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2           to -- just to kind of give you a perspective.  
3           We had a short discussion on log books during  
4           the call on Monday, and I mentioned that some  
5           of my HP-- some of the HPs at -- at NIOSH had  
6           already looked through a couple of these log  
7           books, and I've just scanned the first five  
8           pages of -- of the three that we've looked at  
9           already. There are two decon dailies and one  
10          that is called a contamination control report.  
11          I just want -- I think it's just worthwhile to  
12          show you what these logs look like, what kind  
13          of information is and is not in them.  
14          Now based only on these three -- only on these  
15          three -- we didn't find much in these three.  
16          These three are already posted on the O drive  
17          so if you're interested you can go look at the  
18          whole -- the whole log. But I think it's  
19          worthwhile just to get a perspective as to what  
20          we're talking about with these logs.  
21          Now during Monday's conference call Mark and  
22          Kathy indicated that they had had some -- some  
23          better luck finding data that could be cross-  
24          checked against radiation files to -- just to  
25          see whether or not they -- to what extent they

1           agree. And I requested that -- you know, if  
2           you've had better luck, if you've gotten  
3           luckier than -- than I have so far, please send  
4           me those logs -- I mean just tell me which logs  
5           those are so that we can make sure that we  
6           include those in our analyses.

7           When we last spoke about this at the last  
8           working group meeting, we committed to provide  
9           a plan. The detailing of that plan is really  
10          kind of contingent on what we find in the logs.  
11          I mean it would be one thing for us to say  
12          we're going to look at this, that and the other  
13          log, and then once we look at it there's  
14          nothing in it. So we are looking through them  
15          right now, just taking a brief first-pass  
16          through to see whether particular types of log  
17          books turn out to be -- to have data that we  
18          can actually look at. So that piece will be  
19          coming as we take a look at these 48 log books  
20          that we have in our possession.

21          In addition, I don't know if maybe you called  
22          them by another name, Bob, the urinalysis log  
23          books were considered kind of a separate type  
24          of log book. That I think everyone -- I think  
25          it's pretty safe to say that those are going to

1           have of course pieces of data that we can check  
2           against the rad files, and we have located some  
3           of the urinalysis logs from -- in the '50s, I  
4           don't remember the exact dates.

5           **MR. MEYER:** Right, Gene actually has the exact  
6           dates. Gene, are you there?

7           **MR. POTTER:** Yes. That'd be '52 to '55, and  
8           then '60 through about '68.

9           **DR. ULSH:** All these musical chairs, I've lost  
10          the document I need.

11          **MR. GRIFFON:** And that -- is that it, Gene?

12          **MR. POTTER:** Yes, other than to say that --

13          **MR. GRIFFON:** Nothing in the '70s.

14          **DR. ULSH:** Well, we do have --

15          **MR. GRIFFON:** Nothing yet, anyway.

16          **DR. ULSH:** -- we do have a piece of information  
17          for you on that, Mark, as soon as I can find it  
18          in my matrix, which I just relocated.

19          Okay. We have both uranium and plutonium  
20          urinalysis logs for '52 through '55. We have  
21          both plutonium and uranium for '63 through '68.  
22          We are currently looking for urinalysis logs  
23          for '69 through '71. Now at some point --

24          **MR. GRIFFON:** You mean you know they exist but  
25          you just can't locate them, or --

1           **DR. ULSH:** We know that they exist; we have not  
2 yet located them.

3           At some point after 1971, we don't know the  
4 exact date, they went to an electronic  
5 reporting system, so these log books would have  
6 ceased to be prepared. That's after '71, but I  
7 don't know exactly when. So for the ones that  
8 we have, we're going to start going through  
9 them. As we agreed at the last working group  
10 meeting, I'm going to -- it will probably be  
11 me. I'll go through and pick out a handful of  
12 data points from representative logs --  
13 urinalysis logs -- and we'll bounce that off of  
14 HIS-20 and see to what extent they do or do not  
15 agree.

16           **MR. GRIFFON:** So there's -- post-'71 they were  
17 entering directly from the laboratory --

18           **DR. ULSH:** At some --

19           **MR. GRIFFON:** -- to some sort of database,  
20 which then might have been merged with HIS-20  
21 or whatever.

22           **DR. ULSH:** Exactly. At some point after 1971,  
23 I don't know the exact date. We know that  
24 there -- there should be log books up through  
25 at least 1971, and sometime after that there

1                   won't be any, but we don't know exactly when  
2                   that happened.

3                   **MR. GRIFFON:** So there's no real paper record  
4                   to check after -- after -- some point after  
5                   '71. I mean after -- once they went to that  
6                   electronic system, there's no real paper record  
7                   to --

8                   **DR. ULSH:** I'm going to --

9                   **MR. GRIFFON:** -- check against.

10                  **DR. ULSH:** I'm -- I'm going to say that there  
11                  were -- those results were recorded  
12                  electronically from the get-go. Now, Gene, is  
13                  that correct?

14                  **MR. POTTER:** Those -- those results that --  
15                  after that system went into effect would have  
16                  been, you know, exchanged between databases and  
17                  the printouts put in the folks' files, so the  
18                  most direct evidence of a bioassay is in the  
19                  individual files. And I was involved when they  
20                  shut down the last LIMS system from Building  
21                  123 when we went to all off-site analyses, and  
22                  this occurred early in '97. I think the LIMS  
23                  system was checked and rechecked to make sure  
24                  that all the data was gleaned from it, and then  
25                  it was archived in some fashion, which you

1 know, we would have to further investigate as -  
2 - you know, probably the software that ran is  
3 no longer current. The platform it ran on is  
4 probably no longer available. And so the most  
5 direct evidence is -- is what was printed out  
6 and put into individual files.

7 **MR. GRIFFON:** Gene, can you clarify the LIMS  
8 system, what --

9 **MR. POTTER:** The Laboratory Information System  
10 or some such acronym for it. There were two --  
11 there were two -- at least two versions of  
12 that. The last was called L-I-M-S, LIMS. The  
13 one before, I never remember what it was,  
14 certainly well before my time.

15 **MR. GRIFFON:** All right.

16 **DR. ULSH:** That's where we're at.

17 **MR. GRIFFON:** Okay.

18 **MR. MEYER:** And I did -- the list actually did  
19 just come in. We have ten additional log books  
20 in our possession on the disk that came in this  
21 morning or last night. They include 1964 to  
22 1968 monitoring surveys; 1961 radiation history  
23 files, health physics log books, including  
24 urinalysis results; 1962 radiation history  
25 files including urinalysis results; 1962 -- the

1 first one was the first part of '62, the next  
2 one is late '62 to early '63, same thing,  
3 radiation history files including urinalysis  
4 results; the same type of log book for later in  
5 1963; two -- one decontamination facility log  
6 book for 1996; one clean-up log book for 1969 -  
7 - 5/21/1969, which will be interesting, that's  
8 the second one of those that we've -- that  
9 we've found and it just -- just came in; and  
10 two more down here at the bottom that were  
11 radiation monitoring protection log books --  
12 this is a full set, 1982 to 1990, two -- two  
13 sets. Those must be large files. I don't  
14 actually have the files in here yet, but I just  
15 requested the list. So what's happening is --  
16 **MR. GRIFFON:** Yeah.  
17 **MR. MEYER:** -- I meant to say earlier that  
18 Scott has been going back through their records  
19 using different types of keyword searches  
20 because that's the key to the whole thing with  
21 that large a record set, and this last week --  
22 understanding what it is we've been looking for  
23 -- he's gone back and dug out some additional -  
24 - you know, they're not random sets, but things  
25 related to all of the requests that we've made

1 and that's what this disk contains.

2 **DR. ULSH:** The other piece to this, and I don't  
3 know if this is the right time to get into  
4 this, Mark, or not, but we've also posted a log  
5 from the 1969 fire. What kind of log book is  
6 that, do you remember?

7 **MR. MEYER:** It's -- it looks to be a foreman  
8 log. It -- it's -- it's difficult to tell  
9 actually who wrote it. It's one of those  
10 that's kind of scratchy --

11 **MR. GRIFFON:** Is -- is -- is it -- is it a log  
12 book from the fire or around the time of the  
13 fire?

14 **MR. MEYER:** It -- it actually covers --

15 **MR. GRIFFON:** Nothing that has dates that we're  
16 miss-- I --

17 **MR. MEYER:** It covers the period of the fire,  
18 and you can -- and I actually have it on here  
19 if you -- and it's available to be looked at.  
20 It covers the period of the fire up to the  
21 period. It's routine events, the night of the  
22 fire. It's -- it's a sort of --

23 **MR. ELLIOTT:** Catastrophe.

24 **MR. MEYER:** -- catastrophe event, and there is  
25 a period in the log book when there's just an



1 occasional note that they were in there again  
2 all night.

3 **MR. GRIFFON:** Oh, okay.

4 **MR. MEYER:** That sort of a note.

5 **MR. GRIFFON:** That's a different one than I saw  
6 then.

7 **MR. MEYER:** Okay, it's -- it's a -- real time  
8 during the -- during the event itself. It's an  
9 interesting log to read, and you can tell  
10 during that first couple of days he didn't have  
11 much time to write.

12 **MR. GRIFFON:** Right.

13 **MR. MEYER:** Mel has a lot more information on  
14 that period of the fire itself.

15 **MR. GRIFFON:** Yeah, and we can -- I won't --  
16 I'll let you share that, too, Mel, but I -- I  
17 want to stay on this for a second, though. The  
18 -- Brant, I think to some extent your question  
19 might have been answered by those last entries  
20 that came in. By the titles of those it sounds  
21 like they have urinalysis records --

22 **MR. MEYER:** It does by the titles, yeah.

23 **MR. GRIFFON:** -- in several of those, so at  
24 least to some extent we -- maybe they're not  
25 data rich, but --

1           **DR. ULSH:** It could be that --

2           **MR. GRIFFON:** -- by the title it sounds like  
3 they might have something.

4           **MR. ELLIOTT:** But -- but your interest here is  
5 to cross-check the data from the log book for  
6 urinalysis with that that's in a database.

7           **MR. GRIFFON:** Right, right, right. Well --

8           **MR. ELLIOTT:** That's your interest here.

9           **MR. GRIFFON:** I guess -- you know, just to go  
10 back to, you know, why -- I mean the whole  
11 thing is -- the main thrust is is the data  
12 that's being used for the dose reconstruction  
13 reliable, and not only are -- is the workgroup  
14 and SC&A interested in that, but we've had the  
15 petitioners -- the sense of them is the -- you  
16 know, and not one individual allegation, but  
17 you know, we've heard that from several people.  
18 We even heard it from Jennifer Thompson saying  
19 that, you know, it's not my case, I'm just  
20 using mine as an example of what might have  
21 happened to others, so -- yeah, so we're trying  
22 to look at that broader issue and --

23           **MR. FITZGERALD:** And we -- and we -- when we  
24 interviewed the former RCTs, you know, and  
25 said, you know, where's the corroboration, we

1           kept hearing the allegation of, you know,  
2           really no documentation. And the response was  
3           well, you know, look in the safety concerns.  
4           There are safety -- this is coming from the  
5           union, of course, the safety concerns file --  
6           and log books. The RCTs were pointing to the  
7           log books, so that -- that was the genesis of  
8           saying okay, if there's any corroboration it's  
9           going to be found in those two locations -- but  
10          nothing specific. That's probably part of the  
11          challenge is deciding how you look at it.

12          **MR. GRIFFON:** So that -- that's where this is  
13          coming from. That -- what you just said about  
14          sometime after '71 and going down electronics,  
15          this might -- that's the first I had heard of  
16          that, too, so that --

17          **DR. ULSH:** You mean (unintelligible) --

18          **MR. GRIFFON:** -- explains a lot of what we're  
19          seeing in the files 'cause you don't see the --  
20          the raw data anymore after a certain time  
21          period there.

22          **DR. ULSH:** And it could be that these last ten  
23          things that we've got, Mark, maybe they're not  
24          called log books, maybe they're -- I don't  
25          know, maybe they're something else, but --

1           **MR. MEYER:** It looks as though something like  
2           that is happening that they're testifying  
3           (unintelligible) --

4           **DR. ULSH:** We'll have a better feel for it,  
5           though, after we take a look, but --

6           **MR. GRIFFON:** So I mean I'm -- I'm looking at  
7           this sort of like we did at Y-12. We -- we had  
8           multiple prongs and -- and it wasn't any -- any  
9           -- necessarily any neat, formal method, but by  
10          looking at a number of different sources,  
11          including monthly progress reports, quarterly  
12          progress reports, some urine cards in one case,  
13          you know, got enough corroboration with the  
14          database that we said, you know, it looks good.  
15          Now in this case I think we're -- it's a little  
16          bit different because I think we're less  
17          concerned about the database for use as a  
18          coworker model where at Y-12 that was the big  
19          thrust, you know. I think here we're more  
20          conc--

21          **MR. MEYER:** On an individual basis.

22          **MR. GRIFFON:** -- right, more concerned that the  
23          individual record is actually reliable.

24          **DR. ULSH:** And so what I see in the immediate  
25          future on this -- this particular item is that

1 next week I'm going to work to get as many of  
2 these log books that we have in our possession  
3 up on the O drive so that you and SC&A -- the  
4 workgroup and SC&A can look at them, and then  
5 we're going to do an initial -- an initial run-  
6 through on these log books and identify which  
7 ones contain data that we can actually compare  
8 and which ones don't.

9 To date -- and I want to make it clear, I've  
10 only looked at a very few log books. The  
11 Kittinger log books do have a lot of stuff in  
12 them. The two decon dailies and the  
13 contamination con-- one contamination control  
14 log book that I looked at didn't have much in  
15 them. But as I mentioned, you know, you found  
16 some stuff, Mark, and Kathy said she found some  
17 stuff, so if you guys could let me know which  
18 ones those are, we'll make sure to look at  
19 that, too.

20 **MR. FITZGERALD:** Yeah, it seems like the  
21 process is to -- to feed to each other. I mean  
22 if there are some entries that illustrate the  
23 possibility of useful information, we'll pass  
24 that on to you --

25 **DR. ULSH:** Absolutely.

1           **MR. FITZGERALD:** -- and you're going to pass on  
2 where, you know, hey, these log books are  
3 proving to be not too fruitful, which is the  
4 process I think we're looking at, trying to  
5 figure out if there's anything here that could  
6 corroborate the -- the people that are alleging  
7 falsification and other issues. If not, so be  
8 it.

9           **MR. GRIFFON:** Right. The -- the -- I was just  
10 going to say from our -- from my standpoint,  
11 I've looked at -- well, let me step back. The  
12 46 you mentioned in your presentation, does  
13 that include the ones that were posted already?  
14 'Cause we have about 16 or so --

15           **DR. ULSH:** Yeah, there's a bunch of foreman's  
16 logs up there now.

17           **MR. GRIFFON:** I can't remember the --

18           **DR. ULSH:** Yeah, they're mostly foreman's logs,  
19 there may be one Kittinger log on there.

20           **MR. MEYER:** And actually as of this morning,  
21 now it's 56.

22           **MR. GRIFFON:** Okay, so now it's 56, right.

23           **DR. ULSH:** But those do include the ones that  
24 are up --

25           **MR. MEYER:** Right.

1           **MR. GRIFFON:** Those do include --

2           **MR. MEYER:** Yes, it's everything we have.

3           **MR. FITZGERALD:** And we've (unintelligible) the  
4 foreman's logs are not very useful.

5           **DR. ULSH:** At think we agreed to that at the  
6 last --

7           **MR. GRIFFON:** Then let me just -- just say what  
8 I've sort of done spot check-wise was -- I  
9 started looking at some of these logs. I found  
10 some entries, and I did have an e-mail exchange  
11 with -- with you, Brant, on the -- I was  
12 finding -- a bunch of the logs had indications  
13 that people were sent for lung counts, and  
14 sometimes they gave the values in there,  
15 sometimes they just said, you know, had a  
16 potential incident, sent him for a lung count -  
17 - had the name, had the date. So I said I  
18 don't even care if -- if I have a count, I can  
19 at least corroborate that the individual --

20           **MR. ELLIOTT:** (Unintelligible)

21           **MR. GRIFFON:** -- right, right, that it  
22 occurred, right. And -- and I checked a number  
23 of these and I wasn't finding any matches, so I  
24 e-mailed Brant and said, you know, wha-- this  
25 seems like something's wrong here; is HIS-20

1 complete with regard to the data. And I think

2 --

3 **DR. ULSH:** Well, the answer's no.

4 **MR. GRIFFON:** Well, if you can -- if you can  
5 tell me exactly -- you know, why -- maybe it's  
6 in the TBD, but if you can just give me a once-  
7 over what does it have in it, if it's not all  
8 of the in vivo for a certain time period.

9 **DR. ULSH:** Well, there are a number of --

10 **MR. GRIFFON:** 'Cause there's 147,000 points or  
11 something like that of lung count data.

12 **DR. ULSH:** I'm going to have to rely to some  
13 extent on -- on Roger and Gene to talk about  
14 the problems with the in vivo data in HIS-20.  
15 What I can tell you is that we don't use the in  
16 vivo data in HIS-20 for any -- any purpose  
17 because we know that there are problems with  
18 it. That doesn't apply to the urinalysis, it  
19 doesn't apply to the -- the external dosimetry  
20 results. And there are a number of issues that  
21 are way beyond my expertise.

22 Gene, maybe you can --

23 **MR. GRIFFON:** Well, maybe explain why it  
24 doesn't apply to the other two, too, if they  
25 can't -- like how do you know one's a problem



1 and the others aren't or...

2 **DR. ULSH:** Okay. Well, I think the rea-- to  
3 answer that question, Mark, the issues that  
4 we're talking about are specific to in vivo,  
5 that -- they're just not relevant for --

6 **MR. GRIFFON:** Okay.

7 **DR. ULSH:** -- for bioassay. But Gene, can you  
8 maybe start off with some of the problems that  
9 we know exist with the lung count data in HIS-  
10 20? And Roger, chip in.

11 **MR. POTTER:** Yeah, Roger probably does a better  
12 job on the earlier things, but to kind of  
13 summarize, there -- there was -- there's --  
14 HIS-20 recorded all in vivo results in units of  
15 microcuries, for one thing. And so the  
16 previous databases used nanocuries, so a factor  
17 of a thousand different. Even in the -- you  
18 know, '95 on when we had Canberra software to  
19 run our lung counter and -- and Canberra --  
20 HIS-20, the two systems were supposed to talk  
21 to each other and in fact they -- they did, but  
22 only in units of microcuries, so some of the  
23 results were so small that they wouldn't have  
24 shown up in -- in the database. And so I mean  
25 that's just one of a number of issues, so

1            basically all you can use, even for the modern,  
2            wonderful stuff, is either a positive count,  
3            which will be -- you know, that was well above  
4            detection. You can see those in there where  
5            the peak was identified, or it was above  
6            decision level. But other than that, for  
7            routine counts that were below, you're not  
8            going to see much more in HIS other than the  
9            fact that a lung count was taken on that date.

10          **MR. GRIFFON:** But you should see that a count  
11          was taken.

12          **MR. POTTER:** Yes, you should see that.

13          **MR. GRIFFON:** See, I don't even see that.  
14          That's -- that's my issue.

15          **MR. POTTER:** Yeah. Well, the earlier days  
16          relied --

17          **MR. GRIFFON:** This is the early days, yeah.

18          **MR. POTTER:** In the earlier databases -- from  
19          the very start of the -- of the lung counting  
20          program, it's been my observation that a hard  
21          copy report of the lung count was always placed  
22          in the individual records. And to get it into  
23          some sort of database initially required a hand  
24          entry, so therein lies probably some of the  
25          problems and, you know, depending on how many

1 people they had to do such things over the  
2 years. And in -- I know that when -- the end  
3 of the RHRS area -- era, which is the database  
4 that preceded HIS-20, we were still -- or my  
5 technicians were still making hand entries into  
6 RHRS that a lung count had been performed, up  
7 until the time we could do the electronic  
8 transfers. And I've already discussed that even  
9 those had problems. But just to maybe make one  
10 more point about HIS and -- it was originally  
11 procured and kind of rushed into production for  
12 Y2K issues, as well as access control. And as  
13 evidence of that, I offer the fact that it was  
14 originally given to rad engineering to  
15 implement and set up access control points and  
16 such. And then it became the bioassay database  
17 as well. So -- and of course it was  
18 implemented in the time of shrinking resources,  
19 the site was ready -- you know, designated for  
20 closing and so forth. So we inherited many of  
21 the problems of the databases where, you know,  
22 every time you change one of these things it's  
23 almost like pounding a square peg into a round  
24 hole. You have different field names. They  
25 mean different things. And so none of -- you

1 know, not all those problems were solved.

2 **MR. GRIFFON:** What -- I -- I -- I'm -- in the  
3 early days you said hard copy reports were put  
4 in the file. I -- I see that readily in the  
5 claims files I'm looking at.

6 **MR. POTTER:** Yes, I think that continued  
7 throughout the whole history of in vivo  
8 counting.

9 **MR. GRIFFON:** But we just -- I -- I just also  
10 heard a history of the urinalysis program where  
11 up through '69 the same thing was true with the  
12 urine records, you had a hard copy record put -  
13 - being put in the files. Why would that be  
14 any different than the -- I mean what -- was  
15 the intention to update HIS-20 based on the  
16 hard copy records of urine files and your in  
17 vivo files or was there more emphasis -- I -- I  
18 don't understand why...

19 **MR. POTTER:** Why urinalysis and lung counting  
20 would be any different?

21 **MR. GRIFFON:** Well, why -- why -- why you're --  
22 why you're -- why -- why we're -- I mean I'm --  
23 I'm coming away with the understanding that  
24 HIS-20 should be reliable for the urinalysis  
25 data all the way back to when -- '52 or

1           whatever, but now you're -- you're -- you're  
2           making a case for the fact that it's probably  
3           not as reliable for the early years for the in  
4           vivo because there would have been hand entry,  
5           but the same thing would have been true for the  
6           urine data, wouldn't it? I -- I'm getting a  
7           disconnect on that.

8           **MR. POTTER:** Uh-huh. Yeah, you have --  
9           basically you have different people doing it.  
10          I think there was a whole records group and --  
11          and I think we'd better maybe tap into Roger's  
12          expertise, but at one time there was, within  
13          the rad health organization, quite a large  
14          records group. And the bioassay results were  
15          hand -- the urine results were hand-entered by  
16          those folks. In fact, they went back and  
17          caught up all the data that was on the -- on  
18          the bioassay cards. I'm not saying that this  
19          was done 100 percent to perfection, but --

20          **MR. GRIFFON:** So you're saying --

21          **MR. POTTER:** -- I'm not -- I've never seen, you  
22          know, a big discrepancy there. For some reason  
23          or other, lung counting -- which was probably  
24          done by people -- you know, started in '65,  
25          relied on a -- the people in internal dosimetry

1 or lung -- the lung count area to provide that  
2 information in some sort of electronic form.  
3 We talked about, you know, there being a LIMS  
4 system, you know, sometime after '71 where the  
5 data then became electronically available for  
6 transfer whereas, you know, the lung counting  
7 did not reach a similar state of technology  
8 until '95.

9 **DR. ULSH:** And is it fair to say, Gene and --  
10 and Roger, that priority would have been on the  
11 urinalysis data because that's -- that's what  
12 you use for regulatory compliance, so that's  
13 the primary means of detecting an intake. Is  
14 that fair to say?

15 **MR. POTTER:** I don't think we ever looked at it  
16 in those terms, per se. I think it was just  
17 two different groups, two different systems of  
18 doing things.

19 **MR. GRIFFON:** So -- but -- but the bottom line  
20 is your -- your experience is that the one is --  
21 -- is much less -- has more flaws with it than  
22 the -- the in vivo has more flaws than the  
23 urinalysis.

24 **DR. ULSH:** And the analyses that we've done so  
25 far, Mark, tend to bear that -- bear that out.

1           You've seen yourself the problems with the in  
2           vivo. But Craig also presented -- you know, we  
3           talked about this earlier -- that analysis  
4           where he bounced the handwritten cards off of -  
5           - off of HIS and we found very good agreement -  
6           - handwritten bioassay cards.

7           **MR. GRIFFON:** Right, right. Okay, that was  
8           helpful -- the explanation.

9           **DR. ULSH:** Okay. So before we get off the log  
10          books -- are we still on log books?

11          **MR. GRIFFON:** Yeah, we're still on log books.

12          **DR. ULSH:** Joe, there was -- there was one  
13          thing that puzzled me. I want to make sure  
14          that I have -- I'm interpreting this correctly.  
15          This is the write-up that you sent out  
16          yesterday, and there was something that changed  
17          between yesterday's version and the one last  
18          week.

19          **MR. FITZGERALD:** Okay.

20          **DR. ULSH:** It's -- let me tell you where it is  
21          in the document. I've got it under section  
22          two, external dosimetry procedures, it's on the  
23          next page, the very bottom of the page.

24          **MR. FITZGERALD:** Uh-huh.

25          **DR. ULSH:** It's part of the paragraph that says

1 (reading) The field log books; e.g.,  
2 contamination control and RCT log books, also  
3 have minimal discussions around specific  
4 external exposure investigations, indicating  
5 that this is not an appropriate reference for  
6 this type of information.

7 Can you just explain to me what -- what that  
8 means?

9 **MS. ROBERTSON-DEMERS:** Joe, you want me to take  
10 it?

11 **MR. ELLIOTT:** I'm sorry, where are you at?

12 **MR. GRIFFON:** Yeah (unintelligible) --

13 **DR. ULSH:** Oh, I'm sorry, this is -- this is --

14 **MR. FITZGERALD:** Page three on the bottom.

15 **DR. ULSH:** This is the document -- it's the  
16 write-up that Joe circulated yesterday -- yes,  
17 that the correct document.

18 **MR. FITZGERALD:** Yeah, why don't you take that,  
19 Kathy.

20 **MS. ROBERTSON-DEMERS:** Okay. Basically what  
21 I'm saying is after going through 30 log books  
22 -- meaning field log books, not dosimetry log  
23 books --

24 **DR. ULSH:** Right.

25 **MS. ROBERTSON-DEMERS:** -- that I found no



1 information -- or very minimal, actually -- on  
2 investigations in those log books about lost  
3 dosimetry, et cetera.

4 **DR. ULSH:** Okay. If you've looked through  
5 those kinds of log books, Kathy, the  
6 contamination control and the RCT log books,  
7 have you found information like -- well, like I  
8 was looking at in the Kittinger log, you know,  
9 things that we can bounce off of data in the  
10 rad files. Have you found that kind of thing  
11 in those log books?

12 **MS. ROBERTSON-DEMERS:** Yes.

13 **DR. ULSH:** Yes, you have.

14 **MS. ROBERTSON-DEMERS:** And I would highly  
15 recommend that you -- let me get the dates  
16 right here -- that you look at the log book for  
17 '57 --

18 **DR. ULSH:** Is that an RC-- is that an --

19 **MS. ROBERTSON-DEMERS:** -- through '60.

20 **DR. ULSH:** '57 through '60, is that a  
21 contamination control or an RCT or -- or what  
22 is that, Kathy?

23 **MS. ROBERTSON-DEMERS:** It's -- it's one of the  
24 original log books. I don't think it specifies  
25 whether it's foreman or RCT.

1           **DR. ULSH:** Okay.

2           **MR. MEYER:** Could you send us the cover page  
3           and a few specific pages from that one, just so  
4           it's easier for us to track back to it?

5           **MR. GRIFFON:** I can probably give you file  
6           references, too. I think that's one of the  
7           ones -- the same ones I looked at, Kathy.

8           **MS. ROBERTSON-DEMERS:** Yeah, it's the one that  
9           I think you're calling the uranium...

10          **MR. GRIFFON:** Right, right.

11          **DR. ULSH:** Okay. Well, that might be what I  
12          asked -- that might be the same thing -- might  
13          be the same thing we talked about Monday where  
14          you guys said that you had seen some --

15          **MR. FITZGERALD:** Yeah, I think --

16          **MR. GRIFFON:** Yeah.

17          **MR. FITZGERALD:** -- that's the same.

18          **DR. ULSH:** Okay. It would be very helpful for  
19          us if you could -- I mean if you've already  
20          looked through some of these log books and you  
21          know that some of them are useful --

22          **MR. FITZGERALD:** Right, I think we can agree to  
23          do that.

24          **MR. GRIFFON:** Yeah, we can narrow it down,  
25          right.

1           **MS. ROBERTSON-DEMERS:** Now the reason I'm  
2           picking on that log book is not only because of  
3           the urinalysis data, but because of several  
4           entries that state that badges were destroyed.

5           **DR. ULSH:** Okay.

6           **MS. ROBERTSON-DEMERS:** Which cannot be really  
7           compared back, or at least in the case of the  
8           population situation.

9           **DR. ULSH:** Okay.

10          **MS. ROBERTSON-DEMERS:** But that's also some of  
11          the stuff that we're coming across.

12          **MR. GRIFFON:** Yeah, and we -- at least, if my  
13          memory serves me on this, I -- the first  
14          reference I saw to that was that the badge  
15          appeared to be contaminated and therefore it  
16          was destroyed and they -- I think they even  
17          gave references to whose badge was destroyed.  
18          And my question was not so much the practice of  
19          destroying the badge, but -- but crosswalk it -  
20          - what did they assign this guy, you know --

21          **MS. ROBERTSON-DEMERS:** Whether they did  
22          (unintelligible).

23          **MR. GRIFFON:** -- how did they assign dose, or  
24          what did they do -- you know.

25          **DR. ULSH:** Well, if you've got a guy and if

1           you've --

2           **MR. GRIFFON:** And it happened -- it's more than  
3           one. It was several -- I'd say dozens, you  
4           know.

5           **DR. ULSH:** Well, if you've got particular  
6           instances where the individual's identified and  
7           we know which badge exchange cycle --

8           **MR. GRIFFON:** We can find --

9           **DR. ULSH:** -- we can find out at least what  
10          dose appears there probably.

11          **MR. GRIFFON:** Right.

12          **MS. ROBERTSON-DEMERS:** Well, you have a log  
13          book date --

14          **MR. GRIFFON:** That's right.

15          **MS. ROBERTSON-DEMERS:** -- is what you have.

16          **DR. ULSH:** You have a...

17          **MR. GRIFFON:** You have a log book date so you  
18          should be able to find the exch-- if it happens  
19          right on a exchange cycle, you might be unclear  
20          which quarter you're in or whatever, but you  
21          know, you have the date -- the log entry date.

22          **DR. ULSH:** Yeah, okay.

23          **MR. GRIFFON:** You don't necessarily know --  
24          right.

25          **DR. ULSH:** Okay, yeah, it'd be -- okay, we've

1           already talked about that. Thanks.

2           **MS. MUNN:** And Mark, let me understand. Do you  
3           want to crosswalk that to see that some sort of  
4           indication that appears in the worker's  
5           personal file? Is that the crosswalking you're  
6           doing?

7           **MR. GRIFFON:** Well, see, this -- this is what  
8           I'm trying to grapple with is I was -- I was  
9           trying to find a way to test the reliability of  
10          the data without having to go back to the  
11          individual files like Brant did with the  
12          Kittinger log book all the time 'cause that's -  
13          - that's extensive work to go -- to pull the  
14          individual files, especially the non-claimant  
15          files, so I was trying to say let's check HIS-  
16          20, you know. Then -- then I run into this  
17          problem with the lung count data. I know you  
18          don't use the lung count data, but it's another  
19          way of saying --

20          **DR. ULSH:** Yeah.

21          **MR. GRIFFON:** -- is my record complete. That's  
22          what the -- that's what the workers care about,  
23          you know, so that was, you know, neither here  
24          nor there whether you use that data. But --  
25          and -- and you know, I -- I am still kind of

1           surp-- you know, questioning the lung count  
2           data. I -- I randomly checked maybe 15 of them  
3           and didn't find any entries in there, so you  
4           know --

5           **DR. ULSH:** It may be that the --

6           **MR. GRIFFON:** -- all in the early years, I got  
7           to say, you know, but --

8           **DR. ULSH:** There are some peculiarities about  
9           the dates that appear --

10          **MR. GRIFFON:** Yeah, that's what I --

11          **DR. ULSH:** -- so that might (unintelligible)  
12          something, I don't know what.

13          **MR. GRIFFON:** But you know, that -- that's --  
14          that's what I -- I'd like to do, Wanda, and  
15          then -- then you -- I mean really the end prod-  
16          - the end game here is, you know, do we -- can  
17          we demonstrate, to the extent possible over all  
18          time periods, that the data in -- in the  
19          individual files is reliable, and we've got --  
20          I've got a much better understanding now of  
21          what's in the files because you do have raw  
22          records for urine, and it looks like up through  
23          '69 or somewhere thereabouts you have these  
24          urine cards and --

25          **MS. MUNN:** That's -- that's why I was

1                   questioning. I wasn't really certain what  
2                   crosswalk you wanted, whether you wanted it  
3                   HIS-20 or whether you wanted it to the original  
4                   records.

5                   **MR. GRIFFON:** Right -- all right, I -- I think  
6                   I would like to say let's do -- I -- I'd like  
7                   to cross-- I mean that's why it's being put --  
8                   I'm answering this question -- why am I  
9                   answering this question, that's a good --  
10                  that's the number one question. I mean that's  
11                  what I asked Brant to lay out a methodology  
12                  really, because I think -- you know, it's not  
13                  the Advisory Board's role to kind of  
14                  demonstrate that. We're asking the que-- you  
15                  know, show us that the data you've got in these  
16                  files is reliable and -- and give us some  
17                  method by which you're going to demonstrate  
18                  this and we'll weigh it and -- and, you know,  
19                  considering all factors, you know, make -- make  
20                  our recommendation. I think that's where I  
21                  stand. I've got some thoughts on it,  
22                  certainly, but I would rather -- I don't have  
23                  access to all the logs, certainly I don't have  
24                  access to all the documents and the materials  
25                  that -- that NIOSH does, so that's sort of

1           where we -- you know, that's where I stand.  
2           And I would say my -- this is my personal  
3           opinion is I would first look to HIS-20, but  
4           then do even a smaller subset against the hard  
5           copy files and that would be -- that would make  
6           a strong argument, I think, if you did  
7           something along those lines, you know.

8           **MS. ROBERTSON-DEMERS:** This is Kathy DeMers. I  
9           actually did apparently crosswalk three people  
10          back to the external dosimetry database, and  
11          one individual had a dose -- a positive dose  
12          for the quarter in question, and the other two  
13          had zeroes. So it might be a good idea to  
14          track the zeroes back to the hard copy records.

15          **DR. ULSH:** Can you send me the specific  
16          information, Kathy? The --

17          **MS. ROBERTSON-DEMERS:** It's all in that log  
18          book, and the two individuals are actually on  
19          page 64 and (unintelligible).

20          **EXTERNAL DATA**

21          **MR. GRIFFON:** And now external dose is a little  
22          different because external dose you have --  
23          from what I've seen, you have worksheets. You  
24          don't really have raw data of any sort. You  
25          don't have punch cards or anything like that.



1           You have worksheets which usually give annual  
2           or quarterly summary -- usually they're  
3           handwritten, from what I've seen, but -- but  
4           they're summary --

5           **DR. ULSH:** '57 to '60, I'm trying to --

6           **MR. GRIFFON:** I didn't see any -- you see any  
7           card data or anything like that?

8           **UNIDENTIFIED:** No.

9           **DR. ULSH:** I don't think there is --

10          **MR. GRIFFON:** Yeah.

11          **MS. ROBERTSON-DEMERS:** I'll have to send you  
12          the actual dates --

13          **DR. ULSH:** Yeah, that would --

14          **MS. ROBERTSON-DEMERS:** -- then you'll be able  
15          to find it.

16          **DR. ULSH:** That would be very helpful.

17          **MR. GRIFFON:** And now -- now -- again, just --  
18          just to bring all my -- I mean just another  
19          part of this data reliability question, in --  
20          in the -- Y-12, the other very powerful piece I  
21          think that we found was some of those quarterly  
22          reports, not only because they had individual  
23          data points in them with certain individuals  
24          identified, but the most convincing thing to  
25          me, quite frankly, was there were several -- I

1 think it was quarters in a row where they had  
2 summary urinalysis data showing the  
3 percentiles, the 50th percentile by month and  
4 the 90th percentile by month. And you could  
5 pull these number off the graph and say okay,  
6 let me pull the database over here and sort --  
7 look at the 90th percentile in the database,  
8 compare it with the graph, and they were  
9 matching very, very closely. So that was like  
10 we don't have to worry about matching, you know  
11 --

12 **UNIDENTIFIED:** Individual (unintelligible).

13 **MR. GRIFFON:** -- Joe A. Smith to Joe A. Smith  
14 and one data point at a time, and this was  
15 great -- you know, that gave me a lot of  
16 confidence in that time period that -- that it  
17 was looking good. Now --

18 **DR. ULSH:** It kind of looked like --

19 **MR. GRIFFON:** -- Y-- Y-12 was a little  
20 different, but I didn't know -- you mentioned  
21 the other day these dosimetry summary reports,  
22 at least for one issue you were talking about -  
23 -

24 **DR. ULSH:** Are you talking about the progress  
25 reports?

1           **MR. GRIFFON:** Maybe it's the progress reports  
2           (unintelligible) --

3           **DR. ULSH:** Dosimetry section progress reports.

4           **MR. GRIFFON:** Yeah. I don't know if they have  
5           that kind of information in them, though, but -  
6           -

7           **DR. ULSH:** Those particular things -- those  
8           particular documents don't have --

9           **MR. GRIFFON:** Okay.

10          **DR. ULSH:** -- percentile values. They do have  
11          --

12          **MR. GRIFFON:** Or -- or anything useful for this  
13          kind of analysis.

14          **DR. ULSH:** They have a number of people wearing  
15          badges, I think, in them.

16          **MR. GRIFFON:** Yeah.

17          **MR. MEYER:** (Unintelligible)

18          **DR. ULSH:** I'm not sure on that, I'd have to go  
19          look at them.

20          **MR. GRIFFON:** So there -- there might be  
21          something to glean from those, and you say  
22          they're on the O drive. I'm not sure I know  
23          where.

24          **DR. ULSH:** No, I didn't. Kathy said they were  
25          on the O drive.

1           **MR. GRIFFON:** Oh, Kathy said they were on the O  
2 drive. Okay.

3           **DR. ULSH:** I have them on a disk. I don't know  
4 whether I've ever put them on the O drive.  
5 That hasn't been requested but I can -- I'll  
6 put them on.

7           **MR. GRIFFON:** That would -- that might be  
8 useful. If there's nothing there, there's  
9 nothing there we can use, but it might be  
10 useful even --

11          **DR. ULSH:** Dosimetry section progress reports.

12          **MR. GRIFFON:** It's a lot easier than going to  
13 the individual files all the -- if -- if we can  
14 corroborate that way, that's what I'm trying to  
15 achieve here.

16          **DR. ULSH:** Okay, that's an idea. That's about  
17 where we are with the log books. I don't -- is  
18 there anything else we want to talk about on  
19 that?

20          **MR. GRIFFON:** Let's see, I -- Joe, do you have  
21 any -- anything else on the log book section?  
22 I --

23          **DR. MAKHIJANI:** Did you bring up the -- the  
24 entries you didn't find for the bioassay  
25 (unintelligible) --

1           **MR. GRIFFON:** Yeah, well, I will provide these,  
2           Brant, but I -- I've done -- and that was from  
3           -- the main ones that I was able to crosswalk  
4           was the uranium log book that Kathy referenced  
5           and it's -- it covers that '59/'60 period, I  
6           think. I think we're talking about the same  
7           log book, Kathy, I'm not sure.

8           **DR. ULSH:** Kathy said '57 to '60, is that --

9           **MS. ROBERTSON-DEMERS:** I'm talking '57 to '60.

10          **MR. GRIFFON:** '57 to '60? Well, maybe I looked  
11          mainly at '59 measurements, but it might cover  
12          back to '57, too. But '59 and '60 I looked in  
13          and I -- I focused on the -- the -- and I think  
14          these log entries focus on the higher entries  
15          'cause they're -- you know, that's -- that's  
16          sort of what they did. We had an incident, you  
17          know, someone still got a sample, they mention  
18          later that his analysis came out at 330 percent  
19          of the MPL or what-- what-- however it's  
20          recorded. Sometimes it's in dpm, sometimes  
21          it's in percentages of the MPL. And looking at  
22          these high values for that '59 to '60 time  
23          period I -- I know it was -- it was more than a  
24          third of them were not in the database. I know  
25          it might have been as --

1           **DR. MAKHIJANI:** I -- I count-- I counted the  
2           ones -- when you showed me your spreadsheet  
3           this morning --

4           **MR. GRIFFON:** Yeah.

5           **DR. MAKHIJANI:** -- you'd looked at 76 cases,  
6           and you didn't find anything in 33 of them.

7           **MR. GRIFFON:** Right, so 33 out of 76 --

8           **DR. MAKHIJANI:** About 40 percent.

9           **MR. GRIFFON:** -- were not in HIS-20. That  
10          doesn't mean it's not in the individual record,  
11          so there might be a sub-tier level that for  
12          some of these -- because a number of these  
13          people -- you see the name again and again.  
14          It's the same guys that were getting high  
15          exposures, same men and women -- probably men,  
16          but -- so you know, that's just a snapshot of  
17          one very tiny period, but it -- it raises some  
18          questions. And these were all on the high end  
19          of the distribution, you know, when you -- you  
20          know, these were the higher readings that were  
21          not there, so -- and again, I'll share this --  
22          these log books to save time. We don't want to  
23          duplicate efforts, for sure.

24          **DR. MAKHIJANI:** And Joyce also found --

25          **MR. GRIFFON:** Yeah.

1           **DR. MAKHIJANI:** -- high value missing, as she  
2           said earlier.

3           **DR. ULSH:** She was going to send those to us,  
4           too. Right?

5           **MR. GRIFFON:** Right. She's got some other  
6           information that we're going to -- that you're  
7           going to --

8           **DR. MAKHIJANI:** Yes.

9           **MR. GRIFFON:** -- share in your report --

10          **DR. MAKHIJANI:** Right, I just --

11          **MR. GRIFFON:** -- about some of the writ--

12          **DR. MAKHIJANI:** -- I just have to arrange to  
13          get the privacy stuff -- it's in a funny form  
14          so I have to get all the stuff typed up and the  
15          privacy information taken out.

16          **DR. ULSH:** I'm not sure I understand that. I  
17          mean if you're giving it to us --

18          **MR. ELLIOTT:** Why do you have to take the  
19          privacy information out?

20          **DR. MAKHIJANI:** Presumably this will be a  
21          memorandum that will become part of the report  
22          --

23          **MR. GRIFFON:** If it -- if it gets shared in the  
24          meeting, that would -- I guess that's what  
25          they're concerned --

1           **DR. MAKHIJANI:** Also this is part of a report  
2           that Joyce hadn't quite finished, so I thought  
3           --

4           **DR. ULSH:** Well, I understand that part.

5           **DR. MAKHIJANI:** -- while we were -- as we were  
6           doing that --

7           **MR. GRIFFON:** Yeah.

8           **DR. MAKHIJANI:** -- but we can certainly send  
9           you the --

10          **MR. GRIFFON:** I would say send the version  
11          first and then try to --

12          **DR. MAKHIJANI:** We can do --

13          **DR. ULSH:** We're going to need that.

14          **MR. GRIFFON:** -- try to clean it up before the  
15          Nevada meeting, but send it -- yeah.

16          **MR. FITZGERALD:** I think all the input we're  
17          talking about directly to you is not going to  
18          be influenced by privacy issues  
19          (unintelligible) --

20          **DR. MAKHIJANI:** Sure, of course.

21          **MR. FITZGERALD:** -- names, everything --

22          **DR. ULSH:** That's my point, yeah.

23          **DR. MAKHIJANI:** I'll just correspond with Joyce  
24          and -- and get that sent to you.

25          **DR. ULSH:** Okay.



1           **MR. FITZGERALD:** To answer your question, I  
2 think that's pretty much -- just items two and  
3 three are log book items on the safety  
4 concerns.

5           **MR. GRIFFON:** The only other -- the only other  
6 question I have on the -- not so much really  
7 the log books, but back to this crosswalk  
8 question and the -- just understanding HIS-20.  
9 I mean I -- we -- we threw that question out.  
10 I don't know -- I don't expect an answer on the  
11 spot unless you know right off, but that  
12 question of HIS-20 clearly was missing a lot of  
13 high values. When we looked in the CEDR  
14 version, the piece that was used for the  
15 coworker model, some of those high values were  
16 in the CEDR. I'm not sure if it had all of  
17 them. I didn't do that kind of crosswalk. But  
18 you know, it raised in my mind -- I -- I always  
19 sort of thought that CEDR was derived from HIS-  
20 20, and even if -- if you look at Craig  
21 Little's piece, I pulled it up before the  
22 break, and -- and -- you know, he starts off  
23 his defense -- or his comparison of the model  
24 saying, you know, assuming that -- that -- that  
25 HIS-20 is a valid model -- or a valid database,

1           you know, and if it's missing all these high  
2           data points, I wonder if the rest of the  
3           analysis --

4           **DR. ULSH:** Well, I'm going to have to --

5           **MR. GRIFFON:** -- sort of is questionable. But  
6           anyway --

7           **DR. ULSH:** Yeah, I can't comment on that  
8           because I don't know what the high values are.  
9           If you send those over, we'll -- we'll look  
10          into it.

11          **MR. GRIFFON:** Oh, we -- yeah. I mean does  
12          anybody know the derivation of CEDR, where --  
13          where --

14          **MR. ELLIOTT:** Are we talking the Comprehensive  
15          Epidemiologic --

16          **MR. GRIFFON:** Yes.

17          **MR. ELLIOTT:** -- Data --

18          **MR. GRIFFON:** Yes.

19          **MR. ELLIOTT:** -- Resource?

20          **MR. GRIFFON:** Right.

21          **MR. ELLIOTT:** Okay.

22          **MR. GRIFFON:** And that database --

23          **MR. ELLIOTT:** And isn't that database generated  
24          --

25          **MR. POTTER:** This is -- this is Gene.

1           **MR. ELLIOTT:** -- by all of the study results  
2           that have been used in the epidemiologic  
3           studies? No?

4           **MR. GRIFFON:** No, I'll -- I'll catch you up on  
5           the -- the history. I mean -- mean we -- we  
6           first saw that the coworker model was -- was  
7           derived from CEDR and immediately raised, in my  
8           mind, the same questions we had been down with  
9           Y-12. Well, what's the -- what's the pedigree,  
10          where -- where -- you know, is this the full  
11          database, and they said really the primary  
12          source was HIS-20, and then they said but  
13          rather than do -- redo the coworker model,  
14          Craig Little offered an analysis that said  
15          basically if we used HIS-20 or --

16          **DR. ULSH:** No, that was (unintelligible).

17          **MR. GRIFFON:** Oh, I'm sorry. All right, I got  
18          the wrong person. I apologize. There -- an  
19          analysis was offered that it wouldn't matter if  
20          you used HIS-20 or -- or the CEDR database to  
21          do the coworker model, little fluctuations but  
22          basically the intakes derived would be the  
23          same. That was the -- the piece that was  
24          offered to the workgroup 'cause -- 'cause we  
25          raised that question, you know, what -- you

1 know -- so then I said okay, HIS-20's the  
2 primary source. So then if you go back and say  
3 well --

4 **MR. ELLIOTT:** No, it's not.

5 **MR. GRIFFON:** -- how does CEDR have more data,  
6 and it was suggested in the write-up that most  
7 of the additional data in CEDR were zero  
8 values, and I forget the reasoning behind that,  
9 but we clearly found a lot of the high values  
10 were in CEDR but not in HIS-20.

11 **DR. ULSH:** Okay --

12 **MR. GRIFFON:** So --

13 **DR. ULSH:** -- it is Comprehensive Epidemiologic  
14 Data Resource, Larry. The reason we're calling  
15 it the CEDR data is it is a data set that was  
16 pulled out of CEDR. As far as the pedigree,  
17 I'm a little fuzzy on this and Gene started to  
18 jump in, I hope he's got some more details,  
19 more than I do. I know that some of the data  
20 was taken by Los Alamos, and then it was  
21 obtained by Colorado Department of Public  
22 Health -- maybe -- maybe Ruttenberger, I don't  
23 know.

24 **MR. ELLIOTT:** I'm fairly familiar with all of  
25 this, so --

1           **DR. ULSH:** Gene, do you have more details to  
2 offer on that?

3           **MR. POTTER:** I just was going to jump in with  
4 the observation that it wouldn't technically be  
5 correct to call it derived from HIS-20. It  
6 would have been a prior -- a predecessor of  
7 HIS-20, probably the health sciences database,  
8 given the timing of when the CEDR studies were  
9 done. But that still doesn't explain why high  
10 results would not be in there.

11          **MS. BRACKETT:** This is Liz Brackett. I  
12 actually have the CEDR catalog in my lap. It  
13 says that annual readings of whole body  
14 penetrating dose for external ionizing  
15 radiation are available from 1961 to 1989. The  
16 data from August 1976 through December 1989  
17 were taken from computerized dosimetry badge  
18 readings provided by RFP. Data from 1952 to  
19 1978 were abstracted from microfiche records  
20 also provided by the RFP. I -- there must be  
21 another place for internal because what it says  
22 here -- well, it doesn't say exactly where it  
23 came from, it just says the second file  
24 contains internal exposure data for americium  
25 and plutonium but not uranium. Exposures are

1 listed by sample date and percent of maximum  
2 permissible body burden -- which we have more  
3 than that, so I'm going to see if I can find  
4 another study in here. But it indicates that  
5 not all of the external data were taken from a  
6 database. The early years were from  
7 microfiche.

8 **MR. ELLIOTT:** I wonder if it wouldn't be  
9 beneficial to have Donna Kragle\* speak to the  
10 working group about CEDR and the contents of  
11 the data for Rocky Flats, because -- I could  
12 speak to it, but I'm not confident that I know  
13 all there is to know about it. I will share  
14 what I know here, and that is that I believe it  
15 to be the case that all of the protocolled epi  
16 studies that were done on a given site, like  
17 Rocky Flats, when Laurie Wiggs\* was at Los  
18 Alamos doing these kinds of studies, the data  
19 that she used in a study had to be entered into  
20 CEDR. So right there I have a problem because  
21 typically those studies only looked at white  
22 males. They didn't look at everybody. They  
23 didn't even bother to identify, in most cases,  
24 who was not monitored. They looked at  
25 monitored people. Okay? So that's my

1 perception -- that's what I think I understand  
2 about CEDR.

3 I also think that CEDR -- there's two versions  
4 of CEDR. There's a de-identified version of  
5 CEDR that anybody in the general public can get  
6 access to if they get a password and get  
7 approval from -- from -- I guess it's DOE and  
8 ORAU -- to use this information, publicly. And  
9 then there is identified data. The identified  
10 data, I believe -- and Donna would have to, you  
11 know, correct me if I'm wrong here or expound  
12 upon this, bring accuracy to it, but I believe  
13 there's more -- they put more information from  
14 a given site in a de-i-- in an identified form  
15 in the identified database. And so what the  
16 public only sees is the protocolled study data.  
17 And I think what you're seeing -- I think what  
18 we're seeing, what we're tapping into in the  
19 identified -- identifiable database is perhaps  
20 more than the study protocol, but I don't know  
21 how much more. So maybe we need to get Donna  
22 to speak about this.

23 **MS. BRACKETT:** Actually I can speak to this a  
24 little bit more. This is Liz Brackett again.  
25 You're right, and when we say CEDR, we're

1           actually not being technically correct.  What  
2           we're using is the --

3           **MR. GRIFFON:**  CER.

4           **MS. BRACKETT:**  -- CER database, which is --

5           **MR. ELLIOTT:**  CER database, which is the --

6           **MS. BRACKETT:**  Right, which is the one you're  
7           talking about that still has the identifiers.  
8           That's the original one collected by the  
9           epidemiologists.  It's not the one that  
10          actually ended up in the CEDR database that was  
11          de-identified.

12          **MR. ELLIOTT:**  I would say we should be careful  
13          with the term CEDR because pe-- to CEDR -- to  
14          people on the outside, that means something  
15          different than CER.

16          **MS. BRACKETT:**  Right -- you're right.

17          **MR. ELLIOTT:**  We should probably stick with  
18          CER, and we should have Donna Kragle speak to  
19          us about the contents of CER.

20          **MR. GRIFFON:**  Right, yeah, we probably got a  
21          little sloppy with that early on and we just  
22          kept it through the matrices, but yeah, we know  
23          it's CER.  The real question is why would CER -  
24          - the CER database ever have more than HIS-20,  
25          and that's the one we can't -- that's the --



1           **MR. ELLIOTT:** Well, maybe she could help us out  
2           with that, I don't know.

3           **MR. GRIFFON:** Maybe, yeah. I could see it  
4           having less if it were only white males or only  
5           -- you know. I could certainly see it being  
6           truncated, but I can't --

7           **MR. ELLIOTT:** Does HIS-20 proclaim to have all  
8           of the data ever, or does CER proclaim to have  
9           more than --

10          **MR. GRIFFON:** HIS-20 was -- was presented to me  
11          as the prim-- more primary source. Now Gene's  
12          saying that -- that the predecessor of that  
13          might have been really where CER was derived  
14          from, but you know, the reason -- going down  
15          that path, the reasoning was -- the coworker  
16          model's based on CER, probably because you had  
17          access to that more readily than the other one.  
18          It took a little longer to get in the door or  
19          whatever. So then instead of redoing the whole  
20          model, they -- they -- NIOSH/ORAU team made an  
21          argument that it doesn't really matter, we  
22          don't need to redo all this, they're pretty  
23          close in what they're going to end up with as  
24          results. So --

25          **MS. BRACKETT:** When we started on this project

1 we were told that we could not have access to  
2 site databases.

3 **MR. GRIFFON:** Right.

4 **MS. BRACKETT:** That's why we were using --

5 **MR. GRIFFON:** Right.

6 **MS. BRACKETT:** -- what we could from CER.

7 **MR. GRIFFON:** Right, so I understand why that  
8 happened, but then when we asked about it,  
9 people told me fine, we'll compare it to the  
10 primary source, which was presented to me as  
11 HIS-20. Now if that's the primary source, how  
12 is it missing -- you know, so I -- I think  
13 we've been over this ground, but --

14 **MR. ELLIOTT:** Well, would it help to have  
15 Donna?

16 **MR. GRIFFON:** It may if we ask her that  
17 specific question. Maybe Brant can -- you  
18 know.

19 **DR. ULSH:** Maybe I'll just talk to Donna and --

20 **MR. GRIFFON:** Yeah.

21 **MR. ELLIOTT:** Just talk to Donna and if she can  
22 give us something -- give the working group  
23 something --

24 **MR. GRIFFON:** If she can shed some light,  
25 that'd be great, yeah, yeah.

1           **MR. ELLIOTT:** -- that'd be fine. She doesn't  
2 have to be physically present and verbalizing  
3 answers.

4           **MR. GRIFFON:** Okay.

5           **DR. ULSH:** Where are we, Mark?

6           **MR. GRIFFON:** Yeah, where are we. I think  
7 we're done with log books. Right?

8           **UNIDENTIFIED:** Bio-break.

9           **DR. ULSH:** Oh, we've got a request for a bio-  
10 break.

11          **MR. GRIFFON:** Oh, okay. All right. We're all  
12 going to go leave some bio-- no. Why don't we  
13 take a ten-minute break if that's okay --  
14 comfort break, ten minutes. Be back at --

15          **DR. WADE:** Yeah, we'll stay on the line.

16          **MR. GRIFFON:** -- 3:25.

17                   (Whereupon, a recess was taken from 3:15 p.m.  
18 to 3:25 p.m.)

19          **DR. WADE:** This is the conference room. We're  
20 just about ready to start. Let me ask what  
21 Board members are on the call -- on the line.

22          **MR. GIBSON:** Mike Gibson.

23          **DR. WADE:** Any other Board members?

24                                   (No responses)

25                   Is Wanda with us?

1 (No response)

2 Okay.

3 **MR. GRIFFON:** We're back live?

4 **DR. WADE:** We're ready, we're live.

5 **MR. GRIFFON:** Okay. I think -- one thing I  
6 wanted to mention before we -- we've got  
7 hopefully just a -- just a few items left.  
8 They might be fairly large, but just a few  
9 items left. Before I -- I go into -- I just  
10 wanted to -- to touch on one point. Arjun  
11 reminded me on the break, the -- the analys-- I  
12 wanted to at least put this out as an action  
13 for SC&A that the analysis that was done on the  
14 percentages that Brant mentioned, the  
15 percentages of raw records, the number of data  
16 points you matched against the HIS-20 database,  
17 the raw records, et cetera --

18 **DR. ULSH:** This is Craig Little's?

19 **MR. GRIFFON:** Is that Craig Little's analysis  
20 where --

21 **MR. FITZGERALD:** That was mentioned earlier.

22 **MR. GRIFFON:** It's also mentioned in your -- in  
23 your SEC evaluation report. I don't know if --

24 **DR. ULSH:** Yeah, I think you're right. I think  
25 we did pull stuff out of Craig's analysis and

1 put it into there.

2 **MR. GRIFFON:** Right, so I would -- I would ask  
3 if SC&A can, you know, re-look at that in light  
4 of what we know now about the claimants' files  
5 and -- between last meeting and this meeting I  
6 know SC&A has spent a little time, and I -- I  
7 looked at some of the claimants' files to  
8 understand better what -- what kind of data  
9 covered different time periods and, you know, I  
10 was curious how much raw data for the  
11 urinalysis side was in the claimants' files.  
12 And it -- you know, as I said earlier, I -- I  
13 generally concluded that, you know, in the late  
14 '60s it kind of all went to printout data,  
15 which is what we're hear-- you know, it makes  
16 sense now that we're hearing from Gene that's  
17 the -- sort of what happened. They rolled over  
18 into an electronic system. So we -- we had  
19 some questions about those claimants' files,  
20 but I'd ask you to include that with your  
21 analysis. You know, re-look at that issue and  
22 see if you -- you know, I think that's one  
23 piece that NIOSH is offering for the  
24 reliability of the -- the data.

25 **MR. FITZGERALD:** Completeness of claimant

1 files.

2 **MR. GRIFFON:** Yeah, yeah.

3 **DR. MAKHIJANI:** Is Craig Little's report on the  
4 O drive somewhere or in a site?

5 **MR. GRIFFON:** I think it was presented at the  
6 March workgroup meeting, but I --

7 **DR. ULSH:** I know I talked --

8 **MR. FITZGERALD:** (Unintelligible) handout or  
9 what.

10 **DR. MAKHIJANI:** Could you e-mail it to me,  
11 please?

12 **DR. ULSH:** Yeah, yeah.

13 **UNIDENTIFIED:** I'm sorry, what --

14 **DR. ULSH:** I've got to e-mail Craig Little's  
15 analysis to --

16 **MR. FITZGERALD:** If you could send it to  
17 (unintelligible).

18 **DR. ULSH:** -- SC&A.

19 **DR. MAKHIJANI:** Thank you.

20 **SAFETY REPORTS**

21 **MR. GRIFFON:** And then -- so now we can move on  
22 to another item, under data reliability still,  
23 but this is the review of the safety reports,  
24 and I think --

25 **DR. ULSH:** Mark, if I could make a brief

1 request. Before we get into that, this will  
2 make sense in a little bit, I think -- I just  
3 wanted to go over something that I got from the  
4 petitioners. It was an e-mail from the  
5 petitioners back in February. This was after  
6 one of our working group meetings and they sent  
7 a list of 13 questions, one of which dealt with  
8 coworker data -- the question specifically  
9 asked about extremity data, but this would also  
10 apply I think to deep dose, and I'd like to  
11 just maybe discuss this for just a second.  
12 Coworker data for extrem-- this is the question  
13 that the petitioners asked. (Reading) Coworker  
14 data for extremities is not an accurate way to  
15 estimate a person's dose. In particular with  
16 plutonium, proximity is the key. One worker  
17 may get a lot of exposure during a work  
18 evolution and others may get minimal, and you  
19 have no way of telling -- telling this much  
20 later, whether the worker you are looking at  
21 had this -- had his hands in the gloves or was  
22 closest to the source, or if he was sitting in  
23 a chair around the corner writing work notes.  
24 In D&D sometimes the coworker in the same job  
25 class was not even in the pod area of the

1 building but was assigned the responsibility of  
2 being on the outside to get the tools,  
3 materials, parts and run paperwork approvals  
4 for the job.

5 So the point that they're making here -- and  
6 actually I think they're very good points --  
7 you can't -- you have to be very careful when --  
8 - if you've got an unmonitored worker or a  
9 worker for whom the monitoring is suspect, you  
10 have to be very careful about assigning another  
11 individual worker's dose to that person. I'm  
12 not saying it can't ever be done, but you have  
13 to really be careful about how you do that.  
14 And so I thought that was a good point.  
15 Now I think that this demonstrates a  
16 misunderstanding of how we do coworker data,  
17 and that was my response to the question, that  
18 that's -- these are good points, that's exactly  
19 the reason that NIOSH doesn't take individual  
20 coworker data. We take a claimant-favorable  
21 percentile of all the monitored workers at the  
22 site. I mean I think -- I think everyone  
23 around the table can agree that these are valid  
24 points that the petitioner is raising. I mean  
25 I don't hear any disagreements with that.



1 Right? And so I think it makes sense that, you  
2 know, we also acknowledge that and -- and  
3 that's why we take, you know, the 95th  
4 percentile of the entire monitored population.  
5 Now --

6 **MR. GRIFFON:** Part -- part of that is just  
7 expediency, too. I mean you're --

8 **DR. ULSH:** Exactly. Yeah, if --

9 **MR. GRIFFON:** If you had a good -- you know, if  
10 you had a larger group of all pipe fitters from  
11 one building, I think you might consider that  
12 population --

13 **DR. ULSH:** Exactly.

14 **MR. GRIFFON:** -- as more representative, so --

15 **DR. ULSH:** Exactly, sure, we could do that.

16 **DR. MAURO:** But on a one-on-one, that's --

17 **MR. GRIFFON:** I don't want to be led -- I don't  
18 want to be led down a path too far here.

19 **DR. ULSH:** Like I'm saying --

20 **MR. GRIFFON:** I got a feel -- leading --

21 **DR. ULSH:** Yeah, yeah, yeah, a little bit.

22 **MR. GRIFFON:** I was going to object to leading  
23 here.

24 **DR. ULSH:** There's a reason -- and you're  
25 right, Mark, there's a reason --

1           **MR. GRIFFON:** Yeah, I know.

2           **DR. ULSH:** But I do think that these are valid  
3 points. You've got to be very, very cautious  
4 about assigning one particular worker's dose to  
5 another worker.

6           And now here's the leading part, Mark. Moving  
7 on into the safety concerns, we have -- just to  
8 give you a brief history on these safety  
9 concerns and how these developed, SC&A  
10 originally became aware of these documents,  
11 these safety concern documents -- and this was  
12 a mechanism for workers to raise particular  
13 issues that they were concerned about and get  
14 management response from them. And the  
15 earliest date that we can find -- we think this  
16 mechanism came into existence in about 1970, so  
17 SC&A originally identified six or seven --

18           **MR. FITZGERALD:** Seven.

19           **DR. ULSH:** -- seven that they were initially  
20 interested in and I performed an analysis on  
21 those -- an evaluation of those, and then it  
22 was also suggested that we get the database of  
23 all the safety concerns that we could find, go  
24 through and look at the brief descriptions of  
25 those and identify other safety concerns that

1           might be of interest.

2           Well, there were about 5,000 we found, spanning  
3           1970 up through -- I don't even know when the  
4           last one was, 2000 something-or-other. But I  
5           went through an initial pass and identified 33  
6           of them that I thought looked to be of interest  
7           from a data integrity/data reliability  
8           standpoint. And I prepared an analysis of most  
9           of those 33, I think there might be one or two  
10          still left outstanding, and I sent that over --  
11          sent that out to the distribution, the working  
12          group and SC&A -- oh, I think it was earlier  
13          this week, maybe Monday.

14          **MR. FITZGERALD:** A few days ago.

15          **DR. ULSH:** Yeah, a few days ago. But in the  
16          meantime, SC&A has looked at my evaluations for  
17          the first six or seven that they were initially  
18          concerned with, and I think SC&A concurred with  
19          my evaluation on five of those, but there were  
20          two that they had some problems with my  
21          evaluation. And so I'd like to maybe address  
22          those -- those two particular ones.

23          Okay, let me make sure I've got the right ones  
24          here.

25          **MR. FITZGERALD:** This is on page two of this

1           handout --

2           **DR. ULSH:** Thank you, that's a big help.

3           **MS. MUNN:** Are these the issues that were  
4 covered in your e-mail day before yesterday,  
5 Brant?

6           **DR. ULSH:** Day before yesterday -- I think it  
7 was actually Monday, Wanda, Mon--

8           **MR. FITZGERALD:** Monday, yeah.

9           **MS. MUNN:** Anyway.

10          **DR. ULSH:** Yeah, this is matrix item 30.

11          **MS. MUNN:** Ah, okay.

12          **DR. ULSH:** Okay. I'm going to go a little bit  
13 out of order. Concern -- safety concern 71-4  
14 is one of the ones that SC&A had a problem with  
15 my evaluation on. Here is the concern as  
16 expressed by the worker. (Reading) My film  
17 badge results for December of 1970 did not show  
18 the high level of neutron exposure which,  
19 according to instrument readings and film badge  
20 results of other monitor on the same special  
21 job, should have been expected.

22          Okay. Now this is a concern that we have heard  
23 not only here, but it's been expressed often.  
24 This is one of the reasons that we frequently  
25 hear cited for workers distrusting their

1 dosimetry results. They have an impression  
2 from working in the field, based on postings  
3 of, you know, areas with dose rates, some of  
4 the doses that their coworkers got, that their  
5 dosimetry results don't accurately reflect the  
6 conditions that they experienced in the field.  
7 Now, as -- as the petitioner so eloquently laid  
8 out for us -- and I -- I've discussed this on a  
9 number of occasions in previous working group  
10 meetings, it is not reasonable to assume de  
11 novo that my film badge results should be the  
12 same as a coworker's results. It's simply not  
13 reasonable to assume that under all conditions.  
14 Now we don't have a lot of specifics in this  
15 safety concern. We don't know the particular  
16 details about where these people were working  
17 when this concern arose. We don't know a lot  
18 of that -- a lot of those factors. The only  
19 way to determine whether or not you would  
20 expect two particular workers who worked on the  
21 same job to have similar dosimetry results  
22 would be a detailed time and motion study, and  
23 there is simply no way that we can go back and  
24 do that some 30, 35 years later.  
25 And so in my response to this safety concern,

1           71-4, I -- I laid out the arguments for this,  
2           that you wouldn't necessarily expect these two  
3           -- these two workers to have similar results.  
4           The fact that they had dissimilar results is  
5           not sufficient in and of itself to demonstrate  
6           a data integrity concern. And the petitioner  
7           themselves have made this point. You can't  
8           assign an individual coworker's -- I would say  
9           you have to be very careful about assigning an  
10          individual coworker's dosimetry results to an  
11          individual who has let's say suspect dosimetry  
12          results for exactly the reasons that the  
13          petitioner laid out. They may not be even in  
14          the same room. They may be different distances  
15          from the source. They may be doing entirely  
16          different duties, particularly for neutrons,  
17          which is what this one concerns. A very good  
18          shield for neutrons is any material that  
19          contains a lot of hydrogen, like human bodies.  
20          If -- if one worker is between another worker  
21          and the source, you cannot expect that both of  
22          those workers are going to have the same  
23          neutron doses. You simply cannot make that  
24          assumption without knowing the specific  
25          details.

1           **MR. FITZGERALD:** On the other hand, though, I -  
2           - I, you know, certainly agree with you in  
3           terms of -- relatively speaking, if somebody  
4           has a -- you know, say has half the neutron  
5           dose or whatever of a fellow worker, but if  
6           somebody shows up with a zero -- this is kind  
7           of the issue we've been wrestling with -- if  
8           somebody shows up with a zero reading when a  
9           coworker has a positive reading or where  
10          there's a high area readings, that's a more --  
11          seems a more difficult proposition, one that  
12          isn't sort of a question of maybe it was  
13          geometry, maybe it was, you know, shielding.  
14          But it sort of suggests that, you know, if this  
15          person has -- is working in the same work  
16          environment -- of course that's the issue is  
17          are you in the same work environment -- how  
18          could one have a zero versus a -- presumably a  
19          positive reading through dosimetry or from area  
20          monitoring. And we have enough cases like that  
21          that that's -- I think that's the reason --  
22          Kathy, jump in any time you want -- that's the  
23          reason we're hesitant on this one because we've  
24          heard it before and we've heard the  
25          explanation. But in the case of a -- you know,

1 we're looking at the systemic question, you  
2 know, the question of not any particular  
3 individual but in general if you have a number  
4 of repeated readings where you have a high area  
5 reading and a high coworker reading but an  
6 individual has zero, not just simply a portion  
7 of that reading, and we're giving the worker  
8 the benefit of the doubt, I just think somehow  
9 there's got to be a way to corroborate that --  
10 you know, this series of readings can be  
11 attributed, as you're saying, to simply a  
12 circumstance where you would expect to have  
13 different readings. Different, yes. Zero, I -  
14 - I guess I -- I kind of pause when that --  
15 when we're talking about zeroes. That doesn't  
16 seem credible or plausible --

17 **DR. ULSH:** Well, you make --

18 **MR. FITZGERALD:** -- although there might be  
19 some specific instances where it's possible.

20 **DR. ULSH:** You're making a number of  
21 assumptions there, Joe, that I think go beyond  
22 the information that we have in this safety  
23 concern. It doesn't say that he had zero, and  
24 it doesn't really say what dose -- what neutron  
25 exposure his coworker had. It could have been



1           -- I don't know what the -- what the limit of  
2           detection on neutron dosimeters was at that  
3           time. I don't know, but let's throw out a  
4           number, let's just say 40 millirem.

5           **MR. FITZGERALD:** Yeah.

6           **DR. ULSH:** One guy has 40 -- 45 millirem. The  
7           coworker's -- the guy with the concern comes  
8           back zero. All you know is that it's less than  
9           the detection limit. It could be 38. We don't  
10          know.

11          **DR. MAKHIJANI:** Do we have -- we don't have the  
12          names of these people?

13          **DR. ULSH:** Yes, we do. I don't want to say  
14          them out loud.

15          **DR. MAKHIJANI:** Yeah, no, but I'm just saying I  
16          think -- I think --

17          **DR. ULSH:** We have the name of the individual  
18          who filed the safety concern.

19          **DR. MAKHIJANI:** Filed the safety concern --

20          **DR. ULSH:** We don't have the name of the  
21          coworker.

22          **DR. MAKHIJANI:** -- and do we have some tracking  
23          on that safety concern and the job that they  
24          did. A couple of the explanations that you  
25          gave, Brant, are not applicable to this safety

1 concern 'cause they said it was the same job at  
2 the same place. So the shielding part may be -  
3 - they said it was the same job. Right?

4 **MR. ELLIOTT:** But that may be interpreted,  
5 Arjun, as they were working on the same  
6 project. Maybe not -- they didn't have the  
7 same functions.

8 **DR. MAKHIJANI:** It says the same special job.

9 **DR. ULSH:** It says (reading) My film badge  
10 results of other monitor -- I assume that's a  
11 typo -- other monitors on the same special job  
12 should have been expected.

13 **DR. MAKHIJANI:** Right.

14 **DR. ULSH:** But again, you don't know the  
15 details of -- of this in terms of --

16 **DR. MAKHIJANI:** No, I don't know the details.  
17 All I'm saying is that -- that the -- the two  
18 things -- and this -- this should be done in  
19 the other cases, too, the -- the famous eight  
20 rad stacker thing --

21 **DR. ULSH:** Yeah, we'll get to him.

22 **DR. MAKHIJANI:** -- where we've come across the  
23 same issue, is we -- we need to -- we need to  
24 go back to the original record, if possible, of  
25 the people involved and look at their doses --

1           especially here -- and then if possible just  
2           talk to the person as to -- as to what they  
3           were doing. It -- it should -- if -- if that  
4           is possible.

5           **DR. MAURO:** I would take a different tact. If  
6           I were trying to -- to convince this person  
7           that everything is fine, I would go back and  
8           say well, we -- we looked at your exposure  
9           records for these five or six months -- let's  
10          say it's a monthly -- were these monthly? -- or  
11          whatever they were, and then -- and his -- and  
12          his friend, his buddy, and look at him. And  
13          say by the way, the previous month you got the  
14          dose and he didn't.

15          **DR. ULSH:** We don't know who his buddy is.

16          **DR. MAURO:** He -- he won't tell us?

17          **DR. ULSH:** Well, all I'm saying is the safety  
18          concern -- we don't have -- we don't know who  
19          it is, it's not named.

20          **MR. FITZGERALD:** It's not in the documentation.

21          **DR. MAURO:** You see what I'm getting at?  
22          Again, it's -- it's sort of like if I were him  
23          and I -- I could easily see me being that  
24          person, and if -- and if you -- I asked you is  
25          this -- what do you do to convince me that

1 everything's okay, I would say oh, yeah, and  
2 the month before that it went the other way.  
3 Other words, we -- you weren't --

4 **MR. FITZGERALD:** Yeah.

5 **DR. MAURO:** You know, and I would say oh, okay,  
6 and that would be the end of it -- if I was  
7 him. I would be convinced with that. Now I  
8 don't know whether that's true, but that's  
9 something that could be done.

10 **DR. ULSH:** Well, yeah.

11 **DR. MAURO:** The thing (unintelligible) we're  
12 trying to convince him that everything's okay,  
13 and if we can convince him, then for all  
14 intents and purposes, we have also convinced  
15 ourselves.

16 **DR. ULSH:** Well, again, the only way to answer  
17 this definitively is, like I said, to have a  
18 detailed time and motion study so you would  
19 know whether or not to expect them to have the  
20 same results. It could be that the month  
21 before they were doing totally different jobs.

22 **DR. MAURO:** I don't think you can do that.

23 **DR. ULSH:** I know you can't. That's my point.

24 **DR. MAURO:** I wouldn't even try to do that.

25 **MS. MUNN:** Brant -- Brant --

1           **DR. MAKHIJANI:** (Unintelligible) a detailed  
2           time and motion study (unintelligible) straw  
3           man. We know it can't be done. The -- but --  
4           but you can try to locate this person and --  
5           pick up the phone and call them and see who the  
6           buddy was --

7           **DR. MAURO:** Yeah.

8           **DR. MAKHIJANI:** -- and what was the evolution  
9           of this and go back -- try to go back to their  
10          records. Now if you can't, you can't, and you  
11          can't actually take it farther than the  
12          argument that you've done -- that we're doing  
13          at this table. But I think it is possible to  
14          take it considerably farther, simply by  
15          identifying these two people and going to their  
16          dose records.

17          **MS. MUNN:** I can hardly hear you, Arjun.

18          **DR. ULSH:** Oh, you're in the -- you're in the  
19          (unintelligible) now, too.

20          **DR. MAKHIJANI:** Can you hear me now?

21          **MS. MUNN:** Yes, I can hear you better now.

22          **DR. MAKHIJANI:** I'm sorry, I was hiding behind  
23          my computer screen. I said that most of this  
24          can be addressed by identifying the two people  
25          and going to their dose records. We know who

1 one of them is, so --

2 **DR. ULSH:** Yeah, I -- we can look at the -- I  
3 can very easily go to this particular badge  
4 exchange cycle and tell you what the dose was  
5 for this individual named in the safety  
6 concern. In terms of identifying his buddy,  
7 well, number one -- I mean yeah, we -- it's a  
8 question of how far we're going to pull the  
9 string here, and I think we need to look  
10 further down the road and see what these things  
11 that you're proposing are going to get us.  
12 Let's say we talk to the guy who filed the  
13 safety concern -- if he's still alive and we  
14 can locate him, we could try to contact him.  
15 We could say tell me where you were in 1970  
16 when you filed this, tell me who -- who this  
17 person is that you're concerned about. Then we  
18 track -- try to locate that person. At the end  
19 of it, you might be left with -- you've got --  
20 okay, best case scenario, you've got two rad  
21 files. Now what are you going to find in the  
22 rad file? You're going to find the  
23 individual's dosimetry results for these time  
24 periods. It might be exactly what you say,  
25 John. The month before, they were --

1           **DR. MAURO:** Reversed.

2           **DR. ULSH:** -- they were reversed. But even  
3 there we don't know if they were on the same  
4 jobs at that time.

5           **DR. MAURO:** It may turn out they're not  
6 reversed.

7           **MS. MUNN:** The bottom line is, no one can make  
8 a valid assessment without more information  
9 than is given in the safety concern.

10          **DR. ULSH:** And given that, I think then -- I  
11 think we can all agree with that point. Given  
12 that, my question is how far does the working  
13 group want us to pursue this, particular --  
14 this particular example.

15          **MR. FITZGERALD:** If I could make one comment on  
16 this, it strikes me we're -- we're sort of in  
17 that boat (unintelligible) reminds me of the  
18 discussion on the '69 data -- missing data.  
19 You know, certainly on one end of the scale you  
20 can deal with reasoned hypotheses. Okay, we've  
21 gone through a series of hypotheses to explain  
22 why we're seeing the phenomena or the zeroes  
23 that we're seeing in '69, for example. You can  
24 go to the other extreme. In this case we're  
25 talking about, you know, the impractical time

1           and motion studies. In '69 I'm sure there's  
2           another very comparable extreme you could go to  
3           to nail that to the ground. But I don't think  
4           any of us are talking about that. We're saying  
5           is there anything beyond a reasoned hypothesis  
6           as the response to some of these fundamental  
7           issues raised in data reliability. And if you  
8           can take it, you know, one step further than  
9           the hypothesis, meaning a reasoned judgment  
10          without any corroborating facts, then I think,  
11          you know, we should take a hard look at what is  
12          that intermediary step or something that's  
13          further than the hypothesis. And in this case  
14          I think it's certainly possible maybe to go and  
15          get a little bit additional data. Otherwise I  
16          agree with what Wanda's saying. You know, if  
17          you are operating in the confines of the safety  
18          concern, all you have is a hypothesis, which,  
19          you know, for purposes of the context of an SEC  
20          discussion, you know, I think we have to really  
21          scratch our heads and decide if that's  
22          sufficient. It may be necessary, but is it  
23          sufficient. So I don't know.

24          **MS. MUNN:** But Joe, my -- my concern with  
25          SC&A's failure to accept this explanation lies



1 partly in the resolution that was given at the  
2 time, that the employee's supervisor talked to  
3 the employee about this and the indication is  
4 that the employee was satisfied with the  
5 discussion afterwards and understood what had  
6 likely transpired. Then it's difficult for me  
7 to understand why this is becoming a flashpoint  
8 for us in disagreement now, especially since I  
9 -- I do not even know whether this individual  
10 is a claimant.

11 **MR. GRIFFON:** Again, I don't -- that's why I --  
12 I asked that we consider some of this stuff in  
13 aggregate rather than one -- picking apart one  
14 case at a time. That -- you know, we can pick  
15 apart most of these cases individually, but I  
16 think if you've got -- we've got a number of --  
17 of concerns expressed in different forms, in  
18 safety reports and affidavits, et cetera --

19 **MR. FITZGERALD:** Right.

20 **MR. GRIFFON:** -- about the data and the fact  
21 that their -- their record was less than they  
22 believed they received. And you know, I -- I  
23 think my -- you know, this question of -- I  
24 think you have to go back to -- I do like the -  
25 - the -- and I know you're going to get to the

1           stacker-loader case, but I mean I think that  
2           the workers do have -- did have a sense of the,  
3           quote/unquote, hot areas when they were working  
4           in them. And --

5           **MS. MUNN:** They certainly should have.

6           **MR. GRIFFON:** Right, and especially the RCTs,  
7           so you know, when -- when -- when that RCT  
8           expressed a concern about their exposure and  
9           gave some very specifics about the fields in  
10          the area, I think just to kind of pick that one  
11          apart and dispose of it, I wonder if that's  
12          appropriate, especially if we're getting a  
13          number of these. So I would -- I would say  
14          let's -- that's why my approach more is to step  
15          back, given all these concerns expressed.  
16          We've laid out this methodology to test the  
17          reliability of the data used in all the claims  
18          cases, and -- and you're not necessarily  
19          responding to any individual claimant's file  
20          when you're testing the claimant data available  
21          for the Rocky Flats site in general. You know,  
22          that -- that's how I've been kind of  
23          envisioning it instead of -- I can -- you know,  
24          again, I agree with Joe that, you know, you can  
25          hypothesize what might have transpired in each

1 individual case, why a dose might be different  
2 for two coworkers, et cetera. But given --  
3 given the level of interest expressed in the  
4 petition and elsewhere on this issue, I think  
5 the answer is NIOSH is taking this very  
6 seriously and wants to address the overall  
7 reliability of all data being used in -- in all  
8 claims cases -- in a general sense, to make  
9 sure there's no systemic problems.

10 **MR. ELLIOTT:** I'm glad to hear you say that.

11 **MR. GRIFFON:** Well, yeah, yeah, I think --

12 **MR. ELLIOTT:** 'Cause we can have infinite  
13 scenarios, we're running around trying to  
14 figure out what happened.

15 **MR. GRIFFON:** These were useful to express the  
16 -- the -- the specifics of the concerns.

17 **MR. ELLIOTT:** I think -- you know, the tension  
18 here, as I see it, we -- we want to be  
19 responsive and address the affidavit  
20 allegations that have come forward.

21 **MR. GRIFFON:** Right.

22 **MR. ELLIOTT:** But --

23 **MR. GRIFFON:** We can't answer each case.

24 **MR. ELLIOTT:** -- we can't answer every one  
25 because there'll be a host behind each one of

1           those --

2           **MR. GRIFFON:** I agree.

3           **MR. ELLIOTT:** -- that are going to expect a  
4           similar amount of effort. What -- what I hope  
5           we could do, same as what you just said your  
6           vision was, can we identify the salient issues  
7           here, the --

8           **MR. GRIFFON:** Right.

9           **MR. ELLIOTT:** -- categorically can we put those  
10          together --

11          **MR. GRIFFON:** Yeah.

12          **MR. ELLIOTT:** -- and knock them down as a  
13          category or say no, there is something there,  
14          there's a problem there, and the problem -- and  
15          it goes back to we have to rub off what we are  
16          doing here against the -- the acid test is  
17          there -- is there a data reliability issue that  
18          prevents NIOSH from achieving sufficiently  
19          accurate dose reconstruction. Is there -- is  
20          there a data reliability issue here that  
21          presents an inability for us to cap the dose --

22          **MR. GRIFFON:** Right.

23          **MS. MUNN:** Is there --

24          **MR. ELLIOTT:** -- for an SEC petition --

25          **MS. MUNN:** -- a pervasive --

1           **MR. GRIFFON:** And it goes --

2           **MR. ELLIOTT:** -- or for a group of workers.

3           **MS. MUNN:** -- systemic (unintelligible).

4           **MR. GRIFFON:** -- it goes back to -- I mean I --  
5           maybe -- maybe in the workgroup process we've --  
6           - we've missed -- misled -- I don't know, I  
7           didn't think --

8           **MR. ELLIOTT:** No, no, I don't --

9           **MR. GRIFFON:** -- but I think we wanted to be  
10          responsive to all the concerns expressed in the  
11          petition, but that didn't mean that each one  
12          had to have an individual response, you know,  
13          that you can -- some of these are very similar,  
14          and I think grouping them makes sense. And you  
15          know, I think a response that a lot of these  
16          people -- I mean, you know, we -- we had  
17          Jennifer Thompson on the phone -- I'm getting  
18          confused now what day, but about her particular  
19          case, and basically she said, again, this is  
20          not about me and my 54 millirem that I think  
21          was missed or whatever -- or missing or  
22          whatever was the issue with the 54 millirem. I  
23          just bring this up as an example of what I've  
24          heard from other people that were represen--  
25          you know, that she has named petitioners

1           representing. So I think NIOSH's response  
2           should address the broad issue, not every  
3           specific claim. And hopefully you can -- you  
4           can sort of -- in those -- in those responses  
5           you can reference the individual affidavits  
6           that were brought out in the petition and say,  
7           you know, this is in response to, you know,  
8           this list of people that have, you know,  
9           concerns about this kind of issue, not that  
10          you're looking at each individual case --  
11          'cause I think you could go down that path  
12          forever and you're never going to satisfy  
13          those, either, so...

14         **DR. ULSH:** So -- so Mark, just to clarify then,  
15         I -- I understand what you're saying. With  
16         regard to this particular safety concern, Mark  
17         and Wanda and Mike and Bob, if you're out  
18         there, do you want to see more action on this  
19         or do --

20         **MS. ROBERTSON-DEMERS:** We want to see more  
21         action -- this is Kathy -- from a general  
22         sense, and that's why I felt it was applicable  
23         to the SEC petition. If you -- if the workers  
24         don't believe that their -- their dosimetry  
25         results, in general, then explain to them why

1           they were zero. And you -- and -- and you've  
2           got the explanation in your head because you  
3           just stated it at the beginning of this issue.

4           **DR. ULSH:** It's in the evaluation that I  
5           prepared for the -- for the safety concerns. I  
6           mean I -- I laid this out in my evaluation of  
7           this particular safety concern. And so my  
8           question then is --

9           **MR. GRIFFON:** Right.

10          **DR. ULSH:** -- given what you've just said, do  
11          you want me to pursue this further or just  
12          address the more general issues. That's what  
13          I'm asking.

14          **MR. GRIFFON:** And I --

15          **MS. ROBERTSON-DEMERS:** You want me to vote,  
16          Mark?

17          **DR. WADE:** No, this is not your question.

18          **DR. MAURO:** No, this is -- this is a Board  
19          question.

20          **MR. GRIFFON:** Yeah.

21          **MS. MUNN:** My personal preference would be to  
22          address the general issue, because this is not  
23          even a site-specific issue. This is a complex-  
24          wide issue, and the issue is essentially always  
25          the same. My badge doesn't look like -- my

1 badge readings do not give me the same report  
2 as I believe my coworker received. And this is  
3 not going to be an issue that's going to go  
4 away. If we cannot adequately address it, then  
5 we need to say we can't adequately address it.  
6 I believe that we can, and I believe that --

7 **MR. GRIFFON:** You believe that we can -- can't  
8 hear you, Wanda.

9 **MS. MUNN:** -- (unintelligible) reasonably good  
10 job of beginning to do that.

11 **DR. WADE:** Say we believe she -- we can and  
12 we're doing a reasonably good job of beginning  
13 that.

14 **MR. GRIFFON:** Yeah, I -- my opinion is I don't  
15 want you to look at all these individual cases  
16 to prove back -- I don't know that I would say  
17 don't look at any of them, but I would say  
18 don't look -- certainly we don't want to look  
19 at all.

20 **DR. ULSH:** Well, the --

21 **MR. ELLIOTT:** So we may look at -- we may --  
22 Brant may look at some --

23 **MR. GRIFFON:** Pull the string on a few --

24 **MR. ELLIOTT:** -- in order to --

25 **MR. GRIFFON:** -- on a few that -- that --



1           **MR. ELLIOTT:** -- to show other -- in defense of  
2           -- of what we've done or to support --

3           **MR. GRIFFON:** Right.

4           **MR. ELLIOTT:** -- what is being alleged.

5           **MR. GRIFFON:** Right.

6           **DR. ULSH:** Okay. So given then that -- I know  
7           you guys haven't had time to review this yet --

8           **MR. GRIFFON:** And you may have done that to  
9           some extent already, the -- the stacker-  
10          retriever person, that string has been pulled  
11          quite a bit, so that -- that's a -- that's a  
12          prime example I think 'cause there's a lot of  
13          rich information in that affidavit and --

14          **DR. ULSH:** Very specific information we can  
15          check.

16          **MR. GRIFFON:** Very specific, right, right. So  
17          that's the kind of one that I think might be  
18          fruitful to pull the string a little bit. But  
19          otherwise, I agree with Wanda. I want to -- we  
20          have to answer the general question. You know,  
21          is the data reliable, as best as we can check  
22          and determine, you know, over the course of  
23          time at Rocky 'cause this covers the whole span  
24          in Rocky Flats, the petition, over the course  
25          of time for all areas, is the data reliable.

1           That's the question we have to focus on.

2           **DR. ULSH:** And when you're saying address that  
3           more general issue, it deals with the things  
4           we've already talked about --

5           **MR. GRIFFON:** All those --

6           **DR. ULSH:** -- the log books, things --

7           **MR. GRIFFON:** -- all those columns that we're  
8           talking about, log books, urinalysis books, et  
9           cetera.

10          **DR. ULSH:** And I know you haven't had a chance  
11          to review the evaluation of the first 33 safety  
12          concerns. I will prepare a similar evaluation  
13          for the next 16 that SC&A -- have we already  
14          talked about that today?

15          **MR. GRIFFON:** Yeah -- no, those --

16          **DR. ULSH:** SC&A also proposed 16 additional  
17          ones to look at in a similar manner to the way  
18          that we've done the first 33, and I'll go ahead  
19          and do that.

20          **MR. GRIFFON:** And if -- I don't know -- I asked  
21          this during the break, but is there -- are  
22          there categories of these things? I mean one  
23          category here is -- is they don't believe the  
24          dose they were assigned.

25          **MR. FITZGERALD:** Well, another one --

1           **MR. GRIFFON:** That probably covers several  
2 people.

3           **MR. FITZGERALD:** -- neutron blackening, what --  
4 I think that's something he actually sent us a  
5 e-mail on.

6           **DR. MAURO:** This is a very, very important  
7 conversation we're having right now.

8           **MR. ELLIOTT:** Yes, it is.

9           **DR. MAURO:** I think -- I think we're finally  
10 star-- it's emerging from the process and this  
11 is the way it's supposed to be. What's emerged  
12 from this process is the realization that we're  
13 not going to chase -- and we really -- there is  
14 no -- there's no great value to chase every  
15 allegation on a particular case. When they  
16 come in, we -- the process is to use that as a  
17 way to start to categorize areas of inquiry  
18 that have broad-base implications regarding  
19 data reliability. It's a process. We actually  
20 are now building a process. The light just  
21 went on, 'cause I don't know if you recall,  
22 there was a time that I was sort of thinking  
23 different. I was thinking well, you know, we  
24 have an obligation to these individuals to try  
25 to help -- no, I -- I was just convinced the

1 way you said -- use these individual cases --

2 **MR. GRIFFON:** I think we have a obligation to  
3 be responsive, but --

4 **DR. MAURO:** Yeah -- yeah, but --

5 **MR. GRIFFON:** -- the way you respond is  
6 different, right.

7 **DR. MAURO:** -- I mean -- yeah, responsive, but  
8 not the way --

9 **MR. GRIFFON:** And I apologize if I haven't been  
10 clear with that. That's kind of the way I've  
11 been seeing it for a while.

12 **DR. MAURO:** Yeah -- no, no, I -- I think that  
13 there's a process that just emerged from here  
14 which is -- which will satisfy the individual  
15 affidavit, but in the process of satisfying  
16 that, we're going to satisfy the other thousand  
17 that go along with that, that are -- that --  
18 and I think that that's how it -- you know,  
19 that's how we'll build -- this emerged right  
20 from this conversation when a light just  
21 started to go off in my head.

22 **MR. MEYER:** You know, if this is a complex-wide  
23 issue -- which a lot of these probably are, a  
24 number of them are, as Wanda had said -- it's  
25 probably up to the Board to establish the

1 category --

2 **DR. MAURO:** Absolutely.

3 **MR. MEYER:** -- and the specific example that  
4 maybe each group has to track on their own, but  
5 -- or maybe it's just track once, I'm not sure.

6 **DR. WADE:** And the Board has -- to the Board --  
7 the Board did have a work-- working group that  
8 looked at this -- this broad issue of criteria  
9 to be considered when evaluating an SEC  
10 petition, and it was NIOSH's burden then to  
11 present. So I think that work has already been  
12 done. I think in each individual petition,  
13 based upon the petition itself and based upon  
14 the digging that SC&A does, certain issues  
15 emerge. Clearly for Rocky Flats, data  
16 reliability is an issue, and these are some of  
17 the characteristics of the issue and it needs  
18 to be addressed. The Board has provided  
19 guidance and the working group guidance. In  
20 some cases it doesn't raise as high as an  
21 issue, but in this case it has, and the  
22 petition does it and the SC&A report did it.  
23 And I think now it needs to be put to bed, but  
24 it needs to be put to bed systemically. You  
25 can't chase these things.

1           **MR. ELLIOTT:** If it's a general issue across  
2 sites, but it's not -- in the context of its  
3 issue at a given site, it can be different.

4           **MR. GRIFFON:** Yeah.

5           **MR. ELLIOTT:** You've already pointed that out.  
6 Y-12 was substantially different in doing what  
7 we were doing than we are here at Rocky.

8           **MR. GRIFFON:** I was going to say it takes a  
9 little different form on each -- each place we  
10 go. Mallinckrodt --

11          **MS. MUNN:** It was, but the basic question was  
12 the same.

13          **MR. GRIFFON:** Yeah.

14          **MR. FITZGERALD:** And I would say at Rocky  
15 you're going to have certain categories that'll  
16 be very distinct and you're going to hear those  
17 issues perhaps more frequently. I think this  
18 one about zeroes and presumed places of high  
19 exposure and blackening of badges, for example,  
20 are two that you hear repeated fairly often.

21          **MR. GRIFFON:** I agree.

22          **MR. FITZGERALD:** And there's going to be some  
23 others that will be very infrequently you'll --  
24 you know, so I think certainly those broad  
25 areas need to be --

1           **MR. ELLIOTT:** And certainly those broad areas  
2           have perhaps the most impact if -- if they  
3           become, you know, an issue -- in capping dose  
4           or in reconstructing dose -- that -- that  
5           covers a breadth of the claimant population.

6           **DR. MAURO:** And this is going to carry over to  
7           other sites.

8           **MR. ELLIOTT:** Yeah.

9           **DR. MAURO:** This process we're building right  
10          now is going to carry over to other sites.  
11          This is -- this is important.

12          **DR. MAKHIJANI:** I have a procedural question  
13          about -- and maybe Dr. Wade or Lar-- Larry, you  
14          could illuminate this -- is the -- in the  
15          specific instance, NIOSH, in the process of,  
16          you know, evalu-- qualifying the SEC petition,  
17          elicited more information from the petitioners.  
18          And a very large part of what we're dealing  
19          with is -- it's 500 or 700-odd pages -- is the  
20          information that was given by the petitioner in  
21          response to NIOSH's request, which consists  
22          primarily of these affidavits. And I agree,  
23          you know, some of these individual things at  
24          the anecdotal level don't resolve the larger  
25          issue, even if you trace them down. But if you

1 do it in the reverse, if you say okay, we've  
2 looked at the 90 percentiles and that was okay  
3 for Y-12; in Y-12 we didn't have affidavits  
4 from individual petitioners, what is -- what's  
5 the bar in terms of responding to the petition,  
6 especially procedurally. So I may be, as a  
7 scientist, satisfied that the quantity of data  
8 available is okay and the integrity of the  
9 data, you know, it matches in sufficient  
10 numbers. How do you go back from that and  
11 speak to the SEC petition, especially when  
12 NIOSH has elicited the information? That's --  
13 that's part of the reason why I've been feeling  
14 a value in this process in this particular  
15 case, whereas it didn't come up in Y-12, is  
16 because we've got these affidavits in the  
17 petition. And so it's a little bit  
18 procedurally difficult.

19 **MR. GRIFFON:** Well, I think -- isn't -- isn't  
20 part of the reason you have all these  
21 affidavits is 'cause you did go back -- I mean  
22 went back and asked for more information to  
23 support certain claims within the original  
24 petition -- right? Is that -- is that correct,  
25 or -- I'm not sure of the history --



1           **MS. JESSEN:** Can I step in here?

2           **MR. GRIFFON:** Yeah.

3           **MS. JESSEN:** This is Karin. In the original  
4 petition there were statements from different  
5 workers that had made their statements, but in  
6 the rule it does say that if you're going to  
7 make those statements you do have to provide an  
8 affidavit. So in the second group of things  
9 that came in from the petitioner, the 500  
10 pages, most of those pieces of information from  
11 the workers that were in the first petition, if  
12 you will, showed up in the second petition as  
13 an affidavit.

14          **MR. GRIFFON:** Okay.

15          **MS. JESSEN:** So a lot of the information was  
16 the same, it was just the behind-the-scenes  
17 paperwork --

18          **MR. ELLIOTT:** The formality of it.

19          **MS. JESSEN:** -- the formality that we needed  
20 the affidavit. There were several additional  
21 items that were provided regarding the second  
22 petition that came in, or the piece of  
23 information that came in, but there -- there  
24 was some overlap.

25          **MR. ELLIOTT:** That's absolutely --

1           **MR. GRIFFON:** That's a good clarification,  
2           yeah.

3           **MR. ELLIOTT:** -- right on, but I think Arjun  
4           raises a very good point, because this petition  
5           and the fact that we have these affidavits --  
6           heavily loaded with affidavit concerns --

7           **MS. JESSEN:** I think there's like 22.

8           **MR. ELLIOTT:** Yeah -- how do we go about, you  
9           know, responding to those -- to those  
10          individuals. They've had -- they have some  
11          ownership here. They've vested themselves this  
12          way.

13          **MR. GRIFFON:** That's a good point.

14          **MS. JESSEN:** And one of the things that I would  
15          like to clarify, in the evaluation report we  
16          did respond generically, if you will, to the  
17          concerns that were brought up by the petitioner  
18          in the affidavits. That was responded to in  
19          the petition (sic). One of them was lead  
20          aprons, the other one -- I don't remember all  
21          of them -- inaccurate exposure, but you know,  
22          the whole thing. All of the issues were  
23          addressed as presented in the petition, and we  
24          did respond to that in a general way, which was  
25          NIOSH's job to do -- because remember, we're





1 tell, every day to these working group  
2 discussions. And so I think we owe -- at the  
3 end of the trail here, we owe the petitioners  
4 and those who contributed to the petition an  
5 explanation of what has been developed through  
6 this deliberative process and what  
7 understanding has been arrived at, whether it's  
8 the position we originally took in the  
9 evaluation report or whether that -- on a -- on  
10 a given issue, or whether that position has  
11 been modified because of the deliberative  
12 process. I think we have to go back. Now how  
13 that happens, I don't know that we have a clear  
14 sense -- in my mind or anybody else's mind --  
15 yet how we -- how we make that happen.

16 **DR. WADE:** Yeah, I mean I would add a little  
17 bit. I mean it -- and they're two separate  
18 issues. They're both important, but they're  
19 very separate. The primary issue that NIOSH is  
20 concerned with and the Board is concerned with  
21 now is that we have an SEC petition. We  
22 presented an evaluation report. We need to be  
23 sure that that evaluation report scientifically  
24 addresses the concerns as well as they can, and  
25 the Board will comment upon that. And that's

1 the primary activity.

2 NIOSH is left with another burden, which is the  
3 burden of good communication to the people that  
4 it serves. That's even -- may be a greater  
5 challenge that we face is to -- how do we deal  
6 with these people who have raised these issues.  
7 How do we -- how do we allay their concerns and  
8 fears, and we need to work very hard on that,  
9 but it's separate and apart from the evaluation  
10 process. And I mean I think we have to -- we  
11 have to keep --

12 And the Board has to realize that its  
13 responsibility is to oversee the scientific  
14 quality of what NIOSH does and make a  
15 recommendation to the Secretary, and -- and  
16 that needs to be the focus of the Board's  
17 activity.

18 We welcome all the advice that you'll give us  
19 on how to deal with this communications dilemma  
20 that we have, but that's a separate issue than  
21 the issue of coming to the right evaluation  
22 report and the Board coming to its judgment.

23 **MR. ELLIOTT:** We may never be responsive to  
24 everybody or allay anyone's concerns or fears,  
25 but we at least owe them an honest, frank,

1 candid communication about what has happened,  
2 what -- where we're at at the end of that  
3 trail.

4 **DR. WADE:** And I would also then add a little  
5 bit of editorializing. I think SC&A and the  
6 working group has served the process extremely  
7 well on both fronts, and yet you have to keep  
8 the issues separate.

9 **DR. MAURO:** I've got one other -- another facet  
10 to this, and that is -- a model just took form  
11 in my head and I like when this happens. The  
12 idea that the --

13 **MR. GRIFFON:** I think we do, too, John. We'll  
14 let you know in a second.

15 **DR. MAURO:** Well, what I see is okay, good --

16 **MR. GRIFFON:** Is this a tree with balloons?

17 **DR. MAURO:** What we have here is that okay,  
18 these affidavits come out, the petition's out,  
19 and somehow imbedded in that we allow -- form -  
20 - something to take form. Okay. We're going  
21 to have to -- like -- as you pointed out, the  
22 blackened film badges, the lost film badges --  
23 other words, you can start to just start to see  
24 -- what emerges -- you just have to sort them  
25 into categories, you've got a bunch of bins

1           now. Okay? And you say now if we could put  
2           each one of these bins to bed -- you know, we  
3           do two things. One, we've convinced ourselves  
4           that the data's reliable and second, probably  
5           in the process have convinced the -- the person  
6           who filed the affidavit there's good reason to  
7           believe that we've got this thing -- we  
8           understand it. But here's where we really are  
9           right now, and I don't think we realize we're  
10          at this place. We think somehow these -- these  
11          different categories of documents, these log  
12          books, the foreman's reports, these -- or the  
13          Kittinger report -- other words, we've got --  
14          we -- what we have now is -- the real dilemma  
15          we have now is there's all of these categories  
16          of information that are recorded away,  
17          apparently vast amounts of information, and  
18          what we're -- I could see that we're struggling  
19          with is my God, how do we get at that stuff to  
20          help us say something intelligent about --  
21          about each of the bins and where -- is there --  
22          is there information in there is not -- I -- I  
23          think we're -- we're in a pro-- we're in what I  
24          would call a chaotic phase. I like -- I like --  
25          -- we're in a chaotic phase right now. That's



1           okay.  Whereby we're pulling -- we're pulling  
2           scope -- you know, different log books and  
3           we're looking at them, we try this, we see a  
4           title, let's pull it and see what it tells us  
5           and -- and it's almost like we -- we're not  
6           quite sure whether or not it's going to serve  
7           us well.  And I think that's the part of the  
8           process we're in right now, and that's okay.  
9           I'll be frank, I think we're a little bit lost  
10          at sea in there somewhere.  That is, where is  
11          this stu-- you know, is it going to help us.  We  
12          don't know yet.  But I think that when we're  
13          through with the process that you're in the  
14          middle of right now, and I guess, you know,  
15          some degree of frustration trying to find the  
16          gold inside this mountain.  But when we're  
17          through with that, we're going to have -- we  
18          are going to have built a process that's going  
19          -- that -- that probably has an -- is going to  
20          be analogous to many other sites.  So even  
21          though it's -- it's painful right now, I think  
22          we've got to go through this process and find  
23          out where -- where it takes us.

24          **MR. GRIFFON:**  I don't see this data validation  
25          -- at least -- other than the individual cases,

1 I see it very similar to what we did at Y-12,  
2 for those of you who dug through records. I  
3 mean I -- you know, we did a lot of the same  
4 (unintelligible).

5 (Whereupon, transcription of comments by  
6 speakers at the table was rendered impossible  
7 due to telephone interference.)

8 **DR. WADE:** Okay, it went away. Wanda, are you  
9 there?

10 **MS. MUNN:** Yes, I am.

11 **DR. WADE:** Mike, are you there?

12 **MR. GIBSON:** Yes.

13 **DR. WADE:** Good. Thank you.

14 **MR. GRIFFON:** You know, it's not like you have,  
15 you know, okay, here's our master set of raw  
16 records here and here's our electronic database  
17 here and we just have to samp-- you know, come  
18 up with a sampling strategy -- stratified  
19 sampling strategy and do it that way. It's not  
20 -- it's not -- we don't have that, so you have  
21 -- you have little bits and pieces and you get  
22 at it that way. We did the same thing at Y-12.

23 **MR. FITZGERALD:** I was going to say, it wasn't  
24 clean in the beginning, though. Each site's a  
25 little different, and this site differs from Y-

1           12 because when we went to the petitioners and  
2           went to the people that had the affidavits and  
3           allegations and said, you know, this did-- you  
4           know, we understand what you're saying, but  
5           there doesn't seem to be any corroborating  
6           evidence, where can we find this -- they  
7           weren't giving us anything, no documentation to  
8           back it up. They (unintelligible) the safety  
9           concerns log books, but not with any specific  
10          references. So to some extent we had a  
11          sampling issue from the very get-go, and I  
12          think that's where -- you know, where we are  
13          now. How do we sample this vast amount of  
14          information when they did not have a specific  
15          date, reference -- nothing, which is kind of  
16          surprising, but that's kind of where we are.  
17          **DR. WADE:** But the other thing -- you know, I  
18          agree with everything except that it's okay. I  
19          mean you have to look at some other things. I  
20          mean there -- there's a great deal of pressure  
21          on us all to act in a timely way. I don't have  
22          to tell you that every week I'm reminded that  
23          people are dying while we do this. So we have  
24          to -- we have to decide how we want to approach  
25          this and it's -- it's not an easy process, and

1 I applaud the work that's been done to this  
2 point. But we just can't do it forever, so --  
3 **MR. GRIFFON:** That's what I'm saying. We -- we  
4 may -- you know, we may -- I guess we're -- you  
5 know, we learn as we go, but we may get a  
6 generic lesson out of this, which is that, you  
7 know, we really have to, you know, focus on the  
8 class and those issues rather than -- you know,  
9 these examples are great 'cause they're very --  
10 well, you know, they sort of define the  
11 problem, you know. But then you have to step  
12 back and say okay, how does that affect the  
13 whole class, and I think we might have spent a  
14 little too much energy on -- on each individual  
15 -- maybe not -- maybe not.

16 **DR. WADE:** Three things happened --

17 **MR. GRIFFON:** Anyway --

18 **DR. WADE:** Three things happened at Rocky  
19 Flats, it seems to me, but -- the nature of the  
20 petition itself, the history of the site in  
21 terms of the FBI and raids and all of the  
22 concerns. NIO-- I mean SC&A's initial digging  
23 in where they said there -- there's something  
24 here -- I mean that elevated it to the level  
25 where it's taken the attention that we've

1 brought to it, but we need to realize that  
2 while we're doing this, you know, literally  
3 there are people dying and -- and that's a  
4 concern --

5 **MR. ELLIOTT:** It seems to me that if you look  
6 at our evaluation report and you look at  
7 Section 7.5 where we attend -- or attempt to  
8 attend and address the affidavit issues, the  
9 issues that are raised not only in the original  
10 petition, but then those that are -- come back  
11 and supported by affidavit, can we -- can we  
12 look at those in the context of -- of has  
13 anything changed from where we're at, from our  
14 evaluation report, to the work that has been  
15 done, the deliberation that's been given, would  
16 we modify anything that we have to say now,  
17 would we augment it, would we add to it, would  
18 we -- would we change our -- our thought, our  
19 position that is stated in that evaluation  
20 report.

21 **MR. GRIFFON:** See, that -- that's -- that's  
22 part of where I was going with the too much  
23 time spent on individual cases 'cause I think  
24 we've neglected the broader issues for a while  
25 and that's a little bit of my frustration

1           coming into this meeting is that some of the --  
2           the tasks that I thought would be moved quite a  
3           bit further along have sat idle while other  
4           tasks have mushroomed into much bigger things  
5           than I ever thought they would be, so I -- I --  
6           I don't know that we've changed. I'd have to  
7           look at that, but I -- I know a lot -- the  
8           other way --

9           **MR. ELLIOTT:** Well, I'm not saying that for  
10          you. I'm --

11          **MR. GRIFFON:** No, no, I -- yeah, yeah --

12          **MR. ELLIOTT:** -- saying that for NIOSH and the  
13          ORAU team.

14          **MR. GRIFFON:** I mean I don't know that we would  
15          have made a persuasive argument to make you  
16          cha-- you know, for you to want to change that  
17          section yet, but I mean I think one big issue  
18          is the other radionuclides and we're still --  
19          at this point haven't seen a report in front of  
20          us and that's a little bit of frustration on my  
21          -- you know, 'cause I feel that time pressure,  
22          too, especially coming into the Nevada meeting,  
23          you know, and having to face the petitioners  
24          again.

25          **MR. ELLIOTT:** Well, my -- my pressure is not

1           only hearing people say, you know, people dying  
2           all the time --

3           **MR. GRIFFON:** Yeah.

4           **MR. ELLIOTT:** -- you guys are debating this,  
5           but the other pressure I feel is making sure  
6           that we apply the resources that we have in  
7           NIOSH and the ORAU team appropriately and --  
8           and I'm concerned, too, about the other  
9           radionuclides and where we're at and how much  
10          time can we spend on that given we're, you  
11          know, chasing down log books here, there and --  
12          and trying to figure out what benefit or merit  
13          they have to answering a question on  
14          reliability. So you know, I think we need to  
15          have very clear guidance from the working  
16          group, from the Advisory Board, on how you want  
17          to approach this. How do you want us to  
18          proceed. What -- what -- you know, what focus  
19          do you want us to give a particular over-  
20          arching issue, like data reliability. How do  
21          you want us to tackle that. How do you want us  
22          to tackle some of the other issues. That's  
23          where I'm at today. That's why I thought I'd  
24          better attend the meeting and see where we were  
25          going.

1           **MR. GRIFFON:** Well, I think we've -- I -- I  
2           feel like we have a reasonable path forward for  
3           the data reliability question. I feel like we  
4           shouldn't -- we haven't reviewed this safety  
5           concerns report, but I would say, as far as  
6           pulling the string on any individual case, I  
7           would definitely hold off on that at this  
8           point. If SC&A reviews this and finds one or  
9           two or something that, you know, they see some  
10          merit in pursuing further, then that -- you  
11          know, I would leave it open for that. But  
12          otherwise I would say we need to focus on the -  
13          - the log books and these other checks -- to  
14          check the reliability of the -- of the data  
15          within the claims files.

16          **MR. ELLIOTT:** Speaks in a general sense to data  
17          reliability --

18          **MR. GRIFFON:** Right.

19          **MR. ELLIOTT:** -- but in a --

20          **MR. GRIFFON:** And we haven't had --

21          **MR. ELLIOTT:** -- specific sense to an  
22          individual's concern.

23          **MR. GRIFFON:** I mean I -- you know, I hear  
24          people asking me well, what do you want us to  
25          do. Well, at the last meeting it was agreed



1           that NIOSH would come back and propose a  
2           methodology, and I was hoping that the  
3           methodology proposal would come between these  
4           two meetings via e-mail and then -- you know,  
5           so we wouldn't hold those up, but we haven't  
6           even got a methodology -- and I know Brant --  
7           Brant's saying partially because, you know,  
8           they just haven't found a lot in the log books  
9           so they -- you know.

10          **DR. MAURO:** Well, where we are now, we've got a  
11          thousand documents -- at least a thousand -- I  
12          mean --

13          **MR. MEYER:** It is, I just got the estimate back  
14          from Scott.

15          **DR. MAURO:** Okay, now we've got a thousand  
16          (unintelligible) this important place, we're at  
17          a milestone as far as that, but we have a  
18          thousand documents that cover a broad range of  
19          activities and time periods at the facility.  
20          And in theory, imbedded in this -- and I don't  
21          even know how many pages a thousand documents  
22          are, it maybe 10,000 pages, maybe 100,000, I  
23          don't know, but we're operating from a  
24          perception that someplace imbedded in that --  
25          in those -- those pages is information that's

1 going to give us some insight into each of  
2 those bins that we've created in our minds. We  
3 don't know if it -- it does or it doesn't --

4 **MR. GRIFFON:** But -- but -- but we do, to some  
5 extent. I mean I --

6 **DR. MAURO:** To some extent, okay. I guess I --

7 **MR. GRIFFON:** Yeah, I mean we have examples.  
8 It's not like we're (unintelligible) at this  
9 point. We have examples that some logs have  
10 information in them and we're going to provide  
11 that to NIOSH, titles that Bob read off the  
12 spreadsheet said, you know -- some of those at  
13 least said urinalysis records. That -- that  
14 gives me an indication that yeah, there might  
15 be something there -- there, you know, it's not  
16 a worthless goose -- you know, a wild goose  
17 chase on (unintelligible).

18 **DR. ULSH:** It's clear that the urinalysis logs  
19 --

20 **MR. GRIFFON:** Right.

21 **DR. ULSH:** -- but no one I think would say that  
22 those are going to lack value, that's -- that's  
23 clear.

24 **MR. GRIFFON:** But -- if -- he was talking about  
25 other records that contain urinalysis data, I

1 think --

2 **DR. ULSH:** It may not be log books.

3 **MR. GRIFFON:** Yeah.

4 **DR. ULSH:** It may just be other raw records of  
5 urinalysis. That's -- that's clear.

6 **MR. GRIFFON:** So I think if we can cover the  
7 time periods with these urinalysis raw records,  
8 then -- then you -- you've got this semblance  
9 of a methodology --

10 **DR. MAURO:** Yeah.

11 **MR. GRIFFON:** -- there, you know.

12 **MS. MUNN:** But folks, this -- this basic  
13 question has not changed from the outset, and  
14 the basic question still is how much is enough  
15 to satisfy this Advisory Board on the  
16 verifiable nature of the data that's available.  
17 It's never going to be perfect. The  
18 information that we have is never going to be  
19 perfect. There are always going to be single  
20 instances that we can find where things don't  
21 match perfectly because none of the information  
22 that I have ever seen anywhere about anything  
23 is ever going to be perfect. So our job, as I  
24 see it, is an enormously difficult one. It's  
25 to answer the question how much is enough. We

1           can go on with this forever, but someone -- and  
2           I think it has to be the Board -- must say this  
3           is enough. This is adequate. The job can be  
4           done with the information we have.

5           **DR. WADE:** Or correspondingly, there are enough  
6           open issues that we can't make that judgment.  
7           So the Board has to come to a decision. I mean  
8           I -- just again, to get over -- slightly beyond  
9           my role, I mean I think this overview of data  
10          reliability and how it's put to rest, and I  
11          think the other radionuclides issue, those are  
12          -- those are the big issues that are left  
13          before this working group, and we need to tee  
14          them up as quickly as you can.  
15          The other things we've been talking about are  
16          interesting --

17          **MR. GRIFFON:** It shouldn't have been a  
18          surprise, given our Y-12 deliberations.

19          **DR. ULSH:** Well, I would like to clarify that  
20          the first time that -- that I recall, at least  
21          -- the other radionuclides issue being asked  
22          was in a write-up by SC&A two working group  
23          meetings ago, I don't know, I don't -- I don't  
24          remember the exact date.

25          **MS. MUNN:** Three working group meetings ago.

1           **DR. ULSH:** Okay. At the last working group  
2 meeting we gave the oral presentation. The  
3 written report is going to be in your hands --  
4 barring classification issues -- very, very  
5 soon. So at least on that one, I think --

6           **MR. GRIFFON:** Right, right.

7           **DR. WADE:** Well, no need to be defensive. I  
8 mean this is really --

9           **MR. GRIFFON:** No, no, I'm not pointing -- I'm --  
10 - also -- Wanda, to your point, I mean I just  
11 think, you know, how much is enough, we do have  
12 to keep that in mind all the time, but --

13          **MS. MUNN:** We do.

14          **MR. GRIFFON:** -- we also have to -- my -- I  
15 guess my approach in this has been to sort of  
16 go where the data takes me, too. And when we --  
17 - when we see new pieces of data, you know --  
18 you know, you -- you have to sort of follow  
19 that to some extent, you know, and -- so we  
20 don't know, you know, on every site how much is  
21 going to be enough until -- you know, until you  
22 look at the data, you just don't know, so you  
23 don't know --

24          **MS. MUNN:** But we're not going to come up with  
25 perfect data, no matter what we do.

1           **MR. GRIFFON:** You're not going to come up with  
2 perfect data, but you know -- I mean we're  
3 lucky -- you know, we're just starting to see  
4 any raw data so, you know, that -- that's --

5           **MS. MUNN:** We have to weigh that against our  
6 responsibility not only to the claimants, but  
7 to the taxpayers and to the rest of our  
8 colleagues, as well.

9           **MR. GRIFFON:** Right, right, right.

10          **MS. MUNN:** So it's not an easy question to  
11 answer.

12          **DR. MAURO:** It took us a long time to get to  
13 this point.

14          **MR. GRIFFON:** Yes. And let me just note that  
15 it took us a long time to get to thorium at Y-  
16 12, as well.

17          **DR. MAURO:** And I -- and I -- I --

18          **MR. GRIFFON:** So I don't think this is a wasted  
19 effort.

20          **DR. MAURO:** No, I -- I'm -- I'm optimistic now  
21 --

22          **MR. GRIFFON:** Yeah.

23          **DR. MAURO:** -- that we have a path that we --  
24 there's this thousand documents that some type  
25 of process is going to be used to cull through

1           that to address the different bins. So in  
2           other words -- I almost -- see, I have to say,  
3           before listening to all the conference calls I  
4           felt as if we were lost in the woods. You  
5           know, I -- I don't feel that way right now. I  
6           feel as if we've got a -- we've got a path now  
7           and we're going to -- and we're going to close  
8           this --

9           **MR. GRIFFON:** And can I help you find yourself  
10          a little more on that? I don't think -- I  
11          don't think it's a thousand documents. I'd  
12          love to see --

13          **DR. MAURO:** Well, that's --

14          **MR. GRIFFON:** I mean I believe you've obtained  
15          a thousand documents in this process.

16          **DR. MAURO:** Those are going on the O drive.  
17          Right?

18          **DR. ULSH:** Whoa, whoa, whoa --

19          **DR. MAURO:** No, no, no --

20          **MR. FITZGERALD:** There were 46 that were.

21          **MR. GRIFFON:** I think we're focused down to  
22          about 46 plus urinalysis logs, plus some other  
23          pieces, you know. You -- you've obtained a  
24          thousand documents --

25          **DR. ULSH:** A thousand documents, John --

1           **MR. GRIFFON:** -- through this whole process.

2           **DR. ULSH:** -- we have asked Scott Raines to  
3 retrieve for us. That includes individual rad  
4 files --

5           **MR. GRIFFON:** Individual rad files is --

6           **DR. ULSH:** -- which are not going to go on the  
7 O drive, right.

8           **DR. MAURO:** Oh, okay, so -- so the process is a  
9 thousand documents is something you identified  
10 by titles -- is that what it -- I'm --

11          **DR. ULSH:** Well, throughout the course of the  
12 working group meetings over the past year or  
13 whatever it's been, in response to some of  
14 these requests, we've requested from Mountain  
15 View about a thousand documents.

16          **DR. MAURO:** Okay.

17          **DR. ULSH:** We include log books --

18          **DR. MAURO:** That came in, these --

19          **DR. ULSH:** -- and rad files --

20          **MR. MEYER:** We've looked over probably 5,000  
21 summaries and had him extract -- I would guess  
22 -- and I had him extract about a thousand from  
23 the records that --

24          **DR. ULSH:** Now not all of those are going to be  
25 on the O drive.



1           **DR. MAURO:** And out of that, based on your  
2 judgment of looking at that, there's some  
3 subset of that that you feel is going -- might  
4 be of value, might --

5           **DR. ULSH:** Forty-six.

6           **DR. MAURO:** It's important to --

7           **MR. FITZGERALD:** Forty-six.

8           **MR. MEYER:** Forty-six.

9           **DR. MAURO:** I didn't hear you.

10          **MR. MEYER:** Forty-six.

11          **DR. MAURO:** Okay. And -- and those 46 are  
12 going to be your holy grail -- in theory.

13          **DR. ULSH:** I'm going to look at them first  
14 before I commit to that.

15          **MR. FITZGERALD:** Yeah, I'd just say --

16          **MR. GRIFFON:** I've got to say, I think -- a  
17 thousand documents, I've been waiting for a  
18 while for these log books and -- you know, if I  
19 could have put on hold those 950 and -- and had  
20 the 50 up front about three meetings ago, I  
21 would have been much happier, you know, so I  
22 don't know what those thousand --

23          **MR. MEYER:** Those included responses to a lot  
24 of other queries, too, the -- the JT files, for  
25 example, are included in that thousand, among

1 other things that we've talked about, so it's -  
2 -

3 **MR. GRIFFON:** Yeah, and a lot of them were the  
4 individual rad files for the individual cases  
5 that you pulled -- that you tracked back --

6 **DR. WADE:** Let's get back to the task.  
7 Everyone around the table can feel proud of  
8 what they've done and what they're doing, but  
9 it's more about tomorrow than it is yesterday,  
10 so we need to just go on.

11 **DR. ULSH:** Mark, there are a couple of data  
12 integrity things. The safety concerns -- I  
13 don't think I'll say anything more about that  
14 right now, let you guys have time to review it.

15 **MR. GRIFFON:** Right.

16 **DR. ULSH:** The two things that I propose to you  
17 -- and agree or don't -- that we should maybe  
18 cover is let Karin give a brief summary of the  
19 data integrity write-up that she has prepared.  
20 One of the issues that is commonly heard in  
21 terms of the data integrity issue is film  
22 blackening and --

23 **MR. GRIFFON:** So this is a -- let me just --  
24 just step in for a second, Brant. This is a  
25 summary of the -- Karin went through and -- and

1 pulled out all the affidavits or individual  
2 assertions from the petition --

3 **MS. JESSEN:** Well --

4 **MR. GRIFFON:** -- and did you -- did you -- do  
5 you have those? 'Cause we've been waiting for  
6 that, or was that -- that was delivered.

7 Right? Yeah.

8 **MS. JESSEN:** Brant put -- Brant put that on the  
9 O drive on Monday --

10 **MR. GRIFFON:** That was the 70-page document or  
11 whatever --

12 **DR. ULSH:** Yes.

13 **MR. GRIFFON:** Okay.

14 **MS. JESSEN:** Yes.

15 **MR. GRIFFON:** I got that. I haven't looked at  
16 it.

17 **DR. ULSH:** To clarify, it's the -- it's the  
18 affidavits from the petition, it's the public  
19 comments that we've heard at the Denver  
20 Advisory Board meeting primarily, and other  
21 concerns that were expressed by members of the  
22 public and the petitioner throughout the course  
23 of our working group meetings. All of the -- I  
24 hope all of those are captured in this  
25 document.

1           **MR. GRIFFON:** Okay.

2           **MS. JESSEN:** Yeah, I do, too.

3           **DR. ULSH:** So maybe we can just let Karin give  
4 a brief summary of that and then, if the Board  
5 so desires, then I'll talk a little bit about  
6 the blackened film issue. Does that sound...

7           **MR. GRIFFON:** Yeah.

8           **DR. ULSH:** Oh, wait, wait, wait, we forgot the  
9 '69 fire.

10          **MR. GRIFFON:** We want to get to the fire -- we  
11 want to get to the fire, yeah.

12          **DR. ULSH:** I'll skip the blackened film, unless  
13 you guys really want to hear it.

14          **MR. GRIFFON:** Do you have something in writing?

15          **DR. ULSH:** I have written it.

16          **MR. FITZGERALD:** We have the memo and --

17          **MR. GRIFFON:** Do you have something in memo  
18 form?

19          **DR. ULSH:** Yes, it's been e-mailed to you.

20          **MR. GRIFFON:** Why don't we --

21          **MS. MUNN:** Your memo's pretty thorough, Brant.

22          **DR. ULSH:** Okay, I'll skip that off the table.

23          **MR. GRIFFON:** Yeah, let's hear the summary --

24          **DR. ULSH:** Karin and Mel.

25          **MR. GRIFFON:** -- and cover the plutonium fire

1 and (unintelligible) planes to catch, yeah.

2 **INDIVIDUAL STATEMENTS IN PETITION**

3 **MS. JESSEN:** Basically -- basically Brant just  
4 covered it, and that -- and what we have right  
5 here are 41 examples that, as Brant stated,  
6 were pulled from the petition, conversations  
7 between the petitioner and Brant, public  
8 comment meeting -- I went through the notes  
9 from the public comment meeting, both on  
10 Wednesday, April 26th in the evening, plus  
11 Thursday, April 27th during the day where  
12 individuals had made statements regarding their  
13 issues. And all of the -- all of that  
14 information has been pulled together into this  
15 70-some-odd-page document.

16 Basically there are issues that come out that  
17 are a little bit more reoccurring than -- than  
18 others, but the -- the two most reoccurring in  
19 -- in all the information that we've gathered  
20 so far has been the inaccurate records and the  
21 recording of zeroes. The other thing covered  
22 are blackened badges and lost crystals and the  
23 lead apron issue, and no current data  
24 available. And so we have addressed all these  
25 issues in this document via the individual. In

1 other words, we've gone back to their personal  
2 rad files and --

3 **DR. ULSH:** Where appropriate.

4 **MS. JESSEN:** -- where appropriate and pulled  
5 that information and followed that back to try  
6 and answer those concerns, and that's all in  
7 this document here.

8 **MR. GRIFFON:** I think -- Karin, I missed one of  
9 yours I think -- inaccurate records, recording  
10 zeroes, blackened badges, lead aprons -- I  
11 missed --

12 **MS. JESSEN:** Lost crystals.

13 **MR. GRIFFON:** Lost crystals, okay.

14 **MS. JESSEN:** And no current data available.

15 **MR. GRIFFON:** Right.

16 **MS. JESSEN:** And as far as the evaluation  
17 report, some of these issues were covered in  
18 the evaluation report, some of them were  
19 covered generally. In the evaluation report I  
20 didn't cov-- I have statements from the  
21 affidavits pulled out in the evaluation report  
22 and have addressed those, without the  
23 identifiers, but those issues have been  
24 discussed in the evaluation report and in -- in  
25 this document here. And in answer to the

1 question, have we made more progress since the  
2 evaluation report and what was discussed in the  
3 evaluation report and in the data integrity  
4 issues that we have, there have been -- there  
5 has been some good information that we have  
6 discovered. I mean it hasn't been a lost  
7 cause, it's been very informative.

8 **DR. WADE:** Thank you. Does -- do -- do you  
9 feel it necessary to modify the evaluation  
10 report, based upon what you've done at this  
11 point?

12 **DR. ULSH:** I think I should probably answer  
13 that one.

14 **MS. JESSEN:** Feel free.

15 **DR. ULSH:** No.

16 **DR. WADE:** Okay, that's fine. Thank you.

17 **MR. ELLIOTT:** Would this document serve as a  
18 supplement to the evaluation report to explain,  
19 when we have to find ourselves communicating to  
20 individuals who submitted an affidavit, what  
21 happened with their -- with their concern?

22 **DR. ULSH:** If you desire, Larry, or if the  
23 Board desires, we would certainly be willing to  
24 do that. I mean it's -- it does address the  
25 individual affidavits in the petition, plus a

1 lot more, so --

2 **DR. WADE:** Something for NIOSH to consider.

3 **MS. JESSEN:** And I would like to say --

4 **MR. GRIFFON:** I'd like to read it first.

5 **MS. JESSEN:** -- that -- yeah, the issues that  
6 were covered in the evaluation report -- I have  
7 no problems with what NIOSH wrote in the  
8 evaluation report. I mean I think those issues  
9 have been addressed and I think they've been  
10 addressed adequately, without doing these 41  
11 examples. However, the 41 examples have  
12 provided some additional insight -- for me, for  
13 one -- to, you know, to better understand what  
14 the issues were, but -- but I do believe that  
15 the evaluation report did cover these  
16 adequately.

17 **MR. ELLIOTT:** I of course haven't read this  
18 yet, but I would like to read it in that -- in  
19 that frame of mind, is this something that can  
20 be shown as a supplement to the evaluation  
21 report that can then aid in our communication  
22 to these folks.

23 **DR. ULSH:** It goes into the issues in more  
24 detail than we covered in the evaluation.

25 **MR. GRIFFON:** You mentioned a couple of times,



1           you know, you learned something from doing this  
2           or you got some insights -- for examp-- can you  
3           give an example of -- comes to mind?

4           **MS. JESSEN:** A specific example?

5           **MR. GRIFFON:** Just -- we can -- we can read the  
6           (unintelligible).

7           **MR. ELLIOTT:** Like zeroes.

8           **MS. JESSEN:** Zeroes is a good one, blackened  
9           badges is another one. Inaccurate records I  
10          would say is probably a good insight that --  
11          that I learned --

12          **DR. ULSH:** What the concerns were.

13          **MS. JESSEN:** -- what the concerns were --

14          **MR. GRIFFON:** Right, okay, okay.

15          **MS. JESSEN:** -- yeah. And -- and doing some  
16          research on -- on those particular issues.

17          **DR. WADE:** Now just -- I mean as the  
18          Secretary's representative, it's entirely  
19          possible that such a supplement would be of  
20          benefit to the Secretary to make the record  
21          complete. That's a judgment that NIOSH needs  
22          to make. The Board and the working group can  
23          offer an opinion on it.

24          **MS. JESSEN:** One of the things that I would  
25          like to add, in the original petition that came

1           in there were seven bases for the petition,  
2           which was discussed in the evaluation report.  
3           And then the affidavits, if you will, were  
4           little fingers of those seven bases, and so I  
5           believe the seven bases were covered in the  
6           evaluation report, as well as the general  
7           issues that were brought up. And -- and I  
8           believe everything was answered in the  
9           evaluation report based on both parts of the  
10          petition that came in, which is well over 700  
11          pages.

12         **DR. WADE:** Good, thank you.

13         **MR. GRIFFON:** Right.

14         **DR. WADE:** Move on.

15         **MR. ELLIOTT:** Can we -- before we go on to the  
16          next one, can we just take one step back in --  
17          in a moment of time here when I said this  
18          evaluation report came to us late. I don't  
19          know what you were thinking about --

20         **MS. JESSEN:** Yeah, I wanted to --

21         **MR. ELLIOTT:** -- but the evaluation report  
22          (sic) was qualified in June of 2000 or whatever  
23          that date --

24         **MS. JESSEN:** 2005.

25         **MR. ELLIOTT:** -- 2005. If you mark 180 days

1 from that, it would have been due in December -  
2 - or January sometime, and we provided the  
3 report in --

4 **MS. JESSEN:** It was April, and when I said  
5 that, I was thinking of my time to NIOSH.

6 **DR. ULSH:** Right, I would start yelling at you  
7 (unintelligible).

8 **MR. ELLIOTT:** So -- so we -- just so we cleared  
9 --

10 **MR. GRIFFON:** Thank you for correcting the  
11 record.

12 **MR. ELLIOTT:** -- correct the record, because  
13 not only do I not want to be wrong when I'm  
14 right, I want the petitioners who have made it  
15 very clear to me that this report took too much  
16 -- too long in its coming, so...

17 **DR. WADE:** And our friends in the Colorado  
18 delegation have made that very clear.

19 **MR. GRIFFON:** Thank you for clarifying that.

20 **MS. JESSEN:** That's okay, but let's talk  
21 afterwards 'cause I want to ask you something  
22 about (unintelligible).

23 **MR. ELLIOTT:** Sure.

24 **MS. JESSEN:** Clarify that issue.

25 **'69 DOSIMETRY GAPS**

1           **MR. GRIFFON:** And -- and purposefully I've  
2 saved Mel for last 'cause I knew he'd have --

3           **DR. WADE:** The crowd would --

4           **MR. GRIFFON:** -- great insight on the plutonium  
5 fire and --

6           **DR. WADE:** -- stay to hear Mel. I wouldn't  
7 (unintelligible).

8           **MR. GRIFFON:** -- he's a very good presenter so  
9 --

10          **MR. CHEW:** Well, thank you --

11          **MR. GRIFFON:** -- (unintelligible) --

12          **MR. CHEW:** -- very much, Mark, for the  
13 introduction. I just want to clarify -- go  
14 back to the exotic -- one before  
15 (unintelligible) -- we do know your report.  
16 I'm glad we had that discussion today because  
17 what I had in a report in draft form would not  
18 have answered some of the questions that Arjun  
19 brought up about how it links to dose  
20 reconstruction, so it will give us a little bit  
21 of time to improve the document to answer those  
22 specific questions to minimize your going back  
23 and forth (unintelligible). Okay?

24          **MR. GRIFFON:** Fine.

25          **MR. CHEW:** With that I'm going to -- I was

1           thinking about how to make this presentation.  
2           I was asked just last week -- I think it was on  
3           Wednesday when Brant sent me a kind of a  
4           cryptic message on e-mail says "should you  
5           choose this mission," it was almost a little  
6           bit of like Mission Impossible, and he said the  
7           message would self-destruct, could you track  
8           down a little bit about the Rocky Flats fire  
9           and try to glean some information, if there's  
10          any, that could possibly even answer some of  
11          the issues about the -- the data gap. This was  
12          some of the discussion about, you know, some  
13          badges were lost because they got contaminated  
14          and the (unintelligible) was in there. And so  
15          this led us -- I'm thinking about how to make  
16          this presentation. I'm going to try to keep it  
17          down to a reasonable time because we're all  
18          getting late and tired.  
19          I'm going to pass something out first. I think  
20          it's -- picture shows a thousand words. If you  
21          can read the report on the Rocky Flats fire, I  
22          don't think you fully realize what it looks  
23          like and what the impact until you see  
24          pictures. I have two sets of color photographs  
25          in here.

1 First it starts off with the (unintelligible) -  
2 - I'm going to pass it down to you, Lew and  
3 Ray, if you folks would share that, and I'm  
4 going to pass this one to -- this one to you  
5 folks. I'm going to come back (unintelligible)  
6 and you can just flip through the pictures here  
7 because it will say.

8 The first one talks about the benelex, some  
9 description of benelex. Then there's a color  
10 photograph -- just flip through it so you can  
11 get an idea when I talk about the -- the  
12 report, you will get a feel for what we're  
13 looking at, especially the last couple of  
14 pictures which shows the actual glovebox in  
15 question that actually blew -- the initiating  
16 event of the fire. Okay? Just  
17 (unintelligible) that. I just want to give you  
18 a moment.

19 Then I think you heard about -- I mentioned the  
20 benelex. I've been carrying this around for  
21 quite a few years, at least probably 30 or 40  
22 years. I've had a piece of benelex in my  
23 office. I just want to show you -- this did  
24 not come from the fire -- and so I will pass a  
25 piece of benelex so you can feel -- feel a

1           little bit what it looks like and this is  
2           probably one of the mechanisms that really was  
3           part of the cause of the fire.

4           Wanda, I apologize. I was going to -- hoping  
5           that you'd be there 'cause you always know I  
6           bring something to show and tell.

7           **MS. MUNN:** Well, yes, and I am so sorry that  
8           you don't have this in electronic form.

9           **MR. CHEW:** Thank you, Wanda. All right, as we  
10          pass around these pictures and it gives you a  
11          feeling for what we're talking about, let me  
12          just talk about the fire itself and I will  
13          start -- this happened 37 years ago -- 37,  
14          1969. You know, the only thing about -- we  
15          talk about how we've been spanning Rocky Flats  
16          for about the last 50 years, but this happened  
17          37 years ago. All right? And at that time it  
18          was still the Atomic Energy Commission. And  
19          the -- the fire has -- I want to clearly --  
20          Brant gave me some clear direction. He says  
21          Mel, don't downplay the fire -- like it was a  
22          little small fire and everybody went back to  
23          work the next day, but also making sure that  
24          you give it proper perspective as far as the  
25          fire is concerned.

1           The fire, I would like to say, had a major --  
2           it was a significant fire in the history of the  
3           U.S. government. I'm taking that privilege to  
4           say that. I was told that several times,  
5           because its total impact to not only Rocky  
6           Flats, its workers, the production, but to the  
7           Atomic Energy Commission, the national  
8           laboratories and the Defense Department was  
9           great. Okay? It was great. There was no  
10          question about it. Right? It was the height  
11          of the Cold War, remember -- us -- many of us  
12          don't even remember what that is anymore.  
13          Okay? It was the height of the Cold War. And  
14          many, many production units were in full  
15          production at Rocky Flats. There was  
16          significant increase of the quantities of  
17          plutonium that had to be required to be  
18          processed and -- and to supply the weapons --  
19          to supply the weapons complex.  
20          To that note, Hanford and Savannah River was  
21          trying to continually to produce as many and  
22          much plutonium supplied to Rocky Flats to -- to  
23          make the necessary weapons components. But  
24          that didn't even do the job as part of the  
25          requi-- meeting the demand.



1           The other side of it that -- there was a lot of  
2           machining operations and chip operations that  
3           went on that many -- much of the plutonium  
4           could be recovered. I'm just giving you a  
5           little bit of background of what was some of  
6           the leading reasons for what (unintelligible).  
7           Arjun, I think you're going to enjoy my first  
8           statement here. Let me put my reading glasses  
9           on. Because of the -- of certain -- well,  
10          additional quantities of -- of the plutonium  
11          needed -- right? -- in the system here, they  
12          had to basically process and try to make some  
13          new material, using a foundry process, to -- to  
14          supply materials into -- into the -- into  
15          making plutonium -- to reprocess plutonium for  
16          the machining operations and chip and -- and  
17          because of that -- because of that, additional  
18          neutron shielding had to be needed. Okay? And  
19          this is why you see a piece of benelex being  
20          passed around.

21          Well, the -- the concern for the -- concerns  
22          for the increased levels of penetrating  
23          radiation, like neutrons, for employees led to  
24          significant amount of increased shielding, not  
25          only in front of the gloveboxes to reduce the

1 exposures -- this talks about installing lead -  
2 - lead glass, lead glass, benelex and -- and --  
3 and plexiglass in various thicknesses on the  
4 gloveboxes and in the conveyors. But that  
5 didn't still do the job because that's -- tried  
6 to be too -- an exterior. And when you add  
7 exterior shielding to the outside of the  
8 glovebox, it makes it very difficult for the  
9 workers to work. They can't reach in there.  
10 So at the time, as you saw -- there's some  
11 pictures of -- here and I want to -- want to  
12 share -- share -- show a picture of the -- of  
13 the cans inside the benelex shield.  
14 (Unintelligible) so we can focus on what's  
15 happening here.  
16 They -- there was briquets that were made,  
17 briquets they made from the machining  
18 operation. What those briquets and chips were  
19 -- and you can see them -- was that as the  
20 machining operations were taking place, the  
21 chips are now brought into a -- a press and  
22 pressed into a briquet. Well, the machining  
23 takes a -- requirement -- uses oil for -- as  
24 (unintelligible) machine, and there's a  
25 considerable amount of oil. Oil -- then the

1 chips are dropped into carbon tetrachloride and  
2 to -- to try to remove as much of the oil as  
3 possible, and then dried, and then -- and then  
4 mal-- the material was pressed, as best as they  
5 can. But there's still enough residual oil.  
6 Okay? I'm leading to the mechanism of what  
7 started the fire so we can all understand that.  
8 These oil that -- during the pressing operation  
9 the oil drips from the press and then there  
10 were rags that was used to wipe up the chips.  
11 There was two theories of how this -- the fire  
12 started. It was because they have the oily  
13 rags and the chips containing plutonium -- that  
14 is a slightly exothermic -- that potentially  
15 started the fire and start that initial fire,  
16 that's the initial mechanism -- mechanism that  
17 started the fire.  
18 There's another theory, probably less theory.  
19 There's some annealing furnaces nearby and the  
20 oil rags was still by, there was just enough  
21 heat to basically start that fire going.  
22 But be it so, the actual mechanism is probably  
23 focusing on the combination of the plutonium  
24 and chips along with the oily rags. In turn it  
25 set some of the briquets on fire -- okay? -- on

1 fire, some of the plutonium briquets, as you  
2 can see some of the pictures here. And in turn  
3 it started the plexiglass -- the plexiglass and  
4 the gloves -- those gloves that was inside a  
5 glovebox. They were probably the most  
6 vulnerable (unintelligible) start on fire. The  
7 fire -- the smoke from the fire was primarily  
8 from the plexiglass.

9 The benelex, as you see -- there was a large  
10 cabinet built into the -- into that particular  
11 glovebox that you will see -- in the pictures  
12 you will see, and I'd like to bring back and so  
13 I can hold the picture up and you can see it --  
14 thank you. Now you see, these are -- these are  
15 the benelex cabinets in here. This is in the  
16 well-known glovebox 134.24, and I showed you a  
17 couple of pictures here of what the -- of this  
18 -- of what the -- in part of the line, the box  
19 -- Wanda, I'm sorry you can't see some of these  
20 pictures here, but it shows how -- where the  
21 north wall was and which box -- this is box  
22 134.24 in this particular area. And I gave you  
23 folks a little bit of an artist's perception of  
24 -- artist's conception of what the box line  
25 looked like. Okay? You can see -- you can see

1           that -- that's why I showed it around first,  
2           you can see the box line. This is the box line  
3           that had the benelex box in it.  
4           This box was about 14 feet long -- okay? -- and  
5           it was about two and a half inches high and  
6           about 12 inches thick. Because they could not  
7           shield it from the outside, they decided to  
8           make -- modify the box to put the benelex  
9           cabinets inside the box. Right? So now you  
10          can see the scenario. We have some large -- we  
11          have large gloveboxes here with a large cabinet  
12          -- basically a cabinet, a drawer, full of these  
13          benelex -- layers of benelex for additional --  
14          for neutron shielding, and the cans that held  
15          these briquets and chips while it's either  
16          waiting to be pressed or waiting to be -- after  
17          it was pressed -- to go back into the foundry  
18          and to -- to be -- to be made into ingots for  
19          plutonium. So you can see the scenario going  
20          there. Okay?  
21          Well, I think we all know that this particular  
22          fire -- and now I will now talk specifically  
23          about the fire (unintelligible). Okay, thank  
24          you very much for your patience here. I  
25          mentioned about the briqueting operation. I'll

1           just now go directly to the fire.

2           It happened on Mother's Day, May 11th, 1969,  
3           about 2:30 in the afternoon. Many of the  
4           shifts that -- that the -- the majority of the  
5           work was not -- there was no work being done in  
6           776. There was a little bit of packaging work  
7           that was being done in 77, even on Sunday.

8           There was quite a bit of work being done on  
9           Saturday to actually help produce some of these  
10          particular chips and make these briquets to go  
11          into these storage cabinets.

12          At about 2:30 in the -- even early in the  
13          afternoon the people who were the roaming  
14          guards and there are people who are the -- what  
15          they called the operators who maint --  
16          maintenance operator of the -- the building  
17          itself. These are not like the process  
18          operators. These are people worrying about --  
19          to make sure the ventilation is working and  
20          things like this was making their normal rounds  
21          and did not see anything unusual.

22          The first alarm came in at about 2:27 in the  
23          afternoon. Right? And the first alarm was  
24          basically a heat detector from underneath box  
25          134.24. Interesting sight -- in hindsight and

1           going back into some of the -- some of the  
2           issues here, these heat detectors in the past  
3           was put on top of the cans where the chips  
4           were. But because they had to put the benelex  
5           cabin inside, the cans were put inside the  
6           cabinetry, the heat detectors were placed  
7           underneath the box -- underneath the benelex,  
8           so there was a significant amount of shielding  
9           from the heat detector -- from the -- from the  
10          chips itself. So that's probably -- in fact it  
11          probably smoldered for a while before the heat  
12          detector even start to sense it for any  
13          initiate -- enunciation.  
14          Well -- put my reading glasses on, this is  
15          (unintelligible). Thank you.  
16          At about -- the -- the alarm came in to the  
17          fire department and -- and they immediately  
18          responded. There were several alarms. It  
19          turns out that there is a -- there was two  
20          alarms that came in from the same enunciator  
21          just becau-- the times were slightly different,  
22          but that was resolved because the clocks on the  
23          dispatcher and the enunciate panels were  
24          slightly off sync, but they were the same  
25          alarm.

1           Then at about 2:33 another alarm came in, and  
2           that was the operator who was upstairs on the  
3           second floor, had smelled some smoke and he  
4           decided to initiate the alarm.

5           By that time the fire captain on duty, along  
6           with three fireman -- four people -- responded  
7           to the fire in building 776 right about 2:29 --  
8           okay? -- about two minutes after -- after the --  
9           - the alarm came in. They saw smoke coming out  
10          of the -- of the -- of the corridor in the box  
11          line here, and one of the firemen or the  
12          captain said that out of the top of the  
13          glovebox line there was about 18 inches of  
14          (unintelligible) flames.

15          Now I know I'm talking about this -- this is  
16          doc-- I'm pulling everything -- this is going  
17          to save me from writing you a report, Mark, I'm  
18          going to make this little humor here, because  
19          everything I'm taking from -- is on a -- is on  
20          the full report that you folks now have, which  
21          is the redacted version. Okay? You actually  
22          see that. And I'll tell you the little  
23          difference between the classified version and  
24          the unclassified version of the -- of the fire,  
25          because we did look at the classified version.



1           Okay. The fire captain directed the people to  
2           fight the fire with the CO2 extinguisher, man--  
3           manual one, and even the 50-pound extinguisher  
4           really, but to not much avail here. Shortly  
5           after, you know, the -- the captain -- at about  
6           2:34, as been in a document, which was only  
7           about less than seven, eight minutes after he -  
8           - they re-- responded or saw the alarm, they  
9           decided to attack the fire with water. And now  
10          this is significant because it was his  
11          decision, even though they were told very  
12          clearly because of -- you can all understand,  
13          because of criticality issues, you know, fire  
14          was not to be used and that's probably one of  
15          the issues of why sprink-- that facility was  
16          not sprinklered. You know, from now on, they  
17          all are, but at that particular time that was  
18          not the criteria, and so they decided to fight  
19          the fire with -- with water, a very, very  
20          important decision based on the captain and his  
21          heroism and decision was clearly commended by  
22          the Atomic Energy Commission -- I'm getting  
23          feedback here.

24          Okay? The -- now the -- the -- when he took  
25          the initial -- they actually tried to even

1 fight some -- the fire with magnesium fluoride,  
2 and there's some stories and anecdotal stories,  
3 but documented also in the report, the firemen  
4 actually started to put some water directly  
5 even on the plutonium. The plutonium sparks  
6 when it did that, and surprisingly enough, this  
7 is something that they found afterwards, the  
8 fire actually helped the amount of plutonium  
9 being dispersed easily because it actually  
10 helped crust the plutonium.

11 **UNIDENTIFIED:** You mean the water.

12 **UNIDENTIFIED:** You mean the water.

13 **MR. CHEW:** What the water did, yeah, contrary  
14 to what they even have thought, and -- and that  
15 was a surprise and I directly had that message  
16 at -- remember the last time we mentioned Dr.  
17 Roland Felt and we had called Roland? He was  
18 one of the consultant that was part of the  
19 investigating board, and he made sure that he  
20 mentioned that. That was his finding as being  
21 a metallurgist that -- how interestingly the  
22 thought to now put water on -- on plutonium was  
23 completely contrary to what they ever thought,  
24 and that probably helped a lot.  
25 So I'm going to try to run by the story very

1 quickly (unintelligible). The firemen did go  
2 up to the roof. The -- I'm going to draw to  
3 one picture, I thought it was important and I'm  
4 going to pull this out of the -- the  
5 (unintelligible) report here because it has a  
6 nice picture of the -- of the (unintelligible).  
7 Give me a second, sir, to pull the report out.

8 (Pause)

9 I'm just going to show a picture here because  
10 you will see a -- a picture that shows the --  
11 where in -- in -- in diagram form of -- the  
12 fire started this particular point, worked down  
13 this particular box line, came down this way  
14 and went this -- down this particular machining  
15 line. This particular fan that was pulling on  
16 the exhausts of these particular gloveboxes  
17 plugged almost immediately and -- and so the  
18 fire that was being pulled -- that's why it  
19 came down -- this line was pulled by this  
20 particular exhaust fan. The significant of  
21 this is that the roof stayed very much intact.  
22 The building structure never was compromised in  
23 the fire here. And matter of fact, thank to  
24 the alertness of the fire department to go up  
25 and actually spray to keep the roof cool

1           probably helped that situation entirely. But  
2           also the smoke was coming out of the -- of the  
3           filters of the -- the ventilation system that  
4           is pulling the air out of this particular line  
5           here.

6           This goes through about between four to six --  
7           four to six stages of HEPA filter before it's  
8           released. All right? This is the glovebox  
9           line here. The room filters only go through  
10          one -- if one or about two stages of filter,  
11          but the -- the glovebox line is the one that  
12          they saw some of the smoke from, and the  
13          majority of the releases of plutonium to the  
14          environment did come from this particular box  
15          line.

16          Well, I think I've talked a little bit about  
17          the fire here. Let's talk about some of the --  
18          the initial response and the -- what I consider  
19          the -- the health physics implications here.  
20          Okay? We'll go directly to that.

21          A total of 33 firemen and security guards were  
22          utilizes different times and -- of the fire  
23          during that particular day. There was some  
24          fortuitous here. It was right about during a  
25          shift change that happened, so there was a

1 maximum amount of fire department was able to -  
2 - was -- happened to be on-site at that  
3 particular time, something maybe fortuitous we  
4 looking back. No outside fire department units  
5 were -- came to -- to have to help assist in  
6 fighting the fire. In -- in all, about 41  
7 people was involved within the first 20 -- one  
8 -- 24 hours that -- that help responded to --  
9 to the initiating of -- for help in fighting  
10 the fire, and -- and out of that 41, the people  
11 and -- and I'm going to add onto that, there  
12 was an additional -- about 70 additional  
13 people, a total about 110 people, that was  
14 counted for lung counting for -- for possible  
15 intake or possible inhalation due to the --  
16 responding to the fire. But the 41 people were  
17 counted within the 24-hour period. And these  
18 were lung counts. All right? I'll just  
19 mention about --

20 **MR. GRIFFON:** Who -- who were the ten people,  
21 'cause I'm reading the 41. You said ten is a  
22 subset?

23 **MR. CHEW:** There was a -- there was a -- 41,  
24 you're --

25 **MR. GRIFFON:** Yeah.

1           **MR. CHEW:** -- well, there was 33 firemen.  
2           There were 41 that was counted within the first  
3           24 hours, but a total of about 110 were counted  
4           --

5           **MR. GRIFFON:** Oh, 110.

6           **MR. CHEW:** 110, I'm sorry, I added some --

7           **MR. GRIFFON:** I'm reading (unintelligible) --

8           **MR. CHEW:** Oh, you're reading the same report,  
9           that's good.

10          **MR. GRIFFON:** Yeah.

11          **MR. CHEW:** That's good. As you can see the  
12          pictures that I showed you, the -- most of the  
13          plutonium -- and it was a large quantity of  
14          plutonium. The val-- the difference, Mark,  
15          between the unclassified report and the  
16          classified report is the total quantities of  
17          plutonium that were either in any one location  
18          or totally involved with the fire, or was  
19          totally involved in the buildings themselves.  
20          Right? And the only other -- other thing that  
21          is -- was redacted that we have seen that's in  
22          the classified report, there's a little bit of  
23          -- talking about the different shapes or the  
24          different phases of the plutonium, and that's  
25          about the only difference that you see. So

1           pretty much what you see here is -- is a pretty  
2           complete report.  Okay?  I want to make sure  
3           that you -- you know that.

4           The -- the fire -- the fire was basically put  
5           out about -- they -- they av-- they said in the  
6           report, pretty much by about 5:00, 6:00  
7           o'clock, late in the afternoon, and pretty much  
8           what they would consider under cont-- in  
9           control at about 8:00 o'clock time period.

10          The RAC\* report has -- had -- went back and  
11          several people have -- went back and re-  
12          analyzed exactly how much plutonium and how  
13          much material might have escaped from the --  
14          from the roof and from the ventilation system.  
15          A nominal value has been chosen to be around 20  
16          millicuries.  And weapons grade plutonium at  
17          that particular time, that would represent  
18          something in the order about 200 milligrams of  
19          plutonium escaped (unintelligible).

20          Now this is probably where -- the part that  
21          Brant wanted me to talk about here is what  
22          after the -- the report that you will be seeing  
23          really focusing in -- really focuses on what  
24          caused the fire and probably just a few -- a  
25          few days apart of initiation of the -- of the

1 event itself, the fire itself. Now I have been  
2 interviewing several of the people who helped  
3 to -- helped decontaminate due to the fire. I  
4 have not personally talked to any people who  
5 were the initial first responders. I did talk  
6 to Dr. Roland Felt himself, and Mr. Ken  
7 Caukins\*, and I would like to just share what  
8 they had to say about what the significant to -  
9 - what -- for this particular discussion here.  
10 The -- the building -- the investigating team  
11 stayed on-site until about the June time frame,  
12 late June time frame. They were doing the  
13 investigation, so no work was being done inside  
14 776. But you can picture now -- why I -- why  
15 I showed you the pictures earlier -- we have  
16 quite a bit of burned plutonium and plutonium  
17 in oxide form laying on -- on -- inside the  
18 conveyers and --

19 **MS. MUNN:** Mel?

20 **MR. CHEW:** Yes, ma'am.

21 **MS. MUNN:** I understand you have triangulation  
22 problems, but I -- my ear is just about to fall  
23 off I've been pressing my phone against it so  
24 hard trying to hear you.

25 **MR. CHEW:** Oh, thank you, Wanda.



1           **MS. MUNN:** Is there any way you can -- I don't  
2 know what -- part of it may be your whole  
3 system --

4           **MR. GRIFFON:** We -- we just moved you, Wanda.

5           **MR. CHEW:** Wanda, can you hear me? Is that a  
6 little bit better?

7           **MS. MUNN:** That's much better.

8           **MR. GRIFFON:** You're sitting next to Mel now.

9           **MS. MUNN:** Thank you.

10          **MR. CHEW:** I was -- I was trying to look at  
11 Arjun when I was talking because I know he  
12 would take great interest in what we're trying  
13 to discuss here.

14          **MS. MUNN:** Thank you.

15          **MR. CHEW:** I apologize for that, though, Wanda.  
16 Let me pick it up here. I'm going to talk  
17 about what happened -- well, shortly thereafter  
18 to the building itself, and this is what is not  
19 in the report, Mark, and basically on  
20 interviews and discussion of some of the  
21 chronology of some of the events that may be  
22 important to -- to some of the things that --  
23 issue are -- the discussion.

24          Many people in the whole plant helped --  
25 responded to help -- help with the fire. They

1           didn't have to help fight the fire, but help  
2           decontaminate as a result of the fire, so you  
3           will talk to a lot of people says yes, we  
4           helped the decon of the -- of the -- of the  
5           Rocky Flats fire. That's true. They pulled  
6           people from everywhere.  
7           Then what they did was, because there was  
8           significant amount of contamination to the  
9           adjacent buildings, like the other parts of 777  
10          that wasn't affected by the fire, but it was  
11          contaminated because the smoke -- 70-- 771  
12          included. There's some adjacent quarters that  
13          attach to each other, some tunnels. The water  
14          that was used to fight the fire probably is the  
15          one that spread the majority of the  
16          contamination, that once the water was dried or  
17          picked up, you know, it had to be  
18          decontaminated, so there was a lot of people.  
19          And everyone I talked to said yes, they were  
20          suited up. They only had to work for limited  
21          time 'cause it was hot. The ventilation was  
22          not on. But they were clearly monitored, as  
23          you -- as I was -- and that was a clear  
24          question I will make sure that I asked them,  
25          that they were monitored as they went back in

1 to help decontaminate.

2 But I want to make a point that not until the

3 investigating team released the building 776

4 where the fire that you see started and where

5 the majority of the plutonium was did -- did

6 anyone go back in to do anything in that

7 particular building. Okay? But now, as you

8 can see, Arjun, the -- many of the shielding is

9 gone because the benelex, you know, has been

10 burned and -- and the plexiglass is burned.

11 The benelex pretty much stayed, as you can see,

12 even fairly intact, still providing some

13 neutron shield, but now the -- the cover,

14 including the windows, including the plexiglass

15 windows and the plexiglass windows that is

16 sitting in front of the containers are also

17 been burnt out. Okay? So it does offers a

18 source, there's no question of that.

19 So after the -- the investigating group

20 released the building so the recovery of the

21 material took place. There was significant

22 amount of material that needed to be recovered,

23 to be retrieved, actually. Now there has been

24 several reports that you will see, and in the

25 order of about 1,000 KGs was potentially in

1           that particular area, and in the later reports  
2           that only about 300 to 400 kilograms of it  
3           really needed to be reprocessed. Must -- much  
4           of it actually -- the chips and -- and -- and  
5           the metal stayed fairly good, and so they were  
6           able to put that right back into the foundries.  
7           So that just gives you a -- some -- a feeling  
8           of magnitude.

9           A key point was that -- I talked to the  
10          gentleman that was responsible for leading the  
11          attempt to go back in to recover the material.  
12          I'm going to spend a little bit of time there.  
13          The recovery of the material was taken with a  
14          tremendous amount of caution, mainly because  
15          there was great concern for criticality, and  
16          because the conditions of the water and -- and  
17          only salaried people was asked to --  
18          volunteered to go back in to help recover the  
19          material. I think that's a -- that's a -- was  
20          a key point that I wanted to bring up under  
21          that discussion here -- the discussion with Mr.  
22          Caukins here, Mark, that the salaried people  
23          were asked to do that, and they were the  
24          professionals -- mainly because there was --  
25          they were coming into conditions that they were

1 unknown, and so therefore they had to make on-  
2 the-spot decisions and that's why they were  
3 working directly with the criticality people.  
4 And what the process -- what -- they literally  
5 went in with a little brush and -- and a dust  
6 pan and -- and basically picked up the oxide  
7 and put it into cans -- these are the cans that  
8 you see pictures of -- and then passed -- and  
9 bagged that out and then pass it on to some  
10 counters that counted the material right away  
11 and -- and so they can keep track of -- from an  
12 accountability what they pulled out of the --  
13 of the -- of the fire and then they went into  
14 building 771 to -- to be recovered. Right?  
15 This process took quite a bit of time in -- in  
16 the September/October time frame that was used  
17 quite a few of the professional staff to  
18 actually remove all the material out of -- that  
19 was involved with the fire. The dec-- the  
20 decontamination was still going on --

21 **MR. GRIFFON:** When you're talking about  
22 professional staff, are -- how many -- how  
23 extensive was this -- was this --

24 **MR. CHEW:** The number of people?

25 **MR. GRIFFON:** -- tens of people or was it --

1           **MR. CHEW:** You know, I didn't --

2           **MR. GRIFFON:** -- 25?

3           **MR. CHEW:** -- ask Ken --

4           **MR. GRIFFON:** I'm just curious.

5           **MR. CHEW:** -- that question and I forgot, I  
6 apologize, I didn't ask him --

7           **MR. GRIFFON:** That's okay.

8           **MR. CHEW:** -- how many people were involved,  
9 but that's a very good question, but it was the  
10 professional staff, Mark, and I think that's a  
11 -- that's worthy of note here. Okay. Again.  
12 Okay?

13 Well, as you know, the -- the decontamination,  
14 even of the surrounding building to get it back  
15 into -- into operation even took quite a while.  
16 Decontamination even had lasted for several  
17 years. But much of the operation after the  
18 shops were processed and recovered and to make  
19 useable was back into operation shortly after,  
20 within the six to seven-month time frame.

21 I'm going to stop at this particular point to  
22 see if there's any questions and see if I have  
23 basically discussed the fire and -- and Kathy,  
24 I'd just like to say, yes, there was a fire,  
25 and thank you for that particular comment in

1 the log book. The -- Bryce Rich and myself  
2 went to the Denver (unintelligible) Center. We  
3 reviewed four boxes of classified documents, of  
4 which the redacted versions you have. We also  
5 reviewed all 90 of the personnel interviews  
6 that was part of the investigation. And out of  
7 the 90, many of those were the first responders  
8 and -- and also people who -- who have  
9 knowledge of what was going -- what was going  
10 on that would potentially contribute to the  
11 initiation of the fire here. Okay?

12 **UNIDENTIFIED:** Thank you.

13 **MR. CHEW:** Any questions? I'm going to stop at  
14 the particular point, Mark, (unintelligible).

15 **MR. GRIFFON:** Yeah, I -- I think I'm -- I'm  
16 just gleaning through volume one of five or  
17 whatever it is.

18 **MR. CHEW:** Right, I was going to mention that -  
19 -

20 **MR. GRIFFON:** It's interesting that there's --  
21 I see this last section, fire experience, from  
22 '66 to May of '69, you know, that have been a  
23 total of 164 fires, 31 involved plutonium. I  
24 didn't -- I didn't realize there were that  
25 many.

1           **MR. CHEW:** Well, smaller --

2           **MR. GRIFFON:** Smaller magnitude, I'm sure.

3           **MR. CHEW:** Plutonium fire chips was quite  
4 common.

5           **MR. GRIFFON:** Right.

6           **MR. CHEW:** Matter of fact, everything --

7           **MR. GRIFFON:** Not unlike uranium -- right.

8           **MR. CHEW:** Right, plutonium chips -- you know,  
9 even though we know about the pyrophorescity\* -  
10 - and that's quite a word here, but  
11 pyrophorescity of the material, of plutonium,  
12 I'd like to make a good comment -- that's a  
13 very good comment -- and they went back -- when  
14 they actually recovered the plutonium, they  
15 actually found them in nice little piles. All  
16 right? Now plutonium burns -- I think all of  
17 us recognize -- like -- pretty much like a  
18 charcoal briquet, and it smolders, and it just  
19 burns down like a charcoal briquet. And that  
20 makes it easier to recover. And on top of  
21 that, when they put the water on it, it  
22 actually even formed a little crust, so going  
23 back to recover it was actually not a very  
24 difficult process -- difficult from the  
25 logistics standpoint, but the actually recovery



1 of material and put them in can was not  
2 difficult.

3 I just only mention two or three -- four more  
4 things for the record here. Volume two  
5 contains some of the pictures and the maps and  
6 the ben-- and the discussion about the benelex  
7 which I brought for you, and this is the --  
8 why. I thought the pictures in color was a  
9 little bit better. When you look at the  
10 redacted version, you can see that -- the  
11 picture, but you cannot make it out like I  
12 brought the pictures, and that's why I asked --  
13 I was -- I chose to make a decision to bring  
14 the pictures to show you that directly here.  
15 Volume three is the con-- some of the  
16 conclusions that led to the fire, but  
17 everything is pretty much spelled out in volume  
18 one. It's just a very summary of the  
19 conclusions that led to the fire.

20 Number -- volume four is the organizational  
21 aspects, what are some of the organizational  
22 responsibility, some of the decisions made by  
23 the organization responsibility that might have  
24 contributed to some of the issues that was  
25 brought forth in the fire.

1           And the last one is a discussion of some of the  
2           management issues, and that's volume five of  
3           the report. But the majority of the int--  
4           things that we're interested in as far as  
5           potential for -- add to the people involved and  
6           the dose reconstruction really is contained in  
7           volume number one.

8           **MR. GRIFFON:** Did they -- did they say anything  
9           about -- for the responders, was there any  
10          special dosimetry, was -- were they using --

11          **MR. CHEW:** The initial responder --

12          **MR. GRIFFON:** -- their regular badges or --

13          **MR. CHEW:** -- had what they had on.

14          **MR. GRIFFON:** -- yeah.

15          **MR. CHEW:** They had what they had on, and all  
16          those people, you know, were obviously  
17          externally monitored and they carry -- the --  
18          when the -- when the people went back for  
19          recovery -- very good question -- then  
20          obviously the additional concern -- I talked to  
21          Mr. Caukins directly and says oh, yes, we're  
22          obviously very concerned about criticality, and  
23          so there were additional things that even they  
24          monitored just in case there was a criticality.  
25          I don't know if there was any double-badging

1 involved, but they -- they -- he mentioned --  
2 volunteered they were very carefully monitored  
3 because of -- of the potentially safety issues  
4 regarding to a criticality (unintelligible) --

5 **DR. ULSH:** I think we actually talked to Wayne  
6 Jesser\*, the fire captain at the time, the guy  
7 that also made the decision to use water, and  
8 he said that they were double-- didn't he say  
9 they were double-monitored?

10 **MR. MEYER:** Yeah, he specifically said they  
11 were double-badged. They had one inside the  
12 protective gear, basically this SCUBA -- self-  
13 contained breathing apparatus they were using,  
14 and one mounted externally, and he recalled  
15 that clearly. He was -- he escorted all of the  
16 investigators during the early period.

17 **MR. CHEW:** When he did the original response,  
18 was -- were they -- do you know if they were  
19 double-monitored? I know what you're saying is  
20 that when they brought in the investigating  
21 people, they did that. What is that -- is that  
22 a normal thing that they were during daily --

23 **MR. MEYER:** I didn't ask him that.

24 **MR. CHEW:** Ah, okay.

25 **MR. MEYER:** I assumed this because they did it

1                   during the entire investigation, but I didn't  
2                   ask him that.

3                   **MR. CHEW:**    Sure, sure.

4                   **MR. GRIFFON:**  Are you -- a bunch of people I  
5                   think are --

6                   **MR. CHEW:**    Right --

7                   **MR. GRIFFON:**  -- fighting the clock with planes  
8                   --

9                   **DR. MAKHIJANI:** I have a --

10                  **MR. GRIFFON:**  -- yeah, yeah.

11                  **DR. MAKHIJANI:** -- quick question.

12                  **MR. GRIFFON:**  Go ahead, quick question.

13                  **DR. MAKHIJANI:**  How complete are the monitoring  
14                  records of the people who were -- went for  
15                  recovery operations?

16                  **MR. CHEW:**    Good question.  I knew you were  
17                  going to ask that, Arjun.  The 110 -- the  
18                  (unintelligible) -- the 110 people that were  
19                  lung-counted -- okay? -- I didn't get into the  
20                  detail -- there was probably -- as you will --  
21                  probably will see the report, there was one  
22                  person, one fireman, that they feel that had  
23                  what they consider significant lung counts.  
24                  Right?  And his lung count showed, Arjun, he  
25                  had about 1.4 times the maximum permissible

1 lung burden at that particular time.

2 **DR. MAKHIJANI:** Yeah.

3 **MR. CHEW:** His initial counts showed it much  
4 higher, but it looks like he inhaled the  
5 material rather than -- I mean --

6 **DR. MAKHIJANI:** Ingested it.

7 **MR. CHEW:** -- ingested it rather than inhaled  
8 it, I should say correctly, 'cause it showed up  
9 very highly in his fecal sample. And so that  
10 was the only one that they showed that was  
11 above the permissible lung burden by lung  
12 counting. And I want to clar-- clar-- that the  
13 minim-- the detectable -- minimum detection at  
14 that particular time was about a half a lung  
15 burden. Okay?

16 **MR. MEYER:** Jesser, the fire -- the fire --

17 **MR. GRIFFON:** 7.5 rem, whatever. Do they -- do  
18 they -- do they credit this to -- I'm wondering  
19 why '65 had so many heavier lung burdens than  
20 the '69 fire, the '65 fire that they're using  
21 for our super S model, is this -- it just  
22 dawned on me why -- why not some of these cases  
23 for the super S model, but it seems that they  
24 had higher ingestion and less lung burdens and  
25 --

1           **MR. CHEW:** Well, I think because I think there  
2 were --

3           **MR. GRIFFON:** (Unintelligible) it a super S  
4 (unintelligible).

5           **MR. CHEW:** -- there were people there --

6           **DR. ULSH:** Yeah, exactly.

7           **MR. CHEW:** -- and there was nothing -- nobody  
8 there when the fire occurred in 776.

9           **MR. GRIFFON:** Okay.

10          **MR. CHEW:** And by the time they responded, it  
11 was --

12          **MR. GRIFFON:** (Unintelligible) proximity  
13 (unintelligible) proximity to that.

14          **MR. CHEW:** Yeah, well, they were -- they were  
15 there and present when the fire -- when the --  
16 happened with the earlier one.

17          **MR. GRIFFON:** When it happened with the  
18 glovebox in '65, right?

19          **MR. CHEW:** Right.

20          **MR. GRIFFON:** Yeah, yeah, yeah.

21          **MR. CHEW:** In the '69 fire they responded with  
22 gear on.

23          **MR. GRIFFON:** Right. So there was nobody in  
24 the area --

25          **MR. CHEW:** Exactly right.

1           **MR. GRIFFON:** -- evacuated and getting exposed.

2           **MR. CHEW:** There was nobody there.

3           (Pause for telephone interference to be resolved.)

4           **MR. MEYER:** He did -- Jesser, the fire captain,  
5           did specifically say that the exposure  
6           occurred, best of his recollection, when they  
7           were removing their protective gear afterwards.  
8           There -- there was --

9           **MR. CHEW:** Exactly right.

10          **MR. MEYER:** -- contamination that moved and --  
11          and that -- lost control of it once or twice.

12          **DR. MAKHIJANI:** We do have these records.  
13          They're not part of the destroyed '69 records  
14          or --

15          **MR. GRIFFON:** Well, this is the question -- I -  
16          - you had the same question I had, was did you  
17          crosswalk these -- do we have these 110 names  
18          and does -- does this in any way explain this  
19          data gap. I -- you know.

20          **DR. ULSH:** I know that we're trying to wrap it  
21          up --

22          **MR. GRIFFON:** Yeah, I know --

23          **DR. WADE:** But this is important. We should  
24          spend time on important things.

25          **DR. ULSH:** Okay. The 110 people -- the

1 accounts that we've heard was that they were  
2 all monitored, externally monitored. Correct?  
3 Am I correct?

4 **MR. CHEW:** Uh-huh.

5 **DR. ULSH:** Okay. In terms of -- I mean we --  
6 Mel just found this out like a couple of days  
7 ago so we haven't gone and pulled the rad files  
8 to see if they were monitored.

9 **MR. GRIFFON:** Right, right, right.

10 **DR. ULSH:** Now the other piece of this puzzle  
11 is that -- that progress report that I  
12 mentioned to you, Mark, the dosim-- monthly  
13 dosimetry progress report, where it was stated  
14 that people who were stationed in non-plutonium  
15 areas and on quarterly badge exchange cycles --  
16 and those people are the ones that were thought  
17 to be, you know, at low risk -- they would  
18 continue to wear film badges, but those film  
19 badges would not be read unless circumstances  
20 warranted.

21 Now this decision was made before the fire. It  
22 was like in April, I think, of '69. All right?  
23 So you've got people working over in the  
24 uranium buildings and the administrative  
25 buildings that -- their badges were not read.



1           Now the fire happens, and they call people in  
2           from all over the site to respond, but that is  
3           only after the plutonium had been secured by  
4           the -- what did you call them, Mel, the  
5           materials recovery group?

6           **MR. CHEW:** Well, some of the people came in  
7           earlier to decontaminate, you know, peripheral  
8           areas of the buildings, not in-- not involved  
9           with 776.

10          **DR. ULSH:** Right.

11          **MR. CHEW:** Yeah, so that did happen at the same  
12          (unintelligible) -- sorry, go ahead  
13          (unintelligible).

14          **DR. ULSH:** So we're thinking that the data gap  
15          is largely explained by that decision to --  
16          that those other people -- not to read their  
17          film badges. Those are essentially unmonitored  
18          people in 1969.

19          **MR. CHEW:** Yeah, I -- say it again -- well, I --  
20          - I'm just going to add onto what you say.  
21          Clearly there could have been people who was  
22          part of that quarterly exchange and not have to  
23          be read that was asked to come in and help  
24          decontaminate, because they were only looking  
25          for small traces of alpha contamination, like

1           either on a walkway or something like that.

2           **MR. GRIFFON:** But in those other areas, it  
3           would have been the professionals, the --

4           **MR. CHEW:** Right. Yeah, and -- and -- and  
5           there would -- probably there was no expo--  
6           external exposure, and so I don't think they  
7           would have said okay, well, now we've got to  
8           put on badges because he's going to be -- have  
9           an increased external exposure. They could  
10          have been the same people and have been --  
11          still stayed on the same quarterly exchange.

12          **MR. GRIFFON:** (Unintelligible) same badges,  
13          okay.

14          **MR. CHEW:** Sure.

15          **MR. GRIFFON:** Yeah, yeah, okay. That seems  
16          reasonable, but I -- I don't know that it gets  
17          -- I think we need time to digest this issue.

18          **DR. MAKHIJANI:** Yeah, and you have to obviously  
19          have time to go back and see if these records  
20          are there and they're not part of the missing  
21          records.

22          **MR. MEYER:** Something that may be important,  
23          Scott Raines had indicated last week that they  
24          will be relocating their records offices -- he  
25          said last week -- in a month or two, date not

1           specific. They have to --

2           **MR. GRIFFON:** (Unintelligible)

3           **MR. MEYER:** -- send most of their stored  
4 records -- they have 100 boxes of our records  
5 there right now. They have to send most of  
6 those back, he hasn't quite said how many, and  
7 there certainly will be a hiccup here in  
8 retrieval during that period.

9           **DR. ULSH:** Let's get our log books before they  
10 (unintelligible).

11          **MR. GRIFFON:** All the more reason to get what  
12 we need quickly -- yeah.

13          **MR. CHEW:** Mark, I would have no problem if we  
14 have some additional dialogue if necessary  
15 because --

16          **MR. GRIFFON:** Yeah, yeah.

17          **MR. CHEW:** -- (unintelligible) chance to ask  
18 some questions to people, what their roles were  
19 -- specifically. I mean they say I helped  
20 decon the fire. Well, where would you decon  
21 fire, were you inside that particular building  
22 where the material was? No, I --

23          **MR. GRIFFON:** I think that's (unintelligible) -

24          -

25          **MR. CHEW:** -- wasn't I was outside, some things

1           like this.

2           **MR. GRIFFON:** -- becomes important because of  
3           that '69 data gap question.

4           **DR. ULSH:** Uh-huh.

5           **MR. GRIFFON:** We've got hypothesis, but it  
6           seems like we have different hypotheses each  
7           time we count, so --

8           **DR. ULSH:** Well, actually this one's holding  
9           up.

10          **MR. GRIFFON:** Yeah, well --

11          **DR. ULSH:** This one's holding up though.

12          **MR. GRIFFON:** At least through this workgroup  
13          meeting. Let -- let -- I mean I think this  
14          might be worth-- but we have -- rich -- rich  
15          dataset here, too, that we don't have to, you  
16          know, go very far to dig in, you know, I would  
17          think, so -- anyway, let's leave it there for  
18          now I think but --

19          **MR. CHEW:** Okay.

20          **MR. GRIFFON:** -- the last thing I would say,  
21          just -- just as a follow-up, I don't know if we  
22          specified that as an action, but Brant, you  
23          said you -- you will post these monthly  
24          dosimetry progress reports, can you --

25          **DR. ULSH:** Yes.

1           **MR. GRIFFON:** -- put those on the O drive.

2           **DR. ULSH:** It's on my to-do list.

3           **MR. GRIFFON:** All right, I didn't know if I got  
4 that or not. Okay.

5           Any -- I think we may need some informal calls,  
6 at least between now and the meeting.

7           **DR. WADE:** I think so.

8           **MR. GRIFFON:** I'm also going to work with Lew  
9 on -- the first day we have a subcommittee  
10 meeting, but we also probably need to schedule  
11 a workgroup -- some workgroup time --

12          **DR. WADE:** Right.

13          **MR. GRIFFON:** -- so that we can present on the  
14 next day to the full Board.

15          **MR. MEYER:** I also think some calls between  
16 would be --

17          **MR. GRIFFON:** Yeah, I expect those to happen  
18 and we'll -- we'll e-mail back and forth. We  
19 know how to get ahold of each other, so -- but  
20 thanks for all your work.

21          **DR. WADE:** Thank you for your leadership.

22          Thank you all very much for your time.

23          We're going to end the call now. Thank you --

24          **MR. GRIFFON:** Thanks, everybody.

25          **DR. WADE:** -- all on the call for your patience

1  
2  
3  
4  
5

in trying to hear through --

(Whereupon, the meeting was adjourned at 5:15  
p.m.)

1

**CERTIFICATE OF COURT REPORTER****STATE OF GEORGIA****COUNTY OF FULTON**

I, Steven Ray Green, Certified Merit Court Reporter, do hereby certify that I reported the above and foregoing on the day of August 31, 2006; and it is a true and accurate transcript of the testimony captioned herein.

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

WITNESS my hand and official seal this the 30th day of September, 2006.

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**STEVEN RAY GREEN, CCR****CERTIFIED MERIT COURT REPORTER****CERTIFICATE NUMBER: A-2102**