

1 **MR. CHEW:** And later on they -- when the
2 material came in, it was downed and Bryce
3 assumed 50 parts per million of U-232. Later
4 on there's documented evidence is is that it
5 was down to like seven to eight parts per
6 million, which greatly reduced the curie
7 (unintelligible).

8 **MR. RICH:** (Unintelligible) seven to eight
9 parts per million.

10 **DR. MAKHIJANI:** So -- so ten curies is a kind
11 of an average number --

12 **MR. CHEW:** Oh, no --

13 **DR. MAKHIJANI:** -- which is claimant favorable.

14 **MR. CHEW:** -- way high.

15 **MR. RICH:** That's way high.

16 **DR. ULSH:** Way high.

17 **MR. RICH:** I just didn't give you the -- the
18 20, and -- and you caught that right away,
19 so...

20 **DR. MAKHIJANI:** All right, all right.

21 **MR. CHEW:** (Unintelligible) multiply 2.2, I saw
22 that.

23 **DR. MAKHIJANI:** I did the calculation. Let's
24 see, I -- I think -- I think that -- oh,
25 there's the tritium, and you said that you have

1 the tritium data in the -- in the DOE records.

2 **DR. ULSH:** Yes.

3 **DR. MAKHIJANI:** But there's no tritium data in
4 the HIS-20 database.

5 **DR. ULSH:** That's correct. HIS-20 contains
6 americium -- well, or -- let's start in order -
7 - plutonium, uranium, americium and gross
8 alpha. It doesn't contain tritium.

9 **DR. MAKHIJANI:** Yeah, so I guess --

10 **MR. RICH:** But it is in the claimant files.

11 **DR. ULSH:** Yes.

12 **DR. MAKHIJANI:** So long as the tritium data --
13 you know, there's a question whether the
14 tritium people were monitored, and if they
15 were, then there's no issue in regard to
16 tritium. But do we have a record of the
17 arrival of tritium or metal tritides at Rocky
18 Flats and the start of tritium monitoring?

19 **DR. ULSH:** Well, what I can tell you, Arjun, is
20 that --

21 **MR. RICH:** We have incident reports.

22 **DR. ULSH:** Yeah. And I've seen -- when I've
23 looked through claimant files, I've seen the
24 occasional tritium bioassay in --

25 **DR. MAKHIJANI:** Okay.

1 **DR. ULSH:** -- in the hard copy from the files.

2 **DR. MAKHIJANI:** Okay. Yeah. All right.

3 **MR. RICH:** But that parti-- that -- that
4 particular -- the arrival and release and
5 discovery was the subject of several incident
6 reports. That was well-documented.

7 **DR. MAKHIJANI:** I guess that -- did I cover all
8 the radionuclides? I think I did.

9 **MR. CHEW:** I hope so. There's only 1,800 in
10 the isotopic chart; you're at 1,799.

11 **DR. MAKHIJANI:** Yeah, I think -- I think I'm
12 done.

13 **MR. GRIFFON:** The only other thing I was going
14 to say -- I think we captured all the actions -
15 - the references for the thorium, there were a
16 couple mentioned today and I don't even know if
17 they're available. They were mentioned in the
18 interview as --

19 **MR. RICH:** They're on the O drive.

20 **MR. GRIFFON:** Oh, they are on the O drive.

21 **MR. RICH:** And I think --

22 **DR. ULSH:** They're on the site research
23 database for sure.

24 **MR. GRIFFON:** Maybe you can help us and put
25 them in the AB folder, you know -- yeah, just

1 make it easier. Okay.

2 **MR. RICH:** And -- and -- and the interviews, I
3 think they're available, too. At least we've
4 submitted them.

5 **DR. ULSH:** They're on SECAS, but I don't know
6 if you guys --

7 **MR. GRIFFON:** No.

8 **DR. ULSH:** You don't have access to that?

9 **MR. GRIFFON:** I haven't had access to that, no.

10 **DR. ULSH:** We'll get it for you. We'll get the
11 REDACTED -- you've already got the REDACTED
12 interview. We'll get the REDACTED for you.

13 **MR. GRIFFON:** And you said other peop-- other
14 individuals or --

15 **DR. ULSH:** Those are the two most helpful.
16 Right?

17 **MR. CHEW:** Yeah, they were very instrumental.
18 They were key people that handled clearly some
19 exotics. They were the key people.

20 **MR. RICH:** We have interviews with Ed Butcher*
21 and Bobby Oder* and a couple of others, so...

22 **MR. GRIFFON:** To the extent they were relied
23 upon. I'll leave it up to you guys to decide,
24 yeah, yeah. All right. And --

25 **MR. CHEW:** So we have no -- any issues still

1 left open?

2 **DR. ULSH:** Well, the -- maybe you could
3 summarize what you --

4 **MR. GRIFFON:** Yeah, I think -- I mean I just
5 gave the actions. I think I'm -- as of -- as
6 the thorium, it's the follow-up on the thorium,
7 that NIOSH will work on this semi-empirical
8 validation of the sort of upper bounding
9 approach laid out by the new Reg. 1400 approach
10 and provide references and interview notes as
11 applicable to support those models. The only
12 other action I have is SC&A's going to review
13 further this neptunium and curium in the
14 special dosimetry logs. Right?

15 **DR. MAKHIJANI:** That special order log books, I
16 think.

17 **MR. GRIFFON:** Yeah, and I think that we --

18 **DR. ULSH:** Special analysis.

19 **DR. MAKHIJANI:** Special analysis log books.

20 **MR. GRIFFON:** Special analysis log books.

21 **DR. MAKHIJANI:** Which we have -- or which is on
22 the O drive.

23 **DR. ULSH:** I think it's on the O drive.

24 **MR. GRIFFON:** Yeah, and I think we've closed
25 the door on the americium, I believe, and the

1 tritium, so I think we're -- we're satisfied
2 with those, yeah, and the enriched uranium,
3 right. And I think that's -- that covers all
4 our other radionuclides.

5 **DR. MAKHIJANI:** I believe so.

6 **DR. WADE:** We're chugging along.

7 **MR. GRIFFON:** Yep. Down to -- down to an hour.
8 Down to an hour now. Going to try to go --
9 exponential function somewhere here.

10 All right, third item. This is the log book
11 review.

12 **THE COURT REPORTER:** What about D and D?

13 **D AND D**

14 **MR. GRIFFON:** Oh, I'm sorry, D and D. I
15 skipped over number three, D and D review. And
16 I guess where we're at with this is sort of to
17 refresh on the matrix a little, maybe. The
18 question was that there's -- seems to be a gap
19 in the site profile, and also possibly in the
20 evaluation report that doesn't really cover the
21 D and D workers, so we were looking at whether
22 there was data available, external and bioassay
23 data available --

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

25 **MR. GRIFFON:** Yeah.

1 **MR. FITZGERALD:** -- the point here is -- is a
2 little bit counter-intuitive, and I think this
3 was even mentioned in the NIOSH response, that
4 you're talking about the '90s and 2000s, you
5 know, what are we talking about. And I think -
6 - here's a case where, unlike the earlier
7 years, you're not talking about perhaps
8 dosimeter -- dosimetry technology limitations
9 but more program management limitations and how
10 to live -- live the era. This is one part of
11 the history I actually can speak to more first-
12 hand. The concerns over how D and D was
13 managed on-site with the plethora of lower-tier
14 subcontractors was a constant worry from a
15 departmental standpoint because even though the
16 dosimetry was there and certainly the RadCon
17 manual and all the goodies, the concern was
18 that -- making sure that these were in force
19 down through the various tier of subcontractors
20 and that people were monitored when they should
21 have been monitored and -- and these records
22 were in fact centralized so they weren't
23 scattered in the -- because the subcontractors
24 weren't being required to submit I think was a
25 concern. So in this -- this issue, and this

1 frankly is the first site, particularly in the
2 SEC context, for you to come up against D and D
3 in a big way. We frankly were looking at the
4 issue not so much of the dosimetry technology,
5 although I think that's important because it
6 wasn't covered per se in the site profile, but
7 more looking at who was actually monitored, how
8 were they monitored, and whether in fact one
9 can validate that, you know, this was complied
10 with and they were in fact monitored. And the
11 process we've been going through is to figure
12 out and -- you know, I don't think we have any
13 preconceived notion how you can do this, but
14 maybe we did go into it thinking well, this was
15 the '90s, this should be pretty straightforward
16 -- trying to figure out okay, how can we
17 actually sort out who was monitored, how they
18 were identified to be monitored and how were
19 they identified, and I think we've established
20 -- I think NIOSH has confirmed it -- that it
21 seems that at Rocky Flats certainly rad worker-
22 2 training was the ticket to in fact be able to
23 do D and D in RCA, rad control areas. But then
24 you have a number of other workers who perhaps
25 were working in other areas of the plant that

1 weren't so designated, and -- and you always
2 had -- this -- this is of course the case
3 across the complex. You always had the case
4 where you -- you would bump up against legacy
5 material where, you know, you'd open a -- a
6 vent, you'd open up piping and you'd find
7 material unexpectedly, surprise, and then you'd
8 have to deal with some exposure and hopefully
9 you had some air sampling or lapel sampling or
10 whatever. But what we're after is some kind of
11 assurance, some kind of confidence that there's
12 a way that one could estimate dose in an
13 environment where you did have a lot of
14 workers, particularly lower tier
15 subcontractors, coming and going and how were
16 one -- how is one going to get a peg on what
17 that dose distribution happens to be. And to
18 borrow from Jim's comment a little earlier
19 today, for those cases where we found instances
20 such as lack of terminal bioassays and a couple
21 of other things where you didn't have
22 necessarily a backstop to your dose estimation,
23 is there a way -- a method, a coworker model
24 that would allow you to come up with a
25 reasonable dose estimation. And that's pretty

1 much in a nutshell. I think -- I think what
2 makes this a little more complex is that it's -
3 - it's less a technology issue, more a program
4 management issue, and I think there's a sense
5 that because it's only ten years ago it should
6 be kind of straightforward. It's not as
7 straightforward, and I think that's something
8 we got from the NIOSH response. But it becomes
9 particularly important and critical because I
10 think you're talking about a situation where
11 there were likely a number of workers, whether
12 they were on the rad worker-2 side or non-rad
13 worker-2 side, that didn't get caught
14 necessarily. Either they weren't -- they were
15 -- should have been rad worker-2 because they
16 were dealing with maybe contaminated areas, or
17 they weren't rad worker-2, weren't working in
18 contaminated areas, but may have been exposed
19 in the course of the work they did at the site
20 and, because they weren't terminally bioassayed
21 or something, may have gotten out of the system
22 without a record. And so that's kind of what
23 we're trying to pin down. It's really a
24 calibration, just trying to calibrate this
25 thing. Maybe it's more of a typical site

1 profile exercise that had not necessarily been
2 done, but that's the first step -- and this
3 sounds familiar I suppose at this point, the
4 first step to getting to the issue of is there
5 perhaps a dose distribution, a certain sense of
6 a categories of these kinds of workers, and a
7 confidence that we understand what kind of
8 dosimetry was in fact used such that we can
9 come up with a distribution that would be the
10 basis for a coworker approach. And I think
11 that would then be the answer to the question,
12 could you in fact, if you had a worker --
13 whether it's the rad worker-2 side or the non-
14 rad worker-2 side, D and D or non-D and D --
15 come out and that you would be able to come up
16 with an estimation or not. Right now we're
17 sort of operating in the dark because it really
18 hasn't been treated -- Rocky being the first
19 site that we're getting into it, and it's
20 understandable, we really haven't waded into
21 these waters. And yet I think because it's
22 within the scope of the SEC, it's almost
23 something we have to answer somehow, and that's
24 kind of where we -- we teed it up. And I
25 actually found the documentation that -- that

1 NIOSH provided in terms of the audits and the
2 procedures helpful because it's kind of useful
3 to know that this thing actually evolved from
4 the early '90s into the 2000s. It wasn't a
5 static situation. Definitions changed
6 somewhat. The understanding and awareness
7 haven't changed somewhat. In '93 the defense
8 board came into Rocky and actually made a
9 finding that there was a concern over the fact
10 that subcontractors in terms of the bioassay
11 program weren't being managed very thoroughly,
12 and that was a sort of a shot across the bow
13 that, you know, you needed to tighten up on the
14 management themselves because it was pretty
15 clear at that point that this is the beginning
16 of the D and D era in a sense, that there was a
17 potential problem that might arise because you
18 would not in fact include them in. And there
19 was subsequent findings by self audits that
20 there was a real compliance issue with the
21 subs, and yes, this was common across other D
22 and D sites, but I think at Rocky in particular
23 we were -- I was surprised that it was high as
24 almost 40 percent of the -- of the subs, you
25 know, terminated without a -- a termination

1 bioassay. That kind of raised some questions
2 about okay, now what do you do and are you able
3 to make an assignment without having perhaps
4 either a routine bioassay or a termination
5 bioassay, so what's -- what's the answer to
6 that? So that's kind of where we kind of came
7 out. Again, I think we teed up more issues
8 than we answered, but I think there's a -- a
9 need for some discussion about what the path
10 forward would be to sort of get to the point
11 where a coworker approach or something is
12 possible.

13 **MR. GRIFFON:** And I was just going to say that
14 at this point, during our review, so far as I
15 know, a coworker model hasn't been on the table
16 for the -- for this era, so that's the way
17 we're kind of looking at it right now, that --
18 you know, that --

19 **MR. FITZGERALD:** Well, I wouldn't even prejudge
20 it, but I think that's sort of where it would
21 sort of --

22 **MR. GRIFFON:** May-- right.

23 **MR. FITZGERALD:** -- imply that --

24 **MR. GRIFFON:** It may evolve there, yeah. Yeah.

25 **MR. FITZGERALD:** -- that would be the direction

1 that you would go if in fact there were some
2 legitimate gaps that would have to be
3 addressed. So far I think --

4 **MR. GRIFFON:** Okay.

5 **MR. FITZGERALD:** -- there's some indications,
6 but we don't have actual hard -- hard data,
7 actual records.

8 **DR. ULSH:** Well, without taking up the issue of
9 whether or not there are gaps -- without taking
10 up the issue of whether or not there are people
11 who should have been monitored but weren't,
12 let's set that aside just for a minute or two,
13 OTIB-58, which is the external coworker model,
14 currently goes through 2005. OTIB-38, however,
15 does not. It goes to 1990, I believe. So if
16 we were to agree, Joe, that, you know, we need
17 to expand OTIB-38 to cover up through 2005 --
18 just in case there is someone --

19 **MR. FITZGERALD:** Right.

20 **DR. ULSH:** -- who should have been monitored
21 but wasn't, would that settle the issue -- I
22 mean is that --

23 **MR. FITZGERALD:** Well, I think --

24 **DR. ULSH:** -- where we could get to?

25 **MR. FITZGERALD:** -- I think the only question

1 in my mind, though, is if -- it sort of gets
2 back to the question we're trying to resolve
3 with the general population, which was what --
4 what was the circumstance in terms of workers
5 who were receiving exposures but may not have
6 been monitored. And I think there's at least
7 two circumstances that we identified in our --
8 in our review, one of which was of course these
9 -- these workers that were deemed as working in
10 areas that would have radiation exposure, at
11 least 100 CED*, and they were in fact the
12 trained rad worker-2 and the rest of it and
13 would be receiving at least annual bioassays.
14 That's sort of a category and the question is -
15 - and this was the question I think was raised
16 back in August, if I'm not wrong, Mark, which
17 was were they in fact bioassayed as advertised,
18 that kind of thing. And that's more of a
19 management question, a validation issue, and
20 there's where I think the notion in the
21 workgroup was to somehow cross-walk between the
22 people that were designated rad worker-2 and
23 see if in fact they did come away with -- with
24 -- with the routine bioassays as they were
25 supposed to. And this is the group that would

1 have been exposed so you certainly would expect
2 to have them bioassayed on a routine basis.
3 The other category, though, is also a concern,
4 which is what about everybody else that were at
5 the site who may not have been working in
6 designated RCA areas, but you know, admittedly
7 were likely to have some potential for
8 exposure, how were they handled? And I think
9 the one thing that gave me some pause was the
10 response that the exposure would be likely
11 very, very small and would be encompassed by
12 the maximizing assumptions used. I don't know.
13 I mean I think that's part -- part of what we
14 need to establish is what were the doses. What
15 -- you know, there's no data in the site
16 profile, so it's kind of hard to even know how
17 that comes out.
18 So the answer to your question, I think we need
19 some characterization issue. I don't think it
20 is something that is obvious. We've been doing
21 it sort of second-hand through audit reports
22 and through secondary documents, but you know,
23 the question of what were these doses, were
24 they substantial, were they minimal, and in
25 fact are the maximizing assumptions such that

1 hardly anybody would be expected to exceed
2 those. If that were the case, then I guess
3 wouldn't be a topic we'd even want to talk
4 about 'cause it'd be relatively small.
5 And -- and then getting to the coworker
6 modeling issue, I guess I would need to know
7 better -- as I recall, there are ratios for
8 each site that were based on different eras,
9 and I guess for Rocky -- I mean in terms of the
10 -- was it --

11 **DR. ULSH:** 1952?

12 **MR. FITZGERALD:** -- '52, wasn't there some site
13 specifics as well as the aggregate, and the
14 site specific would reflect the experience at
15 Rocky with --

16 **DR. NETON:** That was through '52, the
17 construction worker.

18 **MR. FITZGERALD:** I'm just trying to figure out,
19 you know, the -- you've got the external that
20 we've -- the -- tailored to site specific
21 experience, that you're using experience at the
22 site with construction workers per se,
23 construction workers that worked in the D and D
24 era, so that would probably be a pretty good
25 fit.

1 **DR. ULSH:** Yeah, I think so. Uh-huh.

2 **DR. NETON:** My recollection of the coworker
3 issue at Rocky, though, was that they had eased
4 off on the bioassay as a -- as a tool and
5 supplemented that with breathing zone air
6 samples. Is that not right?

7 **DR. ULSH:** They eased off the bioassay, but the
8 breathing zone sampling, the -- the DAC hour
9 tracking using sampling was layered on top of
10 the routine bioassay program.

11 **DR. NETON:** So yeah, you've got a much more
12 sensitive monitoring program with the breathing
13 zone air samples than you would have say a --
14 certainly an annual bioassay. I mean --

15 **MR. CHEW:** That's true, uh-huh.

16 **DR. NETON:** -- you could get down to --

17 **MR. GRIFFON:** That was the notion, yeah.

18 **DR. NETON:** And so this would be the first
19 coworker model that we would reconstruct that
20 would rely on breathing zone air samples, if we
21 did --

22 **DR. ULSH:** Now wait a minute --

23 **MR. GRIFFON:** We haven't seen --

24 **DR. ULSH:** -- hold on.

25 **DR. NETON:** If we did, I'm just saying if we

1 were to use -- see, otherwise then you'd take
2 an annual bioassay sample and you'd come up
3 with a very large missed dose, but if you have
4 BZ pumps on people, you can get down to 40 DAC
5 hours a week.

6 **MR. POTTER:** This is -- this is Gene Potter. I
7 have a comment.

8 **DR. NETON:** Yeah.

9 **MR. POTTER:** Yeah, the -- during most of the D
10 and D era -- era, we actually relied on early
11 fecal sampling --

12 **DR. NETON:** Oh, okay, that's even --

13 **MR. POTTER:** -- and investigated hundreds of
14 cases per year.

15 **DR. NETON:** Okay.

16 **MR. POTTER:** And those dose -- those -- the
17 distribution of those doses certainly would be
18 available.

19 **DR. NETON:** Okay, that's even better --

20 **MR. GRIFFON:** Those -- those fecal samples were
21 triggered by BZAs. Right? Is that...

22 **MR. FITZGERALD:** That's what my understanding -
23 -

24 **MR. GRIFFON:** They weren't routine fecal, they
25 were special --

1 **MR. POTTER:** Right, they -- actually they were
2 triggered by a number of different workplace
3 indicators, nasal swabs, personnel
4 contamination, contamination inside a
5 respirator, a host of things that we developed
6 criteria for.

7 **DR. NETON:** Okay.

8 **MR. RICH:** Detectable levels are very low
9 there.

10 **DR. ULSH:** Good, Gene.

11 **MS. MUNN:** Yeah.

12 **MR. GRIFFON:** Yeah, I don't think we have an
13 argument that there -- there's enough data
14 there to build a coworker model. I'm -- I mean
15 I think there probably are pieces of it around.
16 We haven't seen it, really --

17 **DR. ULSH:** 'Cause we haven't done it yet.

18 **MR. GRIFFON:** Right, you haven't done it.

19 **MR. FITZGERALD:** Right, and that -- that's part
20 of the problem I think that we -- we were
21 having is that, you know, we haven't seen the
22 data. We've only seen some evidence that --
23 that there are some gaps because of the way the
24 program -- because of the nature of the program
25 and the experience, and so the question is how

1 does one handle those gaps using the data that
2 we've never seen, which is sort of saying okay,
3 I guess we'll have to see how the data comes
4 out in terms of the basis for the model, and
5 it's a little bit tenuous at this stage, but --
6 **DR. ULSH:** I guess -- I'm taking a larger look
7 at this and whether it's an SEC issue or a TBD
8 issue, and if we could come to an agreement
9 that -- you know, questions aside about who
10 should have been monitored and (unintelligible)
11 --

12 **MR. FITZGERALD:** Right.

13 **DR. ULSH:** -- and whatever, those questions
14 aside --

15 **MR. FITZGERALD:** Right.

16 **DR. ULSH:** -- if we could come up with a
17 coworker model that we could agree on --

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

19 **DR. ULSH:** -- I think then we could agree
20 perhaps that this is a TBD issue?

21 **MR. FITZGERALD:** If -- again -- again, assuming
22 the data is there, which I think our assumption
23 is the data is there, but since we've never
24 seen it, it's kind of -- it's kind of a
25 circuitous (unintelligible) if we can't say --

1 well, we understand the data's there, we
2 haven't seen it, haven't touched it, but you
3 know, we're assuming that it's com-- it's
4 fairly complete, but we don't want to make that
5 assumption necessarily because certainly this
6 is the first time we're wading into BZ
7 sampling, lapel sampling. We got testimony in
8 Denver where somebody felt that the DAC hour
9 tracking and the lapel sampling wasn't
10 necessarily adequate and that the routine
11 bioassay was -- was -- was secondary, some sort
12 of -- some -- some questions were raised and
13 this is one reason we wanted to get a little
14 bit clearer on what data exists. What data
15 exists and can one actually get to it, and is
16 it in fact complete enough to be a basis for
17 the model. And if so, I think those two
18 aspects of it --

19 **MR. GRIFFON:** Complete enough and
20 representative enough --

21 **MR. FITZGERALD:** Complete and representative
22 enough --

23 **MR. GRIFFON:** -- I guess, 'cause you get the
24 subcontractor issue -- yeah.

25 **MS. MUNN:** 'Cause that -- the --

1 **MR. GIBSON:** Joe, this is Mike Gibson. I was
2 the one that raised that issue out in Denver
3 based on my experience at Mound. And secondly,
4 just to throw another issue in, when we talked
5 about who should be monitored and who shouldn't
6 in these expedited cleanup sites, virtually
7 everyone, irregardless of their trade or their
8 background, turned into a D and D worker. So
9 you would think that the amount of data would
10 go up, not -- or the amount of people monitored
11 would go up, not down.

12 **MR. GRIFFON:** Or the percentage of people -- I
13 don't know...

14 **DR. ULSH:** Well, Mike, there's a couple of
15 other considerations there, and that's the
16 total number of workers at the site, which I
17 believe went down.

18 **MS. MUNN:** Went down.

19 **MR. GRIFFON:** The percentage maybe he's --

20 **MR. GIBSON:** It went down gradually.

21 **DR. ULSH:** And there's also the DOE order --
22 what was it --

23 **UNIDENTIFIED:** 5480.11.

24 **DR. ULSH:** -- 5480.11, which only required
25 monitoring for people who were expected to get

1 100 millirem or greater, so that might also go
2 against the trend that you're talking about
3 there of more people being monitored.

4 **MR. GIBSON:** Well, that all depends on the way
5 the contractor interpreted that order and the
6 conditions of the work site, the way they
7 characterized the site.

8 **DR. ULSH:** So I guess I would ask everyone,
9 what do we see as the action items here?

10 **MR. GRIFFON:** That's the question.

11 **DR. ULSH:** Yeah, what do we need to do?

12 **MR. GRIFFON:** I mean it -- to me it's still
13 this question of -- of representativeness is --
14 assuming you -- you could gather this data and
15 -- and develop a coworker model out of it, this
16 question looming in my mind of this -- that
17 report that indicated that 40 percent of the
18 subs were not even doing termination bioassays
19 and we -- we always sort of had in mind well,
20 at least as a backdrop, even if they didn't do
21 annuals, they -- they left a term-- they were
22 required to do a termination -- now -- and it
23 was language that they were supposed to do
24 that, but in fact the audit finds that a lot of
25 them didn't do it. If we gather the -- this

1 other data from -- you know, assuming that a
2 higher percentage of the prime contractor
3 people did do their -- their termination
4 bioassays, and maybe annuals, is that set of
5 data going to bias your intake estimates in any
6 way. Maybe not, but I -- so I guess that --
7 you know, I don't know. Again, we haven't seen
8 the data, but my only caveat in -- in
9 development of that coworker model would be
10 representativeness. You know, if the subs were
11 getting all the nasty work and not being
12 monitored when they left, it may have happened
13 -- I'm not saying it did, but you know, then
14 this -- this distribution you look at may not
15 be representative of that.

16 **MS. MUNN:** But isn't the real question whether
17 the 60 percent of the subcontractors who were
18 doing --

19 **MR. GRIFFON:** Could be representative, right.
20 Right.

21 **MS. MUNN:** -- exit bioassays --

22 **MR. FITZGERALD:** Were representative.

23 **MS. MUNN:** -- were they representative.

24 **MR. GRIFFON:** Yeah.

25 **MS. MUNN:** Isn't that the only real question?

1 **MR. GRIFFON:** Yeah.

2 **MR. FITZGERALD:** Yes.

3 **MR. GRIFFON:** Yeah.

4 **MS. MUNN:** If they were, then you have --

5 **MR. GRIFFON:** So you might want to --

6 **MS. MUNN:** -- data that you can work with.

7 **MR. GRIFFON:** -- cut -- you might want to cut
8 the --

9 **MR. FITZGERALD:** Exactly.

10 **MR. GRIFFON:** -- you might want to split it
11 that way and look at it anyway, is all I'm
12 saying. You might -- but that gets back to
13 that question of identifying from -- that was
14 one of the first actions in this thing was, you
15 know, show us who -- go through the rad worker-
16 2 logs and identify who were D and D workers.

17 **MR. FITZGERALD:** Well, there's just -- there's
18 just two classes of workers, I think you're
19 quite right, Wanda. The second class -- and
20 one of the responses I think to one of the
21 issues we raised which were these people didn't
22 get termination bioassays was well, you know,
23 the doses would have been so small, it wouldn't
24 matter, it'd be encompassed by the maximizing
25 assumptions. Well, I think that -- actually

1 you can settle that by I think looking at the
2 60 percent --

3 **MS. MUNN:** Yeah.

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

5 **MR. FITZGERALD:** -- that did have --

6 **MR. GRIFFON:** -- yeah, I agree.

7 **MR. FITZGERALD:** -- and if the answer is on the
8 distribution such that yeah, geez, you know,
9 the maximized assumption takes care of that,
10 then I think for those workers who were not rad
11 worker-2, I think we wouldn't have to be
12 concerned about all these people that got out
13 without termination bioassay. And I think
14 maybe supplementary to that would be some
15 notion on the -- there's the fecals, whatever,
16 which were the -- I would call the event-driven
17 bioassays where you had an air sample that was
18 high or a lapel sample that was positive, you
19 did a fecal sample -- or I guess you would do a
20 -- even a urine sample, I suppose, but you
21 know, some notion about how much data exists
22 that demonstrates an event-driven bioassay as
23 well. I think that answers the question. I
24 think that part is clear.

25 Rad worker-2, with the response that we got

1 from NIOSH about maybe an -- not an inability,
2 but a very -- impracticality of being able to
3 cross-walk, which was the workers' original
4 intention, cross-walk from a roster of rad
5 worker-2 workers to a corresponding compilation
6 of their bioassays. That's more troublesome
7 because I guess I -- I don't know how one would
8 then go about figuring out if we had routine
9 bioassays done routinely for a population that
10 would have been expected to be exposed because
11 they were in rad areas. I don't know how one
12 can get around that. I guess I -- I wrote that
13 as needs further discussion of feasibility,
14 because I don't think there's any other way
15 around doing something like that to validate
16 that the routine bioassay program was in fact -
17 - quite apart from anything else -- was going
18 to capture the -- the dose for that group of
19 workers that were in fact in the rad areas.

20 **DR. ULSH:** Gene, do you want to jump in?

21 You're being very quiet.

22 **MR. POTTER:** Was that question for Gene?

23 **DR. ULSH:** Yeah, it was.

24 **MR. POTTER:** Again, I'm -- I'm sorry, Brant,
25 I'm having trouble hearing people. I think

1 you're getting weaker as the day goes on.

2 **DR. ULSH:** Maybe I am

3 **MS. MUNN:** We all are.

4 **MR. FITZGERALD:** Yeah, I was just -- this is
5 Joe Fitzgerald again. I was just indicating
6 that, you know, in terms of the rad worker-2
7 workers, we did look at -- and of course we
8 weren't aware of this, that there's a real
9 perhaps practicality issue of being able to
10 cross-walk between a so-called roster of rad
11 worker-2 D and D workers and corresponding
12 bioas-- routine bioassays for that group. And
13 I -- I don't know of any other way to validate
14 in fact that the routine bioassay program was
15 sufficiently complete that you can go to the
16 bank with that in terms of the -- the
17 measurements.

18 **MR. POTTER:** Let me just say one more time that
19 -- that, you know, primary means of detecting
20 new intake was by more sensitive methods than
21 the routine urine. I understand why routine
22 urine is -- is used in the NIOSH program
23 because it certainly would bring up intakes
24 that would be of a health consequence, and all
25 workers are subject to these workplace

1 indicators and not -- you know, whether they
2 were in the program or not. And there were a
3 few isolated incidents where a person was --
4 say wound-counted because he was -- received a
5 wound in an area that was not considered a rad
6 area, but we counted him anyway and in that
7 case he was entered into the program. And so
8 that shows that a -- you know, intakes were
9 looked at across the site regardless of whether
10 they were in -- you know, actually in the
11 program or not.

12 And then the other issue you have to realize is
13 that the program changed, you know, over time
14 from being strictly rad worker-2 trained to rad
15 worker-2 trained with respirator fit, then rad
16 worker-2 with respirator fit for people making
17 entries on the plutonium side. A different
18 criteria was applied to the uranium side, and
19 the systems that were used to make these
20 determinations were automated and they are no
21 longer connected. So we would have to rely on
22 legacy management even say for HIS-20, which we
23 just currently have a -- a period from upon the
24 O drive, as you're all aware, but that -- that
25 is just the bioassay data and not the -- a log

1 of all of the entries that were made. In some
2 cases hard copy files would have to be
3 recalled, and you know, we would end up with a
4 -- a very high percentage of compliance, I'm
5 sure, because I was there and it's just a whole
6 lot of work getting to that point. Initially
7 those percentages that you quoted were not
8 represen-- which were not representative, were
9 due to some problems with identifying workers
10 who had even left the site. And so, you know,
11 the quotient on our -- on our rate was not very
12 good.

13 Another thing -- I'd just like to make a
14 comment that's a little off -- off the track
15 here, but to think that there were a lot of
16 people that should have been in the program and
17 were not being monitored is, I think, a
18 speculation that is not -- not warranted.
19 Remember, we had 300 DOE employees in shut-down
20 and probably only 50 in production, so the site
21 was being monitored rather closely by the
22 government. And these all weren't decisions
23 made in a vacuum by the contractor.

24 **MR. FITZGERALD:** I guess -- I guess the
25 concern, though, would be the lower tier subs

1 that came and went over the course of those ten
2 years as to whether or not the management
3 flowed down as strongly to them as it did for
4 the prime contractor from DOE. Certainly
5 there's a number of audits that suggest
6 otherwise.

7 **MR. POTTER:** Well, again, we have, you know,
8 records -- people being sampled with a very
9 sensitive method and people who were in
10 production areas doing the actual hands-on D
11 and D who became very contaminated, and they
12 were sampled and those doses were relatively
13 low. We did have a couple of significant ones
14 that resulted in some very large doses, but by
15 and large the ones during the D and D era from
16 inhalation you would find are -- are small.
17 The most signif-- the most likely outcome was a
18 determination of no intake and the next most
19 likely would be a dose of less than 100
20 millirem.

21 **MR. FITZGERALD:** Now I guess just to move this
22 forward, two questions. How can we get at the
23 completeness of the data, and then some sense
24 of the distribution of doses? I mean you're
25 certainly ascribing, based on first-hand

1 experience, that the doses were not high. But
2 you know, the -- those two questions I think
3 we're trying to grapple with. Is there any way
4 at all, short of doing a very impractical -- at
5 least certainly from your standpoint -- data
6 search to at least get a handle on that?
7 Otherwise we're sort of left with anecdotal,
8 you know, sort of testimony which is difficult
9 to deal with in the context of the SEC.

10 **MR. POTTER:** Well, we -- I think one of the --
11 the ideas mentioned was looking at the number
12 of -- you know, the magnitude of the
13 terminations, samples that we -- you know, that
14 did collect which, you know, ran closer to, you
15 know, 80 percent and upwards at the end after
16 we had composed finds and done some -- done
17 some things to bring the compliance closer to
18 what we would like to see. You know, looking
19 at maybe the magnitudes of those termination
20 bioassays might be possible rather quickly, and
21 then -- you know, rather than trying to figure
22 out if every single person was bioassayed on a
23 case-by-case basis when they should have been.

24 **MR. FITZGERALD:** Now those termination
25 bioassays obviously would include both the DD

1 rad worker-2 workers as well as the others.
2 Would there be a way to distinguish between the
3 two?

4 **MR. POTTER:** I think you could do it by company
5 name.

6 **MR. FITZGERALD:** Okay. I would suggest that
7 might be a path forward then, rather than
8 trying to do a sort by rad worker-2. If we
9 could somehow get a -- a surrogate in terms of
10 the subs or the contractor involved, we might
11 be able to sort it that way and -- and -- and
12 using the termination bioassays, we could get
13 some -- some feel for it.

14 **MR. GRIFFON:** So the -- the notion here would
15 be that if -- if we can get -- look at this
16 termination surv-- or termination bioassay data
17 --

18 **MR. FITZGERALD:** Yeah.

19 **MR. GRIFFON:** -- and -- and -- and have those
20 parameters defined, whether they were subs or
21 not, then we can at least see if we can get a
22 plausible upper bound for people --

23 **MR. FITZGERALD:** Get a plausible upper bound --

24 **MR. GRIFFON:** -- for this D and D period --

25 **MR. FITZGERALD:** -- to the distribution of --

1 **MR. GRIFFON:** -- so we don't have to
2 necessarily --

3 **MR. FITZGERALD:** -- of the groups.

4 **MR. GRIFFON:** -- and then you might -- NIOSH
5 may go beyond that, Jim, and eventually build a
6 coworker model by year, but at least --

7 **DR. NETON:** (Unintelligible) will answer that
8 question.

9 **MR. GRIFFON:** -- if we look at the termination
10 bioassay for now, we can say yes --

11 **MR. POTTER:** One -- one thing I --

12 **MR. GRIFFON:** -- you know, yes or no, we --

13 **MR. POTTER:** -- should mention, too, is that --

14 **MR. GRIFFON:** -- can -- we can bound it.

15 **MR. POTTER:** -- we did a lot of terminations by
16 lung counting because we got the results right
17 away and -- as to -- if we had a positive we
18 could recount the worker before he got out of
19 our hands.

20 **DR. ULSH:** What's the implication of that,
21 Gene?

22 **MR. POTTER:** Was that a question to me?

23 **DR. ULSH:** Yes, it was.

24 **MR. GRIFFON:** Say it again, Brant, what was --

25 **DR. ULSH:** Gene, what was the -- what's the

1 implication of that, the fact that there were
2 lung counts?

3 **MR. POTTER:** The sensitivity for -- well, we're
4 ICRP -- we were ICRP-30 type people. For class
5 Y plutonium you have about the same sensitivity
6 as for urine sampling and it was just a
7 preferred method for us because, like I say, if
8 you have a positive on the urine, you're at
9 least 30 days down the road; you may have
10 trouble reining that worker back in.

11 **DR. NETON:** So there's really no net
12 implication, since the missed dose is about the
13 same. Is that right?

14 **MR. POTTER:** Right, from -- from my standpoint,
15 too. I can't speak for dose reconstruction
16 implications.

17 **DR. NETON:** But it would seem like if the
18 sensitivity was the same, you -- you're okay.
19 Nonetheless, it would still be a plausible
20 upper bound, so --

21 **MR. GRIFFON:** Right. So I think that would be
22 an action. If we can get that data,
23 termination bioassay data, in vivo, in vitro,
24 whichever -- whichever-- you know --

25 **MR. FITZGERALD:** (Unintelligible) both, if we

1 can get it, but --

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

3 **MR. FITZGERALD:** -- you know, whatever --
4 whatever exists on the -- on the tail end would
5 be most manageable --

6 **MR. GRIFFON:** Right.

7 **MR. FITZGERALD:** -- to compare it with
8 everything else upstream.

9 **DR. ULSH:** Does that sound feasible, Gene?
10 That was another question for you, Gene.

11 **MR. POTTER:** Could you -- could you repeat
12 that?

13 **DR. ULSH:** Does that sound feasible?

14 **MR. POTTER:** It sound-- which -- which sounds
15 feasible?

16 **DR. ULSH:** Mark is asking --

17 **MR. GRIFFON:** Can -- can we -- yeah, go ahead.
18 You're closer to the mike, so...

19 **DR. ULSH:** Mark is asking if we can get
20 distributions, I guess, on the in vivo or in
21 vitro termination bioassay data.

22 **MR. POTTER:** In -- in -- in vitro I think would
23 be relatively easy. We might need the
24 assistance of our -- our friend, Ken Savitz, to
25 do that. In vivo, not so easy, although the

1 fact that the person had the lung count was
2 transferred between the Canberra systems.
3 Unless you had a -- a above-decision-level
4 result, the data was not stored, and when you
5 did it was stored in microcuries and you don't
6 have enough digits to get down to the nanocurie
7 range stored.

8 **MR. GRIFFON:** Well, I -- I guess -- I would
9 leave that up to -- to you to either -- either
10 or both, I guess I would say, whichever --

11 **DR. ULSH:** Okay, we'll get what we can.

12 **MR. GRIFFON:** -- yeah, get what you can on
13 that, but also make sure you distinguish
14 between the subs and the --

15 **DR. ULSH:** Right.

16 **MR. GRIFFON:** -- prime.

17 **DR. ULSH:** Did you get that, Gene?

18 **MR. GRIFFON:** By company name or however you
19 can in-- you know, if you can include company
20 name or whatever, to help us understand, we --

21 **MR. FITZGERALD:** As a sur-- as a surrogate --

22 **MR. GRIFFON:** Yeah.

23 **MR. FITZGERALD:** -- for the split between what
24 would be rad worker-2, perhaps, and -- and
25 others.

1 **MS. MUNN:** Uh-huh.

2 **MR. GRIFFON:** Right.

3 **DR. ULSH:** Any problem there, Gene,
4 distinguishing between primes and subs?

5 **MR. POTTER:** As I said, I think we can do that
6 on company name and their -- that would
7 probably be the best way.

8 **MR. GRIFFON:** Okay.

9 **MR. FITZGERALD:** All right.

10 **MR. GRIFFON:** I think that --

11 **DR. ULSH:** Okay.

12 **MR. GRIFFON:** Does that get at it, Joe?

13 **MR. FITZGERALD:** Yeah.

14 **MR. GRIFFON:** And then if -- if -- you know, if
15 -- when we get that, we'll dis-- discuss it and
16 it may be a matter of at least this gives us a
17 way that we're happy if we can get a bounding
18 estimate on --

19 **MR. FITZGERALD:** Well, yeah, I think it --

20 **MR. GRIFFON:** -- internal dose, right, and --

21 **MR. FITZGERALD:** Just a --

22 **MR. GRIFFON:** -- right, right, right, and
23 whether NIOSH builds a coworker model, that's
24 another issue --

25 **MR. FITZGERALD:** Right.

1 **MR. GRIFFON:** -- but at least we can look at
2 the last --

3 **MR. FITZGERALD:** There's a basis for a coworker
4 model.

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

6 **MR. ELLIOTT:** This is a good discussion and I'd
7 ask us to --

8 **MS. MUNN:** Someone just dialed someone.

9 **MR. ELLIOTT:** -- remember it when we get to
10 looking at Fernald. Fernald is the next SEC
11 petition that you all will probably take up
12 where we have a D and D era.

13 **MR. GRIFFON:** Good point.

14 **DR. WADE:** We have a high frequency beeping on
15 the line.

16 **MR. GRIFFON:** Anything else on D and D follow
17 up, Joe?

18 **MR. FITZGERALD:** Let me just double-check. I
19 think that's the core that...

20 **MR. GRIFFON:** Yeah, can we take a ten-minute
21 comfort break? I know it's getting a little
22 late, but --

23 **DR. WADE:** Sure.

24 **MR. GRIFFON:** -- I've been ordered to do so --

25 **MS. MUNN:** That would be a good idea.

1 **MR. GRIFFON:** -- by our silver medalist.

2 **DR. WADE:** We're going to take ten minutes.

3 We're going to stay connected.

4 (Whereupon, a recess was taken from 3:35 p.m.
5 to 3:45 p.m.)

6 **DR. WADE:** Okay, we're back on line. Anybody -
7 - Mike, are you still out there with us?

8 **MR. GIBSON:** Yeah, I'm still here.

9 **DR. WADE:** You're complimented on your
10 persistence.

11 Okay, we're -- we're coming back. By my
12 calculation we're halfway down the list. We're
13 coming to halfway down. We're getting -- we're
14 getting better.

15 **MR. GRIFFON:** But as I said, we front-loaded
16 this thing, so hopefully the topics are getting
17 easier. Maybe not this particular one, but I'm
18 still hopeful we can -- we can finish
19 (unintelligible) --

20 **DR. WADE:** Logbooks and NIOSH analysis.

21 **LOG BOOKS**

22 **MR. GRIFFON:** Yeah, the logbooks, the topic
23 here was that -- many logbooks now are posted
24 on the O drive. NIOSH did an analysis by
25 selecting -- selecting points out of many of

1 the logbooks and cross-walking them with the
2 individual radiation files to see if -- I guess
3 to see if you had a definitive match or if --
4 if there wasn't -- the logbook didn't designate
5 a value, just to see if there was a urinalysis
6 value there or -- or a sample was taken on the
7 same date for this -- for that person, et
8 cetera. So I'll let Brant present this, and I
9 should say also we -- we -- I don't think SC&A,
10 for reasons stated earlier, have really had a
11 chance to -- to go much into this report, but
12 we'll -- we'll let you present and then, to the
13 extent you can reply, that's fine.

14 **DR. ULSH:** If you recall, a few working group
15 meetings ago NIOSH committed, at the suggestion
16 of the working group and SC&A, to locate as
17 many logbooks as we could covering both uranium
18 and plutonium areas in a variety of time
19 periods. And we have done that and posted them
20 on the O drive for the working group and SC&A's
21 access. We located a number of logbooks and,
22 as Mark mentioned, we went through the logbooks
23 and pulled out a handful of data from each and
24 then we cross-walked back to the individual's
25 hard copy rad file to see to what extent the

1 logbooks agreed or did not agree with the --
2 the data in the rad file. And this was kind of
3 a follow-on action to the -- we started out
4 with the Kittinger log and I did a detailed
5 analysis of that, pulled out all the data
6 points I could from there and tracked those
7 back, and we also found a high degree of
8 agreement there.

9 A follow-on item was to look at the wider
10 population of logbooks, so that's what this
11 action item refers to. And we were actually
12 pleasantly surprised at how good the agreement
13 was between the two sources of data, the
14 logbooks on the one hand and the hard copy rad
15 files on the other. Depending on how you slice
16 it and whether you consider a particular item
17 confirmed, mismatch or just a possible
18 mismatch, we got about -- somewhere in the
19 upper 90s, I think it was 93 percent agreement
20 between the two sources of data -- 94 percent,
21 sorry. And those were 296 names pulled from 33
22 logbooks, and we did go through the cases --
23 the situa-- particular situations where we had
24 a less-than-perfect match. But again, that was
25 only six percent, so we considered that pretty

1 good agreement.

2 Teresa Lopez of Bob's team was instrumental in
3 this logbook analysis. Teresa, is there
4 anything you want to add that I've left out?

5 **MS. LOPEZ:** No, just that this involved more
6 than just looking at the urinalysis logs. It
7 was foremen's logs, managers' logs, HP logs and
8 obviously the urinalysis logs contained a lot
9 of information. The other logs contained
10 information as whoever was making the entry
11 found it suitable to put in a name, a man
12 number and a result, or sometimes just the name
13 and the result, and we -- we tracked it from
14 there. So I think it's pretty good agreement
15 given that the information in the logbooks was
16 not -- not always presented with a man number.

17 **MR. MEYER:** And then, Teresa, the -- the five
18 or six names that didn't quite match up, you
19 want to talk about those? There were a few of
20 those that were a little confusing.

21 **MS. LOPEZ:** Sure. The 18 entries that -- that
22 did not match -- and we considered a match to
23 be either the exact result or greater than the
24 reported result, because we were looking at
25 handwritten data and there's some possibility

1 of misinterpretation of something that's
2 handwritten and unclear, so if the -- the ma--
3 a match was something that was exactly the same
4 or greater than what we saw in these
5 handwritten logbooks. In one case the claimant
6 file was not available; the rad log has been
7 ordered. Four cases did not have urinalysis
8 results for the same date listed in the
9 logbook. In one of those it -- it seemed very
10 likely that it was unclear handwriting because
11 it -- the logbook said 6/2 and in the file it
12 read 5/2/1957. In one case the sample was lost
13 and not recorded, but it is marked as lost in
14 the logbook. In another case there were
15 samples for one month previous and one month
16 after, but not for the date that appeared in
17 the logbook. That sample may also have been
18 lost. And the (unintelligible) case simply
19 that there's no explanation for it, it just
20 does not appear. There were two cases where
21 urinalysis data was found matching the logbook,
22 but both results were listed as background in
23 the logbook, so the fact that there were no --
24 there was no matching data in the file is maybe
25 insignificant. There was another case where

1 there was -- appear on the handwritten
2 urinalysis card but not in the health sciences
3 database printout. And then the other cases --
4 let's see, there was one where his film badge -
5 - and this was just a notation in a -- in a
6 foreman's log. It was a film badge reading in
7 excess of 500 counts per minute, but there was
8 no exact match in the radiological file. There
9 are external exposure results above background
10 for that same time period, but not one that
11 specifically said 500 counts per minute.
12 I think that the biggest -- the logbook where
13 we found the fewest matches were -- was the
14 special analysis logbook. So excluding those
15 results, the percentage of matching would have
16 been much higher.

17 **MR. FITZGERALD:** Could you explain why -- in
18 your estimation, why that was the case? Was it
19 just lack of claimant file data?

20 **MS. LOPEZ:** For the special analysis logbook --

21 **MR. FITZGERALD:** Yeah.

22 **MS. LOPEZ:** -- or in general?

23 **MR. FITZGERALD:** Special analysis.

24 **MS. LOPEZ:** No, I couldn't. Mel reviewed the
25 special analysis logbook because of the data

1 that it contained. It could be that if he had
2 had more rad files to compare it to that the
3 numbers could have been higher.

4 **DR. ULSH:** Actually I think, to add to what
5 Teresa said, Joe, it's our opinion that -- and
6 Bryce, you might want to jump in if there's any
7 more that should be said about this -- but the
8 -- the samples that oc-- that appear in the
9 special analysis logbook were taken primarily
10 not from a individual monitoring standpoint.
11 They were taken more as related to a particular
12 job, just to confirm or --

13 **MR. FITZGERALD:** Job specific.

14 **DR. ULSH:** Yeah, exactly, and it was more to
15 con-- just to confirm that no release had
16 occurred, so those may not have always made it
17 into the individual workers' rad files.
18 However, we do have them in the special
19 analysis logbook. And as a note of
20 corroboration, we also looked at the monthly
21 progress reports that I mentioned before from
22 the IH and -- the name changed over the years,
23 I think it was Industrial Hygiene and Chem Lab
24 or something like that, their monthly progress
25 reports. And periodically they told in this

1 month we took a neptunium sample, or in that
2 month we took a curium sample. And lo and
3 behold, we do find it in the special analysis
4 logbook. There's very good agreement in terms
5 of number of assay -- number of bioassays for a
6 particular one that's mentioned in the progress
7 reports, and then you find them in the logbook.

8 **MR. FITZGERALD:** Okay.

9 **DR. MAKHIJANI:** What's the number of the
10 special analysis logbook, do you remember?

11 **DR. ULSH:** The number?

12 **DR. MAKHIJANI:** Yeah, 'cause these are all by
13 (unintelligible) --

14 **MR. GRIFFON:** I think it just said special --
15 yeah --

16 **DR. ULSH:** (Unintelligible) just called special
17 --

18 **MR. FITZGERALD:** (Unintelligible) she says it.

19 **MS. LOPEZ:** Did you need the bar code on that?

20 **DR. ULSH:** No, I don't think so, Teresa.

21 **MS. LOPEZ:** Okay.

22 **MR. FITZGERALD:** It's identified in there.

23 **MR. GRIFFON:** Yeah.

24 **DR. ULSH:** Yeah.

25 **MR. GRIFFON:** Can you -- Teresa or Brant --

1 describe how -- how you selected -- I mean it
2 was just -- just going through logs, flipping
3 to a page and grabbing the -- sort of fairly
4 random but not -- is that how you selected the
5 sample?

6 **DR. ULSH:** Teresa, how -- can you talk about
7 the selection criteria? I think it was pretty
8 much random. Right?

9 **MR. GRIFFON:** Yeah.

10 **MS. LOPEZ:** Sure, it was -- it was random, too,
11 that the urinalysis and -- and bioassay
12 logbooks contained hundreds of pages of names,
13 so went through and simply randomly pulled out
14 names and found a match with a rad file or a
15 claim file. For all the other logs we took any
16 name that came out, any result that we thought
17 had enough identifying information, and that
18 would be either a man number or a date or the
19 type of analysis that was performed, and cross-
20 walked that data whenever we found it with --
21 with the rad file.

22 **MR. GRIFFON:** And -- and just looking on your
23 first couple of pages, a lot of background
24 values, were they -- how were they -- I mean
25 they were recorded based on the practice of the

1 time period, I would imagine. Right? They
2 were either zeroes or -- or detection limits or
3 how were -- I mean how --

4 **MS. LOPEZ:** They were usually identified as --
5 as background with either the entire word or b-
6 c-k, b-c -- b-c-g, just depending on who was --

7 **MR. GRIFFON:** Okay.

8 **MS. LOPEZ:** -- writing it in.

9 **MR. GRIFFON:** Any -- any other thought? I mean
10 I'm looking to you guys. Any follow-up or...

11 **MR. FITZGERALD:** Well, again, we're -- we're
12 going through this, but --

13 **MR. GRIFFON:** Yeah.

14 **MR. FITZGERALD:** -- I don't think we would take
15 exception with the overall approach. I think
16 we do have more or less specific questions
17 within the individual entries and comparisons,
18 that if there's a chance to, you know, take
19 those individual cases and just be able to do a
20 cross-walk or comparison with the claimant
21 file, that would probably settle some of the
22 questions within the -- within the analysis.
23 So I would leave it at that, that there may be
24 some specific questions with-- 'cause it's a
25 very lengthy analysis and there's some issues

1 that we're not sure about. One question was
2 the special analysis. We noticed that there
3 were not many matches. I think this helps
4 explain that. There's some others that are
5 more specific, not generic, that we probably
6 want to look at in the -- in the -- by
7 comparison with the claimant file cross-
8 walking, but we don't certainly take any
9 exception with the overall...

10 **MR. GRIFFON:** I guess an -- an initial reaction
11 I had was the -- rolling this all together
12 seemed a little odd to me. I don't think it
13 takes away from the -- the overall product,
14 though, that you -- you have external data in
15 here, you have what I would call other logbook
16 data, and then urinalysis logs, I -- you know,
17 I might've separated them, but -- but
18 nonetheless, the data's there and it speaks for
19 itself so that's good.

20 **MR. MEYER:** If you have any difficulties --

21 **MR. GRIFFON:** Yeah.

22 **MR. MEYER:** -- finding information in the logs,
23 give us a call because we could, you know --

24 **MR. FITZGERALD:** Yeah.

25 **MR. MEYER:** -- transcribe something

1 (unintelligible) --

2 **MS. ROBERTSON-DEMERS:** This is Kathy Demers.
3 I've got a couple of questions about kind of
4 the general process and how you came to choose
5 the 60 to 70 logbooks that were on the O drive.
6 My original list I had sent to you probably had
7 in excess of 200 logbooks on it, and that
8 leaves the question of what happened to the
9 other 133 logbooks. Did you decide that they
10 were not worthwhile?

11 **DR. ULSH:** Which original-- Kathy, this is
12 Brant. Which original list are you talking
13 about? At this point --

14 **MS. ROBERTSON-DEMERS:** When we first turned
15 over the logbook task to NIOSH in April --

16 **DR. ULSH:** Yeah.

17 **MS. ROBERTSON-DEMERS:** -- I provided a list to
18 NIOSH of logbooks that should be requested.
19 This also I believe was provided to Rocky Flats
20 at the same time.

21 **DR. ULSH:** If you recall, Kathy, we pretty
22 quickly decided I think in discussions in the
23 working group that certain categories of
24 logbooks were not going to be particularly
25 helpful.

1 **MR. GRIFFON:** Like the foremen's logs I think,
2 yeah.

3 **DR. ULSH:** Yeah, the foremen's logs, the
4 contamination control logs. That could have
5 trimmed the list significantly, although I -- I
6 just speculate 'cause I don't have your list in
7 front of me.

8 **MS. ROBERTSON-DEMERS:** If -- if I were to
9 provide you with that list again, can you tell
10 me what the status of those logbooks were?

11 **DR. ULSH:** Why don't you send it over and we'll
12 take a look at it.

13 **MR. GRIFFON:** Have we -- has the workgroup got
14 that listing, Kathy? I don't know if we have
15 it. It may...

16 **MS. ROBERTSON-DEMERS:** It may have been in one
17 of the --

18 **MR. GRIFFON:** I don't recall.

19 **MS. ROBERTSON-DEMERS:** -- a data integrity
20 report.

21 **MS. MUNN:** Well, she -- she talked about it --
22 we talked about the number that was there, but
23 I don't believe we ever had it because we did
24 decide early on that we would -- we would
25 narrow our investigation to specific types of

1 logbooks that would likely contain the highest,
2 most useful information.

3 **MR. GRIFFON:** I think I would request that --
4 that maybe SC&A internally with -- you know,
5 talk with Kathy and see if --

6 **MR. FITZGERALD:** Well, I think just --

7 **MR. GRIFFON:** -- what's here meets the require-
8 - yeah.

9 **MR. FITZGERALD:** -- just -- yeah. The original
10 handoff I think there was a listing that was
11 provided as a starting point, but I don't
12 disagree with Brant. I think there was a lot
13 of discussion about how to cull that down to --

14 **MS. MUNN:** Uh-huh.

15 **MR. FITZGERALD:** -- the logbooks that one would
16 then think of the -- the follow-up, but I think
17 to be more definitive we can go through that --

18 **MR. GRIFFON:** Yeah, I think we even had the
19 petitioners say that some of them weren't --
20 weren't while, really --

21 **MR. FITZGERALD:** Right.

22 **MR. GRIFFON:** -- weren't worthwhile --

23 **MR. FITZGERALD:** Tony was in and --

24 **MR. GRIFFON:** -- really going into, yeah.

25 **MR. FITZGERALD:** -- also indicate that as well.

1 **MS. MUNN:** I think some of that discussion was
2 -- was captured in earlier transcripts, I
3 believe.

4 **MR. GRIFFON:** Well, we --

5 **MR. RICH:** I think -- I think when we got the
6 CD of it there were ten folders that came out,
7 but that may not be the same one she...

8 **MS. ROBERTSON-DEMERS:** Well, I can provide you
9 with both the list and any documents that I may
10 have provided this list in.

11 **DR. ULSH:** Okay.

12 **MR. FITZGERALD:** Okay.

13 **MR. GRIFFON:** I don't know at this point if --
14 if there's any action other than that SC&A is
15 look-- is reviewing this, and I think --

16 **MR. FITZGERALD:** I think we're going --

17 **MR. GRIFFON:** -- more or less...

18 **MR. FITZGERALD:** -- to have specific cross-walk
19 issues where --

20 **MR. GRIFFON:** Yeah.

21 **MR. FITZGERALD:** -- we might want to validate,
22 but I think from what has been reviewed I don't
23 think we would take exception from that
24 standpoint, but more or less there are some
25 specific items in there that we think are --

1 are, in our minds, something that we still want
2 to validate, and I think the process of doing
3 that is just simply to be able to access the
4 claimant file and just do a little -- few
5 cross-walks rather than make it kind of a full-
6 blown thing and I think if we have any
7 questions we can come back to you or Bob and
8 just say, you know, how did you -- you know,
9 what did you do here. I'd rather just leave it
10 at that at this point, given the amount of
11 effort that's gone into it.

12 **MR. GRIFFON:** The only other action I did and I
13 briefly spoke with Brant in the hallway before
14 we came back in, if -- if NIOSH can --

15 **MR. FITZGERALD:** Urinalysis?

16 **MR. GRIFFON:** -- post the radiation files for
17 the non-claimants, and I think -- and I'm not
18 asking for a lot of work here 'cause I think
19 you have it all in electronic form, so I hope
20 it's not -- not a major deal to post that for
21 us in that AB drive somewhere.

22 **DR. ULSH:** Shouldn't be.

23 **MR. GRIFFON:** And Lar-- I -- I did mention it
24 to Larry and it's -- it's not an issue from
25 privacy standpoint or anything, so --

1 don't know how recently you sent --

2 **DR. ULSH:** A week or two ago.

3 **MR. FITZGERALD:** Yeah, a week or two ago.

4 **MR. GRIFFON:** -- it was a while ago? Okay. At
5 least -- between the last two meetings. Right?

6 **DR. ULSH:** Yes. Yes.

7 **MR. GRIFFON:** Yeah. That explains -- and I'll
8 let Brant describe it.

9 **DR. ULSH:** Yeah, this -- to refresh everyone's
10 memory, this was an issue that I think Kathy
11 originally discovered was that there appeared
12 to be a number of individuals for whom there
13 was no dosimetry in all or part of 1969. And
14 so we quickly considered the possibility that
15 it might be somehow related to the Mother's Day
16 fire in 1969. That -- that was certainly a
17 large and significant event in the history of
18 Rocky Flats, and so we wondered right away
19 whether that had anything to do with it. We
20 considered and discarded a number of
21 hypotheses, and the real breakthrough came
22 again when we were looking at these prog--
23 monthly progress reports and we came across the
24 comment that was noted earlier about the
25 administrative decision, the management

1 decision I guess, to -- for the low risk
2 people, people judged at low risk for exposure.
3 In other words, they were stationed outside of
4 the plutonium areas which at that time period
5 in Rocky Flats, 1969, meant that they were
6 outside of the radiation areas, essentially,
7 since most of the ATU* was sent to Y-12 at that
8 point, and they were on quarterly badge
9 exchange cycles, which meant that they were, by
10 definition, a low risk -- a population of
11 workers judged to be at low risk of exposure.
12 They decided that those people would continue
13 to be badged, however unless circumstances
14 warranted, their badges would not be read.
15 So, once we found that, we went back and
16 checked the files, checked the dosimetry that
17 we saw in 1969 to see whether it was consistent
18 with that, and in fact it was. For the people
19 that we could -- that had gaps that were
20 stationed outside and fit that category or fit
21 that profile, they were indeed the people that
22 we saw the gaps for. Now -- and so that -- and
23 that decision was made even before the fire
24 happened, so it does indeed appear that the
25 fire occurring in that year at the same time we

1 see these -- this pattern was coincidental.
2 Now on top of that we also saw a brief mention
3 that they had a computer problem in that year
4 and --

5 **MR. GRIFFON:** Can -- can I just interject just
6 for a second 'cause I'm trying to sort this out
7 in my own head.

8 **DR. ULSH:** Yeah.

9 **MR. GRIFFON:** Earlier in our first -- well, the
10 -- item one, all morning, we -- we -- we -- you
11 referenced -- I believe this is the same
12 report, this same quarterly report --

13 **DR. ULSH:** Yes --

14 **MR. GRIFFON:** -- or whatever --

15 **DR. ULSH:** -- it is.

16 **MR. GRIFFON:** -- that you're talking about, and
17 basically I -- I was under the impression that
18 -- that -- now it seems to me if you have --
19 part of the reason this -- this was identified
20 was a blip in the amount of zeroes in -- when
21 they reviewed the -- the annual data. There
22 was a blip in '69 and possibly '70 -- I'll hold
23 out on that one, but if there was in fact a
24 blip, this doesn't look like a changed policy
25 in '69 going forward but rather it was a

1 decision just maybe for manpower reasons or
2 whatever, but only during that one cycle. Is
3 that --

4 **DR. ULSH:** Okay. Craig, are you out there?

5 (No response)

6 **MR. GRIFFON:** Jim was speaking to this earlier,
7 wasn't he?

8 **DR. ULSH:** Well, I tell you what we found,
9 Mark, was that there would be a zero at the top
10 -- okay, when you're looking at the film badge
11 results, there are several people listed on a
12 page and what you would see is a zero at the
13 top and a --

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

15 **DR. ULSH:** -- line down through them all.

16 **MR. GRIFFON:** Yeah.

17 **DR. ULSH:** And we had -- we identified that
18 those were the people who in fact were -- fit
19 this profile, and so it is consistent with what
20 we saw there. So those people would not --
21 that zero should not be taken as a badge that
22 was read and came out zero. In fact, if you
23 think about it, what these people would be is
24 essentially unmonitored individuals and so you
25 would have to use the techniques that we use

1 for unmonitored people. Does that answer your
2 question?

3 **MR. GRIFFON:** But all I'm saying is is this
4 morning when we talked you -- you -- I mean we
5 were having this discussion about how to
6 interpret --

7 **DR. ULSH:** Yes.

8 **MR. GRIFFON:** -- this cohort or whether it was
9 a change in policy from '69 forward. It
10 doesn't seem -- if there's a blip in the number
11 of zeroes, then you sort of go back --

12 **DR. ULSH:** Yeah, we don't --

13 **MR. GRIFFON:** -- it seems like it -- it's not
14 supported there and --

15 **DR. ULSH:** Well, we don't have a corresponding
16 notation as to whether or not that
17 administrative procedure was rescinded --

18 **MR. GRIFFON:** Short term or was it --

19 **DR. ULSH:** Exactly.

20 **MR. GRIFFON:** Yeah.

21 **DR. ULSH:** We don't have a corresponding
22 notation to that.

23 **MR. GRIFFON:** Okay, that's what I was asking.

24 **DR. ULSH:** Okay.

25 **MR. MEYER:** Craig, I know you're actually --

1 **MR. GRIFFON:** Sorry to interrupt your --

2 **MR. MEYER:** Craig, I know you're actually
3 there, though. I guess the speakers have
4 gotten kind of silent here. Can you hear us
5 now?

6 **MR. LITTLE:** I can hear you.

7 **MR. MEYER:** Yeah. Sorry. Okay.

8 **DR. ULSH:** Yeah, do you -- do you have anything
9 to add to that, Craig?

10 **MR. LITTLE:** I didn't hear all of it, but what
11 I heard at the end there was that yeah, we
12 don't have a corresponding -- as Jim said this
13 morning, we don't have a corresponding
14 documentation that says they -- they started
15 running all the badges again, so I don't have -
16 - I don't have an answer to that concern.

17 **DR. ULSH:** It looks like, Mark, when --

18 **MR. GRIFFON:** And nobody you interviewed could
19 shed any light on whether that --

20 **DR. ULSH:** No.

21 **MR. GRIFFON:** Okay.

22 **DR. ULSH:** No.

23 **MR. GRIFFON:** I don't want to break your flow
24 of your presentation. That was just a --

25 **DR. ULSH:** No, no, I know.

1 **MR. GRIFFON:** I already did.

2 **DR. ULSH:** Remind me to talk to you afterwards,
3 Mark --

4 **MR. GRIFFON:** Yeah.

5 **DR. ULSH:** -- there are some things I --

6 **MR. GRIFFON:** All right. All right.

7 **DR. ULSH:** -- I'll talk to you about it. But
8 no, we don't have any indication that that was
9 eventually rescinded -- I mean in terms of
10 notation in any document. However, like you
11 said, that blip that we saw didn't continue, so
12 that might indicate that it --

13 **MR. GRIFFON:** That's what I'm trying to
14 understand.

15 **DR. ULSH:** Yeah, exactly. But that's
16 circumstantial. I mean I can't point to any
17 particular document that says that.
18 Oh, yeah, so at the same time we also
19 investigated -- since you know, we originally
20 wondered whether or not the fire was involved
21 with this pattern, we also talked to
22 individuals extensively about the badging
23 practices in the aftermath of 1969 fire. And
24 we had a number of people, at least two that I
25 can think of, that confirmed for us that anyone

1 who made entries into 776 after the fire --
2 immediately after the fire -- was indeed badged
3 and in fact was double badged. So that again
4 made us more comfortable saying that this blip
5 was not related to the fire.

6 So anyone else have anything to add or -- if
7 not, I'll turn it over for questions.

8 **MR. FITZGERALD:** Well, I would -- Ron, are you
9 on the phone still?

10 **MR. BUCHANAN:** Yes, uh-huh.

11 **MR. FITZGERALD:** I think you had -- certainly
12 you had worked with Kathy and had some thoughts
13 on this. I'd like to give you a chance to -- I
14 think you responded to at least some of the
15 issues that were raised in the NIOSH response.

16 **MR. BUCHANAN:** Yes, there -- there -- two
17 issues here in that '69/'70 time frame. One is
18 the -- the gap in the data in '69 which Brant's
19 recent e-mail talked about the computer problem
20 and the going to not reading all the badges and
21 several things like that. And these perhaps,
22 or perhaps not, set aside the missing in the
23 140 cases they examined.

24 The other issue was that it kind of -- a more
25 general issue was 1969 and '70 both had the 36

1 percent zeroes, where the previous five years
2 had ten percent and then the next five years --
3 the following five years had ten percent
4 zeroes, and so the -- the items in the recent
5 memo on the '69 period, the computer changeover
6 would not -- shouldn't have carried over into
7 '70 I wouldn't have -- think, and the second
8 issue was that they did not read all the
9 badges. And if they didn't read all the badges
10 as far as zeroes go, my thinking would be if
11 these people were low exposed and so they quit
12 reading their badges and assigned them zeroes,
13 then that shouldn't have made much difference
14 in the number of zeroes recorded because they
15 was already receiving zero to minimum
16 detectable levels in the past since this group
17 that was set aside to read -- not to always
18 read would have been receiving a very low dose
19 anyway, so I can't see really that '69 and '70
20 should have showed a large blip in their zeroes
21 because of that reason. And then -- and you
22 know, in '71, '72, '73 the zeroes came back
23 down to ten percent and so that was where I was
24 at on this last week, from the recent e-mail
25 from NIOSH.

1 **DR. ULSH:** Ron, perhaps I can help a little bit
2 with that. In terms of the num-- the
3 percentage of zeroes, the higher number of
4 zeroes in '69 and maybe spreading into '70,
5 that's entirely consistent with what we know
6 occurred, and that was related to the fire. In
7 other words, the people who were getting --
8 prior to the fire, the people who were getting
9 positive exposures in Building 776 were no
10 longer involved in production activities.
11 Production of plutonium was shut down in the
12 aftermath of the fire. That extended all the
13 way through -- well, Mel, correct me if I'm
14 wrong -- through at least most of '69, maybe
15 even into '70.

16 **MR. CHEW:** That's exactly right.

17 **DR. ULSH:** And they did not resume full-scale
18 plutonium operations for some time after that,
19 and that's the highest exposure potential jobs
20 at the site, so we would expect that the number
21 of zeroes -- the percentage of zeroes would be
22 higher there.

23 **MR. CHEW:** Correct. Agree.

24 **MR. GRIFFON:** And those same people we -- I
25 think we had this discussion. It sounds like

1 old ground, but those same people would not
2 have been involved in the cleanup necessarily?

3 **DR. ULSH:** Well, they might have been in --
4 some of them might have been involved in the
5 cleanup, Mark. However, even there the dose
6 rates that they would experience would be far
7 lower than at --

8 **MR. GRIFFON:** But not --

9 **DR. ULSH:** -- full-scale production.

10 **MR. GRIFFON:** -- (unintelligible) to zeroes,
11 though.

12 **MR. CHEW:** Well, they would not ex-- receive
13 external exposures, it was more cleaning up --
14 you know, deep rems of alpha sitting on the
15 ground here, Mark, so there wouldn't be any --
16 much external exposure at all.

17 **MR. MEYER:** Essentially plutonium was removed
18 fairly quickly after the fire.

19 **MR. CHEW:** Sure -- including the water
20 spillages that came out of the building, so
21 you're looking at deep rem, right, certainly
22 not external exposure.

23 **DR. ULSH:** So you're right, Ron, I don't think
24 that the decision not to read the badges
25 explains the zeroes. I think the explanation

1 for that is the cessation of plutonium
2 production operations.

3 **MR. BUCHANAN:** Okay. Well, do you know more
4 precisely when the plutonium production was
5 back into full scale? Was that a gradual
6 thing, was that a -- a couple months thing, and
7 did that occur at the end of 1970, the
8 beginning of '71, '72, does anybody know when
9 you would consider full-scale plutonium
10 production back to normal?

11 **MR. RICH:** They started back in fairly soon in
12 '77, but it was on a very small scale.

13 **MR. BUCHANAN:** What year -- what? I didn't get
14 that?

15 **MR. CHEW:** That cafeteria line, remember that
16 came up -- remember? Yeah.

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

18 **UNIDENTIFIED:** He said '77, didn't he?

19 **MR. RICH:** '67.

20 **MR. CHEW:** '69, yeah.

21 **DR. ULSH:** Now wait, the fire was in '69.

22 **MR. RICH:** '70.

23 **DR. ULSH:** Okay. Bryce says it started ramping
24 up in '70.

25 **MR. CHEW:** I guess orig--

1 **MR. RICH:** In Building -- in Building 77, so --
2 not -- I'm all right, '70.

3 **MS. MUNN:** (Unintelligible)

4 **MR. CHEW:** We're not saying our ages now, we're
5 talking about the building numbers. To answer
6 your question specifically, you know, Rocky
7 Flats actually started a very small line to
8 process a small amount of quantity. We called
9 that the cafeteria line. We discussed that at
10 length at the last two meetings here, to answer
11 your question. That occurred -- the place came
12 to a halt from about May until about the July -
13 - June, July, August time frame and then the
14 cafeteria line was started up, just basically
15 just one small line to do a small amount of
16 machining. That was just --

17 **MR. RICH:** Even --

18 **MR. CHEW:** -- a couple of chunks.

19 **MR. RICH:** -- even that would have been minimal
20 external exposure because it was low through-
21 put and the -- the full cleanup and return to
22 full operation, I don't have a date for that.

23 **MR. CHEW:** 776 almost took a couple of years --

24 **MR. RICH:** Yeah.

25 **MR. CHEW:** -- to get that line back in because

1 of the extensive fire and repairing all the
2 damage there so 776 never got back in. Some of
3 the work went over to 707, so the answer to
4 your question, full production really -- after
5 the way they left it in '69 prior to '69 fire
6 really didn't get going until mid-'70s and late
7 '70s.

8 **MR. GRIFFON:** So -- so --

9 **MR. CHEW:** Does that answer your question?

10 **MR. GRIFFON:** You -- you've got this -- I've --
11 -- trying to go back to that sheet you said that
12 you had, the zeroes on the top with a line -- a
13 dash through the whole group of workers. Those
14 individuals were quarterly monitored and those
15 -- those were the ones that were kind of shel--
16 they -- they badged them but didn't read.

17 **DR. ULSH:** Right.

18 **MR. GRIFFON:** Right?

19 **DR. ULSH:** Right.

20 **MR. GRIFFON:** And that -- so you have -- so you
21 have two -- two groups of people in these
22 zeroes, theoretically. It could al-- the
23 zeroes could also include people that were
24 dislocated from production operations and were
25 at a lower external exposure potential for that

1 time period. Right?

2 **DR. ULSH:** I think --

3 **MR. GRIFFON:** So --

4 **DR. ULSH:** -- that's accurate.

5 **MR. GRIFFON:** -- so if we look through at -- I
6 mean how -- so if we look through all these
7 zeroes, we wouldn't necessarily see that they
8 were all on quarterly monitoring programs
9 'cause they're also going to include other --
10 other -- some of these production workers that
11 were just dislocated or...

12 **DR. ULSH:** I think that's true, Mark. I think
13 --

14 **MR. GRIFFON:** Yeah.

15 **DR. ULSH:** -- I'm not -- I can't really speak
16 about if a person was on a more frequent badge
17 exchange cycle -- let's say weekly or biweekly
18 or monthly -- before the fire, if they
19 maintained that badge exchange frequency after.
20 I can't really answer that off the top of my
21 head. But in general at Rocky Flats, if you
22 were at -- judged to be a lower exposure
23 potential during that time period, you were on
24 the less frequent badge exchange cycle. So
25 yeah, if you looked at the population of

1 workers who were on quarterly badge exchange
2 cycles, I think it's accurate to say that those
3 would be the lower -- people at lower exposure
4 potentials.

5 **MR. GRIFFON:** I -- I -- you have any follow-up,
6 Joe?

7 **MR. FITZGERALD:** Not -- not --

8 **MR. GRIFFON:** I gue--

9 **MR. FITZGERALD:** Yeah, I was going to say I
10 think -- I think we're clear on this particular
11 issue, although we still have to look at this
12 review.

13 **MR. GRIFFON:** Yeah, I guess what I'm still
14 grop-- and I -- I got to look through the
15 details, I will give the caveat of that, but I
16 -- I'm groping for something to hang my hat on.
17 I -- I feel like this issue of -- we've had
18 different hypotheses offered and that makes me
19 a little uneasy when the -- maybe they're
20 merging together now; I hope so. It seems like
21 --

22 **DR. ULSH:** Well, let me -- let me characterize
23 this -- how -- the ground that we've covered in
24 the working group.

25 **MR. GRIFFON:** Yeah.

1 **DR. ULSH:** I mean at first, when Kathy first
2 noticed this issue, we didn't have any idea why
3 the -- why there would be this particular gap,
4 and so we threw a lot of hypotheses on the
5 table and we systematically started testing
6 those hypotheses. The first and most obvious
7 one was the fire, and so we tested that. It
8 didn't work out; we discarded it; we looked for
9 another one. So I mean to say that we've
10 tested a number of hypotheses I think is a good
11 thing. I mean we considered all the -- all the
12 plausible alternatives that we could think of.
13 Finally when we hit on this --

14 **MR. GRIFFON:** Well, I didn't really say you
15 tested a hypothesis. I said you offered
16 hypotheses. I meant -- you know --

17 **DR. ULSH:** We did, but --

18 **MR. GRIFFON:** Yeah.

19 **DR. ULSH:** -- then we followed --

20 **MR. GRIFFON:** Yeah.

21 **DR. ULSH:** -- on and tested them.

22 **MR. GRIFFON:** And -- but I -- I guess that's
23 the details I haven't seen or -- you know, so -
24 - I mean there -- there -- you know, all these
25 -- a lot of this seems to be, again, you know,

1 so-and-so's recollection about computers
2 switching over and --

3 **DR. ULSH:** No, that's actually --

4 **MR. GRIFFON:** -- now these zero sheets I
5 haven't seen, so I --

6 **DR. ULSH:** -- that's documented. I mean that's
7 --

8 **MR. GRIFFON:** Well --

9 **DR. ULSH:** -- in the monthly progress reports,
10 so --

11 **MR. GRIFFON:** -- that -- that was another
12 action item I just wanted to add onto your
13 action that was previously there. We had --
14 previously you had agreed to post the monthly
15 progress reports. Maybe that would be helpful
16 --

17 **DR. ULSH:** Okay.

18 **MR. GRIFFON:** -- to -- yeah.

19 **DR. ULSH:** But I think that's a sign of the
20 strength of the approach that we took, that we
21 considered all of the plausible hypotheses and
22 we were left with one that fit.

23 **MR. FITZGERALD:** I guess the one related issue
24 -- and this is -- this is something that came
25 up in our review of the accident investigation

1 that Mel briefed us on, and then we went
2 through a series of discussions in terms of
3 cross-walking the -- it was -- 110 is the
4 number I remember that were identified in the
5 AI report as having been monitored, either 24
6 hours --

7 **DR. ULSH:** Lung counting.

8 **MR. FITZGERALD:** -- or afterwards, and I think
9 we came up with a list of 77 names or it was
10 something in the -- 70-something to -- that
11 were identified. And Brant, the last time we
12 hit this ping-pong ball back it was -- okay,
13 what about the balance of the individuals; is
14 there any way to figure out -- you know, if 110
15 were monitored, one should be able to at least
16 find the 110 --

17 **MR. GRIFFON:** That was -- that was in vivo
18 counts, right, or --

19 **DR. ULSH:** Lung counts.

20 **MR. FITZGERALD:** Lung counts.

21 **DR. ULSH:** Yeah, these were -- this was
22 mentioned in the -- the 19-- the fire report --

23 **MR. GRIFFON:** Right.

24 **DR. ULSH:** -- and it was mentioned that there
25 were I think 40-some people counted within the

1 first 24 hours --

2 **MR. FITZGERALD:** Twenty-four hours, right, for
3 the (unintelligible) --

4 **DR. ULSH:** -- and then some 110 within the
5 first month, I think.

6 **MR. FITZGERALD:** Right.

7 **DR. ULSH:** So but the names of those people
8 weren't -- wasn't given --

9 **MR. FITZGERALD:** Right.

10 **DR. ULSH:** -- in the fire report, so --

11 **MR. FITZGERALD:** In the report itself.

12 **DR. ULSH:** -- we've -- we went to some length -
13 - I mean we took all the steps that we could
14 think of easily to identify the people who
15 might have been lung-counted. Gene Potter put
16 some work into this. Gene, are you still out
17 there?

18 **MR. POTTER:** Yes.

19 **DR. ULSH:** Okay. Thank you. Can you walk us
20 through your report in terms of the sources of
21 data that we looked at and what we found?

22 **MR. POTTER:** On lung counting?

23 **DR. ULSH:** Yeah, lung counting in the aftermath
24 of the '69 fire.

25 **MR. POTTER:** Okay. I'll try and rely on my

1 memory here, which is not always the best, but
2 -- and I think this is incorporated into
3 Craig's report.

4 **DR. ULSH:** No --

5 **MR. LITTLE:** Yeah, some of it -- some of it is
6 in there. I didn't put all the detail in,
7 but...

8 **MR. POTTER:** Yeah, basically we had a list of
9 interviewees that were available from the
10 declassified Rocky Flats investigation report -
11 - or the fire investigation report, and we went
12 after the people in that group who were either
13 claimants or that we had -- that -- or had had
14 their records scanned for other purposes and
15 tried to do matches on that. And I'm afraid
16 I'll have to -- if you give me a minute I can
17 look up what those statistics were.

18 **DR. ULSH:** Well, not -- not necessarily
19 important if you -- I -- I think there was
20 another source of data that we looked at when
21 we had the interview list, as Gene said, but we
22 didn't know whether those people corresponded
23 to the people who should have been -- who, you
24 know, were in the 110. Separately from that we
25 also had a document -- I think it's Plot, is

1 the reference -- another document that listed
2 people who were sent to medical/decon, and we
3 took a look at that, too. And as Gene said, we
4 looked at the files that we had in hand, either
5 because they were claimants or because we had
6 pulled them as part of the logbook review, so
7 we had them on hand. And of the people that we
8 know were sent to medical and decon and we had
9 the files available, we checked and yes indeed,
10 the lung counts are in there. Now that's a
11 fairly small number. That doesn't account for
12 the 110, or even the 40.

13 **MR. FITZGERALD:** You were going to look at the
14 classified version of the report to see if
15 there might be some names in there, too.

16 **DR. ULSH:** We did, and we didn't find --

17 **MR. FITZGERALD:** There were none --

18 **DR. ULSH:** -- any names there.

19 **MR. FITZGERALD:** -- there were none, okay.

20 **DR. ULSH:** So that kind of led us to the point
21 where the next step would be pretty resource-
22 intensive, and that would be pulling all of the
23 rad files, and we wanted to discuss that with
24 SC&A and the working group before we took that
25 step. I mean we kind of went as far as we

1 could easily, and stopped. So...

2 **MR. FITZGERALD:** Now I think our interest in
3 the beginning was just simply to use this as an
4 opportunity, in the face of the AI report, just
5 to validate that in fact if these were
6 identified explicitly in the AI report as the
7 number of individuals being monitored, could
8 you in fact find these individuals in terms of
9 the dose file. Again another test of
10 validation, particularly given the fact it
11 falls within the '69/'70 period where there's
12 some questions about, you know, were people in
13 fact monitored. So that was the reasoning.

14 **DR. ULSH:** But that was external monitoring.

15 **MR. FITZGERALD:** I am sorry, internal. That's
16 where we are now --

17 **DR. ULSH:** Yes.

18 **MR. FITZGERALD:** -- so -- and there's been no -
19 - I don't think there's been any actual cross-
20 validation with the data file, just simply
21 trying to identify who the people are.

22 **DR. ULSH:** Yeah, just those ones that we knew
23 were sent to medical and decon and we have the
24 files on hand, we checked. And indeed, in
25 every one of those there were lung counts in

1 there.

2 **MR. FITZGERALD:** Right.

3 **DR. ULSH:** That's as far as we can -- that's
4 about as much as we can say at --

5 **MR. GRIFFON:** And those indivi-- those files,
6 are -- are they --

7 **DR. ULSH:** Well, actually --

8 **MR. GRIFFON:** -- accessible to us?

9 **DR. ULSH:** Well, they will be, since --

10 **MR. GRIFFON:** Yeah.

11 **DR. ULSH:** -- you've asked that we post those -
12 - I think it's part of the logbook --

13 **MR. GRIFFON:** Yeah --

14 **DR. ULSH:** -- those individuals
15 (unintelligible) --

16 **MR. GRIFFON:** -- I mean I would say why don't
17 we start there and --

18 **MR. FITZGERALD:** All right.

19 **MR. GRIFFON:** -- I don't think we need to
20 request broader --

21 **MR. FITZGERALD:** No, no, this is an adjunct
22 that --

23 **MR. GRIFFON:** -- you know, more rad files at
24 this point.

25 **MR. FITZGERALD:** -- came up with the AI --

1 **MR. GRIFFON:** Yeah.

2 **MR. FITZGERALD:** -- discussion, so I wasn't
3 proposing a new avenue, but more or less make
4 it part of what we're doing already.

5 **DR. ULSH:** And those are identified by name in
6 -- in the --

7 **MR. FITZGERALD:** Right, you gave us the
8 spreadsheet.

9 **DR. ULSH:** Yeah, and the files will come over
10 as part of the (unintelligible) --

11 **MR. FITZGERALD:** That was a spreadsheet -- CEDR
12 60 or 70, I can't remember...

13 **MR. GRIFFON:** And you...

14 **MR. FITZGERALD:** I think we're talking about
15 the same thing.

16 **DR. ULSH:** I'll show you what I'm talking about
17 and you can tell me if that's what you're
18 talking about.

19 **MR. FITZGERALD:** Sixty-nine -- 69 -- 69 people
20 were interviewed. These are people interviewed
21 for the unclassified report, yeah. This is the
22 one you gave me in Las Vegas.

23 **MR. GRIFFON:** How many of those, Brant -- you
24 talking a handful or...

25 **DR. ULSH:** What's that?

1 **MR. GRIFFON:** How many of those people did you
2 find in your records, do you know off-hand? Is
3 it four or five or --

4 **DR. ULSH:** Gene, do you recall how many we
5 found? It was a pretty small number, I think -
6 -

7 **MR. GRIFFON:** Yeah, but that's --

8 **DR. ULSH:** -- maybe six.

9 **MR. GRIFFON:** That's fine. I think that's --

10 **MR. POTTER:** Yeah, of the ones that were sent
11 to medical that we have records for?

12 **DR. ULSH:** Yes.

13 **MR. POTTER:** I think that was six out of six we
14 found lung counts in records.

15 **DR. ULSH:** So we still don't have a really good
16 handle on who the 41 might have been or who the
17 100 might have been.

18 **MR. FITZGERALD:** Right.

19 **DR. ULSH:** I can only --

20 **MR. CHEW:** The -- I'll just make the point that
21 the number of people interviewed -- quite a few
22 of them were management because they were
23 talking about the management issues. They
24 would not have been involved with any cleanup
25 of fire so they would not have been monitored.

1 So don't correlate the 77 interviewed with
2 (unintelligible) data.

3 **MR. FITZGERALD:** Yeah, good point.

4 **DR. ULSH:** I would caution, the stuff going
5 around the table right now contains Privacy Act
6 information, so please be appropriately careful
7 with it.

8 **MR. FITZGERALD:** I agree with the idea of
9 trying to go ahead and cojoin (sic) this with
10 some of the other reviews and --

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

12 **MR. FITZGERALD:** -- validate it, so --

13 **MR. GRIFFON:** I don't think we need to dig for
14 further files related to that fire, rea-- at
15 this point, anyway. And -- and I was just
16 going to ask Mel a follow-up on the -- you said
17 that individuals that were double-badged, those
18 were probably the first responders kind of
19 thing, is that...

20 **MR. CHEW:** No, no, they weren't. They were the
21 -- after the fire was put out --

22 **MR. GRIFFON:** Uh-huh.

23 **MR. CHEW:** -- then the next level was to go
24 back to recover the plutonium --

25 **MR. GRIFFON:** Right.

1 **MR. CHEW:** -- yeah, and then also the people
2 who were part of the investigating team, those
3 are the ones who were --

4 **MR. GRIFFON:** Okay. And then there was this
5 sort of lower tier de-- after the material was
6 recovered, then there was a lower tier --

7 **MR. CHEW:** Yeah.

8 **MR. GRIFFON:** -- cleanup work, which then they
9 would have been at lower --

10 **MR. CHEW:** Yes, uh-huh.

11 **MR. GRIFFON:** -- exposure risk, certainly.
12 Right? Right. From an external standpoint.

13 **MR. CHEW:** Uh-huh.

14 **MR. GRIFFON:** Right? Okay. And -- do -- do
15 you -- do we have any sense of -- of the --
16 that group that went in initially? I mean I
17 imagine it's a small group, select group.

18 **DR. ULSH:** We do have individuals, but I don't
19 know that we could --

20 **MR. CHEW:** Oh, yeah, I don't know -- I don't
21 know --

22 **MR. FITZGERALD:** (Unintelligible) that 41 that
23 were monitored the first 24 hours --

24 **MR. CHEW:** Yeah, we're talking about the
25 follow-up group that went in after we put out

1 the fire to now make the investigation on the
2 fire --

3 **MR. FITZGERALD:** Ah.

4 **MR. CHEW:** -- (unintelligible) couple of months
5 and also to recover the material. Recovery of
6 the material is the key one here, 'cause now
7 that there was -- remember, we had the
8 discussion they were professional people who
9 went in, remember, and volunteers, but everyone
10 volunteered, as I understand, and -- and they
11 very carefully went back and spoon-by-spoon
12 recovered because criticality was an issue
13 here, remember, potential, so that's why they
14 were double-monitored -- double-badged.

15 **MR. FITZGERALD:** Okay.

16 **MR. GRIFFON:** And -- but we don't necessarily -
17 - wouldn't be a way to easily find --

18 **MR. FITZGERALD:** We can't pinpoint who they
19 are.

20 **DR. ULSH:** We would know a few --

21 **MR. GRIFFON:** Yeah.

22 **DR. ULSH:** -- individual names, but certainly
23 not in a comprehensive way we wouldn't be able
24 to say (unintelligible).

25 **MR. CHEW:** We certainly know some of the key

1 people who were involved --

2 **DR. ULSH:** Yeah.

3 **MR. CHEW:** -- example like REDACTED, REDACTED*
4 were there, but you know, they would know --
5 remember names of people, that's about all I
6 (unintelligible).

7 **MS. MUNN:** Ken said that the number of people
8 who actually went into the building was never
9 more than a dozen --

10 **MR. CHEW:** Oh, yeah.

11 **MS. MUNN:** -- or 15 at a time, very small
12 numbers --

13 **MR. CHEW:** Very small num-- very controlled.

14 **MS. MUNN:** -- all double-badged --

15 **MR. FITZGERALD:** That makes sense.

16 **MS. MUNN:** -- all professionals, yeah.

17 **MR. CHEW:** Double-suited, too.

18 **MS. MUNN:** Yeah -- oh -- oh, you can bet your
19 bottom dollar.

20 **MR. GRIFFON:** No, I was just thinking if we,
21 you know, can track them and they'd be likely
22 higher exposed, at least those initial people -

23 -

24 **MR. CHEW:** Well, not necessarily.

25 **MR. GRIFFON:** -- that -- that would be a --

1 **MR. CHEW:** You know, we're talking about really
2 a oxide sitting on a --

3 **MR. GRIFFON:** Yeah.

4 **MR. CHEW:** -- a --

5 **MR. GRIFFON:** Yeah.

6 **MR. CHEW:** -- not a chunk of plutonium anymore,
7 you know, so --

8 **MR. GRIFFON:** I'm just thinking of non-- non-
9 zero, you know --

10 **MR. FITZGERALD:** Well, that was the whole
11 exercise I think --

12 **MR. GRIFFON:** -- ways of cor--

13 **MR. FITZGERALD:** -- focused around the AI --

14 **MR. GRIFFON:** Yeah, exactly.

15 **MR. FITZGERALD:** -- report was to see if we
16 could find those people that --

17 **MR. GRIFFON:** Yeah.

18 **MR. FITZGERALD:** -- might have had the higher
19 potential. But like everything else, it's
20 turning out --

21 **MR. GRIFFON:** Right.

22 **MR. FITZGERALD:** -- not to be straightforward.

23 **MR. GRIFFON:** Right. Right, right. Okay. I
24 don't know that -- other than -- I would like
25 to see those monthly progress reports. I did

1 catch that when I re-- this weekend when I was
2 reviewing transcripts, I said oh, there's
3 another action item for the matrix, but that
4 might be helpful for me just to put -- put your
5 -- you know.

6 **DR. ULSH:** SC&A actually already has those.
7 You may not know it. I think you do.

8 **MR. GRIFFON:** Oh.

9 **DR. ULSH:** There was a large volume of material
10 that Kathy requested. I actually --

11 **MR. FITZGERALD:** (Unintelligible) discs, maybe.

12 **DR. ULSH:** Yeah, I actually found them in a
13 miscellaneous document.

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

15 **MR. FITZGERALD:** Brant may be correct. We may
16 have this on a disc that --

17 **DR. ULSH:** But --

18 **MR. FITZGERALD:** -- you know, is four months
19 old.

20 **DR. ULSH:** -- that's probably not going to be
21 as easily retrievable. I mean I pulled out
22 (unintelligible) --

23 **MR. FITZGERALD:** Kathy, do you remember that?

24 **MS. ROBERTSON-DEMERS:** Say that again?

25 **MR. FITZGERALD:** The quarterly progress

1 reports, you remember getting that by disc or -
2 - I -- I seem to remember something way back --
3 prehistoric times, April, May maybe.

4 Well, we can --

5 **MS. ROBERTSON-DEMERS:** I think that was in hard
6 copy actually.

7 **MR. GRIFFON:** At -- at any rate --

8 **MR. FITZGERALD:** -- we can figure it out. All
9 right.

10 **MR. GRIFFON:** Yeah, or Brant --

11 **DR. ULSH:** It'll be easier if I just
12 (unintelligible) --

13 **MR. FITZGERALD:** All right.

14 **MR. GRIFFON:** Yeah, just post them and it'll be
15 easy.

16 **DR. ULSH:** Let me -- let me warn you, Mark.
17 It's not a complete set. I mean I don't start
18 in January of '52 and go all the way up to
19 December of --

20 **MR. GRIFFON:** Understood, yeah.

21 **DR. ULSH:** -- '71. There are some holes in
22 there --

23 **MR. GRIFFON:** Understood.

24 **DR. ULSH:** -- that I wasn't able to find, but
25 there's a lot of them.

NEUTRON DOSIMETRY

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MR. GRIFFON: All right. Are we on the next topic?

DR. WADE: Yes, we are.

MR. GRIFFON: Neutron -- this is a -- I think there's a list of five or seven --

MR. FITZGERALD: Yeah, this is the external dosimetry, more specifically neutron, discussion that -- we had a conference call between NIOSH, I think Ron was the star for our team, and basically I think that was a very good call. We came up with five agreed-to actions which there was one or two that were added at a subsequent workgroup meeting, and I think they're pretty -- pretty clear and crisp and there's ongoing actions. It's just -- I think they stand as open only because, you know, the OTIBs are being revised in some cases --

MR. GRIFFON: What's the -- Brant, you've got the matrix item open, I don't know --

DR. ULSH: It's item number 23, if that helps.

MR. GRIFFON: Item number 23.

MR. FITZGERALD: Right.

DR. ULSH: It's on page 11 of 16 of the --

1 **MR. FITZGERALD:** And Brant -- Brant and I have
2 been exchanging status reports, mostly just to
3 make sure that we're clear on where things
4 stand, but I would defer to you as far as --
5 since these are kind of actions on NIOSH.

6 **DR. ULSH:** Yeah. Joe suggested that we have a
7 number of issue-specific conference calls and I
8 kind of kicked the can down the road until
9 after this working group meeting. I just -- we
10 just couldn't swing it, but this is one where I
11 think that that would be good to have another
12 conference call on the neutron action items.
13 And like Joe said, there were -- I see seven
14 items here listed on the matrix. Two of those
15 I think that we can agree have been completed,
16 and that is NIOSH to provide identifiers for
17 the HIS-20 database; we've done that one. And
18 then the other one was Roger was going to
19 provide background for NDRP report
20 (unintelligible) 1.1; we've done that one.
21 We are in progress with revising OTIB-58 right
22 now, which is the external coworker data. We
23 are also in process of testing the N/P ratios
24 in the '50s. That's in process. And let me
25 see, calculated versus measured, that's going

1 to be part of that -- well, wait a minute. No,
2 expand the explanation of the technical basis
3 for N/P ratios in the '50s. I actually
4 provided the language that we were going to put
5 into the OTIB, provided that to Ron, and I
6 think Ron took a look at that, and I think the
7 piece that you were waiting on there was just
8 to see that yes, in fact that had been
9 incorporated into the OTIB.

10 **MR. FITZGERALD:** Yeah.

11 **DR. ULSH:** Okay, so that's the status on that
12 one. And then we come to the spot-check the
13 coworker methods by comparing calculated versus
14 measured neutron doses. A draft of that hit my
15 desk late last week and I just couldn't turn it
16 around, so that's one that we should be ready
17 to talk about fairly soon I think.

18 NIOSH to provide benchmark N/P ratios in the
19 '50s and '70s, and I think what we were talking
20 about here was measured -- I think maybe John
21 Mauro requested if there were any measured N/P
22 ratios during those time periods, early in the
23 '50s, early in the '70s.

24 **MR. FITZGERALD:** *Coup de gras*, remember that
25 whole --

1 **DR. ULSH:** Yes.

2 **MR. FITZGERALD:** His -- his thing was that --

3 **MR. GRIFFON:** Well, that would bound it, yeah,
4 yeah.

5 **MR. FITZGERALD:** Yeah, that would bound it and
6 --

7 **DR. ULSH:** Actually I think he talked about
8 that with the measured versus -- at any rate,
9 he said it at some point.

10 **MR. FITZGERALD:** At any rate, right. Right.

11 **MR. GRIFFON:** Several *coup de gras*.

12 **DR. ULSH:** Yeah.

13 **MR. FITZGERALD:** *Coup de gras*.

14 **DR. ULSH:** The -- I think we actually looked
15 for some of that, some measure neutron to
16 photon ratios in the '70s, and we didn't have
17 much luck finding that. I don't want to say
18 that's our final answer yet, but we hadn't had
19 a lot of initial success. Roger, is that
20 correct?

21 **MR. FALK:** Brant, when the NDRP project
22 started, we looked very extensively for
23 measured values in the '50s and we found
24 nothing, so I'm not sure that we're going to
25 have any more success looking for the values in

1 the '50s. Now we did not look for the field
2 measurements in the -- we did not look for the
3 field measurements in the 1970s, but I've not
4 seen any in a data capture so far.

5 **DR. ULSH:** So I just want to prepare you that
6 we may not have any luck in the '50s, probably
7 won't. I don't know about how the '70s is
8 going to turn out. We'll just have to look and
9 see.

10 And then number seven I think was a fall-back
11 position that if nothing else worked we might
12 want to consider an alternative coworker model.
13 I think that's -- these are issues that I think
14 we agreed that we need to have a conference
15 call with SC&A. We're not quite ready, but --

16 **MR. FITZGERALD:** All right.

17 **DR. ULSH:** -- sometime soon.

18 **MR. BUCHANAN:** This is Ron. I would like to
19 iterate one point was that I sent an e-mail re-
20 requesting the individual neutron and photon
21 doses for '52 through '61, and I'd like to --
22 to state that that is not the individual
23 identifiers that you talked about in action
24 item number one. Anyway, it didn't fulfill
25 that request and -- so Brant, are you still

1 working on getting that data?

2 **DR. ULSH:** Ron, I think I'd like to defer that
3 to the conference call. I'm looking at -- Joe
4 just handed me your e-mail and I've of course
5 seen it before. I'm not sure -- I'm looking at
6 the column headers on what you're requesting --
7 year, quarter, employee number of building,
8 neutron (unintelligible) and total. I know
9 that we didn't -- when we were constructing
10 OTIB-58 we didn't poll the data in that level
11 of detail. Now that's not to say that it is
12 inaccessible. Certainly on an individual by
13 individual basis that's available in NDRP -- in
14 the NDRP files. But in terms of a collected,
15 like into one spreadsheet, I don't know that we
16 would have the level of detail that you're
17 asking about here, but -- we might need to have
18 some more correspondence about that.

19 **MR. BUCHANAN:** Okay. I just wanted to go on
20 record that that wasn't fulfilled in item
21 number one and, you know, we can discuss that
22 further.

23 **DR. ULSH:** Okay.

24 **MR. GRIFFON:** Joe, can you forward this e-mail
25 to the other workgroup --

1 **MR. FITZGERALD:** Yes, I will.

2 **MR. GRIFFON:** -- nobody has this, right? So --
3 I don't want to --

4 **MR. FITZGERALD:** Yeah, this -- this is a couple
5 weeks ago.

6 **MR. GRIFFON:** Yeah, maybe forward it to
7 everybody, you know, so we can all...

8 **MR. FITZGERALD:** Now just to reiterate --

9 **MR. GRIFFON:** Anything else --

10 **MR. FITZGERALD:** -- we've had a ongoing
11 discussion and exchange on this issue all
12 along, so this has been sort of a -- evolving,
13 you know, as we closed things out or have tried
14 to close things out, we've been moving this
15 thing forward, so I think it would benefit from
16 a call or two.

17 **MR. GRIFFON:** All right.

18 **MR. FITZGERALD:** And I don't think it's --

19 **MR. GRIFFON:** I think those --

20 **MR. FITZGERALD:** -- I don't think we've
21 identified necessarily, although I don't want
22 to close the door on SEC issue, but certainly
23 it would be useful to, on the benchmarks
24 question, just be sure that the back
25 extrapolation approach is going to be, you

1 know, sound and there's been questions raised
2 on that.

3 **MR. GRIFFON:** I think that's probably a good
4 place to handle this more technical discussion
5 of these -- you know, this -- these issues is a
6 call in between the next workgroup -- now and
7 the next workgroup or now and the next Board
8 meeting, whatever, can (unintelligible) that so
9 --

10 **DR. ULSH:** We're getting some kind of a weird
11 echo in here.

12 **DR. WADE:** Yeah, we're getting feedback.

13 **MR. GRIFFON:** I think we --

14 **DR. WADE:** I'm sure -- I don't know, someone
15 has done something in the last five minutes
16 that's resulted in our getting feedback. It
17 could involve a speaker phone or a speaker
18 phone near a -- I don't know, so I would just
19 ask each of you to think about if you've done
20 anything in the last five minutes, don't do
21 that anymore -- stop doing that. Anybody going
22 to -- ah, that fixed it. Thank you.

23 **MR. GRIFFON:** Okay. Anything else on that
24 topic that --

25 **MR. FITZGERALD:** No, I think we can --

1 **MR. GRIFFON:** Arjun --

2 **MR. FITZGERALD:** -- go ahead and schedule some
3 technical specific issues phone calls.

4 **DR. MAKHIJANI:** Yeah, there is -- there is one
5 neutron-to-photon ratio question that came up -
6 - I mentioned it -- from the data completeness
7 review, is -- we haven't kind of focused in on
8 the '58 to '59 -- now Roger Falk, did -- when
9 you -- when you looked at the -- this question
10 relates to the completeness of the photon data
11 in the late '50s for the 700 building.

12 **DR. ULSH:** Photon data?

13 **DR. MAKHIJANI:** Photon data.

14 **DR. ULSH:** Okay.

15 **DR. MAKHIJANI:** So that if the photon data are
16 not complete, then the neutron-to-photon ratios
17 calculated from the monitored workers at that
18 time would be uncertain in some way. Did you
19 come ac-- when you -- when you did the
20 compilation of the -- now this is from my
21 memory -- when we talked about the 700 building
22 or the 70-series buildings, that you had no
23 neutron monitoring up to '57. And as I recall,
24 you said that you would calculate the N/P
25 ratios for '58, '59 and extrapolate -- use

1 those, because it was the same process. I'm
2 wondering, when you compiled the data in the
3 NDRP, did you come across gaps in the -- in the
4 photon -- in the -- in the gamma records that
5 were a year, two years in the kind -- the kind
6 of gaps that we were talking about and how did
7 you fill the gaps?

8 **MR. FALK:** We did not find any significant gaps
9 for the building 71 people except for the
10 foundry workers from '53 through January of --
11 through January of 1957, and we addressed that
12 in the NDRP protocol by basically using their
13 wrist dosimetry to then calculate what their --
14 what the body gamma dose would be, and that is
15 all documented in the NDR-- that's all
16 documented in the NDRP protocol and is also
17 part of the -- part of the reports for the
18 claimants who are -- were affected by that.
19 That is the only significant problem that we
20 found with the gamma results for '71 workers.

21 **DR. MAKHIJANI:** So -- so you didn't find any
22 sort of '58 -- problems in that time frame
23 after 1957?

24 **MR. FALK:** No, we didn't find any -- we did not
25 -- we did not find any really significant

1 problems after that, no.

2 Now also keep in mind that in September of 1957
3 they had that fire in the plenum* of the
4 building 71 that basically shut down most of
5 the building for several months, but that is a
6 real discontinuity and not a gap in the
7 monitoring records.

8 **DR. MAKHIJANI:** Okay. That -- that was the one
9 question I had, Mark.

10 **MR. GRIFFON:** All right. So we'll -- we'll set
11 up a conf-- you know, some sort of conference
12 call between SC&A and NIOSH on that -- okay, so
13 -- anything else on your side, Brant, to add?

14 **DR. ULSH:** No.

15 **SUPER S**

16 **MR. GRIFFON:** Okay. I think the next topic is
17 super S -- did I skip...

18 **DR. WADE:** No, super S.

19 **MR. GRIFFON:** Super S, okay. And Joe, I think
20 this is kind of a quick update item, if --

21 **MR. FITZGERALD:** Yeah, it's --

22 **MR. GRIFFON:** Joyce sort of gave you a --

23 **MR. FITZGERALD:** Joyce is not on the -- on --

24 **MR. GRIFFON:** Right.

25 **MR. FITZGERALD:** -- the call, but she's been

1 very busy just finishing up her validation,
2 frankly, of the model cases and has gone
3 through what I -- I think you described earlier
4 as going from HIS-20 to CEDR now looking at
5 some way to compare some of these model cases
6 to the raw data. She's finding some
7 disparities with -- you know, understandably
8 with some of the data in HIS-20 and CEDR. And
9 at this stage as I think the status is -- is
10 her, in order to tie this up and finish it,
11 being able to compare the -- I think she's
12 doing five or six model case comparisons with
13 the actual claimant file in terms of the
14 bioassay data. And I think that was the only
15 thing I would report from her end, that -- and
16 this is part and parcel the same thing we've
17 been talking about all day. I think the
18 realization independently on her part,
19 empirically going through this, that yeah,
20 there was -- you know, she found that CEDR was
21 actually more complete than HIS-20 in some case
22 and there were holes in HIS-20, and now she's
23 recognizing that in order to do a uniform and
24 consistent comparison she needs to have access
25 to the raw --

1 **DR. ULSH:** Rad files?

2 **MR. FITZGERALD:** -- (unintelligible) rad files,
3 right. So that's -- I think she's --

4 **MR. GRIFFON:** With -- again, with -- the goal
5 of this was to look at the others involved in
6 the fire and see if the design cases were
7 bounding.

8 **MR. FITZGERALD:** Right.

9 **MR. GRIFFON:** That was the -- the original
10 action.

11 **MR. FITZGERALD:** And the question of -- of --
12 yeah, bounding and -- that's the issue she's
13 really trying to resolve and finish up on at
14 this stage. No issues to report, but just
15 simply trying to finish that up and demonstrate
16 that that is in fact the case in terms of the
17 model cases, the 28 (unintelligible). So
18 that's the status of that. I think, assuming
19 we can work out the arrangement to -- and we
20 have these cases identified, so it should be
21 pretty straightforward, you know, getting to
22 the actual -- the raw bioassay data that --
23 whatever.

24 **MR. GRIFFON:** So -- so we're close to clo--

25 **MR. FITZGERALD:** We're close to closure on the

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MR. GRIFFON: -- to closure on that, yeah.

MR. FITZGERALD: -- right, close to closure.

MR. GRIFFON: It would -- probably would have been closed by now except for the fact that we -- we were --

MR. FITZGERALD: Well, yeah.

MR. GRIFFON: -- really looking at HIS-20, then --

MR. FITZGERALD: She went to different --

MR. GRIFFON: -- we needed the -- needed the rad files, right.

MR. FITZGERALD: -- databases and realized, as we have (unintelligible) to say that really she's going to need to compare it with the raw data in order to be confident, and that -- that's where we are.

MR. GRIFFON: Yeah.

MR. FITZGERALD: So we'll need to come -- somehow I guess identify those five or six cases and then get those numbers or those identi-- identifications to you somehow and then get the actual file, and that should take care of the high-fired super S issue from that standpoint.

SAFETY CONCERNS

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MR. GRIFFON: And I guess we're all winding down here a little bit, but the -- I mean I -- I don't want to forget these items which are sort of the safety concerns, and then I don't even think I put it on my list of -- of -- on the agenda, but I -- I think the safety concerns and the individual petitioners' --

MR. FITZGERALD: Affidavits and allegations.

MR. GRIFFON: -- affidavits, yeah, that follow-up that you did. I think -- I think there were two separate --

DR. ULSH: They were separate.

MR. GRIFFON: -- actions, right, so --

MR. FITZGERALD: Right.

MR. GRIFFON: And you've provided responses on both of them at this point.

DR. ULSH: I'll let --

MR. GRIFFON: Yeah.

DR. ULSH: -- Karin perhaps summarize the safety concern issue in terms of the concerns expressed by the workers. We made an effort to capture all of the concerns that were expressed either in the petition or in public comment sessions at the Advisory Board meeting or

1 during working group meetings, captured all of
2 those. Karin actually pulled that document
3 together and we responded. And we sent that
4 out some time ago, so I -- but it was pretty
5 massive, so I can understand if it takes some
6 time to review.

7 In terms of the safety concerns -- well, unless
8 you want to talk about --

9 **MR. FITZGERALD:** No, I --

10 **MR. GRIFFON:** No, huh-uh.

11 **MR. FITZGERALD:** I -- I would certainly say,
12 you know, we've had both documents, and Kathy
13 Robertson-DeMers, are you still on?

14 **MS. ROBERTSON-DEMERS:** Yeah, I am.

15 **MR. FITZGERALD:** Okay. And certainly Kathy has
16 done her usual yeoman's job of going through,
17 and it was a lengthy review, and I think that
18 review is complete, although we're still
19 finishing the write-up. And this will be
20 treated in the evaluation that we're going to
21 provide the Board.

22 Is there anything you want to speak to in
23 general terms on either the safety concerns
24 piece or the -- I guess it's called Rocky Flats
25 data integrity examples, something -- that's

1 close.

2 **MS. ROBERTSON-DEMERS:** (Unintelligible) spoke
3 to the safety concerns, there's just a few
4 items that we probably should discuss at some
5 point when -- after the report is delivered to
6 NIOSH, or at least that portion. There are
7 some issues that we don't agree on.

8 **MS. JESSEN:** Can I --

9 **MS. ROBERTSON-DEMERS:** Not very many, but a
10 few.

11 **MS. JESSEN:** Can I ask, is this the first set
12 of safety concerns or the second set of safety
13 concerns?

14 **MS. ROBERTSON-DEMERS:** I have rolled them all
15 together.

16 **MS. JESSEN:** Oh.

17 **DR. ULSH:** Yeah, if you -- if you recall -- I
18 can't even remember how we became aware of
19 these safety concerns. Kathy may have --

20 **MR. GRIFFON:** Yeah, yeah, that's --

21 **DR. ULSH:** -- (unintelligible), I don't -- but
22 there's a database of about 5,000 safety
23 concerns. And for those listening in who may
24 not know, this was a formal reporting mechanism
25 where workers could raise particular issues

1 that they were concerned about and, if necess--
2 if it couldn't be resolved with the line
3 management, then they went to a joint
4 company/union safety committee -- JCUSC -- and
5 so there were about 5,000 of those throughout -
6 -

7 **MR. GRIFFON:** Started in the '70s. Right?
8 Yeah.

9 **DR. ULSH:** -- '70s I think and went up to the
10 2000s, I think. And I first took a pass
11 through those and identified -- I don't even
12 know how many, a number, a set --

13 **MS. JESSEN:** I think there were 33 or something
14 the first --

15 **MR. GRIFFON:** Thirty-five, 33, yeah, something
16 like that.

17 **DR. ULSH:** -- 30-something safety concerns
18 that, just from the title and the brief
19 description, looked to be of interest, perhaps,
20 from a data integrity standpoint. SC&A then
21 proposed a second set of about 17 or so, and so
22 that brings our total to about 50 I guess that
23 we've looked at. We provided the -- our
24 evaluation of the first set, and we discussed
25 that at the last working group meeting, and I

1 think there were one or two perhaps that we
2 weren't in complete agreement on from the first
3 set.

4 The second set of 17 we provided -- I don't
5 know, a couple of weeks ago maybe, and so that
6 brings our total to about 50, but SC&A is still
7 reviewing that second set I think.

8 **MR. FITZGERALD:** Right, I think Kathy's gone
9 through them. You want to add anything to
10 that, Kathy?

11 **MS. ROBERTSON-DEMERS:** No, I -- that pretty
12 much -- we're going to have to go through some
13 of these because we disagree with the NIOSH
14 evaluation and we'll have to work together
15 through them. There's not too many out of the
16 50.

17 **MR. GRIFFON:** Okay.

18 **MR. FITZGERALD:** Yeah.

19 **MS. ROBERTSON-DEMERS:** And we still owe you a
20 report on all 50.

21 **MR. FITZGERALD:** Right, I was saying earlier I
22 think we've gone through them, but we haven't
23 actually written up a response that would be
24 the response on this.

25 **DR. ULSH:** Will that be separate from the

1 larger report, or will that be --

2 **MR. FITZGERALD:** Well, this -- this is a
3 question I think we're not quite settled on the
4 timing because if the timing for submitting the
5 evaluation is fairly tight, then I guess it
6 would be part of that report. And with Y-12,
7 which is the only precedent we can look to, it
8 was an internal report so we're not quite sure
9 how that's going to play out, and that's really
10 up to the workgroup and the Board as to some of
11 this timing 'cause certainly that's --

12 **MR. GRIFFON:** I think our target realistically
13 is the February Denver meeting, you know, but
14 it -- but we want to walk --

15 **MR. FITZGERALD:** If that's the case, then --

16 **MR. GRIFFON:** -- back from that.

17 **MR. FITZGERALD:** Yeah, and if that's the case,
18 then --

19 **MR. GRIFFON:** Right.

20 **MR. FITZGERALD:** -- I think we would have a
21 report on safety concerns and the data
22 integrity examples ahead of time.

23 **MR. GRIFFON:** Right.

24 **MR. FITZGERALD:** So that was the only thing we
25 weren't sure about, but we certainly have

1 completed the review, we're just writing it all
2 down.

3 **MS. ROBERTSON-DEMERS:** Now with respect to the
4 73 pages of examples, you can kind of break
5 them into categories. Obviously we have many
6 that we concur with. We have some that I
7 didn't feel like the -- the concern that was
8 being conveyed was answered, and so when we
9 give you the evaluation report I'll put some
10 questions in there. Then we have others that I
11 felt needed clarification from the person
12 originating the affidavit. In other words, I
13 wasn't clear what they were getting at.

14 **MS. JESSEN:** Are you referring to, Kathy, just
15 the affidavits, or are you also referring to --

16 **MS. ROBERTSON-DEMERS:** That 73-page document --

17 **MS. JESSEN:** Okay --

18 **MS. ROBERTSON-DEMERS:** -- (unintelligible).

19 **MS. JESSEN:** -- because in there there were
20 concerns mentioned at the meeting in April.

21 **MS. ROBERTSON-DEMERS:** Right.

22 **MS. JESSEN:** Okay, so you're --

23 **MS. ROBERTSON-DEMERS:** Those are included.

24 **MS. JESSEN:** Okay.

25 **MR. FITZGERALD:** But you know --

1 **MS. ROBERTSON-DEMERS:** So that's --

2 **MR. GRIFFON:** Sim-- similar stuff.

3 **MS. ROBERTSON-DEMERS:** -- kind of where we
4 stand on that. There are some concerns that
5 were brought up that are just not relevant at
6 all to this process, like the exposure to
7 chemicals. And the individual making that
8 comment needs to be redirected in another
9 direction if they're truly concerned about
10 that. In general I believe we concur on the
11 lead apron issue, and there are a couple of
12 other general issues that are mentioned
13 repeatedly throughout that we have concurrence
14 on.

15 **MR. FITZGERALD:** Right.

16 **MR. GRIFFON:** Okay.

17 **MR. FITZGERALD:** So given the time frame, I
18 think we can certainly disposition this in
19 advance of any Board action, but certainly be
20 able to lay it out, and I think we do owe the
21 Board sort of a bottom line. I mean I think
22 there's specific issues, but in terms of a -- a
23 overall conclusion (unintelligible).

24 **MS. MUNN:** I would hope we would have that
25 early enough so that if there were any last-

1 minute threads that needed to be tucked in we'd
2 certainly be able to do that well in advance of
3 the February meeting --

4 **MR. GRIFFON:** Yeah.

5 **MS. MUNN:** -- (unintelligible). I really don't
6 want to --

7 **MR. GRIFFON:** Well, I think you're -- you're --

8 **MS. MUNN:** -- find us --

9 **MR. GRIFFON:** Yeah.

10 **MS. MUNN:** -- in a last-minute situation in
11 February, for crying out loud. I --

12 **MR. GRIFFON:** With big disagreements, right,
13 right.

14 **MS. MUNN:** -- (unintelligible).

15 **MR. FITZGERALD:** No, I think you're -- you're
16 hearing full agreement. In fact, given the
17 (unintelligible) of NIOSH's review and the fact
18 that we've gotten it now for a few weeks, I
19 think we're in a good position, having looked
20 at that, reviewed it and now simply writing it
21 up, I think it's, you know, going to be doable
22 probably in the next several weeks to actually
23 give a, you know, a product back and be able to
24 disposition it well before the meeting.

25 **MS. MUNN:** If we're -- if we're not going

1 (unintelligible) --

2 **MR. GRIFFON:** Hopefully the next couple of
3 weeks, yeah.

4 **MS. MUNN:** Yeah.

5 **MR. GRIFFON:** I would hope, yeah, yeah.

6 **MS. MUNN:** If we're not going away from here
7 with another heavy list of additional to-dos.

8 **MR. FITZGERALD:** I don't -- I don't think so.

9 **MR. GRIFFON:** No, I think this is on SC&A's
10 side at this point, no further action on
11 NIOSH's side.

12 **MR. FITZGERALD:** I -- I think it's really an
13 issue, you know, for a number of specific items
14 -- sort of glass half-full/glass half-empty.
15 It's subjective judgment. There's not any
16 corroborating evidence, per se, but what we're
17 saying is that you can view it two different
18 ways. Now I don't know if that changes -- I
19 don't think it changes the bottom line
20 conclusion, but I think it's something we want
21 to offer back, you know, for the record. So I
22 think that -- that process can happen in the
23 next few weeks and -- and the Board will still
24 be in a good position by the end of this
25 calendar year, let alone in February, to -- to

1 have that settled and be able to move forward
2 on it.

3 **MS. MUNN:** So we'll -- we'll be in good shape
4 as far as our contractor's concerned. Are we
5 going to be in good shape as far as the
6 agency's concerned?

7 **DR. ULSH:** We'll just have to wait and see.

8 **MR. GRIFFON:** That -- that's why I say, you
9 know, you get a draft report now, hopefully
10 within the next two weeks, I think we can --

11 **MR. FITZGERALD:** Yeah, My -- my judgment cert--

12 **MR. GRIFFON:** -- try to commit to getting them

13 --

14 **MR. FITZGERALD:** But my judgment at this point

15 --

16 **MR. GRIFFON:** -- something so there's time,
17 yeah.

18 **MR. FITZGERALD:** -- if we had something that
19 was that significant, we would be raising it at
20 the table today. Okay? I think there -- like
21 some of these other issues -- with the logbooks
22 there are specific issues within the report
23 that we have questions on or concerns about the
24 interpretation, but I don't think we're --
25 we're raising any showstoppers today, based on

1 what we've seen so far. So -- and we've seen I
2 think everything that you've provided, so...

3 **DR. WADE:** Good.

4 **MATRIX**

5 **MR. GRIFFON:** All right. Then -- then I'm just
6 coming to the matrix. The other thing that it
7 strikes me that -- it's like groundhog day.
8 The other thing that I'm afraid is going to
9 come up is the coworker -- the coworker --

10 **MR. FITZGERALD:** OTIB-38?

11 **MR. GRIFFON:** -- yeah, OTIB-38 and 58 to maybe
12 a lesser extent.

13 **MS. MUNN:** Yeah. That's the question I was
14 going to --

15 **MR. GRIFFON:** Yeah, I know, and we -- we talked
16 about this this morning, if we're going to --

17 **MS. MUNN:** And what about TIB-38?

18 **DR. ULSH:** Just to perhaps bring you up to
19 speed with where we are with that, Joyce sent
20 over -- well, SC&A sent over everything Joyce
21 authored, some concerns about OTIB-38. Dave
22 Allen responded to some of those concerns, but
23 some of them Dave felt like were --

24 **MR. FITZGERALD:** Application (unintelligible).

25 **DR. ULSH:** -- application issues --

1 **MR. FITZGERALD:** Downstream issues, right.

2 **DR. ULSH:** -- and I don't know, before this
3 meeting I was thinking that that might be an
4 appropriate topic for one of these issue-
5 specific conference calls, but it -- it's taken
6 on more significance during the day and I don't
7 know if that's appropriate or not. I leave
8 that to the working group to decide. I -- it
9 seems like it's a pretty important issue.

10 **MS. MUNN:** Well, yeah, I mean it's --

11 **MR. GRIFFON:** Well, I mean I also -- I also
12 would think that -- that there could be some
13 discussions and the people on -- on a technical
14 call, if we can call those technical calls --
15 in between the meetings. Anyone at any time
16 can say, you know, listen, we're getting into
17 some territory where I think the full workgroup
18 should be involved and play it out like that.
19 I would think --

20 **MR. FITZGERALD:** And there's some overlap --

21 **MR. GRIFFON:** Yeah.

22 **MR. FITZGERALD:** -- because one of the three
23 issues that actually she and Dave have come to
24 agreement --

25 **MR. GRIFFON:** Because that's what I mean, I

1 don't want to slow progress if we can get Dave
2 and Joyce on the phone and --

3 **MR. FITZGERALD:** Right.

4 **MR. GRIFFON:** -- maybe Jim and Brant, yourself,
5 and work out some of the technical details,
6 that might save going through all that at the
7 workgroup level. On the other hand -- on the
8 other hand, we want a -- you know, fairly --

9 **MR. FITZGERALD:** Well, it's -- it's --

10 **MR. GRIFFON:** -- full -- full report back to
11 the workgroup.

12 **MR. FITZGERALD:** -- unclear to us because
13 before when it was looking like it was specific
14 to OTIB-38 --

15 **MR. GRIFFON:** Yeah.

16 **MR. FITZGERALD:** -- then between Joyce and
17 Dave, but I think both agree that it's really
18 downstream now and it gets into the application
19 --

20 **MR. GRIFFON:** Yeah, right.

21 **MR. FITZGERALD:** -- it sounds like a larger
22 group of people and some questions that we've
23 already touched on today.

24 **MR. GRIFFON:** Right.

25 **MR. FITZGERALD:** So it is kind of intertwined

1 in the overall larger issue now. So I don't --
2 I don't know how to proceed and who should be
3 involved, but that's something I think we need
4 to --

5 **DR. ULSH:** Well, if the working group's
6 comfortable with -- Wanda?

7 **MS. MUNN:** Well, and -- and have we -- did I
8 miss the answer to the question, are we going
9 to extend OTIB-38 --

10 **DR. ULSH:** I don't know if we necessarily --

11 **MS. MUNN:** -- into the --

12 **DR. ULSH:** -- answered it.

13 **MR. GRIFFON:** No.

14 **MS. MUNN:** Did we ever answer that or was the
15 question --

16 **MR. GRIFFON:** I don't think we did.

17 **MS. MUNN:** -- just posed and left hanging in
18 the air?

19 **MR. FITZGERALD:** That's not --

20 **MS. MUNN:** I didn't hear the answer. It's in
21 the air.

22 **MR. GRIFFON:** It didn't get answered. I mean
23 it -- the way we handled D and D at the mean--
24 I guess I was looking for sort of an interim
25 measure that would give us confidence that you

1 could at least bound the D and D workers, and
2 that was by asking for the termination bioassay
3 information. So -- 'cause I think, you know,
4 again, trying to -- to save some time --

5 **DR. ULSH:** Well, how does --

6 **MR. GRIFFON:** -- you know, instead of asking
7 for ever-- for -- for -- okay, you've got the D
8 and D period, I think your bio-- OTIB-38 ends
9 in '88 or '89, whatever --

10 **DR. ULSH:** Right around there.

11 **MR. GRIFFON:** -- so you know, I don't think we
12 -- we want to say, you know, well, give us '90
13 through 2005 or '06 or whatever and show us how
14 this coworker model's going to be used for --
15 or -- or if it's going to be used. I don't ev-
16 - I haven't even heard a definitive -- that the
17 D and D workers are going to require the use of
18 coworker models.

19 **MS. MUNN:** I haven't either.

20 **DR. ULSH:** Well, I have a proposal.

21 **MR. GRIFFON:** So I was -- I was saying -- go
22 ahead.

23 **DR. ULSH:** How about if we -- if we take the
24 interim measure that you've --

25 **MR. GRIFFON:** Yeah.

1 **DR. ULSH:** -- that we've agreed to here, look
2 at the -- the fecal -- early fecal data, we put
3 that out in an e-mail to the working group and
4 to SC&A, and at that time I think NIOSH at
5 least will be in a better position to offer an
6 opinion on whether or not we think OTIB-38
7 should be --

8 **MR. GRIFFON:** That was my feeling. That was --

9 **DR. ULSH:** -- extended, and put that out there
10 for comment by the working group and by SC&A --

11 **MR. GRIFFON:** Right.

12 **MR. FITZGERALD:** But the early fecal -- I guess
13 lung count was the termination --

14 **DR. NETON:** See, these termination bioassays
15 are important, though, because --

16 **MR. GRIFFON:** Yeah.

17 **DR. NETON:** -- the issue was raised about
18 people leaving site without leaving a bioassay,
19 so --

20 **MR. GRIFFON:** Right.

21 **MS. MUNN:** Yeah.

22 **DR. NETON:** -- if we had a fair population of
23 termination samples that we could rely on to --

24 **MR. GRIFFON:** And it's representative, then --
25 then we --

1 **DR. NETON:** -- as representative, then we can
2 say that we -- we've got some sense for what --
3 what the end game's going to be on that, so...

4 **DR. ULSH:** Does that sound --

5 **MR. GRIFFON:** And we've got at least that
6 safety net that we were saying -- we have a way
7 to -- and it -- and --

8 **MR. RICH:** But you're going to have to extend
9 38 anyway, aren't you?

10 **DR. NETON:** Yeah, yeah, but -- but Mark's
11 saying that they're not necessarily requiring
12 us to extend 38 to a definitive model if we can
13 show that we have the data to do that.

14 **MR. FITZGERALD:** The data's sufficient.

15 **MS. MUNN:** Yeah, yeah.

16 **DR. NETON:** I mean that's the point.

17 **MR. RICH:** You got a little time on
18 (unintelligible) --

19 **DR. ULSH:** Okay, so we'll check back in with
20 SC&A and the working group once we have that
21 piece.

22 **MR. GRIFFON:** But then -- I mean I -- I don't
23 want to throw --

24 **MS. MUNN:** (Unintelligible) that kind of bottom
25 line is what you have represented here, or do

1 we have to go chasing that (unintelligible) --
2 **DR. NETON:** Yeah, we need to figure out --
3 **MS. MUNN:** -- missing 40?
4 **DR. NETON:** -- what we have --
5 **MS. MUNN:** Yeah.
6 **DR. NETON:** -- with the terminations.
7 **MR. GRIFFON:** Yeah, and -- and not -- not to
8 throw a fly in the ointment, but just some --
9 some thought on -- 'cause we are cycling back
10 to the coworker model. I mean if in fact
11 there's -- there's a broader use of these
12 coworker models, which apparently it's not too
13 -- I'm not saying it ever was, but you know, as
14 you've found cases where you need it, you've --
15 you've finalized your -- your coworker models
16 and you're starting to use them now, and that's
17 fine. But our answer's along the lines of sort
18 of validating those models all along. We've
19 gone down this path of well, yeah, we found --
20 we found problems with HIS-20, we admit these.
21 We found problems with CEDR -- or -- or we
22 found differences between CEDR and HIS-20, we
23 admit these. What -- you know, I'm not sure --
24 and maybe people disagree with me, but I'm not
25 sure that I'm -- that gives me a lot of

1 confidence that CEDR and HIS-20 give me the
2 same intake result when both have been shown to
3 be kind of -- you know, like --

4 **DR. ULSH:** Well --

5 **MR. GRIFFON:** -- what's going on with these
6 databases, you know, so --

7 **DR. ULSH:** -- I do need to clarif--

8 **MR. GRIFFON:** -- so the -- you know, that goes
9 back to the question of is it a valid cowor--
10 you know, is the data you're using for the
11 coworker model valid.

12 **DR. ULSH:** Well, I do need to clarify a little
13 bit there, Mark.

14 **MR. GRIFFON:** Yeah.

15 **DR. ULSH:** We said in the evaluation report
16 that if you're looking for lung count model --
17 I mean if you're looking for lung data, I think
18 -- I think we said this in the evaluation
19 report -- to look at the rad file.

20 **MR. GRIFFON:** Yeah.

21 **DR. ULSH:** We also said that there was an issue
22 about some people who were not included in HIS-
23 20. We then found, through later -- you know,
24 comparisons with CEDR and what-not and you were
25 concerned about the greater number of records

1 in CEDR, so we did find a difference in terms
2 of the number of records in HIS-20 compared to
3 CEDR, but that's entirely consistent with what
4 we know about the limitations of HIS-20.

5 Now if you look at the intake values that you
6 would calculate from either one, we presented
7 an analysis that shows that the two are in
8 agreement, essentially, HIS-20 and CEDR.

9 **DR. NETON:** Well, really what it comes down to
10 is the 95th percentile and the 50th percentile.

11 **MR. GRIFFON:** It drives it, yeah.

12 **DR. NETON:** That drives it. I mean there's no
13 -- the distribution is irrele-- I mean not
14 irrelevant, but what meth--

15 **DR. ULSH:** So --

16 **DR. NETON:** -- you're going to use one of two
17 points out of that distribution. If those two
18 points are within, you know, of saying very
19 close --

20 **DR. ULSH:** And I think our analysis showed that
21 it was.

22 **DR. NETON:** -- so then you're not going to get
23 a different number, then bottom line then is --
24 it appears that maybe HIS-20 was not
25 preferentially censored one direction or the

1 other -- you know what I'm saying? So we have
2 to show that.

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

4 **DR. ULSH:** We presented an analysis that showed
5 that. Now I don't know, maybe you want to come
6 back and say that's not sufficient, but --

7 **MR. GRIFFON:** Well, we -- we've always -- I
8 don't disagree with what you're saying, Brant.
9 It's just that each time these conclusions have
10 been couched with the -- but we don't even use
11 these models. So you know, let's not get
12 overly concerned or dig into this too much
13 because it's not even being used, it's two out
14 of 1,100. So -- so we -- you know, I don't
15 know -- I'm not saying there's any there there,
16 but I'm saying when I see, you know, two vast--
17 you know, we're not -- we're not talking slight
18 differences in CEDR. We're talking -- when you
19 -- CEDR versus HIS-20, when the number of
20 individuals included are all over the place,
21 you know, and -- and -- and I think in '72 it
22 switches, but there's a vast more number in one
23 than the other all of a sudden, and I don't
24 have that chart yet. You have that chart -- so
25 -- in my -- I'm not -- I don't think I'm

1 exaggerating when I say that there's big
2 differences in numbers in these databases, and
3 maybe the driver is -- you know, I think the
4 higher numbers obviously drive this thing, but
5 I think we might want to do -- I'm just saying
6 that we might need to revisit that a little bit
7 because now it seems like --

8 **DR. NETON:** I don't disagree --

9 **MR. GRIFFON:** -- we're back to coworker models.

10 **DR. NETON:** Yeah, it didn't -- it didn't get a
11 thorough vetting, it sounds like, at least in
12 your mind, and so -- you know.

13 **MR. GRIFFON:** And -- and I'm not even saying
14 that's not -- maybe the reports are there by
15 NIOSH already, you know, that we have to maybe
16 look back at that analysis that they've done
17 already and just -- but I -- I think it's on
18 the table, maybe in a different light now
19 because clearly it seems like it may be -- it
20 already or may be used to a larger extent for
21 more of the workers than I was ever -- ever
22 under the impression, you know, that it's -- so
23 -- Wanda.

24 **MS. MUNN:** But they're close -- the agreement
25 is close.

1 **MR. GRIFFON:** But it -- look at the data,
2 Wanda, they -- they --

3 **MS. MUNN:** The agreement is close. It's
4 claimant-friendly.

5 **MR. GRIFFON:** The agreement is close.

6 **MS. MUNN:** Yeah.

7 **MR. GRIFFON:** And you've looked at the data.

8 **MS. MUNN:** No, I have not --

9 **MR. GRIFFON:** That's all I'm asking. Maybe the
10 agreement's close.

11 **MS. MUNN:** I haven't looked -- I haven't looked
12 at the data. I'm relying on the reports, that
13 I haven't heard anybody challenge, that -- that
14 they are; that -- that you come out with the
15 same -- if you use their data, you come out
16 with the same -- very close to the same
17 answers. And if that's true and if it is -- if
18 -- if all of our processes are claimant-
19 friendly, which they are, then even if we come
20 around to the fact that we are going to use
21 them, then why is it not okay? I guess I'm --
22 I don't understand why it's not okay. I'm --
23 am I missing something?

24 **MR. GRIFFON:** I have a little bit of problem
25 responding to reports that I -- you know, you -

1 - you remember the history. You've been here
2 with me.

3 **MS. MUNN:** Oh, yeah. I think I was here.

4 **MR. GRIFFON:** I mean I -- I think we -- we've
5 always -- you know, we get these reports -- I
6 mean let's look at the -- the analysis of the
7 individual radiation files versus the database.
8 I mean there was a large -- the Craig Little
9 report -- high degree of confidence expressed
10 that reviewing individual radiation files we
11 got a great match with HIS-20, so his -- you
12 know, HIS-20 looks good. I think we've come a
13 distance from there 'cause now I'm seeing a --
14 a large step back from HIS-20 as far as any
15 confidence in that data -- I mean large holes
16 in it. I'm wrong?

17 **DR. ULSH:** It might be a matter of semantics.

18 **MR. GRIFFON:** Yeah.

19 **DR. ULSH:** Let me --

20 **MR. GRIFFON:** Yeah.

21 **DR. ULSH:** -- state what -- what we know about
22 HIS-20, and we've talked about this today. We
23 know that there are some people who are not in
24 HIS-20, and we've talked about who those people
25 are, if they terminated prior to '72. Some of

1 them were later added back in. That is true,
2 and that was in our ER.

3 We've also talked about the in vivo results,
4 the lung counts. You need to go to the rad
5 file for that. We know that. If that, to you,
6 constitutes large holes and problems, that's
7 what we have, but --

8 **MR. GRIFFON:** Can you -- I don't -- I -- I
9 can't find my electronic version, the report
10 you just had out with the table of CEDR/HIS-20?

11 **DR. ULSH:** Yeah.

12 **MR. GRIFFON:** In the last paragraph or the next
13 to last paragraph it says something to the
14 effect that if we were relying on coworker
15 models, this could be a problem.

16 **DR. ULSH:** Okay. You want me to just read it
17 to you?

18 **MR. GRIFFON:** Yeah.

19 **DR. ULSH:** Okay. (Reading) This known and
20 acknowledged limitation of the HIS-20 database
21 is consistent with the great-- now we're
22 talking about the people who are not in HIS-20
23 -- is consistent with the greater number of
24 records and monitored individuals observed in
25 the CEDR database throughout the '50s, '60s and

1 into the '70s. As our previous analysis
2 demonstrated, this issue did not substantively
3 affect the values of coworker distribution
4 parameters. The generation of coworker
5 distributions is the primary use made of the
6 HIS-20 and CEDR databases. This absence of
7 workers who terminated prior to '77 -- not '72
8 -- from HIS-20 would not be expected to bias
9 the parameter values, and indeed the comparison
10 of HIS-20 to CEDR showed no evidence of a bias.
11 The absence of these workers' data could
12 present a problem for dose reconstruction of
13 the affected individuals if dose reconstruction
14 relied on the data in HIS-20 -- if the dose
15 reconstruction relied on the data in HIS-20.
16 However, this is not the case. The primary
17 source of an individual's dosimetry data is the
18 individual -- individual's radiation records
19 file.

20 **MR. GRIFFON:** Okay. So -- but the data -- but
21 the dose reconstruction now does rely in the
22 data in HIS-20 if you're using coworker models.

23 **DR. ULSH:** If we're using coworker models,
24 yeah, that's --

25 **MR. GRIFFON:** That's all -- that's all I'm

1 saying is that that -- that seems like -- and
2 maybe it's not stronger to you, but it seemed a
3 little stronger to me that, you know -- again,
4 we're -- the point there was -- to me, anyway,
5 the way I interpreted that was, you know, it
6 may be a problem if we're relying on HIS-20,
7 but again -- Mark, you know, knock you over the
8 head -- we're -- we're -- got the individual
9 rad files we're going to use and we're relying
10 on those, so --

11 **DR. ULSH:** It certainly wasn't my intent to say
12 Mark, knock you over the head. I apologize if
13 you (unintelligible) --

14 **MR. GRIFFON:** That was subliminal, I was
15 putting the subliminal reaction in there.

16 **DR. ULSH:** I would never say that, Mark.

17 **MR. GRIFFON:** It's getting late.

18 **DR. WADE:** Yeah, it's getting late.

19 **MR. GRIFFON:** But anyway, that -- that -- I
20 mean I -- the bottom line I think is that we
21 might want to revisit those analyses of the
22 coworker models, especially if this is going to
23 re--

24 **DR. NETON:** Well, I think you have to look at
25 it --

1 **MR. GRIFFON:** -- return to that end, yeah.

2 **DR. NETON:** -- in light of what the analysis
3 that SC&A's going to do with the missing --
4 missing or gaps in the data and what that
5 really means.

6 **MR. GRIFFON:** Right.

7 **DR. NETON:** I mean we're going to try to look
8 at cases where there would have been high
9 exposures, significant exposures among
10 production workers and -- and if it shows that
11 there are gaps in those areas, then I would
12 totally agree with this. But if it comes out
13 to be --

14 **MR. GRIFFON:** Right.

15 **DR. NETON:** -- administrative workers in
16 general and we can deal with those, then I
17 don't think it becomes a challenge.

18 **MR. GRIFFON:** Yeah, okay. I agree -- I agree
19 with that yeah.

20 **DR. WADE:** We have a path for that.

21 **MR. GRIFFON:** Right. So I've just closed the
22 matrix so I'm not going to walk through -- but
23 what I will do is update -- based on today's
24 discussion I'll turn this matrix around a
25 little quicker 'cause I don't want -- I think

1 we did have -- I -- I should have been a little
2 more judicious about updating the matrix so we
3 didn't have any confusion on what actions were
4 going on in between meetings.

5 **MR. CHEW:** Mark, I -- I would like to have a
6 clarifying point with Joe. Joe, I'm thinking
7 about -- just one thing I want to make sure
8 we're -- we're -- discussion. Let's go back to
9 those 110 people we mentioned in the AI report
10 -- okay? -- for -- that was lung counted. Or
11 you -- are you -- is your expectation that we
12 will have -- able to find results of those lung
13 counts for those 110? Is that what I'm
14 hearing?

15 **MR. FITZGERALD:** No, I think your answer is
16 already evident that no, you haven't been able
17 to find those 110.

18 **MR. CHEW:** Right.

19 **MR. FITZGERALD:** What we're saying is that
20 well, given the original -- the origin of that
21 particular issue, we will simply be able to use
22 the access to the claimant files and cross-walk
23 --

24 **MR. CHEW:** Okay.

25 **MR. FITZGERALD:** -- what is there in terms of

1 identified people. That's going to be --
2 that's going to be part and parcel to the
3 overall thing we're doing with the validation.
4 We're not going to make it a separate -- keep
5 it as a separate stream of inquiry.

6 **MR. CHEW:** Yes, I think the report that you're
7 going to -- you just received said Dr. Baseline
8 -- Bistline was involved with that --

9 **MR. FITZGERALD:** Right.

10 **MR. CHEW:** -- and he recalled that there were
11 15-minute screening counts at that particular
12 time.

13 **MR. FITZGERALD:** Yeah, I think the difficulty
14 is that, because it's based on interviews and
15 everything, as you're finding out, it's just --
16 to come up with those 110, as we thought we
17 might be able to do, it just isn't going to be
18 feasible, so --

19 **MR. CHEW:** Okay, that's good. I was going to
20 make sure that was --

21 **MR. FITZGERALD:** Right.

22 **MR. CHEW:** Very good. We're not going to chase
23 something again.

24 **DR. WADE:** No, claim--

25 **MR. GRIFFON:** I did want to -- just one more

1 thing, Lew. I just want to go over -- I told
2 Larry that I would do this with regard to the
3 first item, as far as actions on that. I think
4 we agree that SC&A is going to draft a -- a
5 sampling plan or strategy, and then work
6 iteratively with NIOSH on -- on the path
7 forward there. He's -- he asked that I stress
8 this point, that any product -- we said it
9 earlier, but any -- any product that SC&A has,
10 before it's released publicly, will go through
11 Emily for a review on Privacy Act concerns
12 before --

13 **MR. FITZGERALD:** Is that presumably before it
14 goes to the workgroup?

15 **MR. GRIFFON:** Before it's released publicly.

16 **MR. FITZGERALD:** I was wondering what that
17 threshold is.

18 **MR. GRIFFON:** Yeah, I wish Larry were still
19 here for a --

20 **DR. NETON:** I think it's before the workgroup.

21 **MR. FITZGERALD:** Before the workgroup would
22 actually get a product.

23 **DR. WADE:** Because our workgroup products we've
24 made public, so --

25 **MR. GRIFFON:** Yeah, we've made public, yeah,

1 so...

2 **MS. MINKS:** This is -- this is -- this is Erin
3 Minks again from Senator Salazar's office, just
4 in line with what Mark's reiterating from this
5 morning, we just want to be sure that -- that --
6 -- obviously there's this additional layer added
7 with the Privacy Act concerns, which I'm --
8 we're surprised it's coming up now and not
9 months ago when there was efforts previously,
10 but regardless of that, we just want to -- the
11 Senator's concerned that -- that there -- that
12 this is -- not be a perception of obstruction
13 of access to this information again, and so
14 we're just reiterating that again.

15 **DR. WADE:** Thank you.

16 **MR. GRIFFON:** Yeah, the other thing I -- I just
17 -- along those lines -- thanks for those
18 comments. Along those lines, I did talk to
19 Larry during the break and he -- he told me
20 that we can, for this process, open up access
21 to the -- all Rocky Flats claims, not just
22 adjudicated claims, with the clear
23 understanding from this workgroup that the task
24 at hand is completeness of the DOE records, not
25 to go beyond that. And -- and all -- all he

1 would ask is that if -- and I talked to John
2 about this before he left. If John can just
3 let -- let us know, let NIOSH know who needs
4 access from the SC&A team, he'll make that
5 happen.

6 He also said that as far as the Advisory Board
7 goes, they're going to reinstate access across
8 the board so we don't have to request
9 individuals, so to that extent I think we --
10 we've moved forward on that and --

11 **DR. WADE:** And the only issue --

12 **MR. GRIFFON:** Yeah.

13 **DR. WADE:** -- that Mark is talking about now is
14 the -- we're now into an area outside of --

15 **MR. GRIFFON:** Yeah.

16 **DR. WADE:** -- outside of the Task IV reviews,
17 that we are starting to produce reports that
18 contain information that's private -- Privacy
19 Act sensitive, and we just need to be sure
20 that's looked at by counsel before it's
21 released. That's all we're doing here, nothing
22 more.

23 **MR. GRIFFON:** And I -- I think we're in
24 agreement with that, so -- okay.

25 **DR. MAKHIJANI:** Well, can I raise a question

1 about that? One -- one idea that might kind of
2 simplify the process might be for us to produce
3 reports -- I mean obviously it would still have
4 to be reviewed in some way that -- that really
5 have almost no identifying information, but can
6 -- but the underlying -- underlying report -- I
7 guess everything -- since everything at the
8 workgroup has to be public --

9 **DR. WADE:** But I --

10 **DR. MAKHIJANI:** I'll withdraw (unintelligible).

11 **DR. WADE:** I would have had discussions with
12 John today, with counsel, sort of describing
13 the ground rules for him. I'll do that by
14 phone tomorrow. This is not a -- this will not
15 be a major issue.

16 **MR. GRIFFON:** I think that's it if -- anything
17 else -- Joe, anything else from your side or --

18 **MR. FITZGERALD:** No, no.

19 **MR. GRIFFON:** -- pressing? I mean it is 5:30,
20 so --

21 **DR. WADE:** Give me five minutes. I mean we are
22 -- we are looking at --

23 **MR. GRIFFON:** Hold on a second.

24 **DR. WADE:** -- a February Board vote on the
25 Rocky Flats SEC petition. At least that's the

1 stated goal, so we need to keep in mind that
2 the space between that date and now is
3 narrowing. We have a Board meeting in
4 February. We have a Board call in January.
5 You need to think about these work products and
6 getting them to the workgroup so there's time
7 to process. If there -- if there's
8 intermediate Board action required, we still
9 have opportunities, but we need --

10 **MR. GRIFFON:** Clearly the --

11 **DR. WADE:** -- to start using those
12 opportunities.

13 **MR. GRIFFON:** Clearly the biggest time-
14 consuming work item is the completeness issue,
15 so the sooner we can start that -- plan it all
16 and process and get that -- that move--
17 movement on that front, I think the better.

18 **DR. WADE:** And if we need guidance from the
19 Board, we've got them in February and we've got
20 them the middle of January.

21 **MR. GRIFFON:** And we'll -- I -- I might even
22 try to -- to step back and through e-mail maybe
23 we can work on this is to set some time goals
24 for products so that we -- I mean certainly
25 NIOSH needs time to respond and the-- you know,

1 and then I think SC&A wants to give us a final
2 review of the evaluation report, which is still
3 out there, obviously. And I think you --
4 you've been drafting as -- as we've gone along,
5 Joe, I think --

6 **MR. FITZGERALD:** Yeah, yeah.

7 **MR. GRIFFON:** -- yeah, so it's not --

8 **MR. FITZGERALD:** It's pretty far along, but
9 I've --

10 **MR. GRIFFON:** -- but again, we don't want to
11 receive that --

12 **MR. FITZGERALD:** Right.

13 **MR. GRIFFON:** -- you know, days before the --
14 you know.

15 **MR. FITZGERALD:** No, I think we agree. I think
16 we want to --

17 **MR. GRIFFON:** So we want to try to step back
18 and set some time lines --

19 **MR. FITZGERALD:** We need to back-engineer the
20 schedule so there's plenty of time for
21 (unintelligible).

22 **MR. GRIFFON:** Right.

23 **MS. MUNN:** Would it not be wise --

24 **MR. GRIFFON:** And we really want to vote in
25 February, you know, on this -- yeah.

1 **MS. MUNN:** Now -- yeah. Would it not be wise
2 for this working group to meet in January to
3 make sure that we are in fact ready to do that
4 in February?

5 **MR. GRIFFON:** Yeah, yeah --

6 **DR. WADE:** I can't imagine --

7 **MR. GRIFFON:** -- I just don't know --

8 **MS. MUNN:** Right? I think that would be very
9 wise.

10 **MR. GRIFFON:** I didn't know if we were ready to
11 -- to -- I agree, Wanda. I just don't know if
12 we're ready to set a date or wait to see how
13 work products are evolving. What's the
14 pleasure of folks -- you want to set a
15 tentative date so we have a calendar date?

16 **MS. MUNN:** I would certainly like to do that --

17 **MR. GRIFFON:** All right.

18 **MS. MUNN:** -- it would help me a great deal.
19 And since Joe has told me that -- that one of
20 our biggies is going to be wrapped up before
21 the end of the year, then we have -- I -- I
22 hope that we're not pushing ourselves too much
23 to say that if -- if we're going to meet in
24 Denver in the first week of February, then
25 wouldn't it be wise for us to plan something

1 like the second week in January for this group
2 to meet to make sure that we had at least two
3 weeks?

4 **MR. GRIFFON:** We have a Board call scheduled on
5 the 11th. Right?

6 **DR. WADE:** The 11th is a Board call.

7 **MR. GRIFFON:** So we could do it shortly before
8 that. I think it would make sense.

9 **DR. WADE:** Just in case you had something you
10 needed --

11 **MR. GRIFFON:** Yeah.

12 **DR. WADE:** -- the Board's guidance on.

13 **MS. MUNN:** I would think that would be wise.

14 **MR. GRIFFON:** The 8th or 9th? The 8th or 9th -
15 - 9th would be better for me, Tuesday the 9th.

16 **MS. MUNN:** Tuesday the 9th would work for me.
17 Tuesday the 9th at (unintelligible) --

18 **DR. WADE:** Mike, are you still on the line?

19 **MR. GRIFFON:** Is that a hol-- there's no
20 holidays there in January --

21 **MS. MUNN:** No, no, New Year's Day and Martin
22 Luther King is the next --

23 **MR. GRIFFON:** Okay, Martin Luther King, I knew
24 it was around there.

25 **DR. WADE:** It's the 15th. Okay, so the 9th of

1 January --

2 **MR. GRIFFON:** Back here in Cincinnati, I would
3 assume.

4 **DR. WADE:** -- Cincinnati, this very table or
5 one like it.

6 **MR. GRIFFON:** And I -- I think -- I think 10:00
7 a.m. still works. I know that John and
8 sometimes I travel in the morning, so hopefully
9 item one won't take as long at the next
10 meeting.

11 **MS. MUNN:** Maybe not.

12 **MR. GRIFFON:** Right, right, right, right. But
13 -- okay, 9th it is.

14 **DR. WADE:** 10:00 a.m.

15 **MR. GRIFFON:** Any other closing items, Lew?

16 **DR. WADE:** No, just to thank everyone for their
17 efforts certainly.

18 **MR. GRIFFON:** All right. I think we're
19 adjourned. Thanks.

20 (Whereupon, the meeting concluded at 5:30 p.m.)

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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 November 6, 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 2nd day of January, 2007.

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