

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

+ + + + +

ADVISORY BOARD ON RADIATION AND  
WORKER HEALTH

+ + + + +

SAVANNAH RIVER SITE (SRS) WORK GROUP

+ + + + +

FRIDAY  
FEBRUARY 9, 2018

+ + + + +

The Work Group convened telephonically at 10:30 a.m., Eastern Time, Bradley P. Clawson, Chair, presiding.

PRESENT:

BRADLEY P. CLAWSON, Chair  
JAMES E. LOCKEY, Member  
PHILLIP SCHOFIELD, Member

ALSO PRESENT:

TED KATZ, Designated Federal Official  
NANCY ADAMS, NIOSH Contractor  
BOB BARTON, SC&A  
RON BUCHANAN, SC&A  
JOSHUA FESTER  
JOE FITZGERALD, SC&A  
JENNY LIN, HHS  
MICHAEL MAHATHY, ORAU Team  
JIM NETON, DCAS  
JOHN STIVER, SC&A  
TIM TAULBEE, DCAS

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

2 (10:32 a.m.)

3 **Welcome and Roll Call**

4 MR. KATZ: Welcome, everybody. This  
5 is the Advisory Board on Radiation and Worker  
6 Health. It's the Savannah River Site Work Group.

7 And this teleconference is primarily  
8 an update and to get some direction about future  
9 work. Which we had planned to hold at the last  
10 Board meeting, but we're going to hold it soon,  
11 and this is it.

12 The agenda for today and the documents  
13 being presented today are all posted on the  
14 NIOSH. At the NIOSH website for this program.

15 A portion of the website blurb,  
16 schedule the meeting, today's date. You go there  
17 and you can pull up the background documents.

18 You will not pull up the presentation  
19 but you'll be able to listen to it. And most of  
20 the background documents at least should be  
21 there. And what isn't there yet, which I think  
22 the documents for NIOSH, will eventually show up

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1       there.

2                   And this presentation that Tim is  
3       giving will also eventually show up there but  
4       it's not there right now. It hasn't been cleared  
5       I don't think.

6                   So, and the other thing just to note  
7       up front, anyone who is not participating or  
8       speaking please mute your phones. And you press  
9       \*6 to mute your phone. Please \*6 again to take  
10      your phone off of mute.

11                  Okay, let's move to roll call. We're  
12      speaking about a specific site so please read the  
13      conflict of interest.

14                  (Roll call.)

15                  MR. KATZ: Okay, without further ado,  
16      Brad, it's your meeting.

17                  CHAIR CLAWSON: Well great. If I get  
18      off mute this will probably work even better.

19                  (Laughter.)

20                  CHAIR CLAWSON: Lockey, I'm glad that  
21      you came as fashionably late as always, but you  
22      know. It's great to have everybody here.

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1                   So, I'm going to start this off  
2 because I'm going to be right honest, we just  
3 received all of this from Tim yesterday and I  
4 really haven't had a chance to be able to digest  
5 it yet.

6                   But we'll turn it over to Tim and let  
7 him tell us what he's got. And unless you have  
8 anything you need to say, Joe?

9                   MR. FITZGERALD: No. Actually, I  
10 think we're going to be listening carefully at  
11 this point. Thanks.

12                  CHAIR CLAWSON: Okay, sounds good.  
13 So, Tim we'll turn it over to you.

14 **Update on SRS safe work permits record**

15                  DR. TAULBEE: Okay, thanks, Brad.  
16 This is Tim Taulbee. And really, this  
17 presentation has a lot of slides but I'm not sure  
18 we're going to need to go through all of them, it  
19 depends upon what information you all want.

20                  And so kind of the general thought  
21 here is I wanted to give you guys an update of  
22 what we learned from the Savannah River Site. As

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1 I indicated during the December Board meeting,  
2 that we had recently come across a finding made  
3 from DOE OpenNet's Human Radiation Experiments  
4 section.

5 And you'll see that here, the finding  
6 made, that indicated Special Work Permits, SWP  
7 log sheets from 1952 through 1976 and 1979 to  
8 1987 and then 1992.

9 And this was 383 cubic feet of  
10 records. What this came out to was about 852  
11 boxes of records.

12 So when I found this, these were  
13 identified as being at the Atlanta Federal  
14 Records Center and were of interest in the 1970's  
15 and '80's, which is the time period that we were  
16 looking at.

17 So we, following the Board meeting we  
18 got with the Site and asked them about these  
19 records. To see what they could do.

20 So, December '18 we contacted the  
21 Site, we sent them the weblink with information  
22 which indicated 852 boxes of Special Work

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1 Permits.

2 The end of the month, shortly after  
3 the Christmas break, SRS reported that  
4 approximately 800 of the boxes have been  
5 identified and do contain SWPs, RWPs and/or  
6 DPSOPs. I'm not sure why they included DPSOPs  
7 with that, but they did.

8 They also indicated that the QHCs of  
9 record began in 1991 and was used until 1997.  
10 And so what we did with this, we requested a  
11 breakdown of the boxes that contained the SWPs,  
12 the RWPs and the DPSOPs.

13 So that we could see which one in  
14 which year. Because the previous time period,  
15 '52 to '76, is a very large time period. And  
16 then '79 to '87 is another almost decade. And  
17 then 1992.

18 We sent a follow-up request the  
19 following week, first week of January. And then  
20 a second follow-up.

21 Because the Site did actually ask us  
22 some questions of what we were looking for, which

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1 was based on the boxes. And what we were looking  
2 for was the year and area, primarily.

3 On the 16th of January, the Site came  
4 back to us and said that this was a large request  
5 and they were evaluating their resources in order  
6 to provide the information.

7 We offered to develop the box index as  
8 far as the areas and the years, through EDWS, if  
9 the Site can provide a box number and listing for  
10 the SWPs and RWPs.

11 Let's see, a couple weeks ago, January  
12 25th, they indicated they were working on  
13 generating a box listing. And then we kept asking  
14 them, about every other day, when are we going to  
15 get this box list and so we can get this  
16 information in order to present to you.

17 As of last week, which would be last  
18 Friday, SRS indicated they didn't know when they  
19 can provide the box list and they'll get back to  
20 us this week. Well, on the 6th, just Tuesday of  
21 this week, they provided the box list and they  
22 indicated there were 113 boxes between 1972 and

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1 1998.

2 On, let's see, on Wednesday of this  
3 week we reviewed that box list, February when  
4 they released this. They just put it on the T  
5 drive. Savannah River, they didn't actually have  
6 an ADC review when they sent it to us.

7 Mike Mahathy was able to jump on to  
8 their network and look up the date in EDWS and  
9 found that most of the boxes were the 1990's.

10 Well, as of last week, when we weren't  
11 hearing anything back from the Site, I asked Mike  
12 to go into EDWS and search for SWPs and RWPs and  
13 he found 127 boxes of records between 1972 and  
14 1998, with the following breakdown.

15 There is a DDREF to them, currently,  
16 in the 1972 to 1989 time period that you can see  
17 in the boxes, from the other years. So 1990  
18 through 1998. It looks like about an average of  
19 around 12 to 15 boxes per year type of scenario.

20 So this is all new information. And,  
21 Brad, I apologize for the lateness in getting  
22 this information to you, but as you can see by

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1 these dates, we've been working on this for a  
2 month and a half trying to get information out of  
3 the Site. They just came through, really, on  
4 Wednesday of this week. Any information, Tuesday  
5 of this week, any information that we had.

6 So the bulk of this information was  
7 actually generated before we got this information  
8 from the Site. We are anticipating to get many  
9 more boxes between '72 and '89.

10 Now, we've already found more boxes of  
11 SWPs and RWPs than SRS in the initial review.  
12 And we believe we may be able to locate more in  
13 the 1980's.

14 We began to do some search, Mike did,  
15 on Wednesday and there are others out there. But  
16 we haven't found kind of the treasure trove yet.

17 We contacted SRS and provided some  
18 additional boxes that ORAU had located and the  
19 Site wasn't sure why they didn't show up in their  
20 search. And they preferred for us to send  
21 additional keywords.

22 So I'm not sure why the initial

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1 records inventory, from '52 to '76, didn't  
2 identify any boxes from '75 and '76 at all. The  
3 Sites when they did their search.

4 In addition, the records inventory  
5 missed 1979 through 1987. In which from the Site  
6 only provided boxes of 1981 and 1986. So,  
7 something really seems amiss here. It doesn't  
8 sound quite right.

9 We suspect the Site only searched  
10 EDWS. We do not feel that they looked at the  
11 index, the box numbers of all 800 boxes to get  
12 those dates.

13 So depending upon this meeting, we can  
14 investigate more or go with the current listing  
15 that we have. There is things we can do with the  
16 current listing from the 1990's, but we can  
17 investigate this more. Depending upon whether  
18 you all want us to or not.

19 And again, I apologize for the  
20 lateness, but as you see from the dates, we've  
21 been frantically working on this for the past,  
22 well, definitely the last couple of weeks kind of

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1 frantically. In the previous month we've been in  
2 constant contact with the Site trying to get this  
3 information.

4 So, are there any questions at this  
5 point?

6 CHAIR CLAWSON: Yes. So, Tim, where  
7 are these boxes supposed to be?

8 DR. TAULBEE: The boxes are physically  
9 onsite. Well, actually not all of them are. Most  
10 of the boxes were pulled back from the federal  
11 records center in Atlanta.

12 The bulk of them, from our  
13 understanding, are physically on the Site.  
14 However, there are some that are offsite in  
15 Augusta. At a holding facility that they have  
16 there. That's where they're physically located.  
17 Does that make sense?

18 CHAIR CLAWSON: Yes. I'm going to sum  
19 this up. So, we haven't laid hands to even know  
20 what's even in these boxes still?

21 We haven't been able to, I know what  
22 the paperwork says, but you know as well as I do,

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1 a lot of places we've gone and they've said one  
2 thing and we don't have anything like that in  
3 there.

4 I was just, I thought for some reason  
5 you guys were able to physically put hands on a  
6 few of these boxes, make sure what we were looking  
7 for. That's --

8 DR. TAULBEE: No, we were looking for  
9 a listing of boxes from the Site that would have  
10 all of that information in it that we could  
11 provide to you. The Site did indicate that, did  
12 indicate, that they know where these boxes are  
13 and they do have them.

14 So, I mean, we could physically go and  
15 inventory them ourselves, that is a possibility.  
16 And it might clear up some of these eight year  
17 discrepancies that we're seeing.

18 CHAIR CLAWSON: Or, we may end up with  
19 nothing again. So, okay, go ahead.

20 DR. TAULBEE: Actually, I'm not sure  
21 why you said we'd end up with nothing again, I  
22 mean --

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1 CHAIR CLAWSON: Well, okay, let's say  
2 for example, we went up to Hanford and we pulled  
3 197 boxes and we physically went through every  
4 one of those boxes because they were saying that  
5 they had these certain things in them, we did end  
6 up with stuff. We ended up with about 18 pages  
7 of other stuff that we may have needed.

8 What I'm saying is, a lot of these  
9 data searches end up kind of a little bit shy.  
10 But we'll look at this as we go through and figure  
11 out where we're at.

12 I just, you know as well as I do that  
13 we have pulled an awful lot of boxes with no  
14 results.

15 DR. TAULBEE: Right.

16 CHAIR CLAWSON: -- don't tell till we  
17 get there.

18 DR. TAULBEE: I will say that I do  
19 know that a large, or a number of these boxes do  
20 contain the SWPs. In past record searches, we  
21 have pulled some boxes that were in that listing,  
22 from the best we could tell. And we did inventory

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1 some of them.

2 Now, they were all SWPs in the 1960's  
3 and some in the 1950's, because the initial part  
4 of this SEC we, was the time period we were  
5 looking. We never really looked in the late  
6 1970's.

7 So, I do know that some of the boxes  
8 that say SWP do contain SWPs. Now, do all 852,  
9 that I don't know.

10 So, I do understand now what you're  
11 saying about the Hanford data capture. That very  
12 well could be for many --

13 CHAIR CLAWSON: Well, it's not just  
14 Hanford it's everywhere that we have gone. But  
15 we'll talk about it and go from there. So, go  
16 ahead.

17 DR. TAULBEE: Okay.

18 MR. MAHATHY: Dr. Clawson, this is  
19 Mike. I just want to say, a lot of these boxes  
20 are all EDWS and we've already looked at some of  
21 them. So, we know what's in them.

22 DR. TAULBEE: Okay, thanks, Mike.

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1 CHAIR CLAWSON: So you've already got  
2 them and we never got this information? Is that  
3 what you're telling me?

4 DR. TAULBEE: Well, that is true,  
5 Brad, because at the time period, when we were  
6 looking for, say thorium or for neutron exposures  
7 early on in this SEC evaluation, we didn't  
8 capture the whole boxes, we just tagged, yes,  
9 there is SWPs in here.

10 The issue with the subcontractors has  
11 come up in the last few years. It's not something  
12 that was a major issue back when we started this  
13 whole SEC evaluation.

14 CHAIR CLAWSON: Okay.

15 **SRS Response Regarding Facility Evaluation Board**  
16 **Permits**

17 DR. TAULBEE: So that's the one bit of  
18 news that I wanted to communicate to the Work  
19 Group.

20 The second news was the issue, the  
21 open issue that we're trying to resolve. And to  
22 remind everyone, Issue 1, this was from SC&A,  
23 their concern was, workers who perform work in

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1 SRS under RWP require job-specific bioassays,  
2 have substantial and incomplete monitoring data,  
3 intakes may have occurred and missed for  
4 transient subcontractors. And may have been  
5 missed for transient subcontractors.

6 NIOSH was to evaluate to determine if  
7 a subset of the SRS workforce operation,  
8 Westinghouse construction, subcontractor  
9 construction, whether there was a group that  
10 predominately drops specific bioassay.

11 And our potential needs were the  
12 Facility Evaluation Board reports. The FEB  
13 reports.

14 And at the time of the work, of the  
15 Advisory Board meeting in December, SRS was  
16 working on locating reports. We made the request  
17 in September of 2017 and there was initial  
18 funding issues that needed to be resolved in  
19 October. So they haven't finished this yet.

20 SRS has finished the search and, they  
21 conducted the search for the request for the FEB  
22 reports, they did indicate five indexes were

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1 located in EDWS.

2 EDWS records indicate that the records  
3 are beyond the records retention life and have  
4 therefore been destroyed. Keep in mind the  
5 audits are not personally identified, personal  
6 exposure information, as SWPs are.

7 The records retention life for SWPs is  
8 75 years whereas audit reports are typically ten  
9 years or less. So the reports that, these audit  
10 reports from the Facility Evaluation Board, as I  
11 indicated, they found them in a EDWS but the only  
12 thing that's in EDWS now is that the records have  
13 been destroyed. So those are not available.

14 So all of the issues where we said we  
15 would look at these Board reports that we  
16 requested and we would provide follow-up to this,  
17 we're not able to do that.

18 Now, there are options for us to  
19 evaluate this still. The raw records are  
20 available. From the SWPs and RWPs.

21 So we could use those to determine if  
22 there is a sub-population who was primarily

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1 monitored doing job-specific bioassay. For  
2 example, identify operations, workers,  
3 construction workers and subcontractors.

4 Then we can review the bioassay, I can  
5 determine if the samples were missing, whether  
6 they're routine, whether they're special for  
7 cause or other job-specific. The records are  
8 available, as we indicated above, for 1990  
9 through 1998.

10 So, the time period that those FEB  
11 reports cover, we do have the RWPs available just  
12 so we can go and do this. But the question is,  
13 do you want us to go and do that?

14 There is another option, this would be  
15 Option 2, would be for us to evaluate the  
16 transient subcontractor bioassay data and NOCTS  
17 dataset and compare that to a routine  
18 subcontractor bioassay data for a potential bias.

19 Now, our initial evaluation focused on  
20 1991 to 1997 as the electronic bioassay records  
21 were available. My question to you, the Work  
22 Group, is, will this limited study be sufficient

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1 to address the Work Group's concerns or do we  
2 need to expand back to 1972 and look at all  
3 claimant subcontractor construction trades  
4 worker data?

5 It would be kind of an Option 3. There  
6 is a potential issue with doing that and the issue  
7 is, the limited subcontractor work in the DuPont  
8 era, especially pre-1980, with some years having  
9 no positive bioassay for said contractors.

10 This packet I'm showing you here is an  
11 illustration of the number of subcontractor  
12 construction trades workers with plutonium  
13 bioassay in NOCTS. And you can see that the  
14 number of subcontractors, from 1980 through 1990,  
15 is reasonable to where we can do an evaluation.

16 But prior to 1990 there is very little  
17 subcontractor data. Now, the second part are the  
18 problem here is there is very little positive  
19 data.

20 So while we can begin to address Issue  
21 1, associated with the monitoring, to try and do  
22 a comparison, there is just not much positive

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1 data in order to do a comparison. So that poses  
2 a separate problem.

3 All right, let me get back up here.  
4 So I'll pause here to take any questions.

5 MR. BARTON: Well, Tim, this is Bob.  
6 Do you have a sense on how many, in the NOCTS  
7 population, would fall into the category of a  
8 transient subcontractor versus just a regular, or  
9 I guess more routine, working subcontractor?

10 And also, what would be the criteria  
11 to determine what a transient subcontractor is  
12 versus other subcontractors?

13 DR. TAULBEE: Well, my thought for  
14 the, I don't have a feel for how many, for one  
15 thing, Bob. I can come up with rough ideas based  
16 upon the number of people that had employment and  
17 then the break in employment.

18 That could be used to identify as a  
19 transient subcontractor. Somebody who the  
20 employment record has a break of a year or more  
21 in there.

22 So that would be one way that we could

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1 identify them. But I don't have a feel for how  
2 many that is. That is something that we can  
3 research and figure out.

4 I think I'm relatively, I think it's  
5 relatively easy to do. By just simply, because  
6 of the claimants, we have the DOL employment  
7 verification process for employment  
8 verification. So we can look to those breaks of  
9 employment.

10 And was there a second question in  
11 there that I forgot already? Sorry.

12 MR. BARTON: It was really, I think  
13 you answered both questions with that. It was  
14 really just, I mean, would it be, you're onsite  
15 for three months and then a break or is it that  
16 you have a multiple employment period?

17 I guess, that would have to be kind of  
18 hashed out. I didn't know if you had a certain  
19 framework in mind as to what would be a transient  
20 versus a more consistent worker at the Site.

21 But that might be down the road. So,  
22 that's fine.

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1 DR. TAULBEE: Okay.

2 MR. KATZ: Tim, I just have one  
3 clarification. You said prior to, I thought you  
4 said prior to 1990 very little data, did you mean  
5 1980?

6 DR. TAULBEE: Prior to 1980 there is  
7 very little --

8 MR. KATZ: Yes, okay.

9 DR. TAULBEE: -- subcontractors, CTWs.

10 MR. KATZ: Okay, I thought I heard  
11 that you actually said prior to 1990 but I could  
12 be --

13 MR. FITZGERALD: Yes, he said 1990, I  
14 think he meant 1980.

15 MR. KATZ: Okay. I just wanted that  
16 to be straight for the record. Thanks.

17 DR. TAULBEE: Yes, thank you. Sorry.  
18 Now, keep in mind that we don't have the SWP for  
19 that 1980 to 1990 time period.

20 So, all that we have at this time, we  
21 would have each individual claimant's bioassay  
22 data in that time period but we don't have any

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1 way of getting additional people other than the  
2 claimants.

3 So, I guess at this point, Brad, is  
4 there a preference or thoughts on how you want us  
5 to proceed here?

6 MR. FITZGERALD: Tim, Joe. Just a  
7 quick question again. I thought that  
8 clarification was helpful.

9 So, you're saying 1980 to 1990 you  
10 really have to rely on the, what has been called  
11 the NOCTS comparison and after 1990 one could  
12 rely on the RWP, SWP, is that a fair distinction?

13 DR. TAULBEE: That is correct at this  
14 time, yes.

15 MR. FITZGERALD: Okay.

16 DR. TAULBEE: I do think that if we  
17 were to look at all 852 boxes and go through and  
18 then do some other variations, say work permits  
19 in EDWS, they might be able to find some  
20 additional SWP boxes. But we have not done --

21 MR. FITZGERALD: Particularly, I was  
22 going to say particularly for the late '80's

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1 perhaps, when DuPont even started reaching out  
2 and using their stuff. So you might have some  
3 there.

4 DR. TAULBEE: Right.

5 MR. FITZGERALD: And the user NOCTS,  
6 that's predicated on the, I guess the  
7 clarification you were going to provide, and I  
8 guess that's later in the presentation on the  
9 questions that I think Bob was raising about the,  
10 how the subs, when being compared with the  
11 general population, something like that.

12 DR. TAULBEE: Right. Okay.

13 MR. FITZGERALD: Right.

14 DR. TAULBEE: I think --

15 MR. FITZGERALD: So there is  
16 clarification that I think you're working on as  
17 well.

18 DR. TAULBEE: Okay. Did you want me  
19 to --

20 MR. FITZGERALD: Okay, thank --

21 DR. TAULBEE: -- Brad and come back?

22 CHAIR CLAWSON: Yes. Well, you know

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1        what, I'm going to tell you something point  
2        blank, and you know I'm kind of shy, so I am not  
3        going to commit, today, until we have time to be  
4        able to evaluate and digest all that has been  
5        said to us on this.

6                    Because, do you realize I'm a little  
7        bit wound up because we've been excited for the  
8        last four years, and I'm not casting any kind of  
9        blame or anything else like that, I know that  
10       we've had numerous battles to go through, but  
11       this is the way I'm looking at this.

12                   This is our last-ditch effort to try  
13       to be able to take care of this and I want to  
14       make sure, if we decide on a path forward, that  
15       it is going to accomplish and it is going to do  
16       what we need to do.

17                   So, Tim, I really just truthfully just  
18       want to tell you it will probably take a little  
19       bit for us to be able to digest this, to be able  
20       to understand what our path forward is on this.  
21       And we may have to give you our decision in a  
22       little advance because right now I just don't

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1 want a knee-jerk reaction and spend another year  
2 out there gathering stuff and not get what we  
3 really need.

4 Do you understand that? I'm not  
5 trying to be rude or mean in any way but there is  
6 a lot here and we've been at this a long time.

7 DR. TAULBEE: I totally understand.  
8 Would it be okay with you, at this time, if we  
9 pursue getting more information about those 852  
10 boxes?

11 CHAIR CLAWSON: Yes, that's fine.  
12 We've got to be able to do that.

13 DR. TAULBEE: Okay.

14 CHAIR CLAWSON: Our thought, that's  
15 kind of what we were going to get at this, and I  
16 thought we were going to kind of have a sample of  
17 it but I see that it's the same thing, we're  
18 fighting different issues to be able to get it.  
19 So, yes, that's fine.

20 DR. TAULBEE: Okay. That will be  
21 within our next step to try and gather more  
22 information about those and then we'll, I totally

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1 understand why you want to digest this more and  
2 that is perfectly fine. And reasonable. I mean,  
3 I know this is a lot we're throwing at you here  
4 at this last minute here.

5 Okay, so moving on. Is that okay if  
6 I go on then, Brad?

7 CHAIR CLAWSON: Yes.

8 DR. TAULBEE: Okay. And this is just  
9 more of a recap about the coworker and why this  
10 is so important.

11 In using the NOCTS data, when we  
12 looked from '91 to '97 we found 371  
13 subcontractors and 339 had monitoring data. Only  
14 32 had no internal monitoring data. And of those,  
15 only four had external monitoring data indicating  
16 some radiological work.

17 So, as I've indicated during the  
18 presentation in December, we believe the  
19 monitoring data from these 339 workers can be  
20 used to bound the dose for the unmonitored  
21 workers. And again, I refer you to this  
22 particular graphic as far as the Excel

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1 spreadsheet showing who was monitored, who  
2 wasn't.

3 And say, this is where we would be  
4 trying to do it if we were doing something with  
5 the NOCTS data. Although we'd go into more  
6 details than what was presented here.

7 Which brings us to Issue 2, that SC&A  
8 raised. And this one is currently in abeyance to  
9 be discussed further.

10 And it was, RWP jobs often differed by  
11 source terms and potential exposure from routine  
12 work. Routine monitoring data should not be used  
13 as a surrogate for making RWP data.

14 And this is something that Bob brought  
15 up during his Board meeting, or during his  
16 presentation.

17 But there is a couple of things that  
18 I want to point out to the worker. It's the  
19 purpose of the job-specific bioassay sampling  
20 program, is to collect bioassay samples from  
21 workers whose routine bioassay program does not  
22 include some or all of the radionuclides present

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1 at the work site or who were not on a routine  
2 program.

3 An example given by SRS was, for  
4 example, a mechanic who may routinely be sampled  
5 for plutonium enriched uranium may be assigned to  
6 work on a neptunium system. A job-specific  
7 bioassay sample for neptunium would be required  
8 to be submitted at the end of the task.

9 Following the Board presentations in  
10 Albuquerque, Bob and I and Joe discussed the job-  
11 specific versus routine monitoring issue. Bob  
12 indicated that he would need to see examples of  
13 routinely monitored subcontractor workers on the  
14 same RWP as those missing bioassays and  
15 presumably on job-specific monitoring.

16 Which leads me to this example here  
17 that I wanted to show you all. From an RWP that  
18 was collected by SC&A, and this is 1992.

19 The work was an upgrade to Section F  
20 for installation of frames. The location of the  
21 Hot Canyon, I believe SA stands for service area,  
22 Section F.

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1           Adhering to the radiological  
2 protection requirements, where they wore plastic  
3 suits, coveralls, boots, gloves, boots, shoe  
4 covers, hood and then the dosimetry.

5           Now, I believe the plastic suits may  
6 be actually kind of a bubble suit. I'm not sure  
7 of that. The HP coverage was continuous and they  
8 did an, HP coverage was continuous.

9           The section to the right is the sign  
10 in. Section 3 for the sign in. And this one  
11 here is where the asterisk and the fine print  
12 there says, initialing pre-form verifies the  
13 worker has reviewed RWP, personal information is  
14 correct, worker is aware of radiation hazards  
15 presence and he or she understands and we're  
16 complying with radiological protection  
17 requirements set forth in the RWP.

18           The first person listed is the HP  
19 providing continuous coverage. The second person  
20 is the pipe fitter. This is designated in SC&A's  
21 report as Worker 100. And then the second person  
22 down is Worker 101.

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1                   These are two that SC&A has used in  
2                   their evaluation.     Worker 100 had bioassay,  
3                   Worker 101 did not have bioassay within a year.  
4                   They did several years later.   In fact, I believe  
5                   in 1995.

6                   Worker designated as New-1 here was  
7                   not included in the SC&A analysis, by the way,  
8                   you guys did the sampling, but had bioassay  
9                   within a year, and worked with both Worker 1 and  
10                  Worker 2.

11                  And that is, if you look at the sign  
12                  in, sign out time periods, you can match up that  
13                  in the first entry Worker 100 and New-1 went into  
14                  the area from, it looks like 5 o'clock to 7:20,  
15                  and then there was a break.   And then Worker 2,  
16                  or Worker 101 and New-1, went back into the area  
17                  and worked from 8:30 to, it looks like about  
18                  10:45.

19                  So here is an example that you were  
20                  asking for, of workers working on the same RWP,  
21                  some with bioassay, some without bioassay.   To  
22                  give you just one of limited examples we can show

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1 at this time.

2 If the Work Group builds more examples  
3 like this, Option 1, that I talked about above,  
4 was a method that could provide assurance that  
5 these workers conducted work side-by-side in the  
6 same radiological environment and therefore a  
7 coworker model would be sufficient and accurate.

8 So, even though we don't have RWPs  
9 currently going all the way back to 1972, we do  
10 from 1990 forward, to where we could view this  
11 evaluation and provide assurance. Or if there is  
12 an issue, then we go a different direction.

13 So, I'll pause here. Is there any  
14 questions?

15 CHAIR CLAWSON: Not at this time, Tim.

16 DR. TAULBEE: Okay, thanks. And it  
17 was also a break for me to wet my throat here.  
18 Okay. All right.

19 And so, the third issue that we were  
20 to work on was based on NIOSH's comparison with  
21 the maximum possible 95th percentile dose  
22 distribution, the SRS plutonium bioassay for

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1 DuPont construction trades workers and  
2 subcontractors.

3 They've helped indicate a number of  
4 years for subcontractor bioassay of two to five  
5 times higher than DuPont CTW. This corresponds  
6 with interviews from subcontractors who indicate  
7 they were called in for more contaminated work  
8 with same exposure on onsite CTWs.

9 And we said that we would put together  
10 a more comprehensive analysis of these data,  
11 which will include consideration of how we  
12 developed inhalation intake models under EEOICPA.

13 Now, one thing I want to emphasize  
14 that I really misspoke in my email, or my, in  
15 talking about contaminated work. If they were  
16 brought in to save on exposure, but that was  
17 external exposure, which was easily measured.

18 And once somebody hit an external dose  
19 limit, they were restricted from the area. Both  
20 internal and external.

21 SRS had a policy of not internally  
22 exposing anyone, to anything, other than tritium.

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1 So, I should not have said contaminated work, I  
2 should have said high-level work, to save on  
3 external exposure. That's a more accurate  
4 statement and I apologize for that.

5 Regardless of that, the issue that we  
6 got, that we ran into here, for one, the two to  
7 five times higher was due to a coding effort in  
8 the 1970's. As I indicated, in correspondence in  
9 November of 2017.

10 We've gone back and we started looking  
11 at this in more detail, but we're having  
12 difficulty comparing DuPont construction trades  
13 workers to subcontractor trades workers because  
14 the majority of the data is below the reporting  
15 level of .1 DPA per day. These are basically  
16 non-detects. And they're censored within the  
17 individual records.

18 We went back to the log books and  
19 extracted raw data from the plutonium bioassay  
20 log books to get more uncensored data, which is  
21 actually below the reporting level, in order to  
22 conduct the comparison.

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1           We went back and coded all of the  
2 subcontractor data from '74, '77, '83, '86 on a  
3 three year intervals here. 1980 actually had  
4 sufficient data for us to do a fit.

5           And of the 367 subcontractor bioassays  
6 that we looked at, only 28, or four percent, were  
7 above the reporting level. Basically, there is  
8 not much positive data here indicating internal  
9 exposures.

10           Extracting the raw data to determine  
11 their values below the reporting level enables us  
12 to fit regression models. However, statistical  
13 comparison is difficult due to the large  
14 uncertainty. And basically, what I can see so  
15 far is this is going to tend to show you no  
16 difference.

17           If you look at the box plots of all  
18 of these years, the 30, we selected individual  
19 years on a three year interval. What you'll see  
20 is at the top of the large box is basically the  
21 75th percentile. The bottom of the box would be  
22 the 25th to 35th percentile with a central 50th

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1 percent of the data.

2 The error bar line, looking at 1974,  
3 which is right on point one for both the DuPont  
4 construction trades and the subcontractor  
5 construction trades, that's the 95th percentile.

6 The circles are individual points that  
7 may be, that are configured, these are all of the  
8 data points combined. Is what we've got on here.  
9 You can see there is lots of them that are  
10 overlapping here.

11 So for '74 you can see they're very  
12 similar. For 1977 you can see the 95th percentile  
13 for subcontractors is lower than the DuPont  
14 construction trades workers.

15 The DuPont construction trades  
16 workers had a few individuals, five, that are  
17 above the 95th percentile. And for the  
18 subcontractors in '77, you got two that are above  
19 the reporting level, three that are above the  
20 95th percentile were around .05.

21 In 1980 you've got a few individuals,  
22 subcontractors, four that are above the 95th

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1 percentile, as one would expect here. With the  
2 95th percentile is .15 versus .1 for the DuPont  
3 construction trades workers.

4 1983, again, you've got the 95th  
5 percentile which is .11 for DuPont construction  
6 trades workers and .1 for subcontractor  
7 construction trades workers. And that's a larger  
8 sample of the subcontractors of about 208.

9 1986 you got, again, about the same  
10 95th percentile of about .12 but now you've got  
11 more individuals that are higher for the  
12 subcontractors. But again, this is a much larger  
13 sample size, 228 versus 46.

14 And it looks like you have one, two,  
15 three, four, five, six, seven, eight  
16 subcontractors that are higher than the 95th  
17 percentile, which is around .12.

18 So, this is the data that we've dealt  
19 with in trying to do this comparison. There is  
20 just not much data. There is not much exposure  
21 here in order to evaluate. To do any type of  
22 comparison.

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1 I mean, based upon this data we can  
2 assign everybody a missed dose of really .1,  
3 which is around the 95th percentile, and both  
4 groups would be covered with that.

5 So, are there any thoughts or comments  
6 or questions about this?

7 CHAIR CLAWSON: Not at this time for  
8 me, Tim.

9 DR. TAULBEE: Okay. This is another  
10 one where we're not sure kind of where to go or  
11 what else to do about this, so if you all can  
12 ponder that and get back to us I would appreciate  
13 that. Thank you.

14 Issue 4 I believe we resolved. And so  
15 this gets us to Issue 5, and I think at this point  
16 I should turn it over to Joe. Is that acceptable?

17 CHAIR CLAWSON: Sure.

18 DR. TAULBEE: Okay.

19 MR. FITZGERALD: Okay. We have the  
20 two items. Ron Buchanan, are you on for the OTIB-  
21 75?

22 DR. BUCHANAN: Yes, I am.

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1 MR. FITZGERALD: Do you want to just  
2 go ahead and outline that quickly?

3 **Use of Claimant Datasets for Coworker Modeling**  
4 **(OTIB 75) - SC&A memo**

5 DR. BUCHANAN: Okay, I can do that.  
6 Okay, I didn't have any presentation because I  
7 sent this memo out, email, to everyone  
8 appropriate on January 31st.

9 And I'll just give you a little  
10 background. I'll just go over this briefly  
11 because you've all received it email.

12 So what this consisted of, OTIB-75 was  
13 the use of claimant datasets for co-worker  
14 modeling. And this was comparing the claimant  
15 data on the NOCTS to the complete dataset  
16 available at several of the Sites.

17 And the reason this gets involved with  
18 SRS is, and I'll explain it a little later, why  
19 this gets involved with this Work Group here.  
20 Back in 19, 2009, NIOSH issued OTIB-75 Rev. 0 and  
21 SC&A evaluated that in 2010 and they issued a  
22 review report.

23 I was not involved in that particular

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1 endeavor, and they identified 13 findings. And  
2 a lot of it had to deal with Section 7, OTIB-75  
3 concerning Savannah River Site.

4 And so in 2016, NIOSH issued Rev. 1 of  
5 OTIB-75 and SC&A issued a revised report of that  
6 evaluating the new Rev. in 2017 last fall. And  
7 I was involved in that SC&A's evaluation in last  
8 fall.

9 And what we did there was compare the  
10 new data that was presented in the Revised OTIB-  
11 75 to the old findings and see if it resolved any  
12 of them. And then the ones that didn't, passed  
13 it on.

14 And it was brought up at the 14th of  
15 November 2017 SR, S4 Group Meeting, that this  
16 really, OTIB-75 really wasn't intended to address  
17 stratification of SRS data in its original  
18 purpose. And this was discussed at the meeting.

19 And so what I did is I went back and  
20 looked at this, and technically that's correct.  
21 It was not addressing SRS in particular.

22 And so what I did was evaluate that

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1 situation and suggested a path forward. And so  
2 this briefed out here. And this involved the SRS  
3 Work Group, the Procedure Subcommittee and the  
4 SEC Issue Work Group.

5 And so I sent this email to all three  
6 of those groups at the end of January suggesting  
7 what we could do with these findings.

8 And I'd like to point out that  
9 finding, the essence of OTIB-75 was to look at  
10 the Y-12 uranium for, bioassays, for a certain  
11 period of time. Which they had complete datasets  
12 and then they went to a claimant data and compared  
13 it to the complete dataset to determine whether  
14 it was representative or not so to be used a  
15 claimant dataset for coworker modeling.

16 And they compared some uranium data  
17 for certain period of Y-12, some plutonium at  
18 Mound and some tritium data at SRS.

19 And what we found was, initially in  
20 2010 we agreed with the Y-12 data statistically  
21 matched and was representative, Mound did not,  
22 and the SRS tritium data did with a caution that

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1 it only applies to tritium who had a limited  
2 amount of time.

3 Now, since that time, okay, then in  
4 addition to Section 7, SC&A went into some, quite  
5 a bit of research and did some stratification,  
6 according to radionuclide job types and dates and  
7 location and such, at Savannah River Site mainly,  
8 and presented that data in our review in 2010.

9 Now, when we looked at the revision in  
10 2017, we found that Mound Lab did, the Mound data  
11 did supply enough data points that did  
12 statistically represent the total database from  
13 the claimant data. And so we agreed with that.

14 And so where it stands at this point  
15 is that finding one had to do with Y-12, is that  
16 information was representative. We agreed with  
17 that initially.

18 So I guess at this, in today's  
19 criteria we would have called it an observation  
20 rather than a finding, because we agreed with it.  
21 And so we'd recommend closing that.

22 And then Finding 2 was Mound Lab.

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1        Since we have the new data it does show that it  
2        is statistically valid and so we would recommend  
3        closing that.

4                    And Finding 3, again, back in 2010, we  
5        agreed with that for the tritium data at SRS and  
6        so we, at that time, we was, agreed with NIOSH.  
7        And so that would be considered more of an  
8        observation in today's criteria.

9                    Now, Finding 6 was really, that's just  
10       a request for more information because the brief,  
11       the Y-12 data had more but we could not find where  
12       they gave us the total number in the claimant  
13       dataset, so Finding 6 we're just asking NIOSH for  
14       that value.       That one number of the total  
15       claimants in that dataset so we can evaluate  
16       that, see if that finding has been satisfied and  
17       resolved with the then dataset.

18                    Now, that leads us to the other  
19       findings, which mainly concern the SRS.       Now,  
20       Finding 7 and 8 was Y-12 and Mound Lab had  
21       concern about stratification according to  
22       radionuclide work area job title.

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1           Which SC&A was trying to illustrate  
2           that there was some stratification. And at that  
3           time SRS was coming to the forefront and so they  
4           honed in mainly on it.

5           Finding 7 and 8, 7 was with the Y-12,  
6           8 was the Mound Lab. And these were used as  
7           illustrative examples of stratification so we  
8           just recommend those be closed.

9           And Finding 4, 5, 9, 10, 11, 12 and  
10          13, which I was concerned with SRS, we recommend  
11          that those be transferred to the SRS Work Group  
12          and used, if necessary, and appropriate.

13          Now, these were concerned with  
14          construction versus non-construction workers.  
15          And had looked at, was there a difference in  
16          coworker, possible coworker data. Because of  
17          different locations and different nuclides and  
18          different job types.

19          So at this point, what we would  
20          suggest as a path forward, is that we close  
21          Finding 1, 2, 3, 7 and 8. And so we sent that to  
22          the Procedures Subcommittee and we'll discuss

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1       that the next time we meet.

2                   And we request Finding 6 data from  
3       NIOSH and see if we can close that finding or  
4       not. And that we transfer Finding 4, 5, 9, 10,  
5       11, 12 and 13 to the SRS Work Group and consider,  
6       there's quite a vast amount of data that SC&A did  
7       quite a bit of work up on looking at contractors  
8       and primes.

9                   And so we would suggest that we  
10       consider that, use that information as useful.  
11       And so, that's where we're at at this time.

12                   MR. FITZGERALD: And, Tim, you had a  
13       slide with some questions, you want to raise  
14       those? Or does that clarify that.

15                   DR. TAULBEE: It clarifies some but  
16       I'm not sure what it is you want us to do with  
17       the data.

18                   I mean, it seems that you're proposing  
19       to use the data in findings 4, 5, 9, 10, 11, 12,  
20       13, that data, that evaluation predates the  
21       current coworker models. And the current  
22       coworker model has already stratified operations,

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1 dose of construction trade.

2 DR. BUCHANAN: Yes, we agree.  
3 Remember, this was done almost ten years ago so,  
4 and that's why I say, if it's useful and  
5 applicable we can use it, if we don't, then we  
6 don't need those, that information and we can  
7 close out those findings.

8 We have, you know, whatever the  
9 correct procedure is. I'm not saying that  
10 necessarily we got to use this data, I'm just  
11 saying that I think the data that SC&A generated  
12 eight or ten years ago is more applicable to SRS  
13 then it is to OTIB-75. If needed.

14 DR. TAULBEE: Okay.

15 MR. KATZ: Okay. Then let me just  
16 throw this out, I hope. So, from a procedural  
17 standpoint I think what's to do, I think it  
18 actually may be comfortable with these  
19 assignments, that's all good in terms of work  
20 dose and procedures and long-term with SRS.

21 As far as these SRS items are  
22 concerned, I think Tim, you don't have to do this

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1 right now but having heard what Jim had to say  
2 about the coworker model and Preference 1, just  
3 give this configuration and then it would be up  
4 to SC&A, I think, to make a recommendation as to  
5 whether these are ready for closure, or whether  
6 they have some applications in any of the  
7 discussions that we're having.

8 But that's nothing we have to settle  
9 right here on the spot.

10 MR. FITZGERALD: Yes. And I think  
11 this was really in response to one of the action  
12 items that came out of our last Work Group meeting  
13 which was to reconcile the discussion, OTIB-75  
14 with 81 and trying to make some heads or tails.  
15 Because the one was a pretty early one, 2010.

16 So I think what Ron was trying to do  
17 is just describe where the issues came from and  
18 how relevant are they to the current SRS  
19 discussion. So, you're right, I think if there  
20 is any issue that derives from that analysis, we  
21 owe the Work Group a review and recommendation.  
22 So I think the action still stays with us.

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1 I think this was really to clarify the  
2 discussion because we went back and forth between  
3 75 and 81. I felt there was some confusion at  
4 the last Work Group meeting. That's where the  
5 reaction, I think, came from.

6 MR. KATZ: I know --

7 MR. FITZGERALD: So I think Ron tried  
8 to clarify that.

9 MR. KATZ: And I think that's  
10 excellent. I think that we --

11 MR. FITZGERALD: Yes.

12 MR. KATZ: -- and that's great. And  
13 that's a good path forward then. Yes.

14 MR. FITZGERALD: Yes. Yes. I think  
15 there was some confusion. And I think this was  
16 meant to at least clarify where SC&A was coming  
17 from. But that doesn't mean there's the actual  
18 finding or action for Work Group consideration.

19 That respond, Tim?

20 DR. TAULBEE: Let me get off mute.  
21 Yes. That will be fine.

22 MR. FITZGERALD: Oh, okay. I'm

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1 getting a little echo on my line, are you hearing  
2 that? It's just probably my line.

3 MR. KATZ: No.

4 MR. FITZGERALD: Okay.

5 MR. KATZ: No, you sound good. You  
6 sound clear.

7 **Missing or Incomplete Radiological Source Terms -**  
8 **SC&A memo**

9 MR. FITZGERALD: Okay, it's just on my  
10 side then. The next item that was satisfactory  
11 was the americium-241, the radiological source  
12 term issue.

13 And this, to me, is kind of a routine  
14 issue. We were looking at documentation related  
15 to the RWP issue. In particular the late 1990's  
16 in terms of Westinghouse Savannah River.

17 And just came across documentation  
18 that identified some concern over certain source  
19 terms such as americium-241. Particularly in  
20 waste management context that were not being  
21 identified for use in the RWP.

22 So, we just wanted to flag that. And  
23 we mentioned that in the Work Group, and I think

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1 the action was to clarify that more and provide  
2 some references going back to the SRDB, which we  
3 have done.

4 And I don't want to really put too  
5 much more on that. It's just on these, and this  
6 comes up almost every SEC we do that if you come  
7 up with other items, you usually bring them  
8 forward to the Work Group and to NIOSH and just  
9 indicate that there seems to be an issue that  
10 might have some implications for the SEC that  
11 needs to be pursued further.

12 In this case, I think the most  
13 appropriate description, there is one that Tom  
14 LaBone gave in his interview actually. And it's  
15 the fact that Savannah River, like other DOE  
16 sites, were transitioning from a relatively more  
17 static operational configuration where you're  
18 making tritium in the reactors, you're managing  
19 the base, you're running the canyons, to  
20 situations where you're doing more, relatively  
21 more D&D and waste management activities. And  
22 that transition I think was clear at almost all

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1 the DOE sites.

2 And in those cases where you may have  
3 had a pre-established procedure where source  
4 terms involved with particular operations and  
5 facilities, you get into a much more dynamic  
6 situation where the source term is grasped more  
7 complex. In some cases, not familiar to some of  
8 the operators.

9 And I think as we went through into  
10 the '90's, it appears that that was recognized  
11 internally in Westinghouse and there was a effort  
12 to get a hold of that. To look more  
13 comprehensively at the, what was being handled,  
14 to rely on that spec and some more analytic means  
15 in addition to professional judgment and  
16 experience to make sure that it was a accurate  
17 description.

18 And to come up with a, perhaps a  
19 enhanced procedure to ensure that the RWPs were  
20 in fact complete and representative to all of the  
21 facilities. Particularly the ones that were in  
22 these situations, such as D&D and waste

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1 management.

2 So, that's kind of the issue that we  
3 surfaced. And I think our point was to forward  
4 this to the Work Group for NIOSH consideration in  
5 terms of whether this would have any implications  
6 for how, you know, the question of whether  
7 workers were being monitored for all the key  
8 nuclides that were of concern across the Site.  
9 Including these kinds of operations.

10 And again, that was at the hand off.  
11 And I know NIOSH has already looked at this to  
12 some extent based on Tim's slides.

13 And I think that's kind of what we  
14 were asking the Work Group to prompt, was a  
15 further look at this as to whether or not there  
16 was any implications for the complete monitor,  
17 the completeness of monitoring of workers in  
18 those operations.

19 That's pretty much, I think the rest  
20 of it is just simply identify the document trail  
21 that we looked at in '90, I think it was '97  
22 through '99, that focused on this. And to make

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1       sure that that was available to NIOSH.

2                   Are there any questions on that?  
3       That's pretty much it.

4                   DR. TAULBEE:   Okay.  So, I guess then  
5       at this point it's up to us then to look at this  
6       further.  Is that what I guess the direction is  
7       here?

8                   MR. FITZGERALD:  Yes.  I mean, yes, we  
9       looked at the documentation and suggest a  
10      concern, an issue, but as far as the  
11      implications, I think we would certainly, workers  
12      would look to NIOSH to come back with an answer  
13      on that.

14                  DR. TAULBEE:  Okay.  That is certainly  
15      something we can do.  We do have some preliminary  
16      thoughts here but we don't really need to go  
17      through them if that is the current status.  Is  
18      that acceptable, Brad, or would you like me to go  
19      through what our preliminary thoughts are on  
20      this?

21                  CHAIR CLAWSON:  No, I'd rather not  
22      just convolute everything right now.  I think

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1       that one of the biggest things is, if we do do  
2       this, I'd like to see it in writing coming back,  
3       Tim, so there is no confusion and I thought you  
4       said this.    So, I'd just rather have you deal  
5       with it and send them a paper on it if you would.

6                   DR. TAULBEE:   Okay, we can do that.

7                   MR. FITZGERALD:   Yes, and I think Tim  
8       touched on this in one of his slides.    One  
9       question I would have, and I'm sure NIOSH would  
10      look at it is, it looks like americium-241 was  
11      the source that was the root of some of this  
12      concern that led to some of the review.

13                   And I guess my question would be is,  
14      is that pretty much it?

15                   Is it pretty much isolated to that  
16      instance, that nuclide or would there be other  
17      sources that might be a problem given the sort of  
18      complexities of what was being handled in some of  
19      the operations?

20                   In the mid to late '90's I guess.   And  
21      that would be something to look at.   And I think  
22      that as I look at one of the slides that seems to

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1 be the direction that NIOSH is headed anyway.

2 DR. TAULBEE: This is Tim. In our  
3 preliminary look at that, in the references that  
4 you sent over, which were helpful, the americium  
5 is the dominant one. There is the potential of  
6 cerium but in almost all instances when that's  
7 the case, americium is present as well.

8 That seems to be the only one that I  
9 see that's out there that is causing any concern  
10 in that standpoint.

11 MR. FITZGERALD: I think that would be  
12 fine. Brad, I think that's pretty much what we  
13 wanted to do is just have that given to the Work  
14 Group and NIOSH and then get a NIOSH response as  
15 to if there is any implications for dose  
16 reconstruction.

17 CHAIR CLAWSON: Okay, I understand.  
18 Thank you. Okay, it's back to you, Tim.

19 DR. TAULBEE: Okay. We'll get Kevin  
20 here to pop up the pages. There's really only  
21 one more item here that I think we've got. Just  
22 a second here.

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1                   And this would be Issue 7. And this  
2 was the time frame of this monitoring gap that  
3 was then clear before 1997. And this worker  
4 cohort detected by the lack of job-specific  
5 bioassay.

6                   And, again, due to the limited  
7 assessments in 1995 and 1997, we requested those  
8 Facility Evaluation Board reports, which I  
9 indicated earlier, have been destroyed. Or  
10 they're no longer available.

11                   And so, in order to address this,  
12 we've got those options one, two and three again.  
13 That is, conduct the evaluation given the visual  
14 RFWPs and RWPs, try and look at those from the  
15 NOCTS data, or subcontractor NOCTS data from 1991  
16 to 1997, or expand that to 1972.

17                   So this one here is one that we really  
18 can't go forward unless we get some input from  
19 the Board as to which way you want to go. And I  
20 don't need to reiterate that part.

21                   The options 1, 2 and 3. Or some other  
22 combination. If there is something else that

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1 SC&A sees or the Board Members here see as a way  
2 for us to address some of these issues, we're  
3 certainly willing to consider that and move that  
4 direction as well. But that's kind of where we're  
5 at with this.

6 In the interim here, as I indicated  
7 before, we will track down more of the SWPs in a  
8 full inventory of those 852 to see if there is  
9 anything in that allotted time period. And we  
10 will do the search in EDWS fully comprehensive so  
11 that we can report back to the Work Group.

12 And then we will begin working on the  
13 Issue 5, or I'm sorry, Issue 6, with regards to  
14 the americium bioassay issue. And we will  
15 provide a report to the Work Group, if that's  
16 acceptable.

17 MR. BARTON: Well, this is Bob Barton,  
18 I'll make a comment here. I guess first off,  
19 I've never seen my name on a slide before, that  
20 wasn't the title slide, so, you know, career  
21 goals right.

22 But I think in looking over these, I

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1 agree with Brad, we do need some time to digest  
2 them. And I think that the path going forward  
3 and seeing in what is in those 800 boxes is going  
4 to be very important.

5 And what we're talking about here,  
6 again, and I guess I kind of hark on this a little  
7 bit strongly when we last met up in Albuquerque,  
8 in a coworker model you want to make sure that  
9 the records for the monitor workers you have are  
10 representative of the people who you don't have  
11 records for. And that's really the question.

12 I mean, a coworker model at its most  
13 basic form, and you'll see this all the time in  
14 the actual records, if someone lost a badge and  
15 they were like, all right, well, what were you  
16 doing, you were working alongside this person so  
17 we're going to use that person's film badge dose  
18 and that's going to be your official dose of  
19 record.

20 So our concern here was, is there a  
21 group out there that was part of this job-  
22 specific program that might have been doing

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1 something decidedly different than the monitor  
2 workforce. Whether that be the routinely  
3 monitored subcontractors, the DuPont  
4 construction trades workers or the operations.

5 All this data that we do have, and  
6 there is a lot of it, is it representative of  
7 those people who we don't have any monitoring  
8 data for. And that's where I think this  
9 comparison of RWPs and SWPs and looking, and  
10 let's look at them and say, to what extent do we  
11 have coverage of people who might be on an RWP,  
12 who didn't submit a job-specific bioassay but  
13 there was somebody right next to them who was  
14 monitored either routinely or they did submit  
15 their job-specific bioassay, whatever it might  
16 be.

17 And I think that would give us a level  
18 of confidence that we either do or do not have a  
19 group of workers out there who is not covered by  
20 the coworker model. Now, to some extent that's  
21 been done.

22 In Tim's latest report there was, it

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1       came out on, I believe Tuesday, shows that. And  
2       the presentation before that, to some extent  
3       shows that too.

4               I think our main concern was that the  
5       state of the RWPs that we had to date was very  
6       limited. And that was kind of the status going  
7       into that Albuquerque meeting.

8               Now we know that there is a whole lot  
9       more data out there that we might be able to get  
10      a better level of confidence. That there is  
11      either a group of workers out there that is not  
12      monitored and we're doing something different or  
13      there is a group of workers out there that were  
14      not monitored, who are side-by-side, with the  
15      monitored workers.

16              So, as I look at this I think as far  
17      as whether you can construct a coworker model,  
18      it's that first option that I think it really,  
19      really clears the biggest hurdle in answering  
20      that question on whether you can reconstruct  
21      doses of those unmonitored workers.

22              And I think, as Tim said, it's

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1 important to see what is actually in those 800  
2 boxes before we start going and just capturing  
3 hundreds of thousands of pages.

4 So, I guess my question, after that  
5 rant is, how would we go about, besides actually  
6 physically looking in these boxes, Tim, are you  
7 saying there's a way that we can know that in Box  
8 153 we have some RWPs from 1979 or something like  
9 that?

10 DR. TAULBEE: Yes, we should be able  
11 to do that. My thought here is that when we go  
12 through those boxes that we cannot identify an  
13 area or a time period, we will physically send  
14 some people to the Site to look at those boxes  
15 and index them before we would try and do any  
16 type of a sample along those lines.

17 One thing I wanted to emphasize here,  
18 so that everybody is clear, we can do this now  
19 for the 1990's. That the information of the 129  
20 boxes we found in the EDWS, those can be tracked  
21 now and we can go through and look at the  
22 workforce, we can look at the job-specific and

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1 the routine monitoring and look at those missing  
2 workers.

3 It's that time period of 1972 up  
4 through 1989, there is the one that we're not  
5 sure, what had been in those boxes and whether  
6 there are paperwork from that time period and the  
7 level of detail with it.

8 We do know, we know we can do this for  
9 the 1990's, it's that earlier time period is the  
10 problem.

11 MR. KATZ: I just want to ask a  
12 question of the Work Group Members. I mean, well,  
13 I guess and Tim too. But for the 1990's, Tim is  
14 saying they can already, they know they can do  
15 it, they have the boxes, they can do it.

16 Is there any reason to not have them  
17 go forward on that one if that's the sort of level  
18 of examination that Bob is recommending you take?

19 Or, I mean, I'm not trying to push  
20 this to have you decide prematurely, Brad and  
21 Work Group, I'm just saying --

22 CHAIR CLAWSON: Well, you know, I'm

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1 going to be honest, Ted. We have gone so many  
2 different directions, you know, you think over  
3 the last seven years what we've done on this  
4 coworker and back and forth on this, and I am  
5 just, I'm going to be honest, I'm trying to digest  
6 what the best route to be able to go because I  
7 was under the understanding that the '90's, we  
8 were still shy paperwork.

9 MR. KATZ: Right. But he's saying  
10 that he actually has the paperwork to run this  
11 evaluation for the '90's so, I mean, that part,  
12 I mean it's questionable what comes before the  
13 '90's but at this point he hasn't, it's just a  
14 question of whether there's any reason for them  
15 to sit and wait on that.

16 CHAIR CLAWSON: Well --

17 MR. KATZ: That's the question. I'm  
18 not trying to push you to decide quickly, Brad,  
19 but it's certainly --

20 CHAIR CLAWSON: I understand, but I  
21 was just sitting there and now, now, this  
22 information that you guys did on this last go

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1 around, I thought it was from like '85 to '95,  
2 wasn't it? That you guys pulled for 771.

3 DR. TAULBEE: No. We did a limited  
4 selection of 1980 to 1986. Or '81 through '86 in  
5 773A only.

6 What I'm saying is, is that the RWPs  
7 are available from the 1990's forward. We have  
8 identified them, we know they are available,  
9 those can be sampled and we can go through and do  
10 everything that address Issues 1, 2 and 7.

11 Well actually, we can even look at  
12 Issue 6 by the way. The source term  
13 characterization issue that Joe brought up.  
14 Because there are certain areas that are dominant  
15 for americium and so those can be sampled  
16 specifically and looked into which bioassay those  
17 people were on. So that can be done at the same  
18 time.

19 CHAIR CLAWSON: And this is in these  
20 boxes that we're trying to recover? Or you  
21 already have --

22 DR. TAULBEE: Yes.

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1 CHAIR CLAWSON: -- this data all run  
2 up and everything clean?

3 DR. TAULBEE: No, no. We had these,  
4 we have identified the boxes that contain the  
5 information. As far as a good portion of the  
6 data we do have in the 1990's in the HPAREH  
7 database.

8 So a lot of going through the  
9 individual records, as Joe and Ron had to do  
10 before, we don't necessarily have to do. So it's  
11 a combination of the two. But we do know the  
12 records are available.

13 MR. FITZGERALD: Yes, Brad, Joe. Yes,  
14 if I can interject. I do think it does kind of  
15 bifurcate into a twofold strategy.

16 I do think the boxes lend themselves  
17 to resolving the issues we have in the  
18 Westinghouse era, '89 forward, where, again, the  
19 subcontractors figure more prominently.

20 The pre-'89 is still relevant but very  
21 clearly you're dealing with less subcontractors,  
22 fewer subcontractors in a DuPont management

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1 system, which is a different system. They held  
2 themselves close and the operations were pretty  
3 coherent.

4 So I don't, I think the workers can  
5 consider this and maybe take a few days into next  
6 week, or next two weeks. But it seems like one  
7 could move ahead on the boxes and just ascertain  
8 what was there and whether this is in fact  
9 feasible and identify a little better what's in  
10 them.

11 And then the broader strategy could be  
12 discussed within the Work Group and maybe better  
13 guidance given over the next couple weeks or so.  
14 I mean, I think the real hard question is pre-  
15 '89. I think that one is tougher.

16 CHAIR CLAWSON: Also, I just, and I  
17 hate to harp on this, but what type of a time  
18 frame are we looking at, Tim? Just guesstimate.  
19 For the '90's, to be able to go pull up.

20 DR. TAULBEE: Well, to go capture and  
21 get the information, we can get started on it  
22 within the next few weeks I think.

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1                   But to actually combine and capture  
2                   everything, I do think we are looking at about,  
3                   well, the capture will probably take, will be  
4                   very short. Once we get onsite I think it would  
5                   be less than a month to get that information. If  
6                   not quicker.

7                   But, getting it then, I'm guessing six  
8                   to nine months before we would have something  
9                   out. But I think we could get it, that's my  
10                  guess, I'm sorry.

11                  CHAIR CLAWSON: So, and correct me,  
12                  and any of the other Board Members chime in if  
13                  you want to, like Joe is saying, the '90's isn't  
14                  really the issue, I don't think that we  
15                  shouldn't, we should continue on with that.

16                  If we do have questions that come up  
17                  into that era that we're able to address then to  
18                  not have to go through another big data file,  
19                  we're more worried, the '89 time period. So I  
20                  don't see a problem with you proceeding on with  
21                  that.

22                  DR. TAULBEE: Okay, great. That helps

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1 a lot.

2 CHAIR CLAWSON: Do any other Board  
3 Members have any issues or any input?

4 MEMBER LOCKEY: Brad, Jim Lockey. I  
5 wasn't quite clear with your statement. From  
6 what I heard Joe talk about earlier was that with  
7 D&D and the more recent years you're requesting  
8 about the coworker model and the limited RWPs.

9 Now, am I wrong about that, you reach  
10 out and let us know whether there are adequate  
11 number of RWPs and whether the coworker model is  
12 valid for the '90's forward. Is that correct,  
13 that's what you were saying?

14 MR. FITZGERALD: Yes. I think when we  
15 framed this up originally, the concern was the  
16 operations for transition from DuPont to  
17 Westinghouse and the method, the way of doing  
18 business was changing rapidly with chain reactor,  
19 restart and the influx of a lot of  
20 subcontractors, a lot of transient  
21 subcontractors. And that really was a 1990  
22 phenomena, even though it began sort of in the

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1 '89 time frame.

2 So, yes, I think this issue figures  
3 much more prominently in the '90's than it did in  
4 the DuPont era. So I think there is some basis  
5 for focusing on the RWPs to help answer that  
6 question.

7 MEMBER LOCKEY: Yes, I think that data  
8 from '89 on would determine whether you have  
9 adequate RWPs and whether the coworker model  
10 works or not.

11 MR. FITZGERALD: Yes.

12 MEMBER LOCKEY: And when it was given  
13 to D&D whether source terms are adequately  
14 reflected in the model. So, I think if you go,  
15 I acknowledge you go ahead and look at those boxes  
16 and answer that question.

17 MR. FITZGERALD: Okay.

18 CHAIR CLAWSON: Okay. Just so you  
19 understand, Lockey, that era from the '90's on is  
20 kind of a different one but we shouldn't be, in  
21 my eyes, we shouldn't be holding up NIOSH's  
22 continuation to assure that they have adequate

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1 data.

2 Because, my problem --

3 MEMBER LOCKEY: Are you talking about  
4 '89 back, Brad?

5 CHAIR CLAWSON: Well, '89 back we  
6 still got to work but I'm talking about is the  
7 '90's forward so that they can justify that.  
8 Because we're kind of going up this side a little  
9 bit different and we should have verified our  
10 data a long time ago before we got into this.

11 But, do you know what it is, we're  
12 trying to work this. But, just because we've got  
13 the '90's forward being reviewed, we still have  
14 this era, this transition, the DuPont to  
15 Westinghouse era that we've still got to be able  
16 to figure out.

17 MEMBER LOCKEY: And that era is what,  
18 Brad, I'm on the same path as you are.

19 CHAIR CLAWSON: Okay, sounds good.  
20 So, did that give you enough options there?

21 DR. TAULBEE: It did, Brad, thank you  
22 very much. This gives us a direction to move

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1 forward and we will certainly get started right  
2 away on it.

3 CHAIR CLAWSON: Okay. And by the way,  
4 Tim, I just wanted you to know that you've gained  
5 the John Stiver award for the most slides.

6 (Laughter.)

7 CHAIR CLAWSON: So, you're now the  
8 leader.

9 (Laughter.)

10 DR. TAULBEE: Thank you very much, I  
11 appreciate that.

12 CHAIR CLAWSON: Hey, it's something to  
13 try --

14 DR. TAULBEE: I thought it was the Tim  
15 Taulbee award?

16 (Laughter.)

17 CHAIR CLAWSON: Well, it's now going  
18 to Tim. It takes the name along with it, so --

19 MR. STIVER: Oh, okay.

20 CHAIR CLAWSON: -- so you can tell  
21 John he's off the hook.

22 MR. KATZ: I don't know. I don't know,

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1 because John always goes through all his slides,  
2 Tim didn't.

3 (Laughter.)

4 CHAIR CLAWSON: Well, but the bottom  
5 line is, is there's still the capability to do  
6 it.

7 MR. KATZ: All right, Brad, I think we  
8 went through the agenda, Brad --

9 CHAIR CLAWSON: My --

10 (Simultaneous speaking.)

11 MR. KATZ: -- end of it.

12 **Open Issues and Paths Forward**

13 CHAIR CLAWSON: Well, I guess this is  
14 kind of a question for Joe and Bob and everything  
15 else like that. I'm going to be honest, I'm  
16 really baffled at what's available. And I know  
17 that Tim's trying to put this onto us as which  
18 way to be able to go.

19 So, could you review all this and  
20 could we just have kind of an email sent out and  
21 kind of, if we have to have just a technical call  
22 or something to be able to discuss our path

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1 forward or whatever I don't have a problem with  
2 that. But I do not want to make a decision, a  
3 rash decision right now, on this path forward.

4 Because we're looking at a lot of time  
5 and a lot of money. And if it isn't going to buy  
6 us anything in the end, I don't want to do it.

7 You know, we've got a small time  
8 period here that we're looking at and if we don't,  
9 I will be honest, if we don't have the stuff we  
10 need to be able to do, I don't understand why we  
11 don't make it an SEC.

12 So this is what I would propose to Joe  
13 is to be able to, and Bob, to be able to review  
14 this and see if it's going to answer your  
15 questions too and go from there. Is that  
16 unreasonable?

17 MR. FITZGERALD: Yes. I guess I,  
18 there is one question for Tim. Would we be seeing  
19 a, maybe in a month or so, a sampling strategy or  
20 plan based on what you find in the boxes?

21 I mean, obviously you're going to have  
22 to figure out how best to sample what you got.

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1 DR. TAULBEE: Absolutely. I do have  
2 one quick question for you all. Of course it  
3 will get to, because it will help us in going in  
4 direction and developing a sampling plan for you  
5 all to review.

6 And this kind of goes up, actually let  
7 me show my desktop here so that everybody can see  
8 it. Just a second here. If it will let me.  
9 There we go.

10 Okay, let me --

11 MR. KATZ: Hello?

12 DR. TAULBEE: Yes, I'm here.

13 MR. KATZ: Hello.

14 DR. TAULBEE: Yes.

15 MR. KATZ: Yes, it's there. It's  
16 there, Tim.

17 DR. TAULBEE: Okay. And that is from  
18 a random sampling of the RWPs. From identifying  
19 areas. So we're going to identify all the areas  
20 for each of those boxes.

21 But do you want us to do a completely  
22 random sampling or do you want us to do more of

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1 a selective sampling based upon, hold on, make  
2 sure you guys can see me, sharing my pin there,  
3 but thankfully numbers don't come up, in order to  
4 address more of the Issue 6 group that Joe raised.

5 I mean, the reactors, we can sample  
6 from there but I really don't see that there is  
7 a big issue there with regards to tritium, that  
8 we've already demonstrated is a very low dose.  
9 So, would you like for us to focus the sampling  
10 plan on fuel fabrication, separation, product  
11 radionuclides or include the reactors?

12 MR. BARTON: Well, this is Bob. I  
13 think have Joe weigh in here, but my feeling is  
14 that I agree.

15 I think really the actinide areas are  
16 going to be the areas of concern so I think maybe  
17 not a truly random sample but I think maybe more  
18 of a focus with, let's go ahead and look at the  
19 actinide areas and pull, yes, we don't want to be  
20 pulling RWPs that are clearly a job --

21 (Simultaneous speaking.)

22 CHAIR CLAWSON: Hey, Bob?

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1 MR. BARTON: -- where --

2 CHAIR CLAWSON: Bob, hold on a minute.

3 MR. BARTON: Yes.

4 CHAIR CLAWSON: Somebody is on the  
5 phone.

6 MR. KATZ: Yes, sorry. There are some  
7 people on the phone, I think they joined fairly  
8 recently.

9 In any event, we can hear you and we  
10 shouldn't be, so can you please mute your phones.  
11 If you need to stay on this line then please mute  
12 your phones.

13 If you don't have a mute button, press  
14 \*6, that will mute your phone. And then you won't  
15 be interrupting the discussion. Thank you. All  
16 right, go ahead.

17 MR. BARTON: Okay. Yes, this is Bob.  
18 What I was saying was I think, you know, I agree  
19 with Tim's sentiment there that it should be not  
20 a truly random sample but I think we should be  
21 focusing on really the actinide exposure areas.  
22 And clearly the americium areas I think is

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1 important for that Item Number 6.

2 And also, we want to be looking at  
3 RWP. If we're going to be pulling these things,  
4 we want to look at RWPs that would have had the  
5 potential for some sort of intake. Not, you know,  
6 jobs that are clearly, that there is no  
7 potential.

8 Now, I don't know how specific the  
9 RWPs will be to let us delineate that. Obviously,  
10 there are things like, if there are bioassay  
11 requirements obviously that's one. If there is  
12 respiratory protection too, that's another one.

13 But in even things like, that are  
14 requiring like air sampling or swipe surveys,  
15 that sort of thing, might be an indicator that  
16 there's some potential.

17 So I think more of a focus approach  
18 rather than a truly random sample is going to be  
19 a lot more beneficial to us. Joe, I'll let you  
20 take over.

21 MR. FITZGERALD: Yes, I think the  
22 sampling plan would provide more targeting with

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1 some justification why a certain operation  
2 facility would be included. I think one of the  
3 challenges we had was we had to live with the  
4 very few RWPs that we actually found.

5 I mean, we found 13. So, clearly you  
6 take what you get. And a lot of that was tritium.

7 But if we do in fact have 800 boxes,  
8 I mean, I think that changes this by a great deal.  
9 And certainly we can target facilities, target  
10 operations, target time periods. I mean, this is  
11 turning this whole thing upside down from what it  
12 was last year.

13 So, certainly I would be interested in  
14 seeing a sampling plan that would be focused on  
15 time frame, operations and facilities where  
16 subcontractors actually figured, during the  
17 '90's, in a prominent way.

18 So this captures what those, what you  
19 said earlier about, you have active D&D, you have  
20 waste management operations, that kind of thing.  
21 Maybe even a tank farm.

22 You're dealing with complex source

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1 terms so you're certainly looking to see whether  
2 or not the subs were included in the bioassay  
3 program.

4 DR. TAULBEE: Okay, this is Tim. Then  
5 we will focus on the non-reactor areas that were  
6 conducting D&D and other operations in that time  
7 period. If that's acceptable? As far --

8 MR. FITZGERALD: Yes.

9 DR. TAULBEE: Okay. All right. That  
10 was all the, that was the major question that I  
11 had. Because it does affect our direction in  
12 writing the sampling plan and so that was the, so  
13 I appreciate that. Thank you.

14 MR. FITZGERALD: And for the Work  
15 Group's benefit, I think the analysis on the  
16 historic tritium intake history in the '90's was  
17 provided by, I think Tim in the Work Group meeting  
18 I believe. So there is a background on that  
19 subject.

20 CHAIR CLAWSON: Okay.

21 MR. KATZ: So, Tim, can I just  
22 suggest, as part of this path forward, I mean,

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1       so, Tim, I think at this point a brief memo after  
2       the meeting on your understanding and general  
3       path forward, whatever level you take and give  
4       it, if you can run that by the Work Group and  
5       SC&A.

6                   And then it sounds like it would be  
7       helpful, a month down the road or whatever, once  
8       you've gotten to review the boxes and all, send  
9       us an update at that point what you're actually  
10      finding and so on. It seems like the Work Group  
11      would like to know so that they have an early  
12      sense of how productive this is likely to be  
13      informed.

14                   MR. FITZGERALD: Yes, Tim and Ted, in  
15      terms of the workers, would it be useful to have  
16      this group to get back together once Tim has had  
17      a chance to physically review the boxes and get  
18      some sense of what we're dealing with and going  
19      forward what the sampling plan is likely to look  
20      like?

21                   I mean, that sounds like it would be  
22      a good juncture about a month, month and a half

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1 from now.

2 MR. FITZGERALD: Yes, I'm just  
3 thinking we can get an email, a paper report  
4 first, and then absolutely, there is no problem  
5 with having another Work Group meeting or however  
6 many you need. Absolutely.

7 MR. KATZ: So --

8 MR. FITZGERALD: I think --

9 (Simultaneous speaking.)

10 MR. FITZGERALD: Jim, how's that  
11 sound?

12 CHAIR CLAWSON: Yes, that's fine with  
13 me. I just want to make sure we have paper  
14 covering what we have discussed and what our path  
15 forward is. Because I don't want, we spent a lot  
16 of time on this and I don't want to spend a lot  
17 of resources if it wasn't what we really wanted.

18 MR. KATZ: Yes.

19 CHAIR CLAWSON: So, I agree, we need  
20 to --

21 MR. KATZ: That makes sense.

22 MEMBER LOCKEY: Joe, Jim Lockey. Can

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1 I ask you a question, Joe?

2 MR. FITZGERALD: Shoot, Jim.

3 MEMBER LOCKEY: Yes. The 1989, pre-  
4 1989 issue, what are, do you have any remaining  
5 issues in that time frame that we have to address?

6 MR. KATZ: So, Joe, I don't know if  
7 got it, can you hear Jim? He was asking, what  
8 are the issues in the pre-'89, the '89 docs that  
9 we need to address?

10 DR. TAULBEE: Are you asking me, Tim  
11 or --

12 MR. KATZ: No, he's asking Joe.

13 MR. FITZGERALD: Oh, I'm sorry, I  
14 couldn't hear very clearly on that. The issue is  
15 one where the subcontractors did figure, before  
16 '89, the DuPont regime.

17 But again, it was a different  
18 management approach. DuPont handled the subs  
19 pretty similar to how they handled the in-house  
20 workers.

21 So, in that particular case it was a  
22 situation of just confirming that there was not

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1 an issue prior to the influx of subs in '89. And  
2 I think that was the genesis of looking at 773A  
3 the way NIOSH had done it. That was one data  
4 point.

5 So, it's more confirmatory than  
6 anything else. You have one data point that says  
7 there is no issue. At least for 773A.

8 It might be an approach where we get  
9 a couple more data points and basically write off  
10 DuPont as having a real issue that we couldn't  
11 handle with a coworker model, whatever data we do  
12 have.

13 MEMBER LOCKEY: So, if there are boxes  
14 pre-'89, is that something we should be  
15 considering then, looking at that also to answer  
16 that question?

17 MR. KATZ: Pretty much.

18 MEMBER LOCKEY: That's what I'm trying  
19 to figure out.

20 MR. FITZGERALD: Yes, I think that's  
21 one we want to discuss now that we have Tim's  
22 proposals and options. I do think you treat the

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1 pre-'89 DuPont era in terms of subcontractors  
2 differently than the Westinghouse post-'89.

3 And I understand the proposal is to  
4 use the NOCTS data to do that. I just want to  
5 think about that, talk about it with my  
6 colleagues and maybe come back to the Work Group  
7 and NIOSH with either questions or a proposal or  
8 even a confirmation on the NOCTS approach.

9 But I think that's a little harder in  
10 terms of a path forward than the post-'89. I  
11 think post-'89 you had the RWPs and hopefully  
12 those will be able to answer the questions of a  
13 suitable sampling plan.

14 Pre-'89 I'm not as sure about. We  
15 certainly want to look at the NOCTS data again  
16 and decide.

17 And we were, this is a question for  
18 Tim, we were going to get the raw NOCTS data, I  
19 think that was something that was mentioned in  
20 the November meeting, I was wondering, will we be  
21 seeing that?

22 DR. TAULBEE: The raw NOCTS data for

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1 --

2 MR. FITZGERALD: You had, you were  
3 presenting, yes, you were presenting the  
4 information that you had, the 300 data points,  
5 and I think at the meeting you were suggesting  
6 that you were going to make that available to  
7 SC&A.

8 DR. TAULBEE: Oh, okay, yes. Sorry,  
9 I forgot that. Yes, it's available. It's all in  
10 NOCTS.

11 We certainly --

12 MR. FITZGERALD: Yes. Well, I mean,  
13 I think your compilation.

14 DR. TAULBEE: Yes. Okay. Yes, that's  
15 not a problem.

16 MR. FITZGERALD: Yes. That might help  
17 us come to some kind of conclusion and  
18 recommendation as a Work Group, which is what I  
19 think Jim is indicating, can we reach closure on  
20 that pre-'89.

21 DR. TAULBEE: Yes. With the NOCTS  
22 data --

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1 MEMBER LOCKEY: Joe, can you have that

2 --

3 (Simultaneous speaking.)

4 MEMBER LOCKEY: -- can you have that  
5 to us in a month?

6 MR. FITZGERALD: I'm sorry, I think  
7 while NIOSH is proceeding to look at the RWPs we  
8 can look at this issue and try to get back to the  
9 Work Group in that same time frame.

10 MEMBER LOCKEY: I mean, I agree with  
11 Brad, it's gone on long enough. We need to  
12 identify the issues, get the plan in place and  
13 say, yes, we can solve this or no, we can't. And  
14 so I'd like to run those parallel.

15 MR. FITZGERALD: Yes, I think that  
16 would be a good idea.

17 MEMBER LOCKEY: Okay.

18 MR. FITZGERALD: Okay.

19 MEMBER LOCKEY: Is everybody good with  
20 this?

21 MR. BARTON: I think people might be  
22 conflating two issues here though because the

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1 NOCTS analysis was really to show whether there  
2 was a discernable difference in the monitored  
3 worker populations. What we're talking about  
4 with the RWPs is to see if monitored workers were  
5 right besides unmonitored workers.

6 And I think the problem so far that  
7 we're looking at is that there just aren't that  
8 many boxes identified so far for that pre-'89  
9 period. I think there were 11 for the '73 up  
10 through '89.

11 Now, I mean, 11 boxes sounds like  
12 something. And I think that it's not a lot  
13 compared to what you see in the 1990's, surely.

14 So, Tim, maybe you can clarify that.  
15 I think what you were saying is that there may  
16 very well be more RWPs in that earlier period to  
17 be able to do the same type of thing.

18 And I think what Joe is saying is,  
19 while we're not quite as concerned about that  
20 earlier period because of the different  
21 contractor, the '90's with Westinghouse is more  
22 of a concern certainly.

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1                   But that in so far as we go and get  
2 more data points beyond the 773 analyses, it  
3 sounds like there may be at least 11 boxes that  
4 could be used and possibly more.

5                   So, I guess Tim, was that what you  
6 were saying when we were talking about the lack  
7 of data before 1989, there were only 11 or so  
8 boxes whereas we had many, many more in the '90's?

9                   DR. TAULBEE: That is correct. I hand  
10 the question back down to Joe as far as, what  
11 data are you wanting, because the analysis we did  
12 for the NOCTS, and we presented to the Board, was  
13 '91 to '97. That had that grid of red and green  
14 with individual workers.

15                   Are you wanting that data or are you  
16 wanting data prior to 1991?

17                   MR. FITZGERALD: No, I think you were  
18 indicating that, that certainly the RWPs and  
19 whatnot provide a perspective for post-'90's but  
20 for pre-'89 as far as sticking to what you have.  
21 And the question is, is that good enough. And I  
22 think we just need to come to a resolution as to

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1        what information can be used prior to the '90's  
2        and is that sufficient.

3                    DR. TAULBEE: Right. But I'm asking,  
4        what did data did you just request from me so we  
5        can provide it.

6                    MR. FITZGERALD: Well, I think that's  
7        part of what we got to figure out. I think what  
8        Jim is saying, we just need to reach closure on  
9        what the path is for both the '90's and pre-'90.

10                   And I'm much more bothered by the pre-  
11        '90's because this is, you know, one hand there's  
12        less information, on the other hand there's fewer  
13        subcontractors involved and a different  
14        management system that DuPont is managing.

15                   So, it was a much more static  
16        operational situation at Savannah River. So  
17        there is a lot of differences in the pre-'90's as  
18        opposed to '90's that I think we have to consider.

19                   And I can see a different strategy  
20        frankly. It's just, there is just too many  
21        differences in the way things are being managed  
22        and in terms of the operations at the time. So

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1 I can see a difference in how you approach that,  
2 this question, subcontractors, in those two time  
3 periods.

4 DR. TAULBEE: Okay. I understand  
5 that, but a few minutes ago you asked for me to  
6 provide data to you from the NOCTS evaluation  
7 that we did, and I'm trying to figure out which  
8 data are you asking for.

9 MR. FITZGERALD: Well, I think that's  
10 something we're going to have to clarify because,  
11 again, I need to go back and, all I have right  
12 now is what's been produced in the NOCTS  
13 analysis, which is the '90's, right?

14 DR. TAULBEE: That's correct.

15 MR. FITZGERALD: Yes. And we need to  
16 look at that and get back. To me that's probably  
17 the biggest question that we would have to work  
18 on for the next few weeks.

19 DR. TAULBEE: Okay.

20 MR. KATZ: So, Joe, you can just, I  
21 mean, he's asking, get your heads around this and  
22 write a number to --

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1 MR. FITZGERALD: Yes, I think that's  
2 something that we owe. Yes.

3 DR. TAULBEE: Okay.

4 MEMBER LOCKEY: So, Joe, Jim Lockey  
5 again. So, Joe, you'll write a letter to this  
6 Work Group as well as to Tim and say, this is the  
7 data we need to look at for pre-'90's?

8 MR. KATZ: Or a path forward, of  
9 whatever it might be. I think they have to get  
10 their heads around this.

11 MR. FITZGERALD: Yes. And there may  
12 be some discussions with NIOSH. You know, I think  
13 this is not something that just surely comes out  
14 finished. It's something we need to have a  
15 discussion on too.

16 MR. KATZ: Yes.

17 MEMBER LOCKEY: Thank you.

18 MR. KATZ: Yes, and we can also, Joe,  
19 we can also arrange a technical call if you need  
20 to have a chat about those options with folks  
21 before you --

22 MR. FITZGERALD: Yes.

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1                   MR. KATZ:    -- get back to the Work  
2                   Group.

3                   MR. FITZGERALD:  That's kind of what  
4                   I was thinking about.  Yes.

5                   MR. KATZ:  Yes.  And we can have Work  
6                   Group Members on the technical phone too.

7                   MR. FITZGERALD:  Right.

8                   MR. KATZ:  Yes.

9                   MEMBER LOCKEY:  Ted,  Jim  Lockey.  
10                  Where I'm trying to go with this is, I don't want,  
11                  and I think Brad will agree, we want to be a  
12                  little more down the line and say, oh, it's done  
13                  now, we got to go get, we're pulling out other  
14                  boxes pre-'90.

15                  Is that something that you can decide  
16                  in the next month that if you think your value is  
17                  needed then that process could start right away  
18                  rather than waiting another four or five, six  
19                  months down the line.  That's what I'm concerned  
20                  about.

21                  MR. FITZGERALD:  Right.

22                  DR. TAULBEE:  It seems to me that it

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1       might be appropriate to go back to the initial  
2       issues matrix and go through, or have SC&A go  
3       through those and highlight the ones that we need  
4       to resolve completely for this, as a kind of  
5       review.

6                   And in light of all of the reports  
7       that we put out over the past year, and kind of  
8       look at it from that way. I think that's what  
9       Dr. Lockey was asking for is --

10                   MEMBER LOCKEY: Right.

11                   DR. TAULBEE: -- what are all of the  
12       issues, especially pre-1989, that are still out  
13       there. Is that correct, sir?

14                   MEMBER LOCKEY: That's correct. And  
15       it seems like it's an easy target here, and I  
16       don't want a moving target anymore, I want to  
17       define, these are the issues we got to resolve  
18       and let's get it done and put a timeline on it.  
19       I mean, you cannot continue to move the targets  
20       around.

21                   DR. TAULBEE: So, Joe, are you going  
22       to take on that task or --

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1 MR. FITZGERALD: Yes. I think we need  
2 to do that but I'm just saying, I'm holding open  
3 the possibility of having some technical calls  
4 with you and your staff just to make sure that  
5 whatever is derived is, you know, is backed by  
6 what information and data is available. You  
7 know, that kind of thing.

8 MR. KATZ: Right.

9 DR. TAULBEE: I agree. That sounds  
10 good.

11 MR. KATZ: Right.

12 DR. TAULBEE: Yes.

13 MR. KATZ: And Work Group members,  
14 I'll, certainly I'll copy you if we have  
15 technical calls and the Work Group members can  
16 listen in too of course.

17 CHAIR CLAWSON: Okay, appreciate that.

18 MR. KATZ: Yes.

19 CHAIR CLAWSON: Is there any other  
20 questions before we bring this meeting to a close  
21 or any clarification?

22 We are going to kind of have a writeup

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1 of this, correct, Joe --

2 MR. KATZ: Right.

3 CHAIR CLAWSON: -- and Jim?

4 MR. KATZ: Yes, you're going to get  
5 writeups both from Joe and from Tim. And Tim  
6 will run his through Joe too so we can kind of -  
7 -

8 MR. FITZGERALD: Right. Right, we've  
9 done it before, we'll exchange drafts and get  
10 this to a point where everyone agrees.

11 CHAIR CLAWSON: Okay. I just wanted  
12 to make sure. I know that sometimes we all think  
13 we understand, then until we get it in paper then  
14 we, I know we can kind of clarify that.

15 If there isn't anything else I believe  
16 this brings this to a close.

17 **Adjourn**

18 MR. KATZ: Okay, so we're adjourned  
19 and thank you everybody for all of this.

20 CHAIR CLAWSON: Thank you.

21 DR. TAULBEE: Thank you everybody.

22 MR. KATZ: Take care.

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1                   (Whereupon, the above-entitled matter  
2           went off the record at 12:13 p.m.)

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