

This transcript of the Advisory Board on Radiation and Worker Health, Brookhaven National Laboratory (BNL) Work Group, has been reviewed for concerns under the Privacy Act (5 U.S.C. § 552a) and personally identifiable information has been redacted as necessary. The transcript, however, has not been reviewed and certified by the Chair of the BNL Work Group for accuracy at this time. The reader should be cautioned that this transcript is for information only and is subject to change. 1

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

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NATIONAL INSTITUTE FOR OCCUPATIONAL  
SAFETY AND HEALTH

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ADVISORY BOARD ON RADIATION AND  
WORKER HEALTH

+ + + + +

WORK GROUP ON BROOKHAVEN NATIONAL LAB

+ + + + +

TUESDAY  
FEBRUARY 21, 2012

+ + + + +

The Work Group convened telephonically at 11:00 a.m., Eastern Standard Time, Josie Beach, Chair, presiding.

PRESENT:

JOSIE BEACH, Chair  
HENRY ANDERSON, Member  
BRADLEY P. CLAWSON, Member  
WANDA I. MUNN, Member  
GENEVIEVE S. ROESSLER, Member

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ALSO PRESENT:

TED KATZ, Designated Federal Official  
TIM ADLER, ORAU Team  
STEPHANIE BOGART  
RON BUCHANAN, SC&A  
GRADY CALHOUN, DCAS  
JASON DAVIS, DCAS  
NORA DETWEILER  
JOE FALCO  
JOE FITZGERALD, SC&A  
JIM GREEN  
JENNY LIN, HHS  
JOHN MAURO, SC&A  
PAUL RUHTER, ORAU Team  
JOHN STIVER, SC&A  
DENNIS STRENGE, ORAU Team

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

(11:01 a.m.)

MR. KATZ: Let's get started, beginning with roll call. We're speaking about a specific site so please speak to conflict of interest, as well, and we'll begin roll call with Board Members.

(Roll call.)

Okay, very good. That does it for roll call.

Let me mention for everybody, there is an agenda for this meeting. It's on the NIOSH website under the Board section, the OCAS part of the NIOSH website under the Board section, under Meetings.

And there's also a couple documents associated with the meeting that should be there, too.

One of them is an Evaluation Report from NIOSH and the other is an issues matrix related to Site Profile issues from SC&A.

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1                   And otherwise, let's get started.

2           Let me remind everyone on the line, please  
3           mute your phone except when you're addressing  
4           the group.

5                   If you don't have a mute button,  
6           if you press \* and then 6, that'll mute your  
7           phone for this call, and then you press \* and  
8           then 6 again to take your phone off of mute.

9                   And please do not put this call on  
10          hold at any point, but hang up and dial back  
11          in if you need to do that. And, Josie, it's  
12          your agenda.

13                   CHAIR BEACH: Thanks, Ted. The  
14          agenda is posted as Ted said, but I'm just  
15          going to go through it very briefly for anyone  
16          that may not have it.

17                   The main purpose of the call today  
18          is to go over the 83.14 Evaluation Report that  
19          was issued on January 6. And I think that  
20          NIOSH will take the lead on that.

21                   Then we're going to go ahead and  
22          have public questions and comments, along with

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1 Work Group recommendations.

2           When we're finished with that, I  
3 would like to go into just a brief discussion  
4 on the ER matrix to make sure that we've  
5 actually covered everything that we came up  
6 with at our last Work Group meeting. I  
7 believe it was January 21 of last year, or  
8 February, no, January.

9           Okay, and then the matrix for the  
10 TBD, cover those items, and then look at a  
11 path forward for the issues and possibly some  
12 tasking for SC&A. So NIOSH, Grady, if you're  
13 ready?

14           MR. CALHOUN: Sure. Basically  
15 what had happened is, after we had presented  
16 the previous Evaluation Report, we started  
17 into the task of evaluating where we were and  
18 looking at how firm the previously established  
19 end date of 1980 was.

20           And as you may or may not know,  
21 we've had some difficulty and it was just a  
22 timeliness issue of getting responses back

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1 from Brookhaven, but they've since fixed that  
2 problem.

3 But during the course of getting  
4 those responses back, I started doing a, you  
5 know, I guess a little further comparison to  
6 try to find out the, to make myself feel  
7 better really about the end date.

8 And basically what I did is I went  
9 through and I kind of selectively took cases  
10 that had filed for our program and I looked at  
11 cases with employment only after 1980.

12 I went through and looked at their  
13 CATI interview to see if they said that they  
14 had been monitored for urinalysis and whatnot.

15 And then I went back and looked at  
16 the response that we received from Brookhaven  
17 and any other dosimetry data that was in their  
18 files.

19 And what really kind of gave me  
20 pause was that I initially had found a case, I  
21 want to say it was from 1989, and what  
22 happened is Brookhaven reported that the

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1 individual wasn't monitored.

2 But we had captured monitoring  
3 data for that individual, so that gave me a  
4 little bit of a reason to look into this a  
5 little bit deeper.

6 From this smaller subset of  
7 individuals who worked after 1980, I found at  
8 least two more cases that were pretty much the  
9 same, that Brookhaven reported that the  
10 individual wasn't monitored but we had data.

11 You know, you might initially  
12 think that, well, we have data so that's all  
13 good, but there's no way that we can claim  
14 that we've captured every bit of data on that  
15 site. As a matter of fact, we know we  
16 haven't.

17 So we had to go back and look  
18 through, really it was just a complete re-look  
19 again and try to find some indication as to  
20 when we felt that we were getting adequate  
21 dosimetry records back.

22 This has never been a problem with

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1 external records, external dosimetry. This  
2 has only been a problem with internal  
3 dosimetry results.

4 So basically we went back through,  
5 looked at some of the programmatic issues or  
6 documents that were in place and we came up  
7 with, I haven't found anything post-1989 where  
8 that type of discrepancy exists.

9 But I had to find something that  
10 was indicative of a change that was made or  
11 some kind of vote of confidence in the program  
12 documentation or documentation program at  
13 Brookhaven, so we found that there were some  
14 additional documents out there.

15 As a matter of fact, there was an  
16 audit that was done in December of '93, at  
17 least published in December of '93, that  
18 stated that Brookhaven was in compliance with  
19 their internal and external dosimetry program  
20 as well as their records retention program so  
21 that really is one of the primary drivers for  
22 the end date of 1993.

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1 Now one thing I'll just mention is  
2 we've never really thought that Brookhaven had  
3 a poor RadCon program.

4 It seems that they've always had  
5 monitoring there and it was done at a high  
6 level. Some of it was incident-driven. Some  
7 of it was routine.

8 But our issue is that we're not  
9 getting the records, and it appears that  
10 they've had a difficult time in finding the  
11 records, as well, until what we believe is  
12 about 1993.

13 CHAIR BEACH: Okay, thank you.

14 MR. CALHOUN: Just as a side note,  
15 are you hearing a terrible echo, because I  
16 hear an echo when I speak.

17 CHAIR BEACH: I do not. This is  
18 Josie.

19 MR. CALHOUN: Okay, good, all  
20 right.

21 MEMBER MUNN: I hear a little bit  
22 of an echo from him but it's not bad --

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1 MR. CALHOUN: All right.

2 MEMBER MUNN: -- where I'm  
3 receiving.

4 CHAIR BEACH: Okay, SC&A, do you  
5 have any comments on the 83.14?

6 MR. FITZGERALD: Not particularly.  
7 I think this certainly parallels one of,  
8 certainly two of our key findings in the Site  
9 Profile review we did in 2009.

10 And, of course, in our evaluation  
11 we had raised questions about, on 1980 there  
12 were certainly some questions about the  
13 availability of records up through the early  
14 '90s.

15 So at least so far as, you know,  
16 what Grady has just discussed, that pretty  
17 much is in agreement with what we've seen as  
18 well.

19 CHAIR BEACH: Okay, thank you,  
20 Joe. Work Group Members, any comments,  
21 questions?

22 MEMBER MUNN: Josie, this is Wanda

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1 and I guess I can't help but comment. I  
2 understand all of the bases for this 83.14.

3 But it is very, almost tragic to  
4 me that a group of such outstanding scientists  
5 who have contributed so much to the science  
6 and to the medical knowledge, especially of  
7 the nuclear science field, has to be placed in  
8 an SEC category because of what appears to me  
9 to be more of clerical shortcomings than  
10 anything else.

11 We are such a science-based  
12 activity in what we are purporting to do in  
13 the Board that it just seems overwhelmingly  
14 sad that people who probably know more about  
15 the health effects of radiation than any  
16 similar-sized group of people, possibly on the  
17 planet, and who certainly would have taken  
18 every logical precaution in real life to see  
19 that they and their coworkers were not  
20 unreasonably exposed to high doses of  
21 radiation, that we cannot now discover that  
22 because, as I categorized it earlier, what

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1 appears to be from the outside clerical  
2 shortcomings.

3 And that, of course, does not  
4 affect what we have to do here, but it seems  
5 very unfortunate.

6 MEMBER ROESSLER: Josie, this is  
7 Gen.

8 CHAIR BEACH: Hi, Gen.

9 MEMBER ROESSLER: I have a  
10 question and I know we've talked about this  
11 site for a long time.

12 But just to kind of refresh my  
13 memory, and Grady can probably answer this,  
14 can you summarize for me the fundamental  
15 difference, the programmatic difference,  
16 between the records-keeping for the internal,  
17 the in vivo and in vitro measurements, and the  
18 external?

19 You've said you have really no  
20 questions about accessibility of records for  
21 the external. Certainly there are a lot of  
22 questions about internal. What was the

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1 difference between the two?

2 MR. CALHOUN: Well, basically the  
3 issue is that from the beginning of time,  
4 basically, we have seen that the external  
5 dosimetry records were kept in one location.  
6 The internal dosimetry records were not. And  
7 I'm not being flippant here, but literally we  
8 have found boxes under people's desks of  
9 internal dosimetry records.

10 And they seem to have been kept on  
11 a project-by-project basis and there were  
12 little stashes of these throughout the site  
13 and they were never really centralized.

14 We know that in 1980 we had  
15 actually seen, or just before that, we'd  
16 actually seen a memo that had gone out that  
17 formed part of our basis for picking that date  
18 where they stressed the need for centralizing  
19 internal dosimetry and whole body count,  
20 specifically, records.

21 But that doesn't seem to have been  
22 done until closer to the late '80s and early

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1 1990s.

2 MEMBER ROESSLER: Yes, thanks,  
3 Grady. And I think as a Work Group, we have  
4 offered, well, first of all, I want to say I  
5 agree with what Wanda has said, totally.

6 And from that perspective, I think  
7 what we were trying to do as a Work Group is  
8 offer many opportunities for the Brookhaven  
9 personnel, particularly the ones who were  
10 involved in the era in question, to give us a  
11 document or to give us some indication that  
12 there were some changes following the  
13 identification of the need for centralization.

14 And we had teleconferences with  
15 workers. We've looked at many records. I  
16 have not seen that.

17 And I think that's a key point  
18 here, that until, as you identified, somewhere  
19 into the early '90s that sort of thing didn't  
20 seem to happen for the internal dosimetry  
21 records.

22 CHAIR BEACH: Gen, that's a good

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1 point. Thank you for bringing that up. I was  
2 going to ask Grady if you could just go into a  
3 little more detail of why you chose the  
4 December 31, 1993 as the cutoff?

5 MR. CALHOUN: Well, basically we  
6 have found, you know, at least some  
7 correspondence where they have talked about  
8 the centralization.

9 But I think the main one was an  
10 external audit that was done and they looked  
11 at the internal and external dosimetry  
12 programs.

13 And they specifically mentioned  
14 that Brookhaven was in compliance with the  
15 radiological records requirements of the DOE  
16 RadCon Manual or 10 CFR, not 10 CFR 835 at  
17 that point I don't think, but all of the  
18 applicable requirements.

19 So that one assessment stated that  
20 they were in compliance with internal and  
21 external monitoring as well as the records  
22 program. So that was pretty much it, and that

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1 was actually published in December of '93.

2 CHAIR BEACH: Who did that  
3 assessment, Grady? It's Josie again. Do you  
4 know?

5 MR. CALHOUN: I'll have to look  
6 that one up.

7 CHAIR BEACH: Okay.

8 MR. CALHOUN: I don't know. If  
9 any of the ORAU guys got that on the tip of  
10 your tongue out there, spit it out. I'm  
11 looking. I'll find it before the end of our  
12 conversation here.

13 CHAIR BEACH: Well, and my other  
14 question is have you done any dose  
15 reconstructions for after '93 and are able to  
16 complete those?

17 MR. CALHOUN: Well, as part of the  
18 look that I did at incoming records, I looked  
19 at all, I only looked at employees that had  
20 employment just after 1980. I didn't look at  
21 any prior to that. And I've not found any  
22 discrepancies in the records after 1989.

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1                   But the three or so that I have  
2 found have been in the late '80s and 1989,  
3 where Brookhaven reported that the individual  
4 wasn't monitored and I have, you know, whole  
5 body counts of that individual that were done  
6 in that 1989 period.

7                   I have not found any similar  
8 discrepancies after 1989. So the 1993, when  
9 that assessment was done, that seemed like a  
10 pretty good date for us.

11                   CHAIR BEACH: Okay thanks, Grady.  
12 Any other comments or questions?

13                   DR. MAURO: Josie, this is John  
14 Mauro.

15                   CHAIR BEACH: Hi, John.

16                   DR. MAURO: Is it okay for me to  
17 ask a question?

18                   CHAIR BEACH: Sure.

19                   DR. MAURO: Yes, this is an  
20 interesting dilemma that I see you find  
21 yourself in, in that you go back to your dose  
22 reconstructions and you find that, in fact,

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1 there are data when DOE claims there wasn't.

2 So in theory the people who had  
3 their dose reconstruction done, you know,  
4 when apparently DOE did not believe or there  
5 was not records for it was based on some  
6 coworker model.

7 And now you're finding, well,  
8 there really was no need to, I'm sort of  
9 speculating now. I'm presuming that for the  
10 internal exposure, in order to do that  
11 person's dose reconstruction and come to some  
12 decision regarding a recommendation for  
13 compensation or denial, you needed to rely on  
14 some type of coworker approach. Is that true?

15 MR. CALHOUN: No, actually after  
16 1980, we assumed that the records were there  
17 because that's what we were thinking and so  
18 ambient internal was assigned if there was no  
19 internal monitoring records.

20 DR. MAURO: Right, but what I'm  
21 saying is though, nevertheless, so did you  
22 assume that the person did not experience then

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1 any internal exposure because there was no  
2 records?

3 MR. CALHOUN: Yes, we did and that  
4 is actually, if you look back, we do have a  
5 lot of information about the site and it is a  
6 very, very low-dose site.

7 And the internal exposure  
8 potential, especially from the, you know,  
9 after the reactor was shut down, at least the  
10 pile, is very, very small.

11 But because there was such a  
12 variety of different types of radionuclides  
13 there and you really couldn't put a finger on  
14 who was exposed to what when, I couldn't in  
15 good conscience just assume that anymore,  
16 based on the findings of those, you know,  
17 three cases at a pretty small set that I  
18 searched because we can't say for sure that  
19 we've got the records.

20 Now, if those individuals, we did  
21 a dose reconstruction and we captured data  
22 regardless of what Brookhaven told us, we

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1 would use that internal data.

2 But, you know, like I said, that  
3 kind of gave me a little bit of a reason to  
4 look deeper. And I can't say that -- I know  
5 for sure we haven't captured every piece of  
6 paper from that site. So I can't say that  
7 we've got the data even when Brookhaven  
8 doesn't.

9 DR. MAURO: All right, thank you.

10 MEMBER ROESSLER: Grady, this is  
11 Gen. So we're talking about doing dose  
12 reconstructions for individuals where data is  
13 missing. Why not develop some sort of a  
14 bounding approach to doing the internal doses?

15 MR. CALHOUN: Are you talking  
16 prior to 1993?

17 MEMBER ROESSLER: Yes, yes,  
18 definitely. During this period of time, the  
19 1979 to '93, the period that we're talking  
20 about.

21 MR. CALHOUN: Well, because right  
22 now we know that people were monitored. In

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1 the past, sometimes we've come up with at  
2 least justifications for coworker models by  
3 saying, well, the people we don't have records  
4 for probably weren't as likely to have been  
5 exposed and, you know, that holds true  
6 basically.

7 But in this case, these people  
8 were monitored and we don't have the dosimetry  
9 records and there's also a fairly wide range  
10 of radionuclides there at that site.

11 You know, you've got the shorter-  
12 lived items that were generated as a result of  
13 the reactors. You've got some medical  
14 isotopes that were generated at the site.

15 So it would be pretty difficult to  
16 come up with a suite of radionuclides and, I  
17 guess, bounding doses that could be, I'll say,  
18 sufficiently accurate to not grant an SEC.

19 MEMBER ROESSLER: I see. Yes,  
20 that's a very good point, that in addition to  
21 apparently not being able to tell our  
22 localized people at any point in time.

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1 MR. CALHOUN: Yes.

2 MEMBER MUNN: Well, but that, of  
3 course, gets us back into what is, from a  
4 technical point of view, the truest of all  
5 dichotomies that we face in this entire  
6 program because of the way the law is written  
7 and the way we have to interpret it.

8 This, again, gets back into the  
9 having to prove a negative thing and, of  
10 course, no one is going to be able to prove  
11 that everybody on the site did not go  
12 everywhere on the site.

13 MEMBER ANDERSON: You have to  
14 speak up. It's hard to hear you.

15 MEMBER MUNN: Oh, I'm sorry. I  
16 thought I was speaking directly into the  
17 microphone.

18 I was just complaining about  
19 having to prove a negative again, that's all,  
20 trying to prove that everybody on site was not  
21 everywhere on site. That's an impossibility  
22 and we all understand that.

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1                   It's another one of the  
2                   unfortunate things that we have to say that  
3                   all of the potential exposures have not been  
4                   accounted for when there are such an enormous  
5                   variety of truly, in any case, this is unique,  
6                   isotopes and even elements that we will see in  
7                   other places.

8                   But, of course, that was part and  
9                   parcel of the remarkable amount of work and  
10                  research that has been done at that site and  
11                  that's been of such great value to all others  
12                  who are involved in the science.

13                  CHAIR BEACH: Okay, any other Work  
14                  Group Members have any comments or questions?

15                  (No response.)

16                  CHAIR BEACH: I just have one  
17                  quick comment.

18                  It's been a year since our Work  
19                  Group met. I believe we met last January 2011  
20                  and I was pleased with the dates.

21                  Grady, I know that this was a date  
22                  that we threw around in our Work Group

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1 meetings on several occasions, so I have to  
2 admit that I was happy that you chose to go up  
3 through '93.

4 At this time, if there's no other  
5 comments or questions, I'd like to give the  
6 public a chance to speak, if you have any  
7 comments or questions of the Work Group or  
8 NIOSH.

9 MR. CALHOUN: This is Grady. I  
10 just wanted to tell you that I found the  
11 assessment.

12 It said an assessment performed by  
13 the DOE Chicago Operations Office in December  
14 of '93 found the BNL HP program in compliance  
15 with applicable DOE standards, acceptable  
16 professional practices.

17 And it talked about contamination  
18 survey program, personnel radiological records  
19 program as well. So it was ultimately done by  
20 the DOE Chicago's Operation Office.

21 CHAIR BEACH: Okay and, Grady,  
22 this is Josie again. Is that posted on the O:

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1 drive?

2 MR. CALHOUN: Yes, I'm sure it's  
3 in there but, yes, I just read from the ER and  
4 we can make sure that that's on the O: drive.

5 CHAIR BEACH: Okay, I don't know  
6 if we'll want to look at that. We will have  
7 some more work to do for this Work Group or  
8 BNL later so it may come in handy. Thank you.

9 So at this time, is there anybody  
10 from Brookhaven that would like to speak or  
11 ask questions?

12 MS. DETWEILER: No, thank you.

13 CHAIR BEACH: Thank you. So if  
14 we're ready, I'd like to go ahead and talk to  
15 the Work Group about recommendations. And  
16 should we take a vote, Ted? What do you  
17 think?

18 MR. KATZ: This is Ted. Yes, I  
19 mean, you should certainly register your  
20 opinions as to whether you support this or not  
21 individually and formulate then what it is you  
22 want to say to the full Board.

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1 CHAIR BEACH: So do we need to  
2 formulate it today or just --

3 MR. KATZ: Well, I mean, I think  
4 this is pretty straightforward. I mean, you  
5 either support the NIOSH position or you  
6 don't, but that's the most of it. But, yes, I  
7 think you should have a Work Group vote.

8 CHAIR BEACH: Okay. So would you  
9 like to take that, Ted?

10 MR. KATZ: Sure, I mean, if you'll  
11 all just speak individually, one at a time,  
12 then we'll capture that.

13 CHAIR BEACH: Well, I'll start.  
14 Yes, I support this.

15 MEMBER ROESSLER: Do we need a  
16 motion?

17 CHAIR BEACH: No, I don't believe  
18 so.

19 MR. KATZ: I mean, you know,  
20 formally you have a motion and someone seconds  
21 it, so I don't think it's a bad idea, Josie.  
22 I mean, normally the Chair doesn't put forward

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1 the motion if we want to be formal about this.

2 MEMBER ANDERSON: No, this is  
3 Andy. I will. I'll make the motion that we  
4 accept NIOSH's recommendations.

5 CHAIR BEACH: Thank you.

6 MEMBER CLAWSON: This is Brad. I  
7 second it.

8 MR. KATZ: Okay. And then the  
9 next step is is there any more discussion on  
10 the motion? Not hearing any, then let's go  
11 ahead with the vote. So Josie Beach.

12 CHAIR BEACH: Josie, I say yes.

13 MR. KATZ: Andy.

14 MEMBER ANDERSON: Yes.

15 MR. KATZ: Brad.

16 MEMBER CLAWSON: Yes.

17 MR. KATZ: Gen.

18 MEMBER ROESSLER: Yes.

19 MR. KATZ: And Wanda.

20 MEMBER MUNN: I hate to have to  
21 say it, but given the wording of the law that  
22 we have to operate under, I don't see that we

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1 have any option and it is an 83.14. If NIOSH  
2 can't do it, then no one can. Yes.

3 MR. KATZ: Yes, okay. And then  
4 that's all in favor. None opposed. It passes  
5 unanimously and that is a recommendation to  
6 support NIOSH's position to add a Class for  
7 this period. Okay, Josie.

8 CHAIR BEACH: Thank you, Ted. So  
9 at this point, I'd like to go back. We do  
10 have an Evaluation Report Matrix that we were  
11 working to. There was two items on it. One  
12 covered internal and the other external.

13 The last meeting there was several  
14 action items on the table that we have never  
15 actually gone back to, so there will be some  
16 more work that needs to be done there.

17 And then NIOSH, or I'm sorry,  
18 SC&A, sent out a updated version of the Site  
19 Profile matrix. So, Joe, I'm going to turn it  
20 over to you and Ron, if you would go through  
21 and just walk us through where we're at.

22 MR. FITZGERALD: Yes, thank you.

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1 I'm going to have Ron go through that list in  
2 some detail because it's been a while.

3 I mean, we've been on the ER  
4 matrix now for a year and a half and really  
5 haven't gone back to look at the Site Profile  
6 issues.

7 But just as a backdrop, as you  
8 were saying on the SEC matrix, clearly there  
9 are some outstanding issues on the external  
10 side, particularly on neutrons, and we'll  
11 outline that.

12 But, you know, from the January  
13 meeting of last year there were certainly a  
14 lot of discussion on several of those issues  
15 and certainly we've been working that this  
16 past year.

17 I think some of that was deferred  
18 because of the 83.14, but certainly we need to  
19 get back to that. Josie, you touched on this  
20 question of the 1993 breakpoint on the 83.14.

21 So in terms of the two items on  
22 the ER matrix, those would be two pertinent

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1 subjects for follow-up.

2 Now, on the Site Profile side,  
3 this is going back to the original Site  
4 Profile matrix from the Site Profile review we  
5 did back in 2009, just to remind the Work  
6 Group, this was sort of a team effort.

7 Kathy Robertson-DeMers and myself  
8 did the on-site work. We did the interviews  
9 and the data capture.

10 Ron Buchanan was performing the  
11 reviews on the external dosimetry side and in  
12 the end, actually developed the final report,  
13 so certainly we've been involved with this now  
14 for several years.

15 So I'm going to have Ron just walk  
16 through the status of the Site Profile issues  
17 and we'll also touch upon some of these loose  
18 ends from the ER matrix that we've been  
19 discussing this past year.

20 Some of these, for example on the  
21 neutron side, I think, and based on the  
22 discussions within the Work Group, are

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1 trending towards Site Profile resolution.

2 That's the way we left it and  
3 there were some items, I think, that Grady and  
4 his team were going to come back with.

5 But certainly that was the sense  
6 that we had, that these were not intractable  
7 issues, but ones that certainly could be  
8 addressed and resolved, but we haven't  
9 resolved them yet.

10 But in any case, Josie or Work  
11 Group, any questions sort of on that backdrop  
12 before I turn it over to Ron?

13 (No response.)

14 MR. FITZGERALD: We're going to  
15 just walk through just to familiarize  
16 everybody with the Site Profile and some of  
17 the issues that were sort of, they weren't  
18 addressed in the ER discussion because we  
19 clearly saw these as more in the Site Profile  
20 context.

21 CHAIR BEACH: Joe, this is Josie.

22 No questions from here.

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1 MR. FITZGERALD: Okay. But in  
2 terms of time frame, this Site Profile review  
3 was conducted in 2009.

4 The ER came out in 2010 so we kind  
5 of walked right into the ER discussion of the  
6 two central issues that we touched on, so this  
7 is going back to that 2009 review. Ron?

8 DR. BUCHANAN: Okay, this is Ron  
9 Buchanan with SC&A. I know when I started  
10 looking at this, this had been sitting and  
11 gathering dust here for about a year and I had  
12 to dust it off and see where we was at.

13 So I'd like to go back and look at  
14 where we've been and where we left it last  
15 January when we had our last meeting.

16 And to bring everybody up to date,  
17 I just want to briefly discuss the fact that  
18 the Site Profile for BNL was issued in August  
19 of '06.

20 SC&A performed a review on that in  
21 September of '09. We weren't assigned that  
22 task until later. And so we came out with 13

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1 primary findings in that review for the Site  
2 Profile.

3 Same month, September of '09,  
4 NIOSH issued their ER of the first SEC 113  
5 that covered the years 1947 through 1979.

6 Now, in April of 2010, NIOSH  
7 issued a Revision 1 to the TBD, which  
8 incorporated this first SEC dates and a few  
9 changes to Section 6.

10 We did not do a Site Profile  
11 review on the revision because we were tied up  
12 in the SEC because we issued that evaluation  
13 for the first SEC in July of 2010.

14 And then we had our first Work  
15 Group meeting in July 28 of 2010 and then we  
16 had some action items from that.

17 Then we had our second Work Group  
18 meeting in the 21st of January of 2011, so  
19 that was a little over a year ago.

20 And then we had a list of action  
21 items, received a response or two from NIOSH,  
22 and then we did not receive any further

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1 information until the January of 2012 ER,  
2 Evaluation Report of SEC 196.

3 And so, what we wanted to do was  
4 go back and say, okay, SC&A and has had a  
5 brief time to look at the current status of  
6 this, and where do we stand now and where do  
7 we need to go?

8 Okay, where we stand now is that  
9 SC&A sees the recent SEC, through '93, as  
10 covering the biological issues for the SEC and  
11 some of the TBD issues through '93, not after  
12 '93 necessarily but up through '93, and none  
13 of the external issues because the SEC was not  
14 based on external issues.

15 And so all of the external issues,  
16 both SEC and Site Profile, still stands to be  
17 addressed.

18 And where we stand on that is that  
19 from the January 2011 meeting, there was a  
20 list of action items issued.

21 And Grady sent out a memo on the  
22 2nd of February of 2011 with 13 action items

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1 from the SEC meeting.

2 Now, there happens to be 13 action  
3 items and these aren't necessarily related to  
4 the 13 TBD findings. And about half of those  
5 had to do with external. Half of them had to  
6 do with internal, and so those items.

7 Now, additionally Grady had sent  
8 out a memo on the 22nd of February giving some  
9 reference numbers that he had promised during  
10 the meeting.

11 And then on the 16th of March of  
12 '11, Grady sent out, well it was the 21st  
13 actually, sent out a memo he had received back  
14 from Brookhaven National Lab inquiring about  
15 the problems with the neutron dosimetry  
16 between 1985 and 1995.

17 And I wanted to bring just a quick  
18 summary here. We had two major SEC issues,  
19 was the biological records in the dosimetry  
20 for internal intake and then we had the  
21 external neutron dosimetry.

22 The records for external, like

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1 Grady said, seems to be there. The photons  
2 and beta was reasonably accurate. They  
3 measured.

4 What we had problems with was the  
5 neutron measurements and there was two major  
6 issues there, was that the facility had a lot  
7 of different accelerators with different  
8 neutron energy fields and those had not been  
9 very well characterized. And secondly the  
10 dosimetry system changed. It wasn't  
11 necessarily capturing all the neutron energies  
12 and they changed from NTA film to a  
13 combination of the NTA and TLDs and CR-39 and  
14 Lexan in the '85 to 95 range.

15 And so we had what was a potential  
16 SEC issue there with several facets to it,  
17 fading, response and how the records were  
18 recorded, problems with development, the  
19 dosimeters and such.

20 And so those were some of the  
21 issues that we had been ironing out from July  
22 to the January meeting, during the January of

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1 2011 meeting. And then that's where the 13  
2 items to be addressed by Grady from the  
3 January 2011 meeting.

4 Like I said, gave some reference  
5 on the 22nd and then a copy of a memo on March  
6 16. And then we haven't really done anything,  
7 received any, we haven't done anything since  
8 then.

9 And so those are where we stand,  
10 SC&A stands on the SEC issues, is the  
11 remaining commitments made at the January 2011  
12 meeting for SEC.

13 Now, I'd like to go now into the  
14 TBD issues but to ask for any questions or  
15 clarifications that we have with SEC standing.

16 CHAIR BEACH: Ron, this is Josie.

17 Can you just give us a real brief -- are some  
18 of the items from the Evaluation matrix, are  
19 those going to be overlapping into the Site  
20 Profile?

21 DR. BUCHANAN: Yes, in fact, some  
22 of them do cover the same bases. The Site

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1 Profile issues are just ones that wouldn't  
2 necessarily, that can be fixed so to speak.  
3 You know, there's probably solutions to them.

4 The SEC issues, especially with  
5 the neutrons, there might be ways to approach  
6 those but we haven't found satisfactory ways  
7 yet, haven't seen them documented.

8 CHAIR BEACH: Okay, and I also  
9 want to ask the Work Group and you, Ron, does  
10 it make sense to take care of the Evaluation  
11 Report matrix and then go into the TBD?

12 DR. BUCHANAN: Well, yes, we can,  
13 however you'd like to do it. You mean today  
14 or in the future?

15 CHAIR BEACH: No, today.

16 DR. BUCHANAN: Today, all right.

17 CHAIR BEACH: If we need to task  
18 anything or update that list of 13 items.

19 DR. BUCHANAN: Yes, that would be  
20 fine. I have them in front of me. I don't  
21 know. Does Grady, does he have those  
22 available? Are you familiar with what I'm

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1 talking about?

2 MR. CALHOUN: The 13 items?

3 DR. BUCHANAN: Right, on the --

4 MR. CALHOUN: I got them called up  
5 in front of me right now.

6 DR. BUCHANAN: Yes, the 2nd of  
7 February '11 was action items from our January  
8 meeting, yes. So, Josie, do you want to  
9 discuss those at this time?

10 CHAIR BEACH: Yes. Grady, what do  
11 you think? Would you like to go through those  
12 before we get into the TBD items?

13 MR. CALHOUN: Sure, we can talk  
14 about them. But like Ron said, there's not a  
15 whole lot that's been done on them.

16 I did look back and I think that I  
17 actually have a document on fading and angular  
18 dependence that I may not have forwarded.

19 This one was done in February of  
20 2011 and I can't find a record of me having  
21 sent it to you, but that certainly will be  
22 coming if I haven't, so that'll hopefully

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1 answer that.

2                   And I've also got a response back  
3 on one of the other items relative to how we  
4 used correction factors for neutrons and dose  
5 reconstructions.

6                   DR. MAURO:    And, Josie, this is  
7 John.   I see an interesting situation.   What  
8 we have here is a recommendation that will be  
9 coming from the Work Group regarding granting  
10 an SEC from 1980 through '93 and the basis  
11 being inability to reconstruct internal doses.

12                   But I presume, and based on all of  
13 our experience, usually that sort of  
14 recommendation and any vote that comes out of  
15 the full Board usually also makes a statement  
16 regarding what doses can be reconstructed.

17                   And it sounds to me that we are in  
18 a situation where there's agreement that the  
19 internal doses are problematic, but I'm  
20 hearing that there are also some problems  
21 regarding external.

22                   And my question, I guess, to the

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1 Work Group is: to what degree is it necessary  
2 to resolve, let's say, this neutron issue that  
3 we're talking about, external issue, before  
4 you can fully go forward to the full Board  
5 with a recommendation regarding an SEC Class?

6 MEMBER MUNN: This is Wanda. It  
7 would certainly behoove us to make certain  
8 that, if we are basing our position on lack of  
9 internal dosimetry, that we certainly have the  
10 issue of neutron dosimetry resolved,  
11 outstanding and of record.

12 MR. KATZ: John, this is Ted.

13 DR. MAURO: Yes, it's really a  
14 process question, yes.

15 MR. KATZ: Here's what I would  
16 suggest. I do not think, it doesn't sound  
17 like the external can be resolved in a  
18 heartbeat and it shouldn't hold up the process  
19 for the 83.14.

20 I think all it does is put in sort  
21 of reservation what the Board can say about  
22 the feasibility of estimating doses for

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1 external.

2 And at this point, before the  
3 Board is able to conclude anything, I think it  
4 would just be balance on it.

5 DR. MAURO: Very good. No, I just  
6 wanted to get clarification on that. Thank  
7 you.

8 MR. KATZ: Yes, but so I would not  
9 recommend that the Work Group refrain from  
10 making its recommendation, nor that the Board  
11 refrain from taking action on an 83.14 based  
12 on an outstanding, you know, question with  
13 respect to other doses, feasibility of  
14 reconstructing other doses.

15 DR. MAURO: Okay, thanks for that,  
16 yes.

17 CHAIR BEACH: Thank you, Ted.  
18 This is Josie again. And I do not want to  
19 hold up the 83.14 in any way.

20 I just wanted to make sure, there  
21 is still an SEC issue with the external. We  
22 haven't taken that off the table. And I just

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1 want to be able to move forward and make sure  
2 that the work that the Work Group has set out  
3 to do gets done.

4 And I just -- mine was mostly a  
5 process of how to handle it with Grady and  
6 SC&A on the list of 13 items because we will  
7 have another list with the TBD shortly.

8 MR. FITZGERALD: Yes, Josie, this  
9 is Joe. I think your sense of maybe two tiers  
10 here, the first tier being the remaining ER  
11 issues, which the neutron questions were  
12 probably the most prominent.

13 We had those two central  
14 questions, the internal and then the neutron.

15 And clearly there's actions ongoing, so  
16 completing those actions and just coming to  
17 terms with that would be certainly a priority.

18 Maybe a second priority would be to  
19 again validate for the Work Group the December  
20 '93 date.

21 Certainly there was an audit. We  
22 haven't had a chance to look at the

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1 documentation. It sounds very plausible, but  
2 that would be another item that we haven't had  
3 before.

4 But those would be probably the  
5 only two primary SEC-related issues and that  
6 would be the first tier.

7 And then we have what would be  
8 maybe eight or nine TBD issues which Ron  
9 outlined, which would be the second tier,  
10 which certainly once these issues are  
11 addressed would be available for the Work  
12 Group to disposition.

13 DR. BUCHANAN: Josie, this is Ron.

14 I would suggest, rather than take up time  
15 today on these 13 action items from the  
16 January meeting and for everybody's benefit if  
17 Grady could do a formal reply to those 13  
18 items that are listed there on the action  
19 items.

20 And if some of them are covered by  
21 the recent SEC, then he could note that for  
22 that time period.

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1                   If there's a time period outside  
2 the SEC that this item needs to be addressed,  
3 such as MDAs or something, then that should be  
4 addressed.

5                   If he could provide a one-paper  
6 written formal response to those 13 action  
7 items from the January 2011 meeting to SC&A  
8 and the Work Group, we could evaluate that  
9 then and see where we stand and move forward  
10 on the SEC issues.

11                   Rather than have it just  
12 piecemeal, well, you sent some last year, he  
13 has a few here, it could be all in one paper.  
14 We could evaluate these.

15                   MR. FITZGERALD:       This is Joe  
16 again. Grady, am I right to say, though, that  
17 you kind of moved from trying to disposition  
18 of those issues to preparing the 83.14 and  
19 that, you know, there's still quite a bit of  
20 action on those or --

21                   MR. CALHOUN:    Yes, we did but I'd  
22 be happy to do that though, still. You know,

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1 if there's something that we still need to do  
2 a little bit more work on over here, I'll say  
3 that.

4 But I believe that I can go back  
5 and just respond to everything, like Ron said.

6 It may be a bit redundant but it'll all be in  
7 one package.

8 And I believe that there's  
9 actually some documents that I haven't  
10 forwarded you that are directly in response to  
11 a couple of these 13 issues. So I'd be glad  
12 to do that. I think that's an okay approach.

13 MEMBER MUNN: It certainly would  
14 be helpful for people like me to get all of  
15 the refreshing in one lump. That would be  
16 really helpful if you're willing to do that,  
17 Grady.

18 MR. CALHOUN: Certainly.

19 CHAIR BEACH: Yes, Grady, this is  
20 Josie. I also agree with that. And, Joe,  
21 under your first tier, you talked about  
22 validating the 1993 date. Is that something

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1 that Grady will do for us?

2 MR. FITZGERALD: No, I think that  
3 would be something SC&A would prefer to do. I  
4 mean, you know, clearly we've been waiting for  
5 NIOSH's response.

6 We now have that in the 83.14 and  
7 we understand what the basis of that date is  
8 now.

9 And I think it would be useful to  
10 go back, look at the documentation, maybe also  
11 look at some of the -- you know, some of the  
12 actual monitoring data, you know, sort of the  
13 manifest results and just validate that we're  
14 all on board, and we certainly would concur  
15 with that particular breakpoint time-wise.

16 Of course, the precedent for this  
17 is something that we've addressed elsewhere at  
18 other SEC sites where, you know, a certain  
19 specific turning point was chosen and I think  
20 it's useful to validate that and, you know,  
21 have a final discussion on it.

22 MEMBER ROESSLER: This is Gen. I

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1 need some clarification on that. We have  
2 taken a Work Group vote here on, I assume, a  
3 motion that we're going to present to the  
4 Board with regard to this SEC period.

5 And now you have brought up  
6 validating this '93 date. Are you talking  
7 about the end point date in this SEC period  
8 that we're still looking for validation from  
9 SC&A on?

10 MR. FITZGERALD: Well, I think  
11 this is a question of whether December '93 is,  
12 in fact, the latest date or whether, in fact,  
13 there's any basis for having it later.

14 You know, I don't think we've had  
15 any opportunity to review the audit that was  
16 mentioned and looking at any other available  
17 documentation that would support what the  
18 turning point might have been.

19 I think we're in agreement that  
20 certainly it went through '93. That's almost  
21 to the DOELAP era, so I don't think we're  
22 talking about anything more than a year or

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1 two.

2 But just simply to, for the Work  
3 Group, say, to look at the documentation upon  
4 which that date was based and to convey back  
5 to the Work Group that, you know, we would see  
6 no reason that date wouldn't stand as the  
7 latest date for the 83.14.

8 MEMBER ROESSLER: Okay, thank you.

9 CHAIR BEACH: Okay, any other  
10 questions or comments?

11 MR. KATZ: This is Ted. Joe, just  
12 a suggestion then. Again, I don't know what  
13 time would be required to do this, but if it's  
14 possible to button that up before the Board  
15 meeting, that would be great.

16 I can understand why it might not,  
17 in which case that's okay too. But in case  
18 this is a question then that also arises at  
19 the Board level, it'd be nice if you'd already  
20 completed that homework and could speak to it.

21 MR. FITZGERALD: Yes, my only  
22 misgiving, and I agree with you, that would be

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1 useful, is, you know, a field office audit  
2 report on the conformance of a program in  
3 terms of record keeping with, you know, the  
4 standing orders or regulations, you know,  
5 that's someone's judgment.

6           And it's something that, you know,  
7 in terms of actually looking at the results, I  
8 mean, we're spending a lot of time at some  
9 other sites doing the same thing, going beyond  
10 the programmatic findings and trying to  
11 establish, based on the actual dosimetry  
12 records, that, in fact, something has changed  
13 for the better.

14           I think for Brookhaven it's going  
15 to be a little easier because what we're  
16 talking about is the completeness of a  
17 centralized record database.

18           And, you know, hopefully we can,  
19 you know, validate that rather quickly.  
20 Within five or six days, I don't know about  
21 that. But I think we could certainly do it  
22 rather quickly.

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1 I don't think, Ted, we're saying  
2 that it would be earlier, but certainly  
3 whether or not the corner was turned at that  
4 point in time we'd want to validate.

5 MR. KATZ: Right, right. I  
6 understand, Joe, and I understand your caveat  
7 as well. Thanks.

8 CHAIR BEACH: Okay, thanks, Joe.  
9 Any other Work Group Members, questions,  
10 comments? Hearing none, I'll turn it back  
11 over to you, Ron, if you're ready to go into  
12 the TBD issues.

13 DR. BUCHANAN: Okay, thank you,  
14 Josie. This is Ron Buchanan, SC&A. I did  
15 have one comment, though, before we get off  
16 the action items.

17 Grady, when you do a formal reply  
18 to the 13 action items, if you could indicate,  
19 okay, first of all, is there any plans, you  
20 know, anything that you would present there  
21 that is going to be in a revised TBD?

22 Or is the last one the one dose

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1 reconstructions are going to use for the  
2 foreseeable future?

3 MR. CALHOUN: Yes, I'll add that  
4 in there. Certainly we're going to have to  
5 make some changes to the TBD to, if nothing  
6 else, address the SEC period.

7 So we haven't started revising the  
8 TBD and we usually don't until we get our path  
9 forward on the SEC and get that approved but,  
10 you know, I could always -- I think this is  
11 going to be changed in the TBD.

12 And also there were some things  
13 that were changed in the revision since you  
14 guys last looked at it, but I can't tell you  
15 if they were any of these off the top of my  
16 head.

17 DR. BUCHANAN: Okay. And another  
18 request, it'll save a lot of back and forth  
19 papers if, when you do write this up, if  
20 you're going to incorporate something into the  
21 TBD revision then give how the dose  
22 reconstructor will use it.

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1                   For example, in, say, NTA fading,  
2                   please don't just quote a reference. And  
3                   please say, you know, what number that the  
4                   dose reconstructor will actually see in the  
5                   revised TBD, so we know what number he'll be  
6                   using. That would shorten this exchange of  
7                   information time.

8                   MR. CALHOUN: All right.

9                   DR. BUCHANAN: Okay? Okay, thank  
10                  you. So that's where we stand on the SEC.  
11                  Then SC&A will look at the 1993 date and try  
12                  to verify whether that's correct or if  
13                  there'll be anything later and as soon as  
14                  possible to do that.

15                  And then Grady will give us a  
16                  formal report on the 13 action items from the  
17                  SEC meeting in January 2011.

18                  And then we'll move on to the Site  
19                  Profile issues. Now the Site Profile issues  
20                  were of course drawn up a number of years ago,  
21                  in fact, about three years ago.

22                  And so some of these have been,

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1 well, hinge on the SEC. Some of them hinge on  
2 developments that have occurred.

3 Like I say, the revision to the  
4 TBD came out in April of 2010 but SC&A wasn't  
5 tasked to review it and we didn't really do  
6 too much with it because we were involved in  
7 the SEC issues.

8 And so the 13 Site Profile issues,  
9 what I'll do is cover those and what I think  
10 needs to be done and NIOSH can have their  
11 input here as we go through them to resolve  
12 the Site Profile issues.

13 Finding number 1 was bioassay  
14 monitoring not adequately established. And so  
15 this was the fact that we did not find that  
16 everyone that needed to be monitored  
17 apparently was monitored.

18 Now, of course, the SEC has taken  
19 that up through 1993. And so since the  
20 release of the ER report, we have not had a  
21 chance to completely evaluate that.

22 And so what we need to do is to,

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1 just like Joe was saying, is establish the  
2 fact that after 1993, whether or not it looked  
3 like the program was up to date and necessary  
4 to catch anyone that had internal intake.

5 And this is the same way with  
6 Finding number 2, which is records of bioassay  
7 monitoring not centralized or completely  
8 known.

9 And so, again, the SEC goes up  
10 through 1993 and we need to look to see if  
11 this is true for after 1993, whether the  
12 records were centralized or not.

13 So those are both action items for  
14 SC&A to look at, if the Work Group so tasks us  
15 with these.

16 Now, minimum detectable activity  
17 uncertainty. Now, this is an area I would  
18 like for NIOSH to address. This is the fact  
19 that the TBD gives some MDAs and uncertainties  
20 for certain periods in the TBD and the revised  
21 TBD.

22 But there is a blank in there.

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1 There's a gap between 1994 and 1998, the  
2 period after the SEC. There's information for  
3 MDAs before 1994 and 1999 and after, but  
4 there's a gap right there in the mid 1990s.

5 And so this is an area that we'd  
6 like to know, you know, what can be done for  
7 the dose reconstructor if a person needs a  
8 dose reconstructed during this period and they  
9 need a minimum detectable activity for a  
10 certain isotope?

11 What can be used for that period  
12 in 1994 and 1998 that doesn't appear in the  
13 TBD? Grady, you want to speak to that? Do  
14 you have any new information on that or what  
15 do we want to do about that?

16 MR. CALHOUN: What I can tell you  
17 is that generally speaking we haven't touched  
18 any of the items that were TBD.

19 Like Joe said earlier, we were  
20 kind of stuck in the SEC world and trying to  
21 deal with those 13 issues and then the 83.14  
22 came along.

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1                   So chances are we're going to have  
2 to look at any of these that are open still,  
3 especially after 1993. So I cannot comment on  
4 this and I would bet that my compadres at ORAU  
5 report the same there.

6                   So that's kind of where we're  
7 going to end up standing on any of these  
8 issues that are TBD-related.

9                   DR. BUCHANAN: Okay, so I'll leave  
10 that as an open issue for NIOSH to address.

11                  MR. CALHOUN: Right.

12                  DR. BUCHANAN: Okay, and the same  
13 way on Finding 4, which is radionuclide  
14 characterization not sufficiently known. This  
15 is solubility, particle size, activity  
16 fraction and such.

17                  Table 5-5 lists some of these from  
18 the stack, however, that's not necessarily  
19 representative of what the worker was  
20 breathing.

21                  And some of the interviewees say  
22 that Table 2-2 and 2-3 does not reflect the

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1 isotopes used at some of the facilities.

2 And so what we would like to see,  
3 again after 1993, is an action item there for  
4 NIOSH to try to complete that information in  
5 some form after 1993 for internal intakes,  
6 characterization of radionuclides on Finding  
7 4.

8 MR. CALHOUN: Yes, that's  
9 basically the same response as the previous.  
10 I think we're going to have to just respond to  
11 all of these that are still a concern after  
12 1993.

13 DR. BUCHANAN: Okay. I'll go  
14 through and say which ones I think SC&A has in  
15 their court and which ones I believe that's in  
16 NIOSH's court and just move through these  
17 then.

18 Finding 5 was no internal coworker  
19 dose data available. Now, of course, that was  
20 a point.

21 It was that mainly SC&A found that  
22 there was lack of data to even create a co-

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1 worker model for the earlier periods because  
2 you didn't know if the most exposed was  
3 monitored or whether the records would be  
4 available to create a coworker model.

5 And so what we, this is kind of a  
6 two-prong approach here on number 5, is what  
7 we need to do is to, SC&A needs to look at the  
8 data after 1993 and see if there is sufficient  
9 data to create a coworker model.

10 And then I'd like to ask a  
11 question of Grady: do you have any plans? Do  
12 you have a need? What's your plans on  
13 internal coworker model?

14 MR. CALHOUN: Right now, we do not  
15 plan on making a coworker model for post-1993.  
16 Same goes with external.

17 DR. BUCHANAN: Okay, I'm making a  
18 note here.

19 MR. KATZ: Can I interject then,  
20 Ron, a question related to the Work Group?  
21 I'm not sure whether it makes sense to task  
22 SC&A with this before you know what NIOSH's

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1 plan is as to whether they determine that they  
2 need a coworker model. So this is a question  
3 for the Work Group.

4 DR. BUCHANAN: Yes.

5 CHAIR BEACH: Yes, this is Josie.

6 I agree that that maybe should be left open  
7 and then maybe we can get something formal  
8 from NIOSH, unless you know right now, Grady,  
9 that you are not going to do a coworker model  
10 at all.

11 MR. CALHOUN: Since it's in the  
12 matrix here, I'd rather just respond to them  
13 all like that but I'm pretty sure that's --

14 CHAIR BEACH: Okay.

15 DR. BUCHANAN: Okay, so SC&A will  
16 not spend any resources looking at that and  
17 let NIOSH reply in their response that they do  
18 not plan to have one. And then the Work Group  
19 can decide if that's acceptable or not.

20 MEMBER MUNN: Yes, this is Wanda.

21 I think --

22 DR. MAURO: This is John. We're

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1 in a bit of a dilemma. I know, Josie, that  
2 you'd very much like to hear from SC&A  
3 regarding this date of 1993 as best we can,  
4 that that's a good place to stop.

5 Clearly, though, it's going to be  
6 difficult for us to make a statement on our  
7 sensibility regarding that date, if there are  
8 still very much open issues regarding the need  
9 for a coworker model or not post-1993.

10 You see where I'm headed with  
11 this. Without really addressing that to some  
12 degree, it puts us in a difficult position to  
13 make a statement in support of, or not, of the  
14 1993 date.

15 MR. FITZGERALD: Well, with all  
16 due respect, you know, we're going through  
17 this same protocol issue, process issue with  
18 Los Alamos and in some of the other sites  
19 where you have a breakpoint date-wise.

20 A judgment's been made that there  
21 was a turning point. And I don't think the  
22 initial SEC has foreclosed trying to address

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1 these issues, you know, for a later time  
2 period.

3 And certainly Ted or somebody can  
4 jump in, but process-wise I think one can  
5 address the initial SEC period and still have  
6 open issues in this later period.

7 MEMBER MUNN: Well, that's  
8 probably true but, this is Wanda, it seems to  
9 me Ted's point was we have all of these items  
10 which, if I read the current status literally,  
11 all require NIOSH response before it's  
12 reasonable to be describing a task for SC&A.

13 It just seems to me we have to let  
14 that next step take place. NIOSH has to  
15 respond to what we have here before we go on.

16 CHAIR BEACH: Wanda, this is  
17 Josie. I disagree somewhat because I believe  
18 SC&A, based on the 83.14, the new SEC, they  
19 need to go back and determine if these  
20 findings are, indeed, still findings. I mean,  
21 it's SC&A's report to begin with.

22 MR. FITZGERALD: And the context

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1 is post-'93 for a lot of them. I mean, I  
2 think the issue is we're not going to spend a  
3 lot of research time establishing issues  
4 before '93, obviously.

5 But as far as the relevance beyond  
6 '93, and whether these are still legitimate  
7 questions, I think that's what we're talking  
8 about.

9 And, you know, some of these have  
10 an SEC context because they were actions from  
11 the January meeting.

12 And some of them are clearly TBD  
13 questions, which obviously none of us have  
14 addressed at the Work Group level. So these  
15 are essentially loose ends that we're now  
16 getting to.

17 But separating the two, you know,  
18 we did have remaining SEC questions that the  
19 Work Group and NIOSH and SC&A were working on  
20 that are quite separate from this 83.14 per  
21 se, so they still are on the table.

22 MEMBER MUNN: Yes, but when you

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1 say "they," was there more than one, two --  
2 just looking at the comments that you provided  
3 on the update of the issues this month there  
4 are only, what, three that I see that you've  
5 indicated were pertinent -- no, four, yes.

6 MR. FITZGERALD: Well, yes, Wanda  
7 --

8 MEMBER MUNN: All of the others  
9 essentially are --

10 MR. FITZGERALD: Yes, there were  
11 two central SEC questions that we brought  
12 before the Work Group and the Work Group  
13 supported, one of which was the availability  
14 and adequacy and completeness of internal  
15 dosimetry records.

16 MEMBER MUNN: Right.

17 MR. FITZGERALD: That was one big  
18 issue. And the other issue was some  
19 discrepancy and questions surrounding neutron  
20 dosimetry.

21 MEMBER MUNN: But as I say,  
22 neutrons --

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1 MR. FITZGERALD: Those are the two  
2 ER questions that we have brought before the  
3 Work Group.

4 And I think NIOSH has gone a long  
5 ways to satisfying, if not most of the way,  
6 satisfying our concerns with the completeness  
7 of bioassay records up to the early '90s.  
8 Clearly there's been a closure achieved, an  
9 agreement.

10 And what's left is what would  
11 normally just be simply a validation since we  
12 haven't had that final piece of information.  
13 But we don't have any disagreement with the  
14 substance of what NIOSH has brought forward.

15 However, we do still have the  
16 neutron questions, which were sort of batted  
17 around in the January meeting of last year,  
18 from which there were some actions and follow-  
19 up.

20 And what we're talking about is  
21 completing that follow-up so that there's no  
22 remaining questions on that.

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1                   As I said when I started the  
2 conversation, I felt those were trending  
3 toward a Site Profile context because these  
4 are very familiar issues. NTA fading, angular  
5 dependence, we've addressed this almost at  
6 every single SEC site.

7                   So there certainly is a pretty  
8 good record of how one can go about addressing  
9 those kinds of issues so they're not dose  
10 reconstruction questions, feasibility  
11 questions.

12                   So that's kind of where things  
13 were left and I think all we're talking about  
14 is, you know, can we tie those up and complete  
15 what we started last January?

16                   And then secondary to that,  
17 certainly the Work Group was given some Site  
18 Profile questions back when the original Site  
19 Profile was done, but we never got to those  
20 because of the SEC evaluation process.

21                   So, you know, if you can look at  
22 it that way, those Site Profile questions,

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1 whether it's, you know, a coworker model or  
2 what have you, weren't judged by SC&A to have  
3 a strong SEC context.

4 They were judged to be Site  
5 Profile in nature and ones that we felt NIOSH  
6 could address outside of the SEC process.

7 So I think we made that  
8 distinction from the get go, so that's still  
9 the distinction I think we would bring to the  
10 table.

11 MEMBER MUNN: I understand that,  
12 Joe. Certainly I understand the issue of  
13 overarching issues like AP geometry.

14 But I was trying to simplify  
15 things by making a direct point that the  
16 responses that we have from you on the  
17 document that was prepared this month very  
18 clearly defined, if I am reading your  
19 statement correctly, they defined that four of  
20 these you consider still pertinent as of 1993  
21 and --

22 CHAIR BEACH: Actually I think,

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1 Wanda, I think there's actually six.

2 MEMBER MUNN: Well, I did not, my  
3 count could certainly be off. I'm just  
4 looking at the ones that specifically say  
5 after 1993.

6 I'm just, the point I'm trying to  
7 make here is a very simple one. Don't we  
8 already have the information about which ones  
9 need to be pursued by SC&A in their response?

10 And if the answer is no and the  
11 response is not adequate to identify exactly  
12 what we want to do, then by all means I'm  
13 sorry I interrupted. Go back to, I suppose we  
14 were talking about Finding 5 at the time I --

15 CHAIR BEACH: And, Wanda, I think  
16 you make some good points. I think what we  
17 need to do here is we'd never tasked SC&A to  
18 actually go through and review the current TBD  
19 and these findings, so --

20 MEMBER MUNN: I understand that.

21 CHAIR BEACH: Okay.

22 MEMBER MUNN: But it seems to me

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1 that their responses are, we're going over  
2 their responses one by one and it seemed to me  
3 that they were self-explanatory, but  
4 apparently not. I withdraw my question,  
5 sorry. Go ahead.

6 MR. KATZ: So, Josie, this is Ted.

7 CHAIR BEACH: Yes.

8 MR. KATZ: For clarity, to  
9 reiterate, for Finding 5, all I was saying is  
10 that since DCAS hasn't addressed yet whether  
11 they would need a coworker model, it seems  
12 like the Work Group will want to see what  
13 response DCAS has to that issue as to whether  
14 one's needed before it tasks SC&A to evaluate  
15 the adequacy of data for creating a coworker  
16 model, because if the question's a little bit  
17 different, if DCAS finds that there's no need  
18 for a coworker model.

19 CHAIR BEACH: Right. Ted, I do  
20 agree with you and I did put that one under  
21 NIOSH's actions.

22 MR. KATZ: Okay, thanks.

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1 CHAIR BEACH: So, thank you. Ron,  
2 are you ready to move on to 6?

3 DR. BUCHANAN: Okay. Yes, so just  
4 to summarize on Finding 5, we will not do any  
5 action on that and we will let NIOSH justify  
6 the need or plans for coworker model or not.

7 So Finding 6, now this is a NIOSH  
8 action item. Now, I wrote this matrix update  
9 in January and since I've went back and read  
10 through some of the revision and so most all  
11 of these are still in NIOSH's action items.

12 And so number 6 was, as far as a  
13 Site Profile issue, is that the NTA film  
14 response has not been covered in the TBD and  
15 so that is actually a NIOSH action item.

16 Even though in my update I said we  
17 need to determine a quick look at it, I can  
18 tell that it's not been addressed. So I  
19 recommend that Finding 6 still be a NIOSH  
20 action item.

21 MR. CALHOUN: That's okay with me.

22 DR. BUCHANAN: And the same way

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1 with 7 and 8. These neutron responses, we  
2 need to have an official response to them and  
3 what is going to be in the Revision 2 of the  
4 TBD to address these.

5 And number 9 is also that way.  
6 These are all neutron issues and  
7 characterizing the neutron field and the  
8 dosimetry response to those fields and the  
9 problems, especially with neutron dosimetry  
10 reading in '85 to 1995.

11 That brings us to Finding 10 on  
12 external dose model. And, now, NIOSH said  
13 that they will respond and justify not needing  
14 a external coworker model for external dose.  
15 Is that correct, Grady?

16 MR. CALHOUN: Yes.

17 DR. BUCHANAN: Okay. Now, number  
18 11 is incidents and accidents, unanticipated  
19 events. This issue is still prevalent and I  
20 would say that we'd like to see a formal  
21 response to the Finding 11.

22 Yes, and this is kind of a related

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1 one is Finding 12, which is a potential  
2 environmental exposure from the igloo area.

3 Just a little background on that,  
4 the way I understand this, this was a shielded  
5 area in a storage facility that they kept  
6 their high sources at. They had a fence  
7 around it.

8 And the problem SC&A has is if you  
9 had people unmonitored that passed this area  
10 on a regular basis, they could pick up a  
11 higher dose because the dose was greater at  
12 the fence line than it was at the perimeter.

13 And so if you use TLDs or badges  
14 or instruments located at the perimeter of the  
15 site for environmental dose, that wouldn't be  
16 reflective of this igloo storage area and that  
17 would be an action item for NIOSH on Finding  
18 12.

19 And Finding 13 is a SC&A action  
20 item, because the Section 3 on X-ray medical  
21 exposures in the revised TBD was fairly  
22 extensive.

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1                   And we did not put a high priority  
2                   on going back and looking over that and  
3                   comparing it to our earlier findings and  
4                   objections from the first TBD.

5                   And so that's something that we  
6                   need to look at and make a judgment call on  
7                   whether that set aside the prior finding. And  
8                   that's the 13 Site Profile findings.

9                   CHAIR BEACH:     Okay, so just to  
10                  recap, Ron. This is Josie. I have for SC&A  
11                  1, 2 and 13. And for NIOSH, I won't go  
12                  through the list, but all others.

13                  DR. BUCHANAN: That's correct.

14                  CHAIR BEACH:     Okay. Ted, could  
15                  you help -- well, any comments or, Grady,  
16                  anything there?

17                  MR. CALHOUN:     Well, basically I  
18                  think that we're going to start out with the  
19                  13 -- it's odd that we have 13 on both sides,  
20                  isn't it?

21                  I'm going to start out with the 13  
22                  SEC issues that we've at least got partial

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1 responses to and I'll give a response as far  
2 as where we stand and I may be able to provide  
3 a couple more documents to you.

4 The other 13 we'll have to get  
5 into our project plan and schedule out dates  
6 as to when those are going to be addressed.

7 CHAIR BEACH: Okay, so we'll hear  
8 from you on the time frame because you knew I  
9 was going to ask you that.

10 MR. CALHOUN: Sure.

11 CHAIR BEACH: Thank you. Ted,  
12 help me out here. Do we need to do any formal  
13 tasking for SC&A to review the current TBD and  
14 these three items?

15 MR. KATZ: No, I think we've done  
16 it, actually, in the course of this meeting.

17 CHAIR BEACH: Okay, thank you.

18 DR. MAURO: Josie, this is John.  
19 I have one question and it might be because  
20 I'm not exactly following.

21 But I heard a statement made that  
22 post-1993 NIOSH feels that it does not need an

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1 external coworker model.

2 In other words, the argument being  
3 that after '93 there's sufficient data to  
4 reconstruct everyone's external doses because  
5 they have a complete record.

6 Now, I also heard during this  
7 conversation that you would like SC&A to make  
8 a statement regarding the degree to which we  
9 agree that the 1993 is a pretty good date and  
10 that, you know, that there are not, you know,  
11 what the, and/or what the SEC issues might be  
12 that still remain for the post-1993 date.

13 Now, the thing that struck me is  
14 that I'm not sure this is an action item or  
15 not.

16 Is it an action item for SC&A to  
17 confirm that there's no need for an external  
18 dosimetry model post-1993 because there is a  
19 complete external dosimetry record?

20 Is that an action item and, Joe,  
21 has that already been resolved to the  
22 satisfaction of SC&A?

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1 MR. FITZGERALD: We have not,  
2 frankly, raised the external dosimetry issue  
3 per se. We did, in the TBD, question why  
4 there was no coworker model and I think we're  
5 going to await NIOSH's response. We've heard  
6 some of it already.

7 And, you know, I don't think,  
8 again, we judged that to be a SEC question for  
9 the Work Group.

10 So, again, we'll look at what the  
11 response is, look at the completeness, but we  
12 judged the completeness to be adequate at the  
13 time.

14 But there was a question of how  
15 one could manage without a coworker model. We  
16 want to validate that for the period '93  
17 forward. But, again, certainly NIOSH can  
18 provide its assessment and we can look at  
19 that.

20 DR. MAURO: Okay, because I just  
21 heard NIOSH's position was they do not need  
22 one. And I guess there's enough information

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1 on the record right now that we can look at  
2 that?

3 See, what I'm listening to is  
4 where the action items lie for SC&A and this  
5 pivotal date of 1993.

6 You know, what is it that SC&A  
7 needs to do between now and the meeting in  
8 order to be able to say, take a position on  
9 where we believe all issues have been resolved  
10 with regard to the SEC date and where the  
11 issues have not been resolved with regard to  
12 the SEC date of 1993?

13 MR. FITZGERALD: Well, first, I  
14 don't think there's an external issue that we  
15 have to grapple with.

16 We're quite ready to wait for  
17 Grady to come back with his answer and we've  
18 heard his answer informally on the adequacy,  
19 but we judge the adequacy to be there.

20 We just raised a question in the  
21 Site Profile review as to whether or not they  
22 felt the adequacy was complete enough that a

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1 coworker model would not be necessary. I  
2 don't think that's a key issue for the meeting  
3 that's coming up.

4 Now, respecting the '93 date on  
5 the internal side, as I said earlier, there's  
6 a lot of precedents, and I think of Los Alamos  
7 because we're spending a lot of time just  
8 trying to balance 1975 as the natural  
9 breakpoint for that SEC.

10 There's a lot of precedent for  
11 looking at whether or not the date is, in  
12 fact, the appropriate breakpoint without  
13 holding up an earlier SEC.

14 So I don't see that as a deal  
15 breaker as far as going forward from a  
16 technical standpoint. I think it'd be useful  
17 to go beyond the one audit milestone that  
18 Grady mentioned.

19 And I think what he was saying was  
20 that from an empirical standpoint, from his  
21 dose reconstructions, he did not see anything  
22 that was an aberration beyond 1989.

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1                   So he was looking for a breakpoint  
2 beyond '89 that would be a natural place to  
3 highlight a programmatic turnaround in terms  
4 of record keeping, and this audit was the most  
5 obvious one since they did an evaluation of  
6 the program.

7                   We, I think, for the Work Group  
8 just need to look at that and make sure that  
9 that's not the latest one.

10                  In other words, that, in fact, the  
11 program did, in fact, turn around in '93 and  
12 that there wasn't something that would keep it  
13 prolonged beyond '93.

14                  But that's something we can do  
15 separate from this decision point the Board's  
16 up to in 83.14, so I don't see this as posing  
17 a problem for the 83.14 determination.

18                  DR. MAURO: Okay.

19                  MR. FITZGERALD: Was that clear?

20                  DR. MAURO: I think so. This lack  
21 of a coworker model post-1993 for some reason,  
22 and the fact that NIOSH believes there's no

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1 need for one, is sort of sticking with me and  
2 I'm having a hard time shaking it.

3 I guess it comes down to, Grady,  
4 are you going to be putting something out  
5 explaining why you feel there's no need for an  
6 external coworker model post-1993?

7 MR. CALHOUN: Yes, I'll have to do  
8 that, and internal.

9 DR. MAURO: Okay, and there really  
10 is no action for SC&A until we see that.

11 MR. CALHOUN: That's right.

12 DR. MAURO: Okay, I just wanted to  
13 make sure I was clear on that. Okay.

14 MR. FITZGERALD: Yes, I think  
15 we're pretty clear.

16 DR. MAURO: Thank you.

17 CHAIR BEACH: Okay. That is the  
18 end of our agenda. Path forward, I think  
19 we've covered that unless somebody has any  
20 comments or questions.

21 I would say we need a time line,  
22 but Grady already said he would get that to

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1 us.

2 Does anybody need me to go over  
3 the action items or are we all clear, Grady  
4 and Ron?

5 MEMBER ANDERSON: I think we got  
6 it.

7 CHAIR BEACH: Okay.

8 MEMBER ANDERSON: Just send it  
9 out.

10 CHAIR BEACH: Okay. Ted.

11 MR. KATZ: I'm sorry, I was on  
12 mute. This is Ted. So, I'm good. I mean,  
13 it's good to get a little email from the  
14 parties just to reaffirm what their action  
15 items are. But otherwise, I think this is  
16 good.

17 CHAIR BEACH: Okay, so we'll look  
18 for emails from both the SC&A side and NIOSH's  
19 side. And we'll look forward to a future  
20 meeting.

21 That's all I have. I'm ready to  
22 adjourn the meeting if everybody else is in

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1 agreement.

2 MEMBER MUNN: Do we have any clue  
3 how long it's going to be before we need to  
4 address what NIOSH and SC&A are going to get  
5 to us, what their time line is?

6 CHAIR BEACH: I think that's a  
7 question for Grady and he --

8 MR. CALHOUN: Well, what I'm going  
9 to do is, knowing that there's not going to be  
10 a whole lot that gets accomplished between now  
11 and the Board meeting, is I'm going to try to  
12 get out responses to, or at least where we  
13 stand on the 13 SEC items.

14 Like I said, a lot of that's going  
15 to be a rehash of where we were last time this  
16 went out.

17 But I believe I actually have a  
18 couple other documents I can send out  
19 regarding neutrons. Actually, some of those  
20 might bleed over into the TBD issues as well.

21 I'm not going to -- let's see,  
22 today's Tuesday, Wednesday, Thursday. I'm

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1 probably not going to be able to get that out  
2 until Friday. So you're not going to have a  
3 whole lot of time to look at that prior to the  
4 Board meeting.

5 But I kind of agree with what Joe  
6 was saying there, that things like this  
7 usually don't preclude approval of the SEC.  
8 There's just a time period to review when the  
9 end date is, so that's what I plan on doing.

10 And then the next part of my task,  
11 as I see it, is to get the other items for the  
12 13 TBD issues into our project plan, given all  
13 the other things that our group works on, and  
14 get those resource loaded and put into a  
15 schedule.

16 MEMBER MUNN: No, I wasn't asking  
17 whether, how much you were going to get done  
18 before next week, Grady.

19 What I was really asking was,  
20 given the scope of work, which is better  
21 defined now than it was when we came in to  
22 this meeting, whether both SC&A and NIOSH

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1 could give us a feel as to how long it was  
2 going to take to accomplish those tasks they  
3 now know are ahead of them so that we could be  
4 looking how far out in our calendar we need to  
5 be looking for the next Work Group meeting.

6 That was the intent of my  
7 question. Are we looking at being able to  
8 meet in late April or early May or are we  
9 talking perhaps further out than that?

10 MR. CALHOUN: My gut reaction is  
11 further out than that, just because the same  
12 people that are working on Brookhaven are  
13 working on other TBDs and whatnot, you know,  
14 Savannah River, Mound, things like that.

15 So I'd have to actually look at  
16 the resources and schedule this before I can  
17 give you a date on the TBD issues.

18 MEMBER MUNN: Okay. I was just  
19 wondering whether May or June.

20 MR. CALHOUN: The action is  
21 further out than that, so.

22 MEMBER MUNN: So we're looking at

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1 another six months, you think. Okay, thanks.

2 CHAIR BEACH: Okay, thank you for  
3 clarifying that, Wanda. Anything else? All  
4 right. Thank you, everyone, for your work  
5 this morning and I will close the meeting.

6 (Whereupon, the meeting in the  
7 above-entitled matter was concluded at 12:30  
8 p.m.)

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