Fernald Feed  
3 Materials Production Center, Hanford, Pantex  
4 plant, Los Alamos National Lab, Savannah River  
5 Site, Brookhaven National Lab. Brookhaven, I  
6 believe, is actually going completely away.  
7 Baker Brothers, Joslyn Manufacturing and  
8 Supply Company.

9 Some of these are in various  
10 stages of final closeout and should be coming  
11 off -- this should be a much shorter list  
12 soon. We have one petition that is waiting  
13 for its initial action, and that is the Rocky  
14 Flats petition plant evaluation. Again, we  
15 did have an evaluation performed under SEC 30.  
16 But under this petition, there has been no  
17 action taken by the Board as of yet.

18 There are a number of petitions  
19 that we have dialed up for 83.14s. Sandia  
20 National Lab Livermore. We're actually  
21 working this 83.14 in preparation for the  
22 October Board meeting. We'll be recommending

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1 a Class up through 1994.

2 Sandia National Lab Albuquerque.  
3 This is the early years that used to be the Z  
4 Division at LANL. We're still waiting for a  
5 claimant for this one, to support an 83.14. We  
6 have no claims for this period as of yet.

7 General Atomics, this is -- we're  
8 modifying an existing Class Definition. This  
9 was one of our old Class Definitions that  
10 identified, was very building-specific, would  
11 not have been defined this way under current  
12 practices today. However, at this time, DOL  
13 is implementing this Class, such that it would  
14 be just like it was all employees. So we have  
15 not received any claims to support modifying  
16 the Class.

17 Dayton Project Monsanto. There's  
18 a couple of things going on here. We need to  
19 modify the Class based on the facility  
20 designation change to a DOE facility, and then  
21 we'll also add a nine month period where  
22 operations shifted from the Dayton project to

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1 the Mound.

2           Again, we have no claim to support  
3 this at this time. We've put this on our --  
4 routinely checked for claims to support  
5 getting these moved forward, so we are  
6 looking. Okay, new petitions. We actually  
7 had two petitions in the qualification  
8 process, K-25, 1993 to '97.

9           If you remember, the statutory SEC  
10 goes up to February 1992, and this period is  
11 just post that statutory period. We've very  
12 close to a finding on this one. The LANL  
13 petition is actually for -- this happens every  
14 once in a while. We had a petition for a  
15 period that's already covered under the SEC.  
16 It happens.

17           Sometimes we get individuals that  
18 have non-presumptive cancers that would not be  
19 a part of the SEC, that petitioned to get  
20 their in under the SEC, which that can't  
21 happen. So this petition will not qualify.

22           Then we have one petition that is

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1 in the evaluation process, and that is the  
2 Kansas City plant qualified for the period  
3 1949 to 1993. We had some gaps in monitoring  
4 for some activities in Kansas City plant that  
5 supported qualification, and we are in the  
6 evaluation phase on that one.

7 That petition evaluation will not  
8 be ready for the October meeting. I think  
9 based on our current project schedule, it  
10 would be the following meeting after that. I  
11 believe that's it. Questions.

12 I tried to race through it.

13 CHAIRMAN MELIUS: I was talking to  
14 the Secretary. I had to hang up.

15 MR. RUTHERFORD: You know, Josh  
16 just pointed out that I failed miserably. I  
17 forgot we have one other petition that is the  
18 qualification phase that we just recently got  
19 for Argonne National Lab East, and we are  
20 reviewing that petition as well. It is in the  
21 qualification phase.

22 CHAIRMAN MELIUS: You may have

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1 said this, but what puzzled me when I looked  
2 through the slides is why have you  
3 predetermined that LANL will not qualify?

4 MR. RUTHERFORD: Okay. I did  
5 answer that. It was pretty -- the person  
6 petitioned for a period that's already covered  
7 under the SEC.

8 CHAIRMAN MELIUS: Okay. I assumed  
9 that, but you had accepted the petition?

10 MR. RUTHERFORD: Well, any  
11 petition comes in, we go through the petition  
12 process.

13 CHAIRMAN MELIUS: Alright, okay. I  
14 thought you had an administrative way of  
15 dealing with those also.

16 MR. RUTHERFORD: Yeah.

17 CHAIRMAN MELIUS: No, that's good  
18 of you. Any other Board Members have  
19 questions for LaVon? Good thing we found you  
20 other work to do then.

21 MR. RUTHERFORD: Yes.

22 CHAIRMAN MELIUS: Yeah. Thank

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1 you. Okay. It's a little bit early for a  
2 break, and we can do a break now. We can go  
3 into the Board work session. We can do that  
4 for a while. We can do that to say 3:30 or  
5 4:00, and then take a break until 4:30, and  
6 then that will give us a break and then come  
7 back at 4:30 for the INL, sort of a longer  
8 break.

9 I'm not sure. We'll see how we do  
10 through the Board Work session. But in terms  
11 of Board work session, we're going to need to  
12 save some for tomorrow, because the SEC  
13 petitions are all, actionable ones are all  
14 tomorrow and Fernald, both Pantex and Fernald  
15 will be, good chance they will be letters and  
16 so forth. We'll need to talk about a little  
17 bit.

18 We don't have any scheduled Board  
19 work time tomorrow until late. So why don't  
20 we go through and let's see how we do. If  
21 we're doing well, try to break and, a break  
22 before the 4:30 time frame and so forth, or

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1 have a break and then come back. Is that  
2 reasonable for everybody?

3 (No response.)

4 Okay. Hearing no objections,  
5 we'll move forward. Why don't we start with  
6 what's usually the, and I don't have it on my  
7 set of this copy of the agenda, but you had  
8 some dates you wanted to throw out?

9 MR. KATZ: So this just to  
10 schedule further out. So presently, we're  
11 scheduled the latest meetings. We have the  
12 October meetings, October meeting in Denver.

13 MEMBER ROESSLER: For what, two or  
14 three days?

15 MR. KATZ: I'm pretty certain it  
16 will be two days, 16th and the 17th. Two  
17 days.

18 MEMBER ROESSLER: Two days.

19 MR. KATZ: 16th and 17th of  
20 October.

21 MEMBER ROESSLER: Okay.

22 MR. KATZ: So the 16th and 17th of

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1       October, we are planning to go to Denver, and  
2       then we have scheduled December 9th at 11:00  
3       a.m. for a teleconference, and then the next  
4       in-person meeting is January 28th through 30th  
5       we have blocked out for that, January 28th  
6       through 30th.

7                   CHAIRMAN MELIUS:     I think Brad's  
8       invited us back.

9                   MR.    KATZ:            For the January  
10       meeting. That would be lovely. Okay, 28th  
11       through 30th.

12                   CHAIRMAN MELIUS:     Yeah.     Most  
13       likely the Tuesday and Wednesday.

14                   MR.    KATZ:     Yeah, most likely 28th  
15       and 29th.

16                   CHAIRMAN MELIUS:     Or we could do  
17       the 29th, whatever people's preferences are.

18                   MEMBER ROESSLER:    Okay, I got it.

19                   MR.    KATZ:     No. We can talk about  
20       that if we have ideas, but --

21                   CHAIRMAN MELIUS:     Yeah. I think  
22       we're looking for suggestions. But at this

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1 point in terms of what --

2 MEMBER ROESSLER: Kansas City.

3 CHAIRMAN MELIUS: Kansas City.

4 MEMBER ROESSLER: I was just going  
5 to suggest that.

6 CHAIRMAN MELIUS: I was reading  
7 your mind. Many of you have never been there,  
8 and I didn't listen to all of the, LaVon's  
9 thing, but my understanding is that the -- I  
10 think I heard that the SEC report probably  
11 would not be ready in October?

12 MR. KATZ: Oh yeah. Not in  
13 October, but --

14 CHAIRMAN MELIUS: Yeah. So it  
15 would be ready for the January meeting.

16 MR. KATZ: Correct. So that's one  
17 option.

18 CHAIRMAN MELIUS: Okay.

19 MR. KATZ: Augusta is another  
20 option, if SRS is ready by then. I couldn't  
21 hear.

22 CHAIRMAN MELIUS: Rio. Yeah, I'm

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1 already working on, since Joyce Lipsztein's so  
2 involved, that we should do at least do a Work  
3 Group meeting. I told him I would displace  
4 Mark from the SRS Work Group.

5 MR. KATZ: Not yet.

6 CHAIRMAN MELIUS: Somehow, I think  
7 we would be reading about ourselves in *USA*  
8 *Today* if that occurred.

9 MR. KATZ: I don't know. There's  
10 Pinellas. Do we expect progress in this time  
11 frame for Pinellas?

12 Okay. So that's a no from the  
13 program for Pinellas in that time frame.  
14 Sandia is another arena.

15 DR. NETON: I think Pinellas might  
16 be ready.

17 MR. KATZ: Oh.

18 DR. NETON: It's very close to  
19 closure.

20 MR. KATZ: Okay. So Pinellas  
21 might be ready in time for a January meeting?

22 MR. HINNEFELD: And I think the

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1 action we're working on is Sandia Livermore.  
2 So that one, I think, will be done before.

3 MR. KATZ: Before then.

4 CHAIRMAN MELIUS: I'd rather have  
5 Rio. Kansas City, I mean we've never been  
6 there, and I think that would be first  
7 priority. I'll say weather's a factor, but  
8 weather's a factor getting anywhere there.  
9 Yeah. We'll probably hit the blizzard of --  
10 yeah. So let's tentatively do Kansas City,  
11 and then --

12 MR. KATZ: Okay. It's Kansas City  
13 in January. Okay. So then now we're  
14 scheduling out beyond that, and the right  
15 weeks for a teleconference beyond that would  
16 be the week of March 19th or March 26th. I  
17 don't know if I chose the Wednesdays as date  
18 marks for those weeks or something else.

19 MEMBER ZIEMER: What were the  
20 January dates again?

21 MR. KATZ: The January dates are,  
22 right, the 28th and 29th of January. 28th and

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1 29th.

2 MEMBER ZIEMER: Thank you.

3 MR. KATZ: So is the 19th a Monday  
4 or a Wednesday? Okay. So how does March 19th  
5 work for people? For a teleconference, that  
6 would be 11:00 a.m. Eastern Time normally.  
7 Does that work for everyone, and on the line  
8 too? Paul, David?

9 MEMBER ZIEMER: That's okay with  
10 me, Ziemer.

11 MR. KATZ: Okay, great. Okay. So  
12 the 19th it is, and then the next face to face  
13 meeting, approximately the week of April 28th,  
14 May 5th, May 12<sup>th</sup>. I said April 28th or May  
15 5th, or as far out as May 12th, and then we're  
16 getting pretty far after that.

17 Anybody have any trouble with the  
18 week of April 28th, or with one part of the  
19 week or the other?

20 CHAIRMAN MELIUS: What are the  
21 holidays? They're not in my calendar year, so  
22 Microsoft is falling down again.

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1 MR. KATZ: Yeah. Perhaps none. So  
2 do you want to go the 29th and 30th?

3 MEMBER ROESSLER: Yeah.

4 CHAIRMAN MELIUS: Yeah.

5 MR. KATZ: Okay. Let's do that.  
6 29th and 30th of April.

7 CHAIRMAN MELIUS: Place to be --

8 MR. KATZ: Place to be determined.  
9 No, that's a Tuesday and Wednesday.

10 MEMBER ANDERSON: April 29th?

11 MR. KATZ: April 29th and 30th.

12 MEMBER ANDERSON: Oh, 29th, okay.

13 MR. KATZ: And 30th. That way,  
14 people aren't traveling on Sunday.

15 MEMBER ANDERSON: Oh, that's good.  
16 I just put 28th in my mind.

17 MR. KATZ: Week of, yeah.

18 CHAIRMAN MELIUS: And let's keep  
19 in mind, I guess we have Sandia, Pinellas and  
20 Livermore as possible locations. For those.  
21 So let's do, start with Work Groups and  
22 Subcommittees, and recently, Dave Kotelchuck

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1 took over as chair of the Dose Reconstruction  
2 Subcommittee, and you're on.

3 Dose Reconstruction Subcommittee

4 MEMBER KOTELCHUCK: We have a  
5 conference call meeting, actually what do they  
6 call it Live Performance on August 7th, and  
7 we're basically going through the Sets 10  
8 through 13. We have LANL, we have SRS and I  
9 forget, one more, and then we're going to be  
10 selecting for, selecting cases for a new set,  
11 which will be either 17 or 18.

12 There's some question. I think  
13 17, something else coming up that we're going  
14 to call 17, yes.

15 MR. KATZ: It's just the blind  
16 reviews for 17, so we've moved to 18.

17 MEMBER KOTELCHUCK: That's right,  
18 that's right.

19 MR. KATZ: To accommodate that.

20 MEMBER KOTELCHUCK: So it will be  
21 18. Okay. That's it. Moving right along.

22 CHAIRMAN MELIUS: Okay. Any

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1 questions, comments? Okay. So where are we  
2 with the blind reviews, in terms of --

3 MR. HINNEFELD: It's been a bit of  
4 a struggle. The blind reviews intend to use  
5 the existing ORAU dose reconstruction tools,  
6 which allow the dose, you know, the dose  
7 reconstruction makes a certain number of  
8 choices when they use those tools, and provide  
9 those tools to the SC&A reviewer to do the  
10 cases essentially so the arithmetic all comes  
11 out. Its choices are consistent.

12 CHAIRMAN MELIUS: Yeah.

13 MR. HINNEFELD: And getting that  
14 going has been a bit of an ordeal, but the  
15 last I saw is they are not accessible to Doug,  
16 the reviewer, and the data input files, you  
17 know, the pre, the already coded, you know,  
18 spreadsheets essentially of a person's dose  
19 record have been now found, and should have  
20 been made available to Doug, will be made  
21 available this week.

22 We've notified Doug. I think we

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1 have those files now. What folder, where you  
2 want us to put them, so you can get them and  
3 use them on the tools. This has been a little  
4 bit of a complicated computer security issue  
5 from our point.

6 That was the complication, getting  
7 the tools in a place where Doug can get to  
8 them through our system, because normally they  
9 run on the ORAU system, and getting them to  
10 where they would run in what believe it or not  
11 is called the demilitarized zone, in IT tech  
12 speak, and I don't know exactly what that  
13 means.

14 So that's the last report. The  
15 last message I saw on this was Grady sent a  
16 message to Doug that says I have those data  
17 input files, so Doug doesn't have to key in  
18 the data, and where would you like them, and  
19 that's the last message I saw. But once he  
20 has those, I think things should relatively  
21 quick.

22 CHAIRMAN MELIUS: So we've

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1 demilitarized the -- will we allow an  
2 incursion into the -- there's got to be some  
3 jargon there.

4 MR. HINNEFELD: It is a virtual  
5 area between our servers and ORAU's server,  
6 and I can't do any better than that.

7 CHAIRMAN MELIUS: Anybody have  
8 questions on that? If you do, too bad. Okay.  
9 Procedures, Work Group, or excuse me,  
10 Procedures Subcommittee, which is going to  
11 have some presentations tomorrow. But in  
12 addition to those.

13 Procedures Subcommittee

14 MEMBER MUNN: Yeah. We met in  
15 April, April 25th, one of the first Live  
16 Meeting calls, which I know the order finds to  
17 be very useful, and this particular  
18 Subcommittee chair finds to be disastrous. But  
19 we are making a few adjustments to the Board  
20 Review System, which when I say "we," actually  
21 NIOSH and the folks who actually do the hard  
22 work with it, are tweaking it a little bit,

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1 making it we hope a little bit more user  
2 friendly than it already is.

3           It's working very well for the  
4 Subcommittee. We had a large number of items  
5 on our agenda, especially now that we are  
6 really into the PERs. We have probably seven  
7 or eight of them actively involved right now,  
8 either being resolved in NIOSH or with SC&A.

9           We had reports on PER-11, 30, 14,  
10 17, 44. I don't know that the numbers mean  
11 anything to you. I have to go back and look  
12 at each one of them to identify where they  
13 are. But they've covered the wide range of  
14 sites and a wide range of issues.

15           We have been adding, for the first  
16 time talking about how best to handle the  
17 overarching issues, which we've opted to track  
18 through the Subcommittee. But they're going  
19 to have to be handled, because of their  
20 nature, and not being site-specific, they're  
21 going to be handled differently than most of  
22 our findings.

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1           We had quite a bit of a discussion  
2 about that, and I think we've come to some  
3 resolution on some of the simple, basic  
4 elementary things. But we'll be working on  
5 that a great deal, I think, from time to time.

6           We had some responses from OTIB-  
7 55. We had two PERs, I believe, from the  
8 Hanford site, and those I believe have been  
9 transferred to the Work Group for resolution.  
10 Status reports on several of the PERs, and we  
11 had a status report on the revisions to OTIB-  
12 54.

13           I believe our next meeting is  
14 going to occur day after tomorrow, if we're  
15 still present and functioning there, and  
16 that's, I believe, yep. Unless someone has  
17 some questions.

18           CHAIRMAN MELIUS: So this will be  
19 live Live Meeting.

20           MEMBER MUNN: This will be a real  
21 live meeting, not a digital live meeting.

22           CHAIRMAN MELIUS: A virtual.

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1                   MEMBER MUNN:    I much prefer real  
2 live meetings to virtual live meetings.

3                   CHAIRMAN MELIUS:       Yeah, in a  
4 demilitarized zone.

5                   MEMBER MUNN:    Yes, uh-huh, with  
6 both computers that are necessary to  
7 accomplish this, yeah.

8                   CHAIRMAN MELIUS:       Any questions  
9 for Wanda? Okay. Now we'll turn to the Work  
10 Groups. Anybody want to volunteer? Yeah, go  
11 ahead. Now we'll just start going through  
12 alphabetically, but I figure, yeah.

13                   MEMBER ROESSLER:    Have a little  
14 variety.

15                   CHAIRMAN MELIUS:       Variety, yeah.  
16 We've been doing the alphabet for how many  
17 years, right?

18                   ORNL Work Group

19                   MEMBER ROESSLER:    Right. Okay.  
20 I'll report on ORNL Work Group, and I do have  
21 progress to report. Tim Taulbee, who's the  
22 DCAS lead on this site, is in Alaska right

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1 now. But he sent me an update this week. I  
2 tried to send it out to the rest of the Work  
3 Group Members, and I didn't get your email  
4 address right, but I'll give you a copy of it.

5 But as you may recall, Tim  
6 presented the DCAS Petition Evaluation Report  
7 to us at a meeting in Denver last September.  
8 You might also recall that this is a complex  
9 site. The petition covers the period from  
10 June 17th, 1943 to July 31st, 1955. So  
11 there's a lot of historical information  
12 involved.

13 This is the X-10, site which  
14 involved the historic graphite reactors, some  
15 other very unique reactors, and many research  
16 labs. In September, DCAS reserved the exotic  
17 radionuclide portion for further follow-up,  
18 and Tim reports that since then they have made  
19 significant progress, but it is slower than  
20 anticipated due to difficulty in obtaining and  
21 assessing data from DOE.

22 He says they now have a good

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1 handle on the radionuclide production, that  
2 ORNL. They've identified 254 radionuclides  
3 that were produced there over the years. I  
4 think just that number itself should tell  
5 people that that's a pretty interesting site  
6 to evaluate.

7 He said they will do a triage on  
8 these radionuclides. I'm not sure if that's  
9 quite the right word, but to assess their  
10 exposure potential. Some of them were very  
11 small in quantity. Some had very short half -  
12 lives. Some were encapsulated when they were  
13 used, and some have low dose conversion  
14 factors.

15 However, some have significant  
16 exposure in internal dose potential. So  
17 they're looking at that. They're also doing  
18 validation and verification of the bioassay  
19 database that they reported on in September.  
20 So they're targeting the October Board meeting  
21 for an Evaluation Report addendum, but are not  
22 100 percent sure they can do that. So stay

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1 tuned. Any questions?

2 CHAIRMAN MELIUS: Questions for  
3 Gen? Okay. Okay, very good. Any other  
4 volunteers? Then I'll start calling on  
5 people. Yeah. We'll see who's been slacking  
6 and who's been into that. Brookhaven is  
7 reporting, Fernald is reporting.

8 Hanford, Hanford has been working  
9 but has not been meeting. Arjun, correct me  
10 if I'm wrong here, but we're actually updating  
11 the matrix, catching up on -- there have been  
12 some more recent interviews and so forth,  
13 pulling information together into the matrix  
14 on where we need to go from here.

15 So we hopefully will have a Work  
16 Group meeting between now and the next  
17 meeting, and see where we would need to focus  
18 in in terms of further SEC evaluation at that  
19 site.

20 DR. MAKHIJANI: Yeah, that's more  
21 or less right. Dr. Melius, we sent you a  
22 report with a number of findings in April, and

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1 at that time, there were some loose threads  
2 regarding neptunium especially that needed  
3 interviews, and we have been struggling to get  
4 them organized.

5 Finally, I think, they will be  
6 done in the week of July 29th, and we will  
7 have completed our work. So we may issue a  
8 supplement to the report. So we're very, very  
9 close to done.

10 CHAIRMAN MELIUS: So any questions  
11 on Hanford? Okay. Idaho?

12 Idaho Work Group

13 MEMBER SCHOFIELD: Idaho. There  
14 are some revisions to be done to the TBD and  
15 the recent White Papers.

16 CHAIRMAN MELIUS: Mic, mic. Use  
17 your microphone.

18 MEMBER SCHOFIELD: Sorry. There's  
19 some revisions to be looked at in the TBD,  
20 both by SC&A and NIOSH. There's also some  
21 White Papers hopefully will be out supposedly  
22 the latter part of October. So without a

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1 current SEC qualified petition, we're still  
2 kind of setting in the water, not moving much.

3 CHAIRMAN MELIUS: Dr. Ziemer, if  
4 you're on the line, Lawrence Berkeley.

5 Lawrence Berkeley Work Group

6 MEMBER ZIEMER: Yes, I'm here.  
7 Lawrence Berkeley?

8 CHAIRMAN MELIUS: Yes.

9 MEMBER ZIEMER: Right. Lawrence  
10 Berkeley, currently NIOSH is reviewing four  
11 White Papers from SC&A that were generated  
12 following the initial meeting of that Work  
13 Group, which goes back a little over a year,  
14 and those responses are still under  
15 preparation. We have received in late May, I  
16 think May 31st actually, one White Paper from  
17 NIOSH on thorium.

18 So the Work Group has that in  
19 hand. We're awaiting the responses for the  
20 other four White Papers. Most of those are in  
21 draft status. I understand from Dr. Lara  
22 Hughes that pending resolution of some of the

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1 questions raised on their internal review, and  
2 some additional data captures, they will be  
3 passing this information on to the Work Group,  
4 at which point we can schedule a meeting. But  
5 we're still awaiting those. So that's our  
6 current status.

7 CHAIRMAN MELIUS: Thank you, Paul.  
8 NIOSH, any --

9 MEMBER ZIEMER: Incidentally, if  
10 we're talking about possibly a meeting in the  
11 Lawrence Livermore area in April, hopefully we  
12 would have something more substantial on  
13 Lawrence Berkeley at that time as well.

14 CHAIRMAN MELIUS: That makes  
15 sense. Stu or -- I guess I'm reading your  
16 report here on Lawrence Berkeley and do you  
17 have some --

18 DR. NETON: I'm the hold up on  
19 Lawrence Berkeley, so I guess I should take  
20 responsibility. The internal review process,  
21 I looked at some of the comments that were  
22 made, and it's my opinion Lawrence Berkeley

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1 has similar issues to what other cyclotron-  
2 type facilities have, that is a slew of  
3 exotic-type radionuclides that were handled in  
4 various degrees and quantities.

5 So I just wanted to make sure that  
6 we button up those issues before we proceed.  
7 That's where we are, and that's where the idea  
8 of possibly additional data captures are  
9 necessary. I'm not sure. I raised the  
10 question, and people are looking at the data  
11 that we currently have.

12 We have a lot of data we captured  
13 there, and I just asked folks to go back and  
14 look through what we have, and make sure that  
15 we can put some brackets around some of these  
16 exotics. I'd feel a little better moving  
17 forward then.

18 CHAIRMAN MELIUS: Good. Thanks,  
19 Jim on that, and Paul. Kansas City, I think we  
20 -- Josie, do you want to add anything to what  
21 has been said?

22 MEMBER BEACH: No, I don't have

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1 anything to add at this time.

2 CHAIRMAN MELIUS: LANL, Mark.

3 LANL Work Group

4 MEMBER GRIFFON: Yeah, I'm going  
5 to -- it's sort of like Hanford. We've been -  
6 - there's work going on. We haven't had a  
7 meeting in a while. But I'm going to ask if  
8 Joe, if you have anything significant to add.  
9 I mean we need to at some point schedule a  
10 meeting. But there's been, the Work Group  
11 hasn't met in quite some time, and nothing on  
12 the horizon as far as I know.

13 MR. RUTHERFORD: Well, I can a  
14 little bit to that. We've provided a  
15 questionnaire to the site on some, trying to  
16 get a better feel for the end date of the  
17 existing SEC from the end date in 1994, up  
18 beyond when, you know, does the site have a  
19 good handle on the program. Do we know that  
20 they were looking at the exotic radionuclides,  
21 if they had good methods.

22 We provided a questionnaire to the

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1 site some time back, to answer some questions.  
2 They responded generally to those questions  
3 back to us, but it just brought on additional  
4 questions or additional clarification that we  
5 needed.

6 We sent that back to the site. The  
7 sequestration kind of held that up a little  
8 bit. I think we expect that response back  
9 from them very soon though, within the next  
10 week or two.

11 CHAIRMAN MELIUS: According to  
12 your schedule, you were expecting it back last  
13 week.

14 MR. RUTHERFORD: Yeah.

15 CHAIRMAN MELIUS: Yeah. So we're  
16 close enough for that. Okay. Mound.

17 Mound Work Group

18 MEMBER BEACH: So far Mound, we're  
19 complete. We have completed all of our SEC  
20 issues. We're currently awaiting some  
21 response from NIOSH on some Site Profile  
22 issues, and just heard from Jim earlier today.

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1 Don't really have a time frame on those, but  
2 they're aware that they're due.

3 CHAIRMAN MELIUS: Questions for  
4 Josie? I will add somebody, some Board  
5 Members asked me at the break about the Mound  
6 emails and where they're found. If you go to  
7 the ANWAG block, A-N-W-A-G. If you Google  
8 that, you will find on that blog a series of  
9 postings on Mound, from what, about two months  
10 ago, something like that.

11 MEMBER BEACH: Yeah. I can also  
12 send a link to anybody that wants it, because  
13 there's actually two spots that they're  
14 available.

15 CHAIRMAN MELIUS: Yeah, you can do  
16 that. So they're there, if you're interested  
17 in reading those. Okay. Nevada Test Site,  
18 Brad.

19 Nevada Test Site Work Group

20 MEMBER CLAWSON: We haven't met  
21 right yet. We've got, we've got -- SC&A has  
22 gone through and reevaluated the Site Matrix

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1 and we're just in the process. We should be  
2 setting up a Work Group to be able to go  
3 through those in the next little while.

4 MR. HINNEFELD: I'm trying to get  
5 my computer going.

6 CHAIRMAN MELIUS: Yeah. You have  
7 something revealing to say to us, but Pantex  
8 we're going to hear about tomorrow. Pinellas.  
9 Pinellas Work Group

10 MEMBER SCHOFIELD: The main  
11 outstanding issue of Pinellas is still dealing  
12 with the tritium issue, and if we get all  
13 those settled with Mound on how to deal with  
14 that, that will probably help us close out  
15 Pinellas.

16 DR. NETON: Just a slight  
17 correction. It's really a tritide issue at  
18 Pinellas that's holding it up, and we are  
19 interviewing or have recently interviewed, I  
20 hope, a health physicist at Pinellas that can  
21 inform us, maybe in some more detail, how they  
22 actually monitor for tritides, because there

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1 were some there, and there were spills.

2           There's        references        to        a  
3 Bremsstrahlung counter, which I know what  
4 Bremsstrahlung is, but I've never seen a field  
5 instrument called a Bremsstrahlung counter. So  
6 we want to see what's going on there. We  
7 approached it. We had listed in the Site  
8 Profile had some flaws in it, because they had  
9 filtered the tritium solutions prior to  
10 counting them. So clearly the tritides  
11 weren't in the solution.

12           So we're trying to shore that up a  
13 bit more, and Phil's right. That's the only  
14 outstanding issue that I'm aware of at  
15 Pinellas.

16           CHAIRMAN MELIUS: Thanks for the  
17 update, Jim. You're on, Portsmouth-Paducah-  
18 K25, Phil.

19 Portsmouth-Paducah-K25 Work Group

20           MEMBER        SCHOFIELD:           Okay.  
21 Basically, Paducah is closed on the -- they  
22 are looking at currently the neutron/photon

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1 ratios, because all three facilities had  
2 cylinders where they stored highly enriched  
3 uranium. So they're trying to get a handle on  
4 those ratios, so that we can close out that  
5 issue, and then we're just -- I think that  
6 will pretty much close us out on the gaseous  
7 diffusion plant.

8 CHAIRMAN MELIUS: Rocky. We've  
9 done Sandia. Dr. Lemen isn't here. I don't  
10 believe there's been -- I think there's  
11 ongoing activity in the NIOSH end on this one.  
12 LaVon, you want to --

13 MR. RUTHERFORD: You want  
14 Albuquerque or do you want Livermore?

15 CHAIRMAN MELIUS: Both.

16 MR. RUTHERFORD: Okay, Livermore -  
17 -

18 CHAIRMAN MELIUS: I said Sandia.  
19 Albuquerque and Livermore Work Groups

20 MR. RUTHERFORD: There you go.  
21 Livermore, as I mentioned, that we are working  
22 on an 83.14 for Livermore. It's the same

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1 issues that were at Albuquerque. Livermore,  
2 the radiological control program kind of  
3 mirrored Albuquerque's, and so ultimately  
4 we'll be adding Class, very similar to what  
5 was -- or recommending a Class very similar to  
6 what was done at Albuquerque.

7 That is on schedule for a  
8 presentation at the October Board meeting. We  
9 also have some additional, it's still -- the  
10 open period at Albuquerque and Livermore will  
11 be the post-'94 period. We had some onsite  
12 visits scheduled at this time for August, to  
13 do some additional interviews, to see if we  
14 can close out some of the questions.

15 Similar questions that we have at  
16 LANL that we'll have at Albuquerque-Livermore,  
17 basically updating, understanding their  
18 program at that time. Also understanding  
19 their availability of records. Sandia is also  
20 dealing with at this time a backlog of claims.

21 So we can't, we've been kind of  
22 pushed off our going to the site to work on

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1 these issues, and so they can use their  
2 resources to get these backlog of claims taken  
3 care of. So that's pretty much where we stand  
4 at this time with this.

5 CHAIRMAN MELIUS: Okay, thank you.  
6 Questions for LaVon? Yeah, okay. Okay. Santa  
7 Susana.

8 Santa Susana Work Group

9 MEMBER SCHOFIELD: I'll have to  
10 give DCAS a compliment here. They've been  
11 doing a tremendous amount of work on revisions  
12 of the TBD, and also they've received, I don't  
13 remember what it was, a boatload of documents,  
14 mostly exposure records and stuff. They've  
15 been having it entered by hand.

16 Presently, there's a coworker  
17 study, hopefully will be done on the internal.  
18 That's not due out until the middle of  
19 February next year, and the coworker study  
20 will be due out end of November, quote-  
21 unquote.

22 CHAIRMAN MELIUS: Good. Thank

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1 you, Phil. Questions? Okay, you're on.

2 Savannah River Work Group

3 MEMBER GRIFFON: Savannah River  
4 is, there's some significant progress that's  
5 gone on. SC&A, I just talked to Arjun earlier  
6 today. They've completed a review of the  
7 neptunium model, and have several findings  
8 ready to bring that back to the Work Group.

9 Also making quite a bit of  
10 progress on the thorium issue, and we're just  
11 trying to figure out the timing, best timing  
12 for a Work Group meeting. But if we have  
13 those two significant issues, it's probably,  
14 it will probably good to schedule something in  
15 the near future on those. So that's sort of  
16 an update.

17 CHAIRMAN MELIUS: Any questions on  
18 that? Just going back to the issue with the  
19 DOE and the site and so forth, is that holding  
20 up the Work Group at this point?

21 MEMBER GRIFFON: Arjun, you want  
22 to speak to the site access issues?

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1 DR. MAKHIJANI: Well you know, as  
2 Greg Lewis explained in the morning, we've had  
3 some difficulties, and DOE has been working  
4 hard with us to make some progress. Joe is  
5 going to get access to review the documents  
6 from his government computer, without going to  
7 Savannah River.

8 So we did some interviews. Joe  
9 did some interviews recommended by CPWR,  
10 Center for Protection of Worker Rights, and we  
11 have a number of other interviews scheduled.  
12 The schedule for review, we hope the  
13 classified document searches will be done  
14 soon. But it's difficult, you know. There's  
15 a fair amount of sorting out.

16 However, since NIOSH already has  
17 put a very amount of analytical information,  
18 coworker models, data, compiled a lot of data,  
19 we're able to do quite a lot of work, as you  
20 know. Besides the neptunium and thorium, and  
21 the thorium is done, the trivalent actinides  
22 will also be largely done. So you'll be able

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1 to review those at the same time.

2 CHAIRMAN MELIUS: Thanks. I do  
3 want to bring up the issue, since the sort of  
4 site and data access issue is ongoing, and may  
5 be getting resolved, may not. But should it  
6 be necessary or helpful for the Board to write  
7 a letter to appropriate parties involved at  
8 DOE in this, that we not have to wait until a  
9 Board meeting.

10 So what I would plan on doing  
11 would be to draft up a letter and I will  
12 circulate it to the Board for comment or  
13 input, obviously work with the Work Group. But  
14 it would be something I'd rather not have to  
15 wait until the next Board call or Board  
16 meeting to do that. If no one objects to  
17 that, I think that would be the procedure.  
18 Yes, Wanda.

19 MEMBER MUNN: Have we in fact  
20 decided that we're going to send such a  
21 letter?

22 CHAIRMAN MELIUS: No, we have not

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1 decided that we will send, should it be  
2 necessary if things are not making significant

3 --

4 MEMBER MUNN: Oh. I missed the  
5 "should it be necessary" phrase. Thank you.

6 CHAIRMAN MELIUS: Yeah. Science  
7 Issues, David, are you on the line? David  
8 Richardson? David Richardson are you on line  
9 and off mute? Okay. I have been informed  
10 that Jim Neton is the controller of what's  
11 happening on the Science Issues Work Group.

12 Science Issues Work Group

13 DR. NETON: Yes, Dr. Melius. I  
14 did send a report to Dr. Richardson. If he's  
15 on, I'd be more than happy to have him present  
16 it. But it's very short. The dose rate,  
17 effectiveness factor, so-called DDREF tome,  
18 the document written by us, by Senes a while  
19 back, has been sent out for external and  
20 internal review.

21 We solicited reviews from five  
22 external experts and two experts from within

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1 NIOSH. As of this morning, we have all six  
2 reviews back. We were missing one review for  
3 the complete package. Once we get that final  
4 review, we will pass that on to Senes for  
5 their consideration and response to the  
6 comments we've received.

7 But it's been a while. But it's a  
8 large document and we had to cajole some  
9 people to get it to us in a timely manner. But  
10 they're there, and I think the one remaining  
11 review will surface fairly soon.

12 CHAIRMAN MELIUS: Maybe the Board  
13 chair needs to write a letter to the  
14 recalcitrant party.

15 DR. NETON: They do this not for  
16 much money. We can only offer a very meager  
17 honorarium. So but I'm happy with the reviews  
18 that we got and the panel that we selected,  
19 and that's public knowledge. It should be  
20 public knowledge. We're going to de-identify  
21 the actual reviews themselves, but we will  
22 publish the qualifications of the individual

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1 reviewers.

2 CHAIRMAN MELIUS: Yeah, I found  
3 that those of us redoing journal reviews get,  
4 especially some of the electronic ones, where  
5 you get varying levels of email reminders and  
6 then threats, you know. Then I think at some  
7 level it's a public shaming or something that  
8 goes on if your review isn't in, and how you  
9 personally are holding up the progress of  
10 science and failing to save the world and so  
11 forth.

12 MR. HINNEFELD: That's just my  
13 life at a Board meeting, Jim.

14 MEMBER ROESSLER: Jim, can you  
15 tell us who the reviewers are?

16 DR. NETON: Yes, I can.

17 CHAIRMAN MELIUS: Just say the  
18 name of the recalcitrant reviewer really  
19 slowly.

20 DR. NETON: I'll just mention the  
21 reviewers. Dale Preston from Hirosoft; Rick  
22 Hornung, University of Cincinnati; Bill

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1 Morgan, PNNL; John Boice, representing NCRP in  
2 this particular instance; and the fifth one,  
3 this is terrible. I'll think of it in a  
4 second. Oh yeah, Jerry Puskin from the  
5 Environmental Protection Agency.

6 Yeah. I thought it was a fairly  
7 good list, and to get all of them to respond  
8 was great. Internally, Doug Daniels and Mary  
9 Schubauer-Berigan of the DSHEFS Division are  
10 also reviewing, because they're fairly well  
11 familiar and interested in this area.

12 CHAIRMAN MELIUS: Just let us  
13 know. We'll write the letter. Paul Ziemer,  
14 if you're on the line, for TBD-6000.

15 TBD-6000 Work Group

16 MEMBER ZIEMER: Right. Can you  
17 hear me?

18 CHAIRMAN MELIUS: Yes, we can.

19 MEMBER ZIEMER: Okay, yeah. We're  
20 dealing with actually four different sites, so  
21 let me report briefly on each of those.  
22 General Steel Industries first.

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1           NIOSH is preparing the final  
2 details on how dose is demodified for all the  
3 source components. So it's both the  
4 operational and the residual periods, and then  
5 following that, SC&A will have a chance for  
6 final review prior to the next Work Group  
7 meeting. We haven't scheduled that meeting  
8 yet. But that should occur fairly soon.

9           Also, we have yet also the  
10 complete closure of all the findings matrix  
11 and that is the other item on the agenda for  
12 General Steel.

13           For Joslyn Manufacturing, I'll  
14 just remind you. Currently, there is an SEC  
15 through 1947, and we're reviewing the  
16 remainder of the operational years. DCAS  
17 responses to the SC&A are expected I believe  
18 by the end of July. At least that was the  
19 last date I heard, and then will be reviewed  
20 by the Work Group at its next meeting.

21           Simonds Saw and Steel, and a  
22 reminder again. There is an SC&A, not an

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1 SC&A, an SEC for Simonds Saw and Steel  
2 already. I'm trying to remember. I think it  
3 was '48 to '55 or something like that. I  
4 don't have that right before me.

5 But in any event, we're focusing  
6 on the TBD itself and the response to some of  
7 the SC&A findings. NIOSH has agreed to some  
8 revisions in the TBD, and those are currently  
9 underway. Then NIOSH is also reevaluating the  
10 urinalysis data for internal doses, and also  
11 the methods for dose reconstruction in the  
12 residual period. So that is going on to  
13 supplement what we already have for the  
14 existing SEC.

15 Then Baker Brothers, the Work  
16 Group has voted to recommend that the SEC  
17 Class not be granted for the residual period,  
18 and we'll be reporting on that in detail  
19 tomorrow. So those are our four areas that  
20 we're looking at.

21 CHAIRMAN MELIUS: Thank you, and  
22 Paul, you put all the other Work Groups to

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1 shame with your productivity, going through  
2 all these sites. But no, it's been a lot of  
3 work and it is appreciated by that Work Group  
4 for that.

5 MEMBER ZIEMER: Thank you.

6 CHAIRMAN MELIUS: Questions for  
7 Paul? If not, Henry.

8 DuPont Deepwater Work Group

9 MEMBER ANDERSON: We got the SC&A  
10 response to the NIOSH commentary findings on  
11 DuPont Deepwater the first part of June. So  
12 the committee's going to be looking at that,  
13 and then we'll hopefully have a call to close  
14 out or at least discuss DuPont again, and  
15 hopefully we'll have something by the October  
16 meeting.

17 CHAIRMAN MELIUS: Questions on --  
18 okay. Weldon Springs. Dick Lemen is -- yes,  
19 John.

20 MR. STIVER: Yes. This is John  
21 Stiver. I just wanted to kind of expand on  
22 what Andy said. We do have a couple of sites.

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1 I think there's about three of them where we  
2 have recent work products that would fall  
3 under the URAWE Work Group. Whether it be  
4 NUMAC or General Atomics. So we might want to  
5 consider bringing those in.

6 CHAIRMAN MELIUS: We'll take that  
7 --

8 MEMBER ANDERSON: If they're  
9 assigned to us, we'll take it on. If they're  
10 assigned to us, we'll take it on. Yeah,  
11 right. Yeah, I know. We could add that to  
12 our teleconference. I don't think the DuPont  
13 will take too long.

14 CHAIRMAN MELIUS: Weldon Springs?  
15 I don't think there's much. Dr. Lemen isn't  
16 here. Okay, and last but not least, Worker  
17 Outreach.

18 Worker Outreach Work Group

19 MEMBER BEACH: Okay. Not too much  
20 new to report. SC&A did deliver the  
21 evaluation for LANL to NIOSH, and we did make  
22 DCAS' work list, but there's no date

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1 associated when they are going to have that  
2 review completed at this time.

3 MR. HINNEFELD: Yeah. I will say  
4 here that that is a bit of a victim of  
5 sequestration and the resources available. So  
6 it's going to take us some while to get some  
7 people free to do work on that.

8 MEMBER BEACH: Yeah. I kind of  
9 expected that. Once we do get that back from  
10 NIOSH, then SC&A will go back and finish up  
11 the report and send out the finished version.  
12 So to be continued.

13 CHAIRMAN MELIUS: Thank you, and I  
14 again, I think it is fair to remind that  
15 sequestration has taken some toll on what we  
16 do overall in this program. So we will have  
17 to decide, and it's also one of the reasons  
18 we've hesitated. I know we've talked about  
19 some other Work Groups and we have some  
20 products and so forth out there that could be  
21 reviewed.

22 But at the same time, we have to

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1 keep in mind some of the resource limitations,  
2 in terms of making these assignments as we go  
3 along here, and we need to consult with NIOSH  
4 about making sure that those resources are  
5 appropriate.

6 Okay. So that completes our Work  
7 Group update, and unless I'm mistaken, we have  
8 one more quick thing to do, and I just have to  
9 find the right file here.

10 Yeah. Okay. All of you have  
11 received, and you've probably all memorized  
12 the comments from the -- the file that had the  
13 comments from the last Board meeting.

14 There's two files. One's a  
15 spreadsheet that summarizes the comments and  
16 the response, and has that categorization code  
17 that none of us can ever remember. But  
18 usually someone brings it to mind if it's  
19 important.

20 Then there's a second, much longer  
21 file that actually has the transcripts  
22 pertinent to those comments, should we have

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1 questions or recollections of -- what went on  
2 is a little different from what's being  
3 reported here.

4 So I will go through these  
5 briefly. I will try to group them as we go  
6 through. There's only a small number, I  
7 believe, what is it, 17 from the last comment.  
8 So if you want to sort of read along with me  
9 and so forth.

10 Most of the first set are from  
11 [Identifying information redacted], who is  
12 commenting on the Savannah River Site, and had  
13 a number of questions and comments on some of  
14 the methods that were being used by NIOSH and  
15 addressing those and so forth.

16 I think everything looks like it's  
17 referred properly and so forth in this  
18 comments. Yeah, there's two from him. Dr.  
19 Ringen also made a number of comments relative  
20 to the SRS petition, and again, I think these  
21 are all, for the most part referred to the  
22 Work Group or the Board, addressing things

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1 that are in progress in terms of the  
2 evaluation of that site.

3 There's a comment from another  
4 person there, Comments 9, 10 and 11, again  
5 related to the Savannah River Site and SEC.  
6 Again, I think these are all straightforward  
7 in terms of how they were handled and so forth  
8 and who responded.

9 Comment No. 12 is basically just  
10 someone indicating they supported the  
11 petition. There's a comment from [Identifying  
12 information redacted] regarding General Steel  
13 Industries, and had some issues about the  
14 process for his, how the petition was being  
15 communicated to the -- results of the petition  
16 review is being communicated by the NIOSH  
17 Director and the Secretary.

18 I think those have all been  
19 clarified in the response. I'm aware of at  
20 least one direct response from Ted on that,  
21 and others within NIOSH, and set of questions  
22 from Terrie Barrie, comments from Terrie

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1 Barrie pertinent to the set of -- these relate  
2 to Hooker Electrochemical in Rocky Flats. Some  
3 of them were related to another set of emails  
4 and the FOI process.

5           Again, I think pretty  
6 straightforward, in terms of their responses.  
7 Finally, there were comments from [Identifying  
8 information redacted], both some general  
9 comments about individual dose reconstruction  
10 and then raising several issues about the  
11 Pinellas SEC petition and dose reconstruction  
12 at Pinellas.

13           Again, I think these were for the  
14 most part fairly general and addressed pretty  
15 directly. So anybody have comments or  
16 questions on those, or the nature of those  
17 responses?

18           (No response.)

19           CHAIRMAN MELIUS: If you haven't  
20 had a chance to go through in detail, or wish  
21 to, we can also talk about this tomorrow  
22 briefly, if you want to raise issues then. If

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1 not, if everyone feels ready, I think we need  
2 a motion to accept these as an order. Is that  
3 how we do this? No, we don't do anything.  
4 Okay.

5 MEMBER ANDERSON: Just consider it  
6 done.

7 CHAIRMAN MELIUS: Consider it  
8 done, good.

9 MEMBER ANDERSON: No. It's a  
10 useful process and good exercise, and the  
11 summary is nice, so we can go through it  
12 quickly.

13 CHAIRMAN MELIUS: Yeah, yeah, and  
14 I will compliment -- I'm not sure who does all  
15 this work. Yeah, but it's --

16 MEMBER ANDERSON: It's a lot of  
17 work.

18 MR. HINNEFELD: It's generally  
19 done by our Outreach contractor, ATL, and then  
20 we -- they collect them, and then we provide  
21 responses.

22 CHAIRMAN MELIUS: Yeah, good.

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1                   MEMBER MUNN:     Well that's really  
2     reassuring them check them over.   One forgets  
3     from one meeting to the next, and then just  
4     being able to look at them.   That's what we  
5     asked for, to be reassured that they were  
6     being addressed.   It's very well done.

7                   CHAIRMAN MELIUS:    Yeah, I agree.  
8     Good, okay.   I think that completes our, any  
9     Board Work Session business.       Is there  
10    anything else?   Ted?

11                  MR. KATZ:     I don't think so, I  
12    don't think so.     I don't have any  
13    correspondence.

14                  CHAIRMAN MELIUS:   Right.   So it is  
15    3:15.   If we can reconvene at 4:30, and we'll  
16    start with an update on INL, and then we'll go  
17    into the public comment period.   So we'll  
18    stand adjourned or we're on break until 4:30.

19                  (Whereupon,    the    above-entitled  
20    matter went off the record at 3:18 p.m. and  
21    resumed at 4:54 p.m.)

22                  CHAIRMAN MELIUS:    We'll reconvene

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1 the meeting. Welcome back, LaVon.

2 MR. RUTHERFORD: Thank you.

3 CHAIRMAN MELIUS: Glad you're  
4 still here, and LaVon will give an update on  
5 the -- I know.

6 INL Site Profile Revision Update

7 MR. RUTHERFORD: Alright. I'm  
8 going to give a little update on the INL  
9 status and Site Profile, what issues we're  
10 working on, and when we expect to be complete.  
11 For background, SC&A conducted a Site Profile  
12 Review, and identified roughly 38 issues from  
13 the initial Site Profile.

14 Since that review, some of the  
15 documents have been updated. Because they  
16 were updated, NIOSH and SC&A both wanted to go  
17 back to review the existing or review the  
18 issues, to determine if all the issues were  
19 still applicable. Of the 38 issues, ten are  
20 closed. NIOSH is working on 11 issues. SC&A  
21 is reviewing 22 issues, six in conjunction  
22 with NIOSH.

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1           Last year, we actually went out to  
2 -- out here, and went did a data capture, data  
3 review, April, May and June of last year, and  
4 identified a number of documents for  
5 capturing. We received the last of those  
6 documents in April of this year, and ORAU  
7 completed loading those documents into the  
8 Site Research Database in June.

9           Working on a number, a couple of  
10 White Papers to address these issues, or some  
11 of the issues that were identified. Working  
12 on a White Paper investigation of the NTA film  
13 dosimeter limits of detection being used for  
14 INL dose reconstruction. We expect that  
15 delivery to the Work Group later on this  
16 month.

17           In fact, it's under review right  
18 now. It's on Tim Taulbee's desk, as soon as  
19 he gets back from Alaska, to finish that  
20 review. Working on a White Paper on INL  
21 Environmental Monitoring. We expect a  
22 delivery to the Work Group scheduled for

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1       October of this year.

2                   Hot Particle issue, delivery will  
3       be late, late this year, and an issue  
4       associated with the aircraft nuclear  
5       propulsion, and we expect that delivery to the  
6       Work Group in late this year. We've also been  
7       working on a coworker model. We started  
8       working on that in June of last year.

9                   It was a large amount of data that  
10       was actually -- it was loaded, and we went  
11       back to review that data, did some QA work on  
12       that data, and in addition, we've been adding  
13       data from the April 2013 data capture as well,  
14       and we expect to have the QA analysis done on  
15       the data in late 2013, late this year.

16                   Again as I said, we did some  
17       additional data entry as well. The schedule  
18       for completing the model will be actually  
19       lined out after the data entry and the QA  
20       efforts are complete. Once we've done the  
21       coworker model, we've completed the coworker  
22       model. We've addressed SC&A issues.

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1           The Site Profile will be up --  
2 Site Profiles will be updated, and then the  
3 Program Evaluation Report will be completed,  
4 as necessary. If the Program Evaluation  
5 Report identifies that, you know, from the  
6 Program Evaluation Report it may identify that  
7 claims need to be returned back to us for  
8 rework, and we'll contact DOL about that.

9           If issues come up or if issues  
10 cannot be resolved, obviously those issues  
11 would move, we would move forward with either  
12 an 83.14 or something with the SEC process, if  
13 issues can't be resolved with some of the  
14 issues that were previously identified from  
15 SC&A. And that's about it.

16           CHAIRMAN MELIUS: Okay. Questions  
17 for LaVon?

18           (No response.)

19           CHAIRMAN MELIUS: So can you go  
20 back a slide?

21           MR. RUTHERFORD: Yes.

22           CHAIRMAN MELIUS: Because this is

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1 sort of the speculative part of it. Okay. So  
2 the key issue is the development of the  
3 coworker model?

4 MR. RUTHERFORD: That is one of  
5 the key issues. There are issues that --  
6 there are a number of issues that were  
7 identified previously from the Site Profile  
8 Review. The coworker model is being worked as  
9 we go through, but there are other issues that  
10 are being resolved as well, and plus SC&A is  
11 reviewing previously defined or previously  
12 identified issues, to see if they're still  
13 applicable as well.

14 CHAIRMAN MELIUS: Okay. What is  
15 the internal model cover intended?

16 MR. RUTHERFORD: What do you mean?

17 CHAIRMAN MELIUS: What exposures?

18 MR. RUTHERFORD: Well, it would be  
19 exposures from internal releases for the  
20 reactors and all the differences.

21 CHAIRMAN MELIUS: Okay. I'm just  
22 trying to get a handle on what the Work Group

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1 should be doing. I get concerned that this  
2 site is sort of lagging behind, and we're not  
3 --

4 MR. RUTHERFORD: I know we have  
5 one paper we're close to delivering later this  
6 month, and then a few other papers. So I  
7 think I don't want to speak for SC&A, but I  
8 know they're reviewing issues right now, and  
9 would come back with probably a follow-up  
10 review of what's still applicable.

11 CHAIRMAN MELIUS: Because if -- I  
12 guess what I'm getting at is if we have stuff  
13 ready, I think we should start Work Group  
14 reviewing and trying to resolve some of these  
15 issues if that's appropriate, given what's not  
16 completed.

17 MR. STIVER: This is John Stiver.  
18 I may be able to fill in a little bit here. I  
19 don't know if Steve's on the phone. He had  
20 been, he's our lead for INL.

21 We had gotten started on doing  
22 this background review of the existing issues,

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1 and we decided to go ahead and just kind of  
2 put that on hold until the new information  
3 comes out, to avoid having to go back and redo  
4 all over again at a slightly later date.

5 That said, I mean if the Work  
6 Group would like us to resume that, we could  
7 certainly may get started on it.

8 CHAIRMAN MELIUS: Well, I guess my  
9 question is, are there issues that are  
10 appropriate to review, essentially independent  
11 enough of what work has to be completed?

12 MR. STIVER: I guess the reason we  
13 didn't want to spend a lot of effort on that  
14 was because if things are changed  
15 dramatically, then we would have just kind of  
16 wasted that effort, and looked at pre-existing  
17 information.

18 CHAIRMAN MELIUS: No, I understand  
19 that. But I guess I'm hearing that some stuff  
20 that NIOSH has completed.

21 MR. RUTHERFORD: Yeah, we're about  
22 to complete.

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1                   CHAIRMAN   MELIUS:        About    to  
2    complete.

3                   MR.   RUTHERFORD:     But  we  haven't  
4    completed yet.

5                   CHAIRMAN   MELIUS:     Okay.    So  when  
6    they complete --

7                   MR.   STIVER:        As  soon  as  LaVon  
8    delivers the goods --

9                   (Laughter.)

10                  CHAIRMAN   MELIUS:     Okay.

11                  MEMBER   BEACH:     Isn't  there  like  
12    three items?    One's  getting  close  and  the  
13    other two are at the end of the year?  Is that  
14    what I heard?

15                  MR.   RUTHERFORD:    Yes,  yes.

16                  CHAIRMAN   MELIUS:     Yes.     What  
17    struck me was this coworker model.  If we wait  
18    until that's completed, it's well a year from  
19    now, and I think that's -- and since we're  
20    continuing to evaluate some of these coworker  
21    issues, I won't say we'll shortcut that, but I  
22    think we'll have some better criteria going

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1 forward. Maybe we'll understand what needs to  
2 be done there.

3 But I just hate to put off -- I  
4 don't think we should be putting off  
5 everything until the coworker model is done,  
6 because that's, as I said, a full year. If we  
7 have stuff done before then. Uh-huh. I mean,  
8 yeah.

9 MR. STIVER: We'll go ahead and  
10 start doing as the products are ready?

11 CHAIRMAN MELIUS: Yeah.

12 MEMBER GRIFFON: The question I  
13 have was with the coworker models, it seems  
14 like it's only for the reactor exposures. Are  
15 there any considerations of coworkers for CPP,  
16 and that's the --

17 MR. RUTHERFORD: Yeah. I think  
18 we're still evaluating that.

19 MEMBER GRIFFON: Okay, okay,  
20 alright.

21 MEMBER BEACH: Jim, I don't have a  
22 Site Profile question, and I'm not sure if

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1 this is totally appropriate, but I'm going to  
2 ask it anyway, since LaVon's standing at the  
3 mic. Can you give us a little bit of history  
4 or background on the site, on the petitions?

5 I know there's been three, and all  
6 three of them have not qualified.

7 MR. RUTHERFORD: Right, well and  
8 I'll go by memory on those three petitions.  
9 One of the petitions was a very broad petition  
10 over a large time period, identifying a lack  
11 of monitoring data. That petition did not  
12 qualify because they could not narrow it down  
13 because we had monitoring data and we didn't  
14 see it.

15 At that time, we did not see the  
16 gaps or anything that would have supported  
17 qualification. We had another petition that  
18 was -- that did not qualify, because it -- I  
19 don't know if they, and I'm trying to remember  
20 the exact part of it.

21 But it was, they had  
22 administrative problems. I remember what it

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1 was. They weren't an eligible person to even  
2 petition for it. They were an outside entity  
3 trying to petition. I can't remember what the  
4 third one. I know there was a third one, but  
5 I can't remember what one was for.

6 I guess we have not had, you know,  
7 and you know, when we work through these  
8 issues, there definitely could be situations  
9 that will come up that we identify in  
10 feasibilities when we move forward with an  
11 83.14.

12 CHAIRMAN MELIUS: Phil, maybe we  
13 could -- I thought at one point we had talked  
14 about doing a scheduling Work Group call, and  
15 then we sort of dropped it, because I think  
16 the schedule wasn't certain and so forth?

17 MEMBER SCHOFIELD: Yeah. I mean I  
18 would be more than happy if you think there  
19 would be some stuff, maybe to have a Work  
20 Group in early November.

21 CHAIRMAN MELIUS: Yeah. But what  
22 I think first is maybe a Work Group call, just

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1 a short one, just to make sure we're all  
2 understanding where we are and what the plan  
3 is for -- well, as best we can. I mean you  
4 know, things change and there's contingencies  
5 and so forth.

6 But I think it would be helpful,  
7 so that we're not -- it seems to me that we  
8 start falling into a trap. Every time we're  
9 saying well, it's going to take waiting for  
10 the Site Profile to be complete, and it's just  
11 taking a long time. I think we should be  
12 making, trying to make some progress --

13 MEMBER SCHOFIELD: I agree with  
14 you.

15 CHAIRMAN MELIUS: Yeah, yeah. To  
16 do that, good.

17 MR. HINNEFELD: If I could just  
18 offer something here, something I think for  
19 all the Work Groups to keep in mind is if we  
20 meet on Live Meeting, you know, rather than  
21 meeting in person, there's no need to have  
22 eight hours' worth of things to discuss. You

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1 know, we could have a Live Meeting for one  
2 topic. You get one paper, you could have  
3 that.

4 CHAIRMAN MELIUS: Yeah.

5 MR. HINNEFELD: So if you could  
6 have more frequent shorter meetings online,  
7 then you don't feel obliged to meet for a full  
8 day when people travel.

9 CHAIRMAN MELIUS: Yeah.

10 MEMBER SCHOFIELD: This is a  
11 question for Ted on those Live Meetings. If  
12 we try and schedule those, do you guys have to  
13 go on the *Federal Register* notice?

14 MR. KATZ: Work Group meetings  
15 don't go in the *Federal Register* anyway.

16 MEMBER SCHOFIELD: Okay.

17 CHAIRMAN MELIUS: Yeah, I mean --  
18 yeah. So and certainly with Hanford and  
19 others, we've done even short of live  
20 meetings, you know. Phone conversations of  
21 one or two hours can cover a lot of territory  
22 and are easier to do, and I mean I'm a Member

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1 of the Work Group with you, Phil, so it's --

2 MEMBER SCHOFIELD: Well, it's also

3 --

4 CHAIRMAN MELIUS: Up until this  
5 point, I was waiting also, and then I see the  
6 schedule and I think we're, you know.

7 MEMBER SCHOFIELD: No.

8 Unfortunately, I mean you're correct. We  
9 haven't done much on Idaho in a long time, and  
10 then we've got some others like Pinellas and  
11 stuff. We might be able to just finish that  
12 one up. But that actually happened to have  
13 face to face. I mean it's just some of these,  
14 that's not that much work left.

15 CHAIRMAN MELIUS: Any other  
16 questions for LaVon? Again, a reminder for  
17 people on the phone, please mute your phones,  
18 \*6. Yeah, yeah. I think so too, they can do  
19 that.

20 Public Comment

21 CHAIRMAN MELIUS: Okay. We will  
22 now open for a public comment period, and we

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1 have a number of people signed up, some here  
2 in person, and some on the phone. I'm going  
3 to sort of go in a little order, in terms of  
4 people that are here. I will start with  
5 those, and then go on the phone and go from  
6 there and do that.

7 The first person I have signed up  
8 who's here is Joan Stewart. I knew I saw you  
9 here some place.

10 MS. STEWART: My name is Joan  
11 Stewart.

12 CHAIRMAN MELIUS: Do you need to  
13 do your intro?

14 MS. STEWART: Good evening.

15 CHAIRMAN MELIUS: Hang on a  
16 second. Ted has --

17 MR. KATZ: Just a quick note I  
18 should have said before we started this. But  
19 you probably realize it, because I think  
20 you've been here before. But public  
21 commenters, everything that you say gets  
22 transcribed, ends up in the transcript for the

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1 public. If you say anything personal, that  
2 too will be there.

3 But if you speak about personal  
4 matters of other individuals, those things,  
5 their privacy will be protected. So their  
6 information will be redacted sufficiently to  
7 protect their identity. So if you talk about  
8 other people.

9 MS. STEWART: Okay, because I do  
10 have one name to mention.

11 MR. KATZ: Yeah. I'm not  
12 preventing you from mentioning the name. I'm  
13 just saying that when we publish the  
14 transcript for this, their name will be  
15 redacted, for example.

16 So just to be aware of that, and  
17 that's to protect their privacy. Even though  
18 you may, they may tell you it's fine to talk  
19 about me, so it's still required. So I mean  
20 that's the short of the whole policy.

21 There's lots of details to it, and  
22 it should be on the back table there for

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1 people that are here in the room, and it's  
2 also on -- for people who are listening by  
3 phone, it's also on the website under the  
4 Board section at the top part. It talks about  
5 a Redaction Policy, and that's what I'm  
6 speaking to here. Okay, thank you.

7 CHAIRMAN MELIUS: Okay. Sorry for  
8 the interruption. Go ahead.

9 MS. STEWART: No problem. Hi,  
10 good evening. My name's Joan Stewart. Prior  
11 to being the senior-most radiological control  
12 technologist, technical supervisor at Rocky  
13 Flats, I was a union steward. I was the union  
14 steward that filed the 1987 grievance and  
15 safety concern over dosimetry at Rocky Flats,  
16 changing doses that were high into "no data  
17 available."

18 The aggrieved was, may I say it,  
19 [Identifying information redacted]. We went  
20 through three steps in our grievance process.  
21 During those three steps, it was noted by  
22 dosimetry that they had been doing this for

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1 years, changing doses to "no data available."  
2 Generally, these were high doses. They were  
3 written down in pencil, and they were  
4 adjusted.

5 This came to the union's attention  
6 when [Identifying information redacted] had  
7 injured her knee at Rocky Flats, and was  
8 assigned up to dosimetry for a period of time,  
9 because she couldn't work the metallurgical  
10 operator. She was willing and able to provide  
11 us with proof that this was going on.

12 During the third step, second and  
13 third step, they admitted to not only doing  
14 this for years, but they said if they changed  
15 it, they would have to start pulling people  
16 out of the area. Hence the creation of the  
17 100 Millirem Club.

18 DOE should have copies of, I don't  
19 know who the DOE person would be here. DOE  
20 should have copies of all safety concerns and  
21 grievances that were filed and their adjunct  
22 answers. As far as I know, all data was

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1 turned over to them. The union did destroy  
2 their copies. I have a copy at home some  
3 place I can possibly come by.

4 Now we have another question that  
5 has arisen on the laboratories, to include  
6 dosimetry. In the 90's, there was a DOE  
7 accreditation program called laboratory  
8 accreditation program. I don't know if you're  
9 -- it was through DOE. Rocky Flats did not  
10 qualify.

11 It caused quite the uproar at  
12 Rocky Flats. They had to readjust a lot of  
13 their procedures, because they were so far out  
14 of qualification. They couldn't even be  
15 certified. So you might want to look that up.  
16 That was, I believe, a Tiger Team, part of the  
17 Tiger Team report. So are there any  
18 questions?

19 CHAIRMAN MELIUS: Any questions  
20 for Joan? Yes, Dave. Dave, please use your  
21 microphone.

22 MS. STEWART: I apologize.

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1                   MEMBER KOTELCHUCK:    What do you  
2 mean by 100 Millirem Club?

3                   MS. STEWART:    There was a thing  
4 called an 100 Millirem Club.  It was whether  
5 or not you were pulled out.  They pulled the  
6 people out of the area if they had achieved  
7 100 millirem in any given quarter.

8                   That was started slightly about  
9 1989, I would say.  It took a little while to  
10 resolve the grievance and the safety concern.  
11 Now I have heard that there's some talk on  
12 tritium in '76.  We had a gettering system in  
13 '76.  We had tritium bubblers in '76, and  
14 there were times when monitors would change --  
15 of course monitors or RCTs, as you well know,  
16 would change out the tritium bubblers.

17                   Sometimes you would have bubblers  
18 that were dry, and they were not sampling  
19 anything.  So you may have times in your data  
20 that you will find that they couldn't get a  
21 reading on anything, because it wasn't  
22 pertinent, because they didn't have any

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1 distilled water into the sampler. So if you  
2 come by that.

3 But overall, on the dosimetry  
4 practices, it appears as if you're working  
5 with some very skewed statistics on this,  
6 because your data set is off. Thank you.

7 CHAIRMAN MELIUS: Okay, thank you.  
8 The next person I have signed up is Mark  
9 Nelson.

10 MR. NELSON: Hi. I'm Mark Nelson.  
11 I spent my career at the INL here in Idaho,  
12 and I don't have all the details that Joan  
13 had. However, I do have some questions and an  
14 observation. I'll give you the observation  
15 first so I don't forget it, is it looks to me  
16 like this whole mess is just going to stall  
17 until all of us die and it's no, never mind.

18 I started at the INL in November  
19 of 1977 with a subcontractor called Chem  
20 Nuclear. I did my orientation the Monday  
21 before Thanksgiving. By the 15th of December,  
22 I was exceeding 2,800 mR. So I couldn't enter

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1 an area until the 1st of the year. Then I  
2 hired on with -- I'm getting all -- anyway,  
3 with the contractor.

4 I worked at the ICPP, and every  
5 year for the next five years working for them,  
6 by October I couldn't enter any hot areas  
7 because of the amount of radiation factor I  
8 got. Now I really didn't pay a whole lot of  
9 attention to it, because I'm not that kind of  
10 guy.

11 But I got to thinking about it  
12 after I heard about this meeting just  
13 yesterday. I got to thinking about it, and my  
14 lifetime dose at the INL shows up at 10,000.  
15 I'm kind of wondering where the extra, because  
16 I was right at three for six years, 3,000 a  
17 year. I'm kind of wondering where the others  
18 went, kind of like Joan.

19 I'm here not primarily for myself,  
20 but for those who really ended up being in  
21 poor health because of their dedication to  
22 their country and their job, and I'm kind of

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1 concerned that in my application I had  
2 prostate cancer, and the reason that I was  
3 turned down is because cadmium, exposure to  
4 cadmium is not carcinogenic.

5 Yet every safety training I've  
6 ever been to says stay of cadmium because it's  
7 carcinogenic. I'm a little concerned about  
8 the discrepancy there. I didn't quite catch  
9 everything about that 100 mR Club. But when I  
10 was not old at the site, we didn't consider it  
11 worth our time to go in a hot area if we  
12 didn't pick up 100.

13 Since I'm one who doesn't really  
14 know what to do if it's not really hot. I am  
15 not the only one who exceeded 2,500 to 3,000  
16 every year for six to seven years, and yet it  
17 does not show up on any of our records gross.  
18 That's pretty much it.

19 MEMBER SCHOFIELD: Can I ask you  
20 one question?

21 MR. NELSON: Yes.

22 MEMBER SCHOFIELD: As you

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1 approached the administrative limit, which I  
2 assume was 5R for the year.

3 MR. NELSON: Yeah.

4 MEMBER SCHOFIELD: Did they pull  
5 you out of the area, and when they pulled you  
6 out of the area, was it documented, or was  
7 that just you were moved to another area?

8 MR. NELSON: Actually, they didn't  
9 pull me out of an area. I just couldn't go  
10 into hot areas. I could still go in and  
11 operate in the operating corridor at 601 at  
12 ICPP, but I couldn't go in the corridor and  
13 pull samples, because the samples run 50 to  
14 60R.

15 So I couldn't get those because I  
16 would get more. I couldn't go in and decon  
17 the cells. So I was not really pulled out of  
18 my area. I was still able to operate, but I  
19 was not able to do any decon or sampling or  
20 those types of activities. So there was no  
21 need for documentation. I was still working.

22 MEMBER SCHOFIELD: Okay, thanks.

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1 CHAIRMAN MELIUS: Thank you.

2 MR. NELSON: You bet.

3 CHAIRMAN MELIUS: I'm going to go  
4 to the phone now, and the first person I have  
5 signed up on the phone is Chris Barker. Is  
6 Chris Barker on the phone?

7 (No response.)

8 CHAIRMAN MELIUS: Okay.  
9 [Identifying information redacted]?

10 MR. KATZ: You have to remind them  
11 to press \*6.

12 CHAIRMAN MELIUS: If you may have  
13 it muted. Is [Identifying information  
14 redacted] or Chris Barker on the phone? If  
15 you have your line muted, hit \*6 to unmute.

16 (No response.)

17 CHAIRMAN MELIUS: How about  
18 Stephanie Carroll. Yeah. They have you  
19 signed down as phone. I couldn't figure out  
20 --

21 (Off mic comments.)

22 CHAIRMAN MELIUS: Again, Chris

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1 Barker, [Identifying information redacted] on  
2 the phone?

3 (No response.)

4 CHAIRMAN MELIUS: Okay. We'll  
5 come back in a few minutes then. Stephanie  
6 Carroll can go.

7 MS. CARROLL: Okay. First, I'd  
8 like to thank the Board for allowing me to  
9 speak on some issues and concerns that I have  
10 on the ability of NIOSH to reconstruct dose.  
11 I'm an advocate for Rocky Flats workers  
12 regarding application for compensation under  
13 EEOICPA.

14 I therefore have access to many  
15 DOE documents from the site and from personal  
16 archives of the Rocky Flats workers. First, I  
17 would like to address the destruction and  
18 falsification of records. A document being  
19 presented by the petitioner, Terrie, refers to  
20 a DOE memo dated April 25th, 1996, issuing a  
21 moratorium on the destruction of records at  
22 the site, and including the Denver Federal

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1 Center.

2 This memo reinforces a sworn  
3 affidavit presented at the last meeting in  
4 Denver by a worker that admitted to being  
5 ordered to destroy records herself. She  
6 doesn't have a SEC claim and I believe that  
7 this memo should solidify her sworn affidavit.

8 [Identifying information  
9 redacted], a well-respected operations manager  
10 at Rocky Flats, Building 771, swore in an  
11 affidavit that he changed, my words  
12 "falsified," an incident report at the  
13 direction of his supervisor, to ensure that  
14 the cost was set to a level that would not  
15 have to be reported to DOE. If you'd like,  
16 you should maybe review that affidavit that  
17 [Identifying information redacted] swore to.

18 He's also used by NIOSH as  
19 somewhat of a site expert. He does have an  
20 SEC claim either, so he has no financial gain  
21 from his passing.

22 OPERATOR: The conference is now

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1 in talk mode.

2 MS. CARROLL: Next, I would also  
3 like to address the thorium issue. I spoke to  
4 a former RCT this week that relayed  
5 information to me concerning thorium. He said  
6 that he surveyed the upstairs area of 444 by  
7 keeping down the center aisle while thorium  
8 ingots were displayed on what he referred to  
9 as "wine racks."

10 I spoke to another RCT today  
11 actually, who said that they remembered the  
12 term "wine racks" being used in 444. I also  
13 have a question about thorium. After the  
14 thorium was removed from U-233 during thorium  
15 strikes, what happened to it? Was it  
16 processed and reclaimed? Was it treated as  
17 waste? Where did it go?

18 Another question. Rocky Flats did  
19 not record dose to the lens of the eye until  
20 the mid-90's. How is NIOSH assigning dose to  
21 the lens of the eye now for claimants with  
22 brain tumors?

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1           Another question I have or concern  
2           is about radon, and I've brought this up  
3           before. But why was radon considered in  
4           Mound's petition and not ours? Buildings that  
5           were underground were located underground at  
6           Rocky Flats as a requirement of the processes  
7           performed on the site.

8           I do not believe that this is a  
9           natural environmental exposure. Workers were  
10          required to work underground. After  
11          interviewing many workers, I learned that all  
12          short-lived isotopes were assumed to be radon  
13          and discounted. In my research, I learned  
14          that the most harmful effects to uranium  
15          workers are the effects of the short-lived  
16          isotopes, which were ignored on site.

17          I have documentation on short-  
18          lived, on an incident where a short-lived  
19          isotope was found on the worker's hands and a  
20          broom in Room 996, Building 991, and not found  
21          on the walls or the floor, mind you.

22          It was ignored, and put into the

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1 category of radon. This incident was not  
2 taken into account in the dose reconstruction,  
3 because it was assumed to be radon. So this  
4 man never got any incidence recorded in his  
5 dose reconstruction.

6 This assumption is not backed up  
7 by scientific evidence. Were all short-lived  
8 isotopes ignored because PU and uranium were  
9 the elements of concern? Background in all  
10 the documents I've seen, background  
11 continuously changes, depending on what room  
12 you're in, and it seems to always be slightly  
13 higher than the actual count taken on the  
14 worker.

15 What is the definition of  
16 background, and I also wanted to ask about if  
17 the workers were not paying attention to  
18 short-lived isotopes and actually any other  
19 isotopes besides uranium and plutonium, what  
20 about the exotic radionuclides? Who was  
21 paying attention to those? That's what I need  
22 to know.

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1                   And well, that's all I have. But  
2 I would like to thank Terrie Barrie, who has  
3 tirelessly dedicated herself to the Rocky  
4 Flats workers, to their families, to truth and  
5 justice, and I just want to say she is our  
6 hero. So thank you very much.

7                   CHAIRMAN MELIUS: Well, thank you.  
8 I think we have the phone issue taken care of,  
9 sorted out. So Chris Barker, are you on the  
10 line?

11                  MR. BARKER: Yeah. Are you asking  
12 for me? This is Chris Barker. Can you hear  
13 me?

14                  CHAIRMAN MELIUS: Yes, we can now.  
15 Thanks, good, and we apologize. It does get  
16 confusing with these phone systems, so but go  
17 ahead. We can hear you now.

18                  MR. BARKER: Great, thank you.  
19 Chairman Melius and ladies and gentlemen of  
20 the Committee, thank you for the opportunity  
21 to speak today. Just so you know, I have a  
22 little chest cold, so I may pause briefly and

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1 go on mute, because I have to cough. So my  
2 apologies.

3 I'm Chris Barker. I have a Ph.D.  
4 in biostatistics from the Graduate School of  
5 Public Health. I am a consultant and I have  
6 an appointment as an adjunct associate  
7 professor of biostatistics. I am providing  
8 comments today on behalf of an individual, who  
9 I will refer to as the claimant.

10 The claimant was denied  
11 compensation for multiple cancers caused by  
12 exposure to plutonium after working at Rocky  
13 Flats. The claimant requested that I review  
14 the decision and the methodology for the  
15 determination of Probability of Causation.

16 At the claimant's request, I  
17 reviewed over 1,000 pages of NIOSH  
18 documentation for dose reconstruction and  
19 assigned share. I documented and assembled  
20 106 pages of material errors, questions,  
21 concerns, objections, false statements,  
22 admissions gaps, factual mistakes, circular

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1 logic, calculation errors, inconsistency and  
2 false and misleading claims in the NIOSH  
3 documentation, and the use of the NIOSH  
4 assigned share, the NIOSH models and processes  
5 and procedures, based on the documentation  
6 that was publicly available.

7 Furthermore, I requested that  
8 NIOSH provide several additional pieces of  
9 information about the claimant's dose  
10 reconstruction and other details about the  
11 calculation. I stated in the 106 page  
12 document that upon receipt of the requested  
13 materials, I may have additional comments  
14 about their processes and procedures and  
15 software.

16 The clamant forwarded 106 pages of  
17 my document with the 1,000 pages of document  
18 that I had reviewed to the appropriate NIOSH  
19 office. Recognizing my time is limited, I  
20 will highlight only a few of the errors from  
21 the 106 pages of errors and calculation errors  
22 and misstatements and false claims that I

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1 found.

2           When I discovered, for example, in  
3 NIOSH documentation that they're talking about  
4 Probability of Causation, I'll discuss that in  
5 a little bit. The full, as I say, full 106-  
6 page document and the 1,000 pages of  
7 additional materials have been forwarded to  
8 NIOSH earlier for review, and I have a  
9 colleague at the meeting there who has, can  
10 make additional copies available to the  
11 Committee as needed.

12           The issues underlying the  
13 calculations used by the NIOSH models involve  
14 matters of life and death. I am an expert in  
15 the statistical methods that are appropriate  
16 for the correct cross-analysis of data arising  
17 in these circumstances.

18           What remains inexplicable is  
19 although we submitted these documents, this  
20 106 pages plus the 1,000 pages of  
21 documentation months ago to NIOSH, we have  
22 never received any reply about the comments

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1 and questions and concerns that I had raised.

2 So because of the errors in the  
3 documentation, I have not been able to  
4 replicate the calculations of the assigned  
5 share or the dose reconstruction. As we're  
6 all aware, a replication of a result,  
7 particularly a calculation, is a fundamental  
8 principle of science, because part of my  
9 consulting work involves pharmaceutical drug  
10 development for life-threatening illnesses, I  
11 prepare work that is forwarded to the Food and  
12 Drug Administration and other regulatory  
13 agencies, and I can assure you that no part of  
14 the documentation of procedures would ever be  
15 accepted by a regulatory agency anywhere in  
16 the world.

17 So I want to refer you to the 106-  
18 page detailed document, which can be provided,  
19 and I'm only going to highlight a few of the  
20 errors that I found. The first is that the  
21 NIOSH IREP model, which does not incorporate  
22 all the uncertainties in the dose

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1 reconstruction process, nor the uncertainties  
2 in relating dose reconstruction to so-called  
3 probabilities of cancer.

4 I enumerated those uncertainties  
5 that are not incorporated in the 106-page  
6 document. Just to give you a sense, those  
7 uncertainties relate to handling of missing  
8 dose information, statistical distributions  
9 used and uncertainties about parameters, means  
10 and standard deviations that were assumed in  
11 the IREP.

12 The IREP performance were  
13 statistical Type 1 and Type 2 errors. In  
14 other words, falsely detecting a relationship  
15 of the radiation and cancer or erroneously  
16 ignoring the relation of radiation dose and  
17 cancer when it exists are unknown. These are  
18 things that would easily be obtained from an  
19 appropriate statistical analysis.

20 The NIOSH IREP claim of 90 percent  
21 uncertainty integrals is misleading because  
22 all the uncertainties are not included. Many

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1 NIOSH documents and letters to the claimant  
2 refer to Probability of Causation.

3           The calculation performed by the  
4 program IREP of assigned share is not a  
5 probability of any kind whatsoever. It has no  
6 probabilistic interpretation. Any use of the  
7 term "Probability of Causation" is a false and  
8 misleading term.

9           The NIOSH assigned share is not a  
10 probability. They do not indicate causality  
11 of any kind. The numerous statistical methods  
12 that address causality, I worked with methods  
13 for establishing causality for relations such  
14 as this every day.

15           These methods have been available  
16 in statistical and other literature since R.A.  
17 Fisher considered the father of statistics,  
18 developed these procedures in the 1930's, and  
19 since Reverend Bayes developed methodologies  
20 back in the 1700's for establishing causality.

21           I documented specific errors in  
22 Excel and comma separated files that the

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1 claimant was told were used as inputs to the  
2 IREP software.

3 (Interruption.)

4 CHAIRMAN MELIUS: Chris Barker,  
5 are you on the line?

6 (No response.)

7 After we got interrupted.  
8 [Identifying information redacted], are you on  
9 the line? Okay. Terrie? I know. That's what  
10 I'm going to do. So Terrie, do you want to  
11 read [Identifying information redacted]  
12 comments, [Identifying information redacted],  
13 yeah.

14 MS. BARRIE: And I do have Chris'  
15 comments. He was almost through, and I'd be  
16 happy to make copies of whole presentation.

17 CHAIRMAN MELIUS: That would be --  
18 that would be, yeah.

19 MS. BARRIE: Okay, and this was  
20 from --

21 CHAIRMAN MELIUS: And we'll make  
22 copies for you.

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1 MS. BARRIE: Okay. This is public  
2 comments from [Identifying information  
3 redacted] from EECAP. She's been involved  
4 with the Mound SEC petition, and she says, and  
5 this is her quotes, "First, I'd like to thank  
6 Dr. Melius and the Board for allowing me at  
7 this time to speak. I wasn't able to attend  
8 this meeting, but I have tried to listen into  
9 it, which given the sound quality has been a  
10 real chore at times.

11 "I appreciate that Stu Hinnefeld  
12 discussed some of the problems that turned up  
13 in the FOIA request from 2001, which I  
14 received a few months ago.

15 "I couldn't hear clearly, but it  
16 sounded like he and Dr. Melius discussed that  
17 NIOSH was looking at problems with the  
18 conflict of interest policies, problems with  
19 undermining the Mound Class Definition for the  
20 1959 to 1980 SEC, and problems with NIOSH  
21 employees withholding information from the  
22 Board, as well as disparaging remarks made

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1 among NIOSH employees about Board Members who  
2 deigned to ask them questions.

3 "After waiting over two years,  
4 NIOSH finally provided me with their emails  
5 from their employees on the Mound SEC radon  
6 issue. I want to point out that this FOIA was  
7 not sent to me until after the Mound SEC was  
8 already closed. But whether this was done  
9 purposely or not, I do not know.

10 "I was frankly shocked by these  
11 emails that showed NIOSH running roughshod  
12 over the Board; rather than being led by the  
13 Board; NIOSH employees writing dismissive and  
14 disrespectful emails about the Board Members,  
15 SC&A and DOL; NIOSH withholding evidence from  
16 the Board and DOL for almost a year; NIOSH  
17 employees' bias directing the Class  
18 Definition, rather than the Board defining the  
19 Class; NIOSH employees making assumptions on  
20 how things were done at Mound, rather than  
21 doing the research in the DOE documents to see  
22 what was actually done, and then ignoring the

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1 research and documentation after EECAP sent it  
2 to them.

3 "NIOSH defining the SEC Class  
4 base; the ignoring of the exposures to thoron  
5 and actinon and the incorrect assumption that  
6 no workers without bioassay had been exposed  
7 to radon; blatant disregard to conflict of  
8 interest laws; and in many instances the lead  
9 NIOSH employee soliciting information from a  
10 conflicted NIOSH employee.

11 "If you wish to see the documents  
12 for these claims, you can find it at the EECAP  
13 website. These actions raise serious  
14 questions that I think need to be investigated  
15 for all sites, not just Mound. What allowed  
16 this kind of behavior to occur and go on for  
17 years? Is part of the problem the culture at  
18 NIOSH?

19 "What allowed NIOSH to blatantly  
20 abuse the conflict of interest laws? Why is  
21 NIOSH running the Board rather than the Board  
22 monitoring NIOSH? The 1959 to 1980 Mound SEC

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1 needs to be reopened, and all employees need  
2 to be included. In fact, this is what NIOSH  
3 said that would be done on February 11th,  
4 2011.

5 "The process was begun, because  
6 they realized that they had made an incorrect  
7 assumption that all workers in the R and SW  
8 Buildings had been bioassayed. The NIOSH  
9 employee who caused this mess then said he had  
10 'forgotten,'" that's in quotes, "about the  
11 cold side of the building, where no one had  
12 been monitored.

13 "A week later, NIOSH reversed its  
14 decision after talking to Ted and the OGC. I'd  
15 like to tell you more about this discussion,  
16 but that email was not provided to me. What  
17 did Ted and the OGC say that overrode the  
18 science that is supposed to drive the SEC  
19 process? I don't know, but I hope the Mound  
20 Work Group will find out.

21 "After seeing how damaging the  
22 pages were that were released to me, I am very

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1 curious to know what was withheld from the  
2 FOIA release. A total of 641 pages were  
3 withheld, 393 under Exemption 5 and 248 under  
4 Exemption 6.

5 "I would encourage the Board Mound  
6 Work Group or SC&A to examine these pages, to  
7 make sure they contain no additional illegal  
8 or unethical behavior. I have no power to do  
9 this, but you do. [Identifying information  
10 redacted] sent ANWAG a quote from the law, 18  
11 U.S.C. 1001(a)(1), (2), (3), that indicates  
12 NIOSH's actions, as documented by these  
13 emails, could lead to criminal charges being  
14 filed.

15 "That statute states 'Except as  
16 otherwise provided in this section, whoever in  
17 any matter within the jurisdiction of the  
18 executive, legislative or judicial branch of  
19 the government of the United States knowingly  
20 and willfully (1) falsifies, conceals or  
21 covers up by any trick, scheme or device, a  
22 material fact; (2) makes any materially false,

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1 fictitious or fraudulent statement or  
2 representation; or (3) makes the use of false  
3 writing or document, knowing the same to  
4 contain any materially false, fictitious or  
5 fraudulent statement or entry, shall be fined  
6 under this title and imprisoned to not more  
7 than five years.'

8 "While the workers were not the  
9 only ones harmed by NIOSH employees'  
10 misbehavior, they were the ones who paid the  
11 cost of loss of benefits and medical care  
12 because of it. The damage done to the workers  
13 is the reason for this program. They were  
14 already betrayed once by their government. A  
15 second governmental betrayal is really beyond  
16 the pale.

17 "I thank the Board for their  
18 attention to this serious matter, and would  
19 appreciate if I could be informed, as  
20 appropriate, on what is being done. Please  
21 let me know if I can help in any way. Thank  
22 you," from [Identifying information redacted].

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1                   CHAIRMAN MELIUS:           And we've  
2 already -- but Terrie, did you have public  
3 comments to make separately? You signed up. I  
4 didn't --

5                   MS. BARRIE:    Yes, I did, and it's  
6 just really a minor one.

7                   CHAIRMAN MELIUS:   Go ahead.

8                   MS. BARRIE:    I would like to ask  
9 the Board's reconsideration of the time limit  
10 for SEC petitioners' presentations. I fully  
11 agree with the time limit. I have been at  
12 meetings where, you know, people tend to go on  
13 and on.

14                   But having a ten minute limit for  
15 petitioners, especially ones who are preparing  
16 PowerPoint presentations, it's really tough to  
17 convey the information we want to convey to  
18 the Board. So I was thinking that perhaps we,  
19 the Board could go on an individual basis, to  
20 see, check with the petitioner, how much time  
21 do you think you need?

22                   That's too much, try to, you know,

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1 cut it down to X amount, and that way we can  
2 prepare, in a timely, you know, within the  
3 time line and still get the information  
4 across. Thank you.

5 CHAIRMAN MELIUS: Thank you. Does  
6 anybody else on the line or in the audience  
7 wish to make public comments?

8 (No response.)

9 CHAIRMAN MELIUS: If not, we're  
10 adjourned. Thank you everybody. We'll see  
11 you, everybody, the Board here tomorrow  
12 morning.

13 (Whereupon, at 5:44 p.m., the  
14 meeting was recessed, to reconvene on  
15 Wednesday, July 17, 2013 at 8:15 a.m.)

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