

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

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

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ADVISORY BOARD ON RADIATION AND
WORKER HEALTH

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IDAHO NATIONAL LABORATORY WORK GROUP

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WEDNESDAY
JULY 8, 2015

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The Work Group convened via teleconference at 10:00 a.m. Eastern Standard Time, Phillip Schofield, Chair, presiding.

PRESENT:

PHILLIP SCHOFIELD, Chair
JOSIE BEACH, Member
JAMES M. MELIUS, Member
GENEVIEVE S. ROESSLER, Member

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ALSO PRESENT:

TED KATZ, Designated Federal Official
BOB BARTON, SC&A
RON BUCHANAN, SC&A
PETE DARNELL, DCAS
DOUG FARVER, SC&A
MITCH FINDLEY, ORAU Team
JOE FITZGERALD, SC&A
LARA HUGHES, DCAS
MARK LEWIS, ATL
JENNY LIN, HHS
AMY MELDRUM, SC&A
STEVE OSTROW, SC&A
JOHN STIVER, SC&A
DAVE SUNDIN, DCAS
TIM TAULBEE, DCAS

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

(10:03 a.m.)

MR. KATZ: This is the Advisory Board on Radiation and Worker Health. It's the Idaho National Lab Work Group. There is, for those who have Internet access, the agenda for this meeting is posted on the NIOSH website under the, this program.

It's part of the website under the Board section for scheduled meetings. This is a scheduled meeting. If you go to that place, you will find other materials that are being discussed today also posted for that meeting date.

So you can follow along with some of the materials. As we've just discussed, for those of you who have been on the phone, some of the materials for the meeting today have not been posted yet.

There are some materials that cannot be cleared to be posted at all because they contain privacy information that would violate someone's

1 privacy to be shown on the web.

2 Certain materials should have been sent
3 to the petitioners. Other materials have come in
4 too late, and I've asked that they be FedExed to
5 the petitioners.

6 They won't have them for this meeting.
7 But you can at least review them afterwards, and
8 it might help you follow along what you hear today.
9 And we apologize for that for the members of the
10 public and petitioners.

11 The, let's do, get on with roll call.
12 I think I have all the Board Members I expect on
13 the line, and I'm sure I have my various associates,
14 staff.

15 So we're speaking about a specific
16 site, so please speak to conflict of interest as
17 we run down the roster. So let's start with Board
18 Members, with the Chair.

19 (Roll call.)

20 MR. KATZ: That takes care of things.
21 Let me ask. We have quite a cast of people on the

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1 line, so just reminding everybody, mute your phone
2 except when you're addressing the group.

3 And if you don't have a mute button,
4 press *6 to mute and press *6 again to take yourself
5 off of mute. And don't put the call on hold at any
6 point because it'll cause trouble for everyone else
7 listening on the line.

8 And thanks for that. And on to the
9 Chair. Phil, it's your meeting.

10 CHAIR SCHOFIELD: Well, this is also on
11 Live Meeting for those who don't know.

12 MR. KATZ: Phil, it's on Live Meeting
13 only for agency people.

14 CHAIR SCHOFIELD: Oh, only for agency?
15 Okay. My apology to everybody. Tim's already got
16 some slides posted, which unfortunately the public
17 won't be able to see.

18 But I think we'll go ahead and just
19 start since he's ready there.

20 DR. TAULBEE: Okay. Thanks, Phil.
21 This is Tim Taulbee. Everybody can see the slides.

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1 Is that correct?

2 MR. KATZ: Yes, they're up, Tim.

3 DR. TAULBEE: Okay. All right.

4 Well, back in April when we met on a conference
5 call, we discussed different things that we would
6 be doing to evaluate the CPP dosimetry question as
7 far as from the SEC Class Definition.

8 And we committed to four different
9 items that NIOSH would follow up on and then SC&A
10 was going to do their own evaluation, which they've
11 put out reports in the past week here.

12 So my goal here in this presentation is
13 to give you an update on the research, the follow-up
14 research that we've done and walk you through what
15 we found, from that standpoint.

16 So just a little bit of an overview, I'm
17 going to go through a little bit of the background
18 on the dosimetry.

19 And then the four questions were, or the
20 four follow-up areas were review of the INL claims
21 in NOCTS, a review of the INL dosimetry for data

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1 gaps and then comparison of the health physics
2 monthly reports versus what we received from the
3 site from dosimetry records. And then we
4 committed to review the INL dosimetry procedures.

5 So a little bit of background on the
6 dosimetry at INL. And you may remember from my
7 presentation in March at the Advisory Board meeting
8 that the reason we defined the Class the way we did
9 was that there was a one badge, one area methodology
10 such that if a worker was -- routinely worked at
11 MTR and they went to CPP where we found the
12 dosimeter construction and feasibility, they left
13 their MTR badge at the MTR security checkpoint and
14 picked up a temporary badge when they went to CPP.

15 And so we were defining the Class to be
16 defined for this SEC to be anyone who was badged
17 at CPP between January 1, 1963 and December 31,
18 1974. That was the Class that we had designated
19 or proposed.

20 And the other thing with this one badge,
21 one area methodology is visitors picked up

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1 temporary badges upon the entrance to CPP. So one
2 of the things that we talked about that we have just
3 received, or actually I'm not sure we had received
4 back in April yet, was the CPP dosimetry reports.

5 Excuse me. And so we had requested
6 these from the site, and when they came in, we got
7 them entered into the SRDB and then I sent over to
8 SC&A a crosswalk of those dosimetry reports and
9 SRDB numbers.

10 And then during the April data capture,
11 when we were out there we also found the CPP
12 temporary badge reports. And these would be
13 primarily the visitor reports.

14 There's another set of reports that I
15 thought were part of the CPP main badge reports,
16 but until we started doing our evaluation and
17 looking on a month-by-month basis, we realized we
18 were missing.

19 This discovery really didn't occur
20 until mid-June on our end due to numerous issues
21 and limited resources to be evaluating this. So

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1 this is what I'm calling CPP construction, which
2 is the CX reports.

3 And I've listed those there of 11, 113
4 and 115. And I believe Bob Barton, in his
5 presentation, will go into more details on this.
6 I'm just kind of touching the bases here.

7 Since this finding in June, we
8 requested these reports from the site, and we have
9 yet to receive them. But they are aware of it, and
10 they are working to get us those reports.

11 So I wanted just to refresh everybody's
12 memory a little bit here. This is an example of
13 one of the CPP badge reports. You'll see off to
14 the left here on this particular slide the names
15 have all been redacted here.

16 But the information that's on there,
17 you've got the person's name, the film badge, a
18 contractor code, the period that the badge was
19 worn. This would be the end date, an area code and
20 then the reason why this dosimeter was worn.

21 And then the exposure's the beta

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1 exposure and the gamma exposure. And what you can
2 find, there's a lot of information on here that I
3 wanted to walk the Work Group Members through,
4 which you'll see for a contract code, the top one
5 there, the 089, that corresponds to the contractor,
6 F.C. Torkelson.

7 001 corresponds to AEC. 002, which is
8 the majority of these main badge CPP reports, is
9 an employee of Phillips Petroleum. And following
10 on down the page, you'll see more of 089.

11 Then down towards the bottom, 005, this
12 is actually a Westinghouse employee who works over
13 at NRF. But these are people who came into CPP and
14 show up on this main CPP badge report.

15 So the next series of reports is the
16 temporary badge reports. These would be people
17 who are not routinely badged in CPP but were going
18 there for the day or a few days or something along
19 those lines.

20 And what you'll see here is that this
21 is kind of the catch-all. The top one there is

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1 from, appears to be a news reporter. Then you'll
2 see the next one that I've highlighted here is the
3 Phillips Petroleum person.

4 So this would be somebody coming from
5 another area that left their dosimeter at the other
6 area and came in and picked up a temporary badge
7 to go into CPP.

8 How we know this, by the way, is the CPP
9 temporary badge report is in the upper left corner,
10 you'll see area, CPP. And this was for 1965.

11 Following down some of the highlighted
12 areas here, you'll see H.S. Wright. That's a
13 construction company, construction trades
14 company, AEC personnel.

15 You'll also see the F.C. Torkelson as
16 well. And they also have vendors on here. And if
17 you look down at the bottom one that I've
18 highlighted here is Coca-Cola.

19 In fact, on the temporary badge, you'll
20 see the same individual from Coca-Cola routinely
21 monitored on almost a monthly basis when they came

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1 in to make their deliveries.

2 So the third set, and this is where we
3 don't have the complete grouping of these reports
4 yet from the site, is CPP construction, which
5 you'll see up on the upper left corner that I've
6 highlighted.

7 But the area is not CPP or not listed
8 as CPP. It's listed as CX. And for MTR
9 construction, this would be the reactor site there
10 near the central center part of the area, their
11 construction group was MTX.

12 So they had different badge reports for
13 whether you were construction or whether you were
14 a regular employee. However, temporary badges
15 kind of crossed over and did both as best we can
16 tell from this information.

17 What you'll see on this CX report is the
18 contractor code is predominantly 007, which is a
19 H.K. Ferguson. That was the prime construction
20 contractor.

21 But you'll see other contractor,

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1 construction trade contractors. 073 is a
2 miscellaneous group, and 112 is H.S. Wright again.

3 So these, like you said, these badges
4 we have not, or these reports we have not received
5 yet from the site, and in fact, didn't realize that
6 they were missing until we started to pull some of
7 our numbers together and actually do a lot of this
8 crunching.

9 So to kind of summarize the one badge,
10 one area, a person's dosimetry could appear on
11 several reports. It could be on all three of these
12 in fact, the main dosimetry report, a temporary
13 dosimetry report or a construction CX dosimetry
14 report.

15 The way DOE defines or identifies these
16 dosimetry reports is that they have an index, not
17 by area per se that I've got listed here for CPP,
18 but by worker.

19 So whenever they get a name from the
20 Department of Labor, they can type in that person's
21 social security number or S number and look them

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1 up and they get a listing of all of these various
2 reports that this person would appear on.

3 And so for a construction trades
4 worker, for example, they would appear on the CX
5 dosimetry reports. They could be on the MTX report
6 if they went to MTR.

7 They could be on one of these main
8 dosimetry reports if they were doing a lot of work
9 in that area and they were being badged routinely
10 from there.

11 And so the site, my last bullet here,
12 is much better equipped to identify work locations,
13 especially for construction trades workers than we
14 are at this time because they are able to pull up
15 all of this person's dosimetry.

16 And then they can review the codes and
17 identify the location. So that's just a little bit
18 of background to bring everybody kind of back to
19 speed of what it is was one of the main issues that
20 was raised during the SEC presentation.

21 So now the things that we followed up

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1 here on were a review of NOCTS claims. So as of
2 April 2015, there were 1,753 INL claims. We
3 reviewed these claims to determine whether
4 employment was within the proposed SEC period of
5 January 1, 1963, through December of 1974.

6 There were 872 claims that did not work
7 during the SEC period, so we set those to the side.
8 That left us with 881 INL claims with employment
9 during the SEC period that we wanted to do follow
10 up review.

11 Well, our review was different than
12 SC&A's. We reviewed the CATIs, the computer
13 assisted telephone interviews, the dose
14 reconstruction report and the DOE file of the 881
15 INL claims with employment to identify who worked
16 at CPP.

17 If it was a CATI, it was a self-report.
18 They worked at CPP if it was a dose reconstruction
19 report. There might, there should've been records
20 somehow identifying them.

21 And what we found was there's 320 claims

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1 that worked at CPP during the SEC period and had
2 an identifiable CPP badge of some kind, whether it
3 was regular, temporary, visitor or CX reports.

4 There were 529 claims where we don't
5 have an indication of work at CPP. However, there
6 is an issue associated with this, which I'll get
7 to in the next bullet.

8 The next bullet is 32 claims that we
9 said we need further follow up. And these are
10 cases where we believe the person worked at CPP,
11 but DOE only provided an annual summary.

12 So we don't have the dosimetry reports
13 in order to verify that they did or didn't. This
14 kind of gets back to the 529 claims as well because
15 many, or some of those, are also annual reports,
16 annual summaries.

17 And we don't have any indication they
18 work at CPP, but they could have if we looked at
19 the complete file.

20 So why do we need to do this additional
21 follow up, or why are we mentioning this? Well,

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1 early on in this program, not the SEC part but more
2 the dose reconstruction part.

3 We were, NIOSH was being criticized
4 pretty heavily about how fast we were getting dose
5 reconstructions out and one of the limiting factors
6 at the time was how fast DOE can respond to provide
7 us information.

8 And DOE, at the time, was trying to
9 compile the records, pull everything back as well
10 as respond to our request so we could do dose
11 reconstruction.

12 Well, one of the things that we agreed
13 to with DOE early on for dose reconstruction
14 purposes was that they only had to provide an annual
15 summary if the lifetime external dose was less than
16 500 millirem or greater than 50 rem.

17 This is why you see so many annual
18 summaries within the INL group is that they've been
19 following this guidance from NIOSH.

20 How we could do dose reconstruction
21 this way was with a very low dose. You can make

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1 some maximizing assumptions with regard to missed
2 dose and so you don't really need each and every
3 dosimeter reading. And so this is why we
4 instituted this methodology. Conversely, when
5 you have a very large dose, we also don't need a
6 complete dosimetry record in order to process the
7 claim because they're likely going to be
8 compensable.

9 So these, but the problem with these
10 annual summaries, in reviewing NOCTS claims to try
11 and identify CPP is they do not provide location
12 information.

13 So they really are not useful for this
14 purpose. So that's the first problem that we had
15 and why we need additional follow up.

16 The second one is in regards to the CX
17 dosimetry printouts. We, DOE didn't send these
18 with the reports we requested when we requested the
19 CPP dosimetry records.

20 This was the result of a
21 miscommunication. I thought they were all coming.

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1 Turns out that they weren't. They weren't part of
2 that group.

3 And sadly, we did not identify this
4 until literally a couple of weeks ago, that the CXs
5 were not a part of this. I shouldn't, actually,
6 some people that were doing the evaluation did
7 identify that this annual summary issue was a
8 problem.

9 But as we were going through these 881
10 claims, it became more apparent probably a couple
11 weeks earlier there in June that we were missing
12 a significant amount of these reports.

13 Again, NIOSH has now requested these CX
14 reports, and I hope to be getting them within the
15 next few weeks. They haven't -- they've been --
16 the site's been a little non-committal on exactly
17 when we're going to be able to get them because we
18 didn't make the request really until last week.

19 Okay. So that's what we did from our
20 review of the NOCTS claims. Are there any
21 questions before I go on?

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1 CHAIR SCHOFIELD: Yeah. This is Phil.
2 I've got a question for you. A number of people
3 of people have said that they worked out inside the
4 perimeter fence or just on either side of it.

5 In some cases, they were on the outer
6 edge working because occasionally they had hot
7 spots would appear from material coming loose from
8 the ventilation pipes.

9 Is there any way you can guarantee those
10 people were badged? They never went in the
11 building. They were just doing work outside of the
12 building but in areas that were still, had some
13 contamination.

14 DR. TAULBEE: Okay. If you recall,
15 our infeasibility had to do with plutonium exposure
16 of people going into the cells or working in the
17 labs inside the buildings.

18 That was where we find the
19 infeasibility of people could be going in there and
20 working and high level alpha exposure of plutonium
21 where it has been separated from the fission

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1 products.

2 And that was the result of the
3 infeasibility. So the people on the outer
4 perimeter, this is where the plutonium would be
5 tied to the fission products.

6 And that was our current -- that was the
7 old -- our original method for estimating plutonium
8 exposure was as a fraction of their mixed fission
9 product dose.

10 And so that was how we have been doing
11 dose reconstructions at INL. And what we found
12 during the SEC evaluation was that breakdown of
13 user relying on fission product bioassay doesn't
14 work for people who went into these cells or worked
15 in these labs where the separation of plutonium and
16 fission products occurred and it was concentrated.

17 So that's the actual infeasibility.
18 So the people who were working in these hot spots
19 on the outside or just inside the fence but not
20 inside the building, there really isn't an
21 infeasibility associated with estimating their

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1 dose.

2 But to go into the buildings or actually
3 to go inside the perimeter, before you got in the
4 buildings, you had to have a dosimeter badge.

5 And from the procedures, from the
6 interviews and from looking at these reports, and
7 some of the CX reports we've been able to see, I
8 feel that going inside the fence, you had to wear
9 the dosimeter badge and at that point you would be
10 part of this SEC class that we're proposing. Does
11 that answer your question, Phil?

12 CHAIR SCHOFIELD: Well, I'm a little
13 concerned here. This kind of goes back to Savannah
14 River where we had problems about particularly some
15 of the crafts who did not go into the building.

16 They weren't involved in separations or
17 anything, but they did work on the outside and, you
18 know, chain link fence, barb wire fence isn't going
19 to stop any of the hard particles coming out of the
20 ventilation.

21 So my concern is for particularly these

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1 crafts people, laborers or whatever they were, who
2 might have been doing work inside the fenced area
3 or just on the edge of it, in fact. And they would
4 not have been picked up by a badge. It would not
5 necessarily show they had a temporary badge because
6 they were not going into the buildings.

7 DR. TAULBEE: Well, if you were on the
8 inside of the fence, you had to have a badge. If
9 you're on the outside of the fence, then you didn't
10 necessarily have to have a badge.

11 And if you were crossing back and forth,
12 you had to have a badge because you were coming on
13 the inside of the fence. But again, the
14 infeasibility for dose reconstruction was with
15 regard to plutonium, neptunium, the actinides.

16 That was the infeasibility that we came
17 up with, so defining this class effectively means
18 you had to have gone into one of these buildings,
19 into the main building in order to have been exposed
20 in the cells or the corridors or the upstairs labs.

21 CHAIR SCHOFIELD: Okay.

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1 DR. TAULBEE: Okay. The next area
2 that we looked at was review of the CPP dosimetry
3 for gaps. And so I've broken these out into the
4 three different areas.

5 And for the CPP dosimetry reports, we
6 have found that there are three missing months,
7 January 1970, December 1970, and December 1971.
8 Unfortunately, due to resources and commitments,
9 we have not gone back to the site yet to request
10 those months to see if they have them or not.

11 It just, we plan to follow up on that,
12 but I don't have a report on that. All of the other
13 months, from 1963 through 1974, we have dosimetry.
14 We have the dosimetry reports.

15 Temporary badge reports, we've gone
16 through, and we have them on a month-by-month
17 basis. None appear to be missing from 1959 to
18 1976.

19 I do want to put a note here that a
20 number of, the number of construction trades
21 appears to be significantly reduced in the 1970s.

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1 I am not sure why.

2 But just in looking at the number of
3 temporary badge reports and the people who were
4 badged, it seems like there is less of them at that
5 time.

6 However, they could be showing up more
7 on the CX dosimetry reports that we haven't
8 received yet, or there could've been less
9 construction work going on. I'm not sure.

10 Clearly in the earlier years, prior to
11 the 1970s, there appears to be a lot of construction
12 trades on those reports.

13 So, oops, did I go one too far? Yes,
14 I did. Okay. So that was our review for data
15 gaps. The next area that we committed to evaluate
16 was a comparison of the monthly health physics
17 reports versus the CPP dosimetry printouts.

18 Here we reviewed the monthly reports to
19 determine how many dosimeters the site reported
20 were processed versus how many dosimeters we found
21 in the printouts.

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1 The goal here is if the site indicated
2 they processed 500 dosimeter badges for CPP in a
3 month, and we have 500 dosimeter results, then we'd
4 be fairly sure that we have all of the results.

5 There isn't something missing, even
6 though, you know, from a month-by-month basis you
7 might, you know, if you've got dosimetry, it's not
8 until you really compare against the monthly
9 reports do you know if you have all of the
10 dosimetry.

11 So we went through and reviewed this
12 from 1963 through March 1970, and that'll become
13 clearer later on in my presentation here. And what
14 we found was that we have really good agreement on
15 a month-by-month basis.

16 The example here is August of 1965.
17 The monthly report indicates 502 people who wore
18 badges were recorded. Four hundred eighteen were
19 Phillips Petroleum, and 84 hours for that
20 particular month.

21 And if you scroll down, the other

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1 highlighted area here is CX CPP construction.
2 There were none Phillips Petroleum because they all
3 worked for H.K. Ferguson or other construction
4 companies.

5 And there were 63 badges recorded for
6 construction for that particular month. What we
7 found for the CPP area, the top bullet there, the
8 502, is when we went through and added the dosimeter
9 printouts for that particular month, we have 509.

10 So it's a difference of plus seven. We
11 did this on a month-by-month basis and found very
12 good agreement from this standpoint. For this
13 particular month, there's slightly more results in
14 the printouts, more names than what they recorded
15 in their monthly reports to their higher
16 management.

17 How could this happen? Well, cut off
18 dates for dosimetry, late returns, carryovers from
19 previous months. If you look down here at the
20 bottom, a lot of these high results are late polls
21 that occurred, late returns, late polls.

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1 So there is some variation within, on
2 a month-by-month basis, but it's fairly, it's
3 actually remarkably small from what we found.

4 Well, what we did in order to
5 graphically present this is we took all these
6 months and we summed them up on an annual basis and
7 then compared the dosimeter printouts and summed
8 them up so that you could see graphically what it
9 is we're looking at here.

10 So the first year is 1963, '64, '65,
11 '66. Then you see a big drop in 1967. This was
12 the introduction of TLD dosimetry at INL. And with
13 the TLDs, instead of doing a monthly exchange of
14 a film badge, they went to a quarterly exchange.

15 So people who were not highly exposed,
16 people who were thought to be a low probability of
17 exposure were moved over to the TLD dosimeter. And
18 what you see is the number of TLD dosimeters that's
19 left.

20 But if you were take those, multiply by
21 four, that would then be kind of the equivalent of

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1 what would be the number of badges that would've
2 been issued had they not gone through this
3 quarterly badge exchange for the TLDs.

4 So you can see that numbers are actually
5 fairly consistent through the years here. 1970 is
6 so low because we only evaluated the first three
7 months.

8 So this is the main area. This is the
9 main dosimetry printout. Unfortunately, I don't
10 have a comparison for the temporary badges.

11 There isn't a monthly result that talks
12 about the number of temporary badges for just CPP
13 that we have that is consistent across the years
14 that we can, you know, compare those two.

15 We simply have this large set of
16 temporary badges where we went through, and we do
17 have readings in every month between '59 and '76.
18 So I really can't do a validation or comparison on
19 those temp badges.

20 CPP construction or the CX area, this
21 is the monthly data. When we get those CX

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1 dosimetry reports from the site, then we can do that
2 comparison just like the previous one to see if
3 we've got all of those CX, see how those CX
4 printouts match with the monthly reports.

5 But that hasn't been done yet because
6 we haven't received those reports. So the last
7 area, oh okay. Before I go on, are there any
8 questions so far?

9 MR. FITZGERALD: Yes, Tim, Joe
10 Fitzgerald. Your comment, you just said that you
11 didn't really have any way to compare or complete,
12 you said, the temporary badges. I was just curious
13 though.

14 There's a conclusion earlier that said
15 the temporary badges appeared to be, let me see the
16 exact wording.

17 MR. FITZGERALD: They appear to be --
18 (Simultaneous speaking)

19 DR. TAULBEE: Yes, and it's purely
20 based upon, we went through and looked at, you know,
21 every year. Do we have January, February, March,

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1 April, May, June, July, August, September,
2 October, November, December.

3 And we have temporary badges for every
4 month within a year. And that was all that we could
5 really do. Now we could go through and tally them
6 all look at that.

7 I'm not sure that that tells us
8 anything, but we didn't have any other independent
9 source that we could say this number of temporary
10 badges was issued. And we have X number of
11 temporary badge results that are names for that
12 particular area.

13 MR. FITZGERALD: So I guess the
14 question would be, and this becomes more of a
15 procedure, what procedures were in place and how
16 they were enforced as to the rigor that those
17 reports were maintained and retained as records,
18 that kind of thing.

19 DR. TAULBEE: Correct. Now I did say
20 that there isn't any. I misspoke there when I said
21 there isn't any monthly reports. There is a few

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1 spot years where they do call out the number of
2 temporary badges issued by the area.

3 But it's by no means complete from that
4 standpoint. I can think of two years right now,
5 I believe '67 and '69, where we have some of that
6 information.

7 But I'm actually not sure of the other
8 years as to whether it's complete, that we could
9 even compare something. I know it's not for every
10 year. That's just not in the monthly reports.

11 But from the, but for a few years, the
12 report style changed a little bit. And it did note
13 the number of temporary badges. Does that answer
14 your question, Jim?

15 MR. FITZGERALD: Yes, I just wanted to
16 clarify that. Thanks.

17 DR. TAULBEE: Okay. The last area
18 that we committed to review back in April was to
19 review the INL dosimetry procedures. And as
20 you'll see from this particular presentation, I
21 really wished that we had had time in order to do

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1 this before I made my presentation back in March.

2 Actually, I wish we would've had the
3 time to do this February and had all of the data
4 in order to do, and do the follow up that was
5 necessary.

6 Again, the one badge, one area
7 methodology was if a worker routinely worked in one
8 area, MTR for example, went to CPP, they left their
9 area badge, their MTR badge, at MTR and picked up
10 a temporary badge or some people even had permanent
11 badges, dual permanent badges, one at MTR, one at
12 CPP.

13 Well, what we found in our further
14 research is that in October of 1969, the site began
15 to explore methods to reduce the number of
16 temporary badges being assigned.

17 They were concerned about the cost of
18 doing this, and they wanted to reduce their
19 dosimetry costs. And so they started looking at
20 how many people were picking up temporary badges
21 and what that cost was.

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1 Well, in December of '69, INL conducted
2 a thorough evaluation of the number of regular
3 badges, the number of temporary badges for each of
4 the areas and by occupation.

5 And so they broke it out by operations,
6 by trades, pipefitters, welders, laborers,
7 chemists, operators, health and safety. And this
8 is all in SRDB document 143334 and starting on page
9 28.

10 It's a very extensive report, and what
11 came out of this report was the recommendation to
12 issue a single dosimeter badge that employees could
13 wear in all areas instead of getting a new temporary
14 badge for each area every time they went in.

15 And so they decided to investigate to
16 implement this type of methodology. Well, the
17 dosimetry services who came up with this
18 methodology, they had to get concurrence across
19 multiple organizations, including security, as to
20 whether or not they could do this and whether the
21 other groups would support this new methodology.

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1 Well, the other groups did concur. And
2 this was implemented in March of 1970. And what
3 you'll see on this particular slide is in March
4 1970, the area exchange badge was discontinued, and
5 the security device personnel entering a security
6 area had to show both a security pass and a
7 dosimeter badge.

8 So going into CPP before the badge was
9 combined with your security device, so you couldn't
10 go into the fenced area without your security
11 device as well as your dosimeter.

12 And here, they separated the security
13 pass from the dosimeter so that people could wear
14 a dosimeter from another area into the area.

15 The next one down is ANC and ID
16 personnel, that would be DOE, AEC ID personnel,
17 were issued one security/dosimeter badge that
18 could worn in the ANC area.

19 This would be test reactor area, CPP,
20 technical support facilities and the power burst
21 facility.

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1 MR. KATZ: Tim, can I just interrupt a
2 sec? This is Ted. I just wanted to let, in case
3 we have any petitioners that are on the line or
4 members of the public who are trying to follow
5 along, this presentation was just posted and is
6 live now on the NIOSH website.

7 So if you go to the NIOSH website, you
8 know where that is, then go to the Board section,
9 schedule of meetings, today's date, you can pull
10 up this presentation, which is the NIOSH
11 presentation versus the SC&A presentations.

12 And Tim, you could just say what, for
13 the record, what -- where you are in the
14 presentation, what page.

15 DR. TAULBEE: I am on slide number 17.

16 MR. KATZ: Thank you. Okay. Sorry
17 for the interruption.

18 DR. TAULBEE: No problem. So this is
19 a change from the one badge, one area methodology
20 that occurred in March of 1970 because now, instead
21 of having to leave your badge at MTR or test reactor

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1 area, you could carry your test reactor area badge
2 into CPP.

3 And so at this point, our SEC class
4 definition isn't correct because you could
5 physically go into CPP, and you would not show up
6 necessarily on one of the CPP rosters, starting in
7 March of 1970.

8 Now, from a functional standpoint, is
9 it possible, or is it probable I should say, that
10 somebody went into CPP for 250 days, kind of
11 continuous exposure?

12 Probably not, but there's no way I can,
13 that we could ever discount that possibility,
14 especially some of these chemists that were doing
15 work at both TRA and CPP.

16 They very well could have been badged,
17 I guess, well at either place, TRA if they were the
18 hot cells. And they could have routinely gone into
19 CPP.

20 So for this reason, we're recommending
21 a change here. But what you'll see here in the last

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1 highlight that I have on this page is that December
2 of 1974, the dosimetry badge system was returned
3 to one badge, one area.

4 So for a four year, nine month period,
5 the site made this dosimetry change and then went
6 back to how they had done things in the past.

7 And so when we found this and we were
8 really starting to dig into this, we wanted to
9 verify that this was, in fact, the case, that that
10 meaning and the procedures was allowing people to
11 do this.

12 And we found in the dosimetry
13 correspondence files on the manager, dosimetry
14 manager, Ms. Stanger, on a monthly basis in the
15 1970, '71, '72 time period, wrote dozens of memos
16 per month like the one that I'm displaying here on
17 slide 18. And this is addressed. I've redacted
18 the name of the person, but this is somebody who
19 works out at the Central Facilities area. And let
20 me read this particular memo to everyone.

21 "The purpose of the new badge

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1 procedure, which permits access to any INC
2 controlled area, was initiated to reduce costs by
3 eliminating the number of temporary film badge
4 issuances. You entered CPP on temporary film July
5 7th and July 22nd and Test Reactor Area on temporary
6 film July 31st. Please remember to carry your
7 permanent dosimeter badge with you when you go from
8 area to area. Your compliance with this procedure
9 will be appreciated."

10 So, this is kind of a reminder memo that
11 she was sending out to people who went to different
12 areas who forgot their permanent badge at their
13 desk or in the other area -- their desk if they were
14 CFA and didn't routinely wear it -- and reminding
15 them that you don't have to do a temporary badge.
16 You can wear your permanent badge.

17 Now, what's important to note here from
18 this particular memo, is this individual picked up
19 a temporary badge to go into the area because you
20 had to have a badge to go in. You couldn't not wear
21 a dosimeter badge. He left his at Central

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1 Facilities area, but he still had to have a badge.
2 So he had to get a temporary film to go in. But
3 if he'd remembered to bring his permanent film
4 badge, he could have gone in the CPP and left CPP
5 and we would not have a record of that during this
6 time period of March 1970 through December of '74.

7 So, these memos are consistent with our
8 worker interviews. Over the past summer and then
9 in November of last year, we conducted 60-plus
10 interviews that indicated -- we asked every single
11 person that we interviewed, "Did you have to wear
12 a dosimeter film badge for entry into the
13 radiological areas, including CPP?"

14 And the resounding answer was yes.
15 They had to. It wasn't an optional type of aspect
16 to the procedures. This is what the procedures
17 indicate as well, that you've got to wear a
18 dosimeter or film badge for entry into the
19 radiological areas.

20 So, I'm very confident that you had to
21 wear a dosimeter going into the areas, especially

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1 CPP. However, due to this procedural change, for
2 a nearly five-year time period in the early 1970s,
3 a dosimeter issued in another area was allowed to
4 be worn in CPP.

5 It's interesting to note that this also
6 corresponds with the general decrease in
7 radiological control practices that we observed at
8 CPP that led to the recommendation to add the SEC.

9 As you recall, when I was giving my
10 presentation in March, the radiological
11 contamination surveys got significantly worse
12 through the 1960s. And then by the 1970s, they
13 were completely shoe cover area, smock
14 change-outs, you had to be wearing PPE to go into
15 these areas, they were so contaminated. And
16 that's when they got into trouble with people
17 working in the areas without appropriate
18 respiratory protection and getting the intakes
19 that were undocumented.

20 This is why we recommended an SEC. We
21 set the cut date because in October of 1974 is when

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1 the radiological protection upgrade program or
2 Evaluation Report and recommended programmatic
3 changes to get control of the area again was
4 published in October of '74.

5 And we felt that by December of '74, it
6 probably wasn't getting better by that time. And
7 so we cut it off at that point in time and are
8 planning to pursue continuing the SEC under an
9 83.14 when we evaluate 1975 and later.

10 This dosimetry procedure change
11 occurred right in the same time period with that
12 programmatic report. They went back to the one
13 badge/one area in order to, in my mind, get better
14 control of where the exposures are occurring and
15 who's receiving those exposures.

16 So, as a result of this finding
17 following this review of the INL dosimetry
18 procedures, we are recommending revising the SEC
19 class definition.

20 And the revisions here are in red on
21 this particular slide. And so let me read this

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1 here. Our revision is that "all employees of the
2 Department of Energy, its predecessor agencies,
3 and their contractors and subcontractors who
4 worked at Idaho National Laboratory in Scoville,
5 Idaho, and were monitored for external radiation
6 at the Idaho Chemical Processing Plant (CPP) (e.g.,
7 at least one film badge or TLD dosimeter from CPP)
8 between January 1, 1963 and February 28, 1970 or
9 who were monitored for external radiation at INL
10 (e.g., at least one film badge or TLD dosimeter)
11 between March 1, 1970 and December 31, 1974, for
12 a number of workdays aggregating at least 250 work
13 days."

14 So, what we've done is we've taken this
15 time period from March 1, 1970 through December of
16 1974 and said anybody who was badged onsite could
17 have gone into CPP, worn that dosimeter, whether
18 they were badged at CFA, the Burial Grounds, Test
19 Area North, Test Reactor Area, wherever they were
20 badged, they could have gone into CPP, potentially
21 made it into the buildings and to the corridors and

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1 been exposed to the plutonium that was in there and
2 potentially received an intake such that we can't
3 reconstruct their dose with sufficient accuracy.
4 And so this is the revised Class Definition.

5 Now, what we are currently working to
6 do is to revise the ER. There will be a Rev. 1
7 coming out hopefully very soon with this revised
8 Class Definition, with some of the information that
9 I just presented to you explaining why we are
10 defining the Class this way and expanding it to
11 everyone who is monitored onsite from March 1970
12 through December of '74.

13 So, with that, I'll be happy to answer
14 any questions that you have.

15 MEMBER BEACH: Tim, this is Josie. I
16 have a quick question. Did you ever hear of INL
17 having any escorts? I know here at Hanford they
18 have hired escorts to escort people for various
19 reasons. They could escort up to five or six
20 people at a time. In our interviews, I haven't
21 heard of it, but we've never asked that question.

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1 Did you see any evidence of that?

2 DR. TAULBEE: I have not, but you're
3 right. That is a good question that we should ask,
4 especially during this particular time period.

5 Based upon what I've seen, from a
6 security standpoint, I would imagine people like
7 the Coke vendor would have been escorted. But they
8 would also have been badged. So, I'm not aware
9 that they ever did any group badging from an escort
10 purpose. And I believe we have actually asked that
11 question at some point.

12 I'm not sure it's been in the recent
13 interviews, but we did ask was there ever any group
14 badging. And the group badging that occurred,
15 occurred for tours at a later time period when they
16 -- in fact, when I toured out there several years
17 ago, they did a group badge from that standpoint.

18 But during this time period, I don't
19 believe that they did that. But that is a question
20 that we can ask during interviews. Certainly.

21 CHAIR SCHOFIELD: This is Phil. Kind

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1 of following up on what Josie just said, procedure
2 was pretty much the same at LANL. Quite often you
3 would have a small contractor who maybe had a two-,
4 three-day job or something. And none of these
5 people are cleared, so they had to have someone to
6 escort these people to go get something to eat, go
7 to the bathroom, sit there with them.

8 There again it goes back to some of
9 these little craft-type jobs that I don't know if
10 there is any evidence of that. But if there is,
11 it would be great if you could find anything
12 addressing that issue.

13 DR. TAULBEE: Okay. Given the large
14 number of crafts that we see having been monitored,
15 especially on the CX dosimetry, for CPP, it seems
16 to me that the crafts would have been monitored.

17 Honestly, I can't see others not being
18 monitored. You came in through the main gate, and
19 you're issued a dosimeter. I mean, when you go
20 through those temporary badge reports, there's
21 university people on there. There's all kinds of

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1 different people. Like I said, the news reporter
2 was monitored. Clearly, he would have been
3 escorted. He wouldn't have been given free reign
4 within the CPP boundary, from that standpoint.

5 So, we've got to be able to distinguish
6 between he was still monitored. So, if there's 250
7 days, if he was onsite, he's got a dosimeter badge
8 at CPP, he would be part of this SEC Class by our
9 definition. So, I just don't see where they
10 would've allowed somebody to go in and not be
11 badged. We have no evidence of that yet. But we
12 can certainly ask the question to try and follow
13 up, did it ever occur?

14 MR. KATZ: Tim, just for the record,
15 this is Ted. But a reporter working for another
16 employer wouldn't be part of the Class no matter
17 how many days he reported.

18 DR. TAULBEE: Oh, okay. You're right,
19 Ted. Bad example on my part. What I was trying
20 to get at was they were badging so many visitors
21 and other people, and many of these visitors I just

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1 don't see them having free reign of the access
2 corridors without somebody watching them or taking
3 them around, especially with all of the fuels and
4 the enriched uranium that they were processing at
5 CPP. I mean, this was a special nuclear material.
6 And so it was very important that they kept control
7 of the areas from a securities standpoint as well.
8 So, anyway. Other questions?

9 MEMBER ROESSLER: Tim, this is Gen.
10 My phone went dead, and I had to go get another one.
11 So I missed quite a bit here after you finished your
12 talk, but I do have one question. After listening
13 to your talk and being familiar with the site and
14 so on, I understand what it means, the changes that
15 you're introducing into the proposed Class. But
16 I'm wondering, have you tried to explain this to
17 a member of the public or a claimant? It's pretty
18 complicated.

19 DR. TAULBEE: Yes, it is. And in fact,
20 this was difficult for us to identify, as well.
21 And, no, we have not tried to explain this yet. I'm

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1 presuming I'm going to be getting the opportunity
2 to try and explain this when we go to Idaho at the
3 end of the month, you know, how this occurs. And
4 I definitely have my work cut out for me on that,
5 to try and make this a little more understandable.

6 MR. FITZGERALD: Tim, this is Joe
7 again. Is there definitional clarity between, you
8 know, the category of temporary badges versus CX
9 badges? It almost seems like there's a bit of
10 overlap in terms of construction, the construction
11 category.

12 DR. TAULBEE: There absolutely is
13 overlap between the two categories. And the
14 overlap is the result of the CX, from the best that
15 I can determine, were routine construction folks.
16 Maybe they were doing a job that was going to last
17 two to three months, so they would put on a routine
18 type of roster. And so they were on the CX area,
19 whereas if it was somebody coming out of, say, the
20 union hall for a day or two, they weren't put on
21 the roster. They were given a temporary badge for

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1 those few days that they were working.

2 That seems to be the delineation that
3 I see. And if I go back up here to the slide where
4 the temporary badge report is. Give me just a
5 second. This would be slide number 5. If you go
6 up there, what you'll see on these, especially the
7 Torkelson badge that you see down through there,
8 the badge was used for one day.

9 And then if you look down, there's a
10 Phillips badge there. This one is actually could
11 be interpreted one of two ways: from an entire week
12 period or it was just two days. But I actually
13 think it was a full week period from 10/28 through
14 11/5 type of scenario that that person wore that
15 badge.

16 This would be not a construction trades
17 worker but somebody from another area, Test Reactor
18 Area, Test Area North, something like that, that
19 came to CPP and they were there for a week. And
20 so they got a badge while they were down there for
21 that week.

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1 So, you're absolutely right. There is
2 a significant overlap. You see H.S. Wright here
3 below where I've highlighted the Coca-Cola guy as
4 another construction trades. And if you go
5 through the CX reports, you'll see H.S. Wright on
6 those reports. And that's on slide number 6.
7 You'll see that is code 112.

8 So, it really appears to depend upon how
9 long they were going to be involved with whatever
10 construction project or renovation that was being
11 done at CPP.

12 So, I guess when you look at my slide
13 7 there, what I'm trying to indicate here is that
14 a person, an individual's dosimetry could appear
15 on one of several reports or on all of them. They
16 could literally have a badge on the main report as
17 well as a temporary or the CX construction. On the
18 main reports, if you recall, there were some
19 Torkelson folks there on that one.

20 MR. FITZGERALD: Did DOE somehow
21 integrate this to come up with any of the electronic

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1 dose reports?

2 DR. TAULBEE: See, what DOE did back
3 when this whole program started is they went
4 through every single page of all of these dose
5 reports, whether it was CPP, TRA, Test Area North,
6 MTX for MTR construction, CX for CPP construction.

7 And they went through and indexed a
8 person's name and put it into a database, that this
9 person appears on, in this file that was scanned,
10 on page 28. And so when they get a claim now, they
11 get a printout of every report, radiological
12 report, that person's name appears on. And that's
13 what they send to us. So from the standpoint of
14 compiling everything, they did it on an individual
15 basis.

16 MR. FITZGERALD: Unlike other sites,
17 there is really not an electronic database so much
18 as a process of querying.

19 DR. TAULBEE: That is correct.

20 MR. FITZGERALD: Okay. Thank you.

21 DR. TAULBEE: Other questions?

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1 Okay. That's all that I have, then.
2 Thank you for your attention. And Phil, back to
3 you.

4 CHAIR SCHOFIELD: Do we got Bob on the
5 line now? Bob Barton?

6 MR. BARTON: Yes, Phil, I'm here. Can
7 everybody hear me okay?

8 MR. KATZ: Yes, we can hear you, Bob.

9 MR. BARTON: Okay. I've been having
10 kind of periodic problems throughout the morning,
11 so if during the presentation or anything I get
12 choppy or anything, let me know, and I can probably
13 try getting in on another line. So, just let me
14 know if that happens.

15 DR. TAULBEE: Bob, before you get
16 started. I'm sorry, this is Tim. How do I close
17 out my presentation here?

18 MR. KATZ: Tim, you can take it off, but
19 in any event, when Bob shares his presentation, it
20 will supplant yours.

21 DR. TAULBEE: Okay. Thank you.

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1 MR. KATZ: You're welcome.

2 MR. BARTON: Okay. Can people see my
3 presentation on Live Meeting?

4 MR. KATZ: Yes, Bob. You may want to
5 shrink it a little bit. It's huge, but it works.
6 It's on there.

7 MR. BARTON: Let's see here. Does
8 that make it any better?

9 MR. KATZ: I think that made it bigger.

10 MR. BARTON: Bigger? Okay.

11 MR. KATZ: If that's showing the whole
12 -- that's better. I think that's easier for
13 people.

14 MR. BARTON: That's better? Okay.

15 MR. KATZ: Yes. Thanks, Bob.

16 MR. BARTON: No problem. Alright,
17 before I get started, just a quick note. This
18 entire study really was a claimant-based study.
19 So, it involves pretty much entirely Privacy Act
20 information. Now, the presentation I'm about to
21 give is Privacy Act-cleared. I think it will

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1 become apparent why.

2 And I also do give some examples,
3 illustrative examples in here that Board Members
4 or NIOSH or anyone might have questions, specific
5 questions about. But it's going to be very
6 difficult to answer questions about specific
7 aspects of these individual claims.

8 What we can certainly do is, when we're
9 looking at an example, I can point you to the
10 section in our report where the other information
11 that is not Privacy Act-cleared is contained. And
12 hopefully that will clear up any questions that
13 arise. But, again, we obviously try to be careful
14 about when we're asking questions or discussing,
15 especially specific aspects of the report, to keep
16 it within Privacy Act bounds.

17 MR. KATZ: And this is Ted. Sorry to
18 interrupt again, but for any petitioners that are
19 on the line, this presentation is on the NIOSH
20 website under the Board section and today's date.
21 So you can follow along with the public version of

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1 this. Okay. Go ahead, Bob.

2 MR. BARTON: Alright. Thank you, Ted.
3 Alright, so, a lot of these presentation slides are
4 going to have some overlap with what Tim just
5 presented. So we might be able to go rather
6 quickly through it. But just to give some quick
7 background, the initial petition Evaluation Report
8 was released on March 12th. And NIOSH presented
9 that to the Advisory Board on March 26th.

10 And that is when SC&A was tasked with
11 evaluating what was then the proposed Class, with
12 a focus really on the dosimetry aspect of it, the
13 requirement to have one dosimetry record
14 associated with the Chemical Processing Plant to
15 be considered to be included in the CPP SEC. And
16 so we released our report on June 29th, and this
17 presentation reflects what was in that report.

18 The previous proposed Class Definition
19 was -- really the only change between this and what
20 was in Tim's presentation is that for the entire
21 period from 1963 through December of 1974, the

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1 dosimetry results had to be directly related to
2 CPP, whereas now it's sort of split into two periods
3 where one period it's required to be associated
4 with CPP, and for the latter period it's required
5 to be an INL dosimeter.

6 The rationale for the original SEC
7 Class, and we can just quickly go through this, but
8 it was that the contamination control program was
9 pretty much determined to be ineffective. The
10 bioassay program, at least as it was related
11 directly to transuranics, alpha emitters, was
12 really incident-based. It wasn't really
13 determined to be covering everybody. The in vivo
14 program really was probably not designed to get
15 these chronic alpha and beta internal exposures.

16 And while there's certainly indication
17 that there was air monitoring that was going on,
18 you know, the operation of continuous air monitors,
19 I guess the availability of that data was pretty
20 sparse. So, that couldn't be used either.

21 And this quote here is taken directly

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1 out of the SEC ER. And it says, "The potential for
2 exposures to transuranics that had been separated
3 from the mixed fission products makes it unlikely
4 that exposures to alpha emitters can be
5 reconstructed from January 1963 through December
6 1974."

7 So, the way SC&A approached this
8 investigation was sort of two-fold. The first
9 thing was to really dive into those interviews with
10 former workers and just see what they say about the
11 dosimetry requirements for entering any of these
12 radiological areas. Obviously, it's specially
13 associated with the Chemical Processing Plant.

14 And the second aspect, which is really
15 the focus of this presentation, was we were going
16 to go evaluate actual claimant records to get a
17 handle on how the dosimetry program kind of worked,
18 but especially in the context of what -- this says
19 current Class Definition, but this would have been
20 the first Class Definition, not the one just
21 discussed this morning -- but to review claimant

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1 records and put them in the context of the
2 administration of the SEC as it was currently
3 defined.

4 So, just a quick slide about the
5 interviews. I guess there were 50 sets of
6 interview summaries. These interviews were done
7 by the Board, NIOSH, and SC&A in June, September,
8 and November of 2014.

9 I guess at the time the original report
10 was issued, not all the worker interview summaries
11 were finalized. But what summaries were available
12 affirmed what we referred to as the universal
13 badging of any personnel entering a radiological
14 area at CPP.

15 And based on those worker interviews,
16 there were two just general recommendations: to
17 continue with future interviews as focused on those
18 badging policies. And as was just discussed, was
19 there a possibility for escorts or something along
20 those lines?

21 And the second part was, as I said, I

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1 guess not all of the interviews at that time, or
2 interview summaries rather, were available. So,
3 obviously, we want to take a look at those as they
4 become available.

5 And I guess if Steve also is on the line,
6 you have been the one that really kind of dove into
7 those worker interviews. I don't know if you want
8 to add anything before I move on to the claimant
9 analysis.

10 DR. OSTROW: No. I think this slide
11 has it all. This is Steve.

12 MR. BARTON: All right. Very good.
13 Okay. So the, on to the claimant evaluation.
14 Basically three main goals. The first was just to
15 really get a handle on the external dosimetry
16 program. Get an idea of the completeness of
17 records among different job types, different
18 employers and sort of a cursory look at the
19 completeness of it.

20 How often would you see what would be
21 considered a gap in an individual worker's records?

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1 And when you saw those gaps, this is sort of item
2 number 2, why might those gaps exist?

3 And this is sort of the classic coworker
4 modeling question. When you have what appears to
5 be an unmonitored worker, it could be that I'm not
6 monitored because they weren't likely to be
7 exposed. They're not monitored but likely should
8 have been, and that's really the whole reason we
9 have coworker models at these different sites.

10 But at this site specifically, there is
11 also the distinct possibility that they just moved
12 to another location within the INL boundaries, but
13 not necessarily in a covered area at INL.

14 And there were two main ones. There's
15 the Argonne location, which again, these are inside
16 the boundary of INL. But Argonne is currently
17 considered almost a separate site. And the second
18 location was the Naval Research Facility, NRF,
19 which is not covered under the program.

20 So the third goal was to, and this is
21 really where the rubber meets the road, is evaluate

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1 if the Class Definition was going to capture all
2 relevant workers, or if there's a possibility that,
3 quite by accident, there might be a worker who was
4 left out for any number of reasons.

5 Either, maybe the record of monitoring
6 at CPP was unavailable. Maybe they weren't in fact
7 monitored but should have been. So that's really,
8 the focus is the Class Definition as it stood, was
9 there the potential to miss anybody?

10 So moving on. This slide discusses our
11 approach. We wanted to look at a subset of
12 claimants, and the relevant records that are
13 contained and they're NOCTS-filed.

14 NOCTS stands for the NIOSH OCAS Claims
15 Tracking System. And there's a couple of
16 different, useful resources in there. The first
17 is obviously going to be their monitoring records,
18 which come from DOE.

19 But there's also surprisingly some
20 useful information in the Department of Labor
21 files. And this is sort of how the Department of

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1 Labor determines covered employment.

2 So a lot of times there's useful
3 information about who the claimant actually worked
4 for and sometimes information about the area, but
5 also statements made by the claimant in the initial
6 applications and forms about the type of work they
7 did, the areas they were in, sometimes incidents
8 they were involved in.

9 So there is often very useful
10 information in those DOL files as well. And of
11 course we have the CATI reports, the
12 Computer-Assisted Telephone Interviews, which can
13 provide useful information.

14 One drawback is that these interviews
15 are not always available with the primary worker.
16 A lot of times they were only available with the
17 surviving claimant. And so sometimes the
18 information is really limited as to what the
19 original worker did or where they worked. And the
20 other often-frustrating thing is you might have a
21 worker that was at INL for their entire career.

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1 And they stated all the locations they
2 worked, but we have no way to tie in those work
3 locations to any specific time period. So while
4 you may have a claimant that says, I was at the
5 chemical processing plant in Test Area North and
6 everywhere else, that could've been in the '50s.
7 It could've been during what is considered the SEC
8 period now, or it could have been after. So while
9 it's useful to know that they were at CPP, it's
10 difficult to put that into focus as to whether they
11 were actually there during the SEC period.

12 So a little bit more about our approach.
13 We really used an iterative process of selecting
14 the claimants. This was not a random selection of
15 claimants.

16 We were not looking to show a
17 representative cross-section of the claimant
18 population. Essentially what we did is we cast a
19 rather wide net to start with to capture a good
20 number of different job titles.

21 And from there we sort of started

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1 narrowing it down into the areas we felt could
2 potentially be problematic from an administration
3 standpoint for the SEC.

4 So on this next slide, you'll see a
5 little bit more about that. So the initial group,
6 again like I said, we cast a pretty wide net just
7 to get some different job types.

8 And you can see they're listed here.
9 You have security guards, operators, construction,
10 firemen, pretty much, pretty good, in that sense
11 it's a good cross-section. But that was only sort
12 of the first cut.

13 Based on that initial assessment, we
14 found that we should probably be focusing on the
15 subcontract workers who had intermittent
16 employment.

17 And the basic reason for that is when
18 we started looking at the monitoring records for
19 these workers, it generally had what could be
20 considered a gap in their monitoring records.

21 In other words, they had covered

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1 employment at INL, but simply no dosimetry
2 contained in their NOCTS records. So in total we
3 have about 30 claims that we kind of dug deep on,
4 and that includes the initial group of claimants
5 and the focus group for the intermittent
6 subcontract rates. And here just a breakdown of
7 the job titles, kind of reinforcing how we did kind
8 of zero in on certain job types.

9 As you can see, 10 of the 30, so a third
10 fell into the laborer or construction category.
11 But even beyond that, the next highest job title
12 is pipefitter and welder, so you have a lot of
13 different trades that we looked at along with the
14 generic job titles that we did in the first crack
15 at it.

16 Okay. So what work location do we have
17 to be able to use in this type of assessment?
18 Obviously, the first thing is going to be the
19 routine monitoring, the area dosimetry cycle
20 reports.

21 Kim showed one example. We can quickly

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1 look at another one in a slide or two. These
2 contain very useful information including the
3 contractor codes.

4 You know who they work for and an area
5 code where they were assigned. You have the
6 temporary or visitor badges. Again, those were
7 sort of just discussed, and I'll try to go quickly
8 over those slides.

9 You have internal monitoring, which any
10 sort of urinalysis or in vivo results almost
11 universally would contain the area worked, along
12 with the result of the internal monitoring.

13 Incident reports, these are very few
14 and far between. Really, I don't think we saw any
15 radiological reports necessarily that were related
16 to CPP.

17 But interestingly, some just generic
18 medical reports of workplace injuries would
19 contain information on a work location. So you can
20 use that as part of the evaluation as well.

21 And as I just discussed, you had the

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1 CATI plus other interview statements that may have
2 occurred in the Department of Labor files. Again,
3 those are sometimes problematic in that we can't
4 match them up to specific periods but just another
5 piece of the puzzle that we have to try to put this
6 thing together.

7 And then you have the location file
8 card. And these are very useful, in my opinion.
9 And we'll see an example of that, but essentially
10 it's a situation where it's not a dosimetry record
11 per se, but it does show where the worker was
12 assigned.

13 It gives us the period that the worker
14 was assigned there and the location obviously, and
15 also in many cases, the employer.

16 The last one here is the master security
17 file card, so we got a lot of sources of information
18 here. The master security card didn't really
19 provide location information. It was really a
20 listing of the employer for various periods, but
21 sometimes it would give an indication that the

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1 employer and time period was operating out of, for
2 example, the NRF or Argonne.

3 So when we're going to evaluate what we
4 see as an apparent gap in monitoring records, you
5 could use something like the master security file
6 card to say, well, we see a gap here.

7 But we can see during that period he was
8 employed for such and such contractor at Argonne.
9 So we're going to look at some of the examples.

10 Okay. Here's the, this is a routine
11 monitoring essentially. And what you can see is
12 I've underlined. You have the area, which is the
13 EPFCON area. You have the period covered by the
14 report, which is August.

15 This is coming across, so you can see
16 all the stuff. But it's August of 1974. This
17 particular log book is for the Arrington
18 Construction Company.

19 You can see in red I circled the
20 contractor code, the area code designation and also
21 all the right to the right there you see this PSN.

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1 Now I don't know if it actually stands for personal
2 sequential number.

3 That was a guess, which is why I have
4 the question mark there. But that also became very
5 important when assessing what we saw as apparent
6 gaps because we were able to observe trends in those
7 PSN numbers that led us to a reasonable conclusion
8 that what those actually represent is the
9 sequential issuance of a dosimeter to the worker.

10 So for example, if we thought we saw a
11 gap for say six months, but then we look at the
12 records that sort of bookend that and they were
13 sequential in nature. So if the first record is
14 a PSN of seven and then six months go by and the
15 next one is eight, and then maybe a month goes by
16 and the next one is nine, you see the sequential
17 nature of it.

18 You could say well, that gap's not
19 really, six months is not really a gap. The worker
20 was not issued a different dosimeter. And more
21 than likely, they simply just kept the dosimeter

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1 they had for a longer period of time.

2 This became especially apparent in the
3 later periods. It appeared in 1971 to 1974, I
4 believe is when we saw most of this. But we'll see
5 an example, and hopefully that will become clear.

6 Here's the location file card, and as
7 I said, you have the contractor code, the area code.
8 It's not a dosimetry record, but you have an issue
9 date and a withdrawal date.

10 And as you can see here, one of these,
11 this middle entry here has a date of September 4,
12 1974 and also a TF next to it, which we found most
13 likely refers to the issuance of a temporary film
14 badge.

15 There are other examples where film
16 where written next to the date or 2TLD,
17 thermoluminescent dosimeter. So there is some
18 information about badging.

19 So I would not say that this is a
20 definitive record of when claims were actually
21 issued dosimetry records, which we will also see

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1 in an example.

2 And here's that master security file
3 card I talked about. And again, you only have a
4 listing for employer. You have an issue date, a
5 termination date and a date that I guess the
6 security card or badge was ultimately destroyed.

7 But you can see I kind of pointed out
8 a couple entries here where one is Arrington
9 Construction, but it's also designated as ANL,
10 Argonne. And another one further down, it's
11 West-Ormond construction, which is indicative of
12 NRF.

13 And you can't see it here because it got
14 cut off, but just to the left of those entries, it's
15 actually handwritten next to those entries: NRF and
16 Argonne. So I'm assuming those were written in
17 either by DOE or the INL themselves.

18 Okay. So we went through these 30
19 claims, and we basically came up with what we feel
20 are the five categories of the claimants based on
21 what we saw in their dosimetry.

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1 The first category is there's just no
2 gaps observed. We literally saw claimants where
3 there was a dosimeter issued every two weeks for
4 their entire covered employment during the SEC
5 period without even necessarily a gap.

6 I guess some of the dosimetry records
7 would indicate they weren't in the area, so that
8 partially accounts for it. But I was kind of
9 curious about them, like don't these people ever
10 take vacations?

11 I guess that's one way to explain it.
12 So category one is the dosimetry records are really
13 complete for these claimants. They were badged
14 all the time, and we know who they were.

15 Category two, gaps appear to exist, and
16 this is where that PSN number comes in. There
17 appear to be gaps. For example, a claimant might
18 have a dosimetry coding of monthly or quarterly
19 badge scheduling.

20 But we're not seeing that for certain
21 periods. But then you go in and look at that PSN

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1 number, and they're sequential. So we, I guess,
2 made the assumption in those cases that while it
3 looks like there might have been a gap, no, not
4 really. If that PSN number is indeed what we
5 surmise it is, there's really no gap in those
6 records. And we're going to look at an example of
7 each of these categories.

8 So I just want to get the overview sort
9 of out of the way. Category three kind of gets into
10 a slightly gray area. We see gaps. We just don't
11 have an explanation for why they're there.

12 Obviously one explanation is there was
13 no exposure, but we really don't have any
14 information either way. It's a gray area. We'll
15 look at a couple of those.

16 Without further information, you
17 really can't say to what extent, what they were
18 doing at the site, what area they were in. We only
19 know that they were considered employees of INL by
20 the Department of Labor, but we have periods
21 without badging records.

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1 Category four kind of increases that
2 gray area a little bit in that we see gaps. There's
3 some indication of potential exposure during those
4 unmonitored periods, but it's a gray.

5 You could make a case either way, but
6 in this case we have at least maybe some statements
7 in the CATI that might be able to be put with the
8 SEC period or other types of information.

9 And again, we'll look at an example.
10 It's a gray area. It's sort of just one of those
11 things where you're kind of chasing a ghost. You
12 just don't have enough information to really make
13 a determination.

14 And then there's category five, and
15 this is discussed in Tim's presentation as well.
16 This is where we only have an annual dosimetry
17 summary, so you really have just no way of
18 determining, using the dosimetry records, what
19 location that worker was in for covered employment
20 at the site.

21 All right, so here's an example of

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1 category one. And what we're looking at here is
2 the bottom red line is all the covered employment
3 during the SEC period.

4 So this particular worker was employed
5 during most of the SEC period, beginning about
6 mid-1963. The blue dots represent the ending date
7 of each available dosimetry record.

8 And as you can see, they're very
9 numerous, almost forming a straight, solid line for
10 much of it. But we essentially have a dosimetry
11 record throughout the complete SEC employment.

12 Interestingly, also on these charts I
13 included location information from those location
14 file cards we looked at it that let us know that
15 person was assigned to an INL area.

16 What we don't see, and you can see it
17 in the legend at the top, is there was sometimes
18 a fourth line that said, well, in the location file
19 card, it actually indicates this worker was at
20 Argonne or NRF.

21 And you'll see, we'll partially explain

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1 why we don't see a dosimetry record per se, even
2 though sometimes the employment was covered for
3 INL, the evidence exists that they were probably,
4 in fact, in another area.

5 That's category one. Category two
6 here again, very complete dosimetry record, about
7 1967 and then they start spreading out. In this
8 particular case, this was really the case where the
9 dosimetry coding during those latter periods
10 indicated a quarterly schedule.

11 As we can see, that's really not the
12 case. In some cases, it was just an annual badge
13 turn-in. But for these category two workers, each
14 of these dots were sequential in nature when you
15 compared the PSN numbers associated with each
16 record.

17 So we considered, based on that
18 information, the dosimetry for these types of
19 workers to be complete. Another thing to note
20 that's kind of interesting here is that, based on
21 the location file card, that whole period prior to

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1 1967 was not shown on the location file card, yet
2 we have dosimetry results associated with INL
3 areas.

4 So I guess the moral of the story there
5 is that the location file cards aren't complete but
6 are a very useful, direct piece of information as
7 to where that worker was assigned. But they don't,
8 certainly don't appear universal for all work that
9 was done at INL.

10 All right, category three, again we're
11 getting into this gray area. And as you can see
12 here, we have significant lengths of employment
13 where there's no dosimetry.

14 And actually, I have some notes on the
15 next slide about this one. I'll just put those up
16 for a second. I'm going to see if I can get another
17 screen up here because it's probably going to be
18 more useful for you all to look at the chart while
19 I talk about the notes.

20 But essentially, for this, in 1964, so
21 we see this area here where there's no dosimetry,

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1 in the file there actually were the routine area
2 cycle reports. But they were all indicative of not
3 being in the area.

4 There's a special code. They call it
5 the irregular code. Irregular code 14 indicates
6 not in area. There's other ones, such as not
7 available.

8 In the case of not available, in almost
9 all cases, we saw that that just meant the dosimetry
10 badge was turned in a few days later or a week later
11 or something like that.

12 But in this case, so 1964 we have
13 dosimetry reports, but there's no results because
14 the person was not actually in the area. But if
15 we look at that period from mid-1967 to about
16 September of 1969, this was actually a combination
17 where a badge was at both the chemical processing
18 plant but also the material test reactor area.

19 So that's an example of the one area,
20 one badge type of philosophy that Tim was
21 discussing in the earlier presentation. Now if we

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1 look at from July 1970 to about January 1971, the
2 energy employee worked for a subcontractor, H.S.
3 Wright. But we just have no information available
4 as to the location of what work was being done or
5 what was being done. We just know during that
6 period they were employed by a subcontractor, and
7 we really can't say anything else about it.

8 This particular example there was no
9 bioassay or in vivo samples submitted at all during
10 the SEC period, so we couldn't use any information
11 from that.

12 There's a CATI report, but
13 unfortunately it's with a survivor. And the
14 survivor just did not know any specific locations
15 of where the worker was. So that, I just pretty
16 much parroted all this slide.

17 Category four, here again we're getting
18 a little bit into the darker gray area where you
19 don't, we can't necessarily say either way during
20 the unmonitored periods what they were doing and
21 if they had the potential to be exposed at CPP.

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1 But there is at least some, your
2 anecdotal or other information that they might have
3 been at that site. And it's probably better again,
4 I have some notes on this.

5 But again, it's probably better just to
6 look at the chart. And as we can see, large swaths
7 were actually just associated with Argonne or the
8 NRF facility. And those didn't coincide with any
9 INL employment, so that's fine.

10 But we do have this small period here
11 of which there's no dosimetry, and then this later
12 period in 1974 of which we don't have any dosimetry.
13 So just a couple notes.

14 And these are very general. I
15 encourage the Board Members to reference Section
16 D.4 of our report because that contains a lot of
17 the information.

18 But essentially, the claimant did
19 provide a pretty detailed incident description.
20 And they gave the type of work they were performing,
21 fairly specific external doses that they received

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1 as a result of that work and also actions that were
2 taken.

3 We don't know the exact dates of the
4 incident. We really only know the year that it
5 occurred it, but the point is, and again this is
6 why it's sort of a gray area, we look at it and say,
7 well based on what information we have, which is
8 what dosimetry was there, the magnitude of that
9 dosimetry, bioassay monitoring that occurred --
10 there was at least one sample taken -- and the dates
11 of employment for this claimant, it's possible,
12 certainly possible, that this incident occurred
13 outside of what we have as available badging for
14 this claimant.

15 So, again, it's a gray area. You can
16 make a case either way. We really don't have the
17 direct evidence to say either way. But it's a very
18 interesting case, and I do encourage the Board to
19 look at that Section D.4 just to see some of the
20 details. And I think it will be clear exactly what
21 I'm talking about and how it's certainly possible

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1 that some of these work periods without dosimetry
2 could have been reflected with that incident.

3 So, we can move on here. And again, I
4 just parroted that slide. Alright, the second
5 example for category four. And as we can see,
6 there are no dosimetry. So those would've been
7 blue dots if we had anything for this claimant.
8 But we have established employment. This is
9 actually backed up for the most part by the location
10 file cards.

11 We actually have this one little
12 employment period down here, which doesn't have any
13 dosimetry, but we can see that actually the
14 information shows they were either at ANL or NRF
15 during that time.

16 So, notes on this example,
17 interestingly the location file card for this
18 claimant really only indicated the employer, which
19 we were able to tie to INL during the SEC period.
20 But there were some things said from the CATI
21 report. And these have been cleared, so it's okay

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1 for me to read these things.

2 As far as the building and location, CPP
3 is one, the LOFT project and also the SL-1 reactor.
4 Under frequency of badge worn, it said daily, which
5 is sort of again that piece of information that
6 makes you goes, "Huh."

7 The claimant said they had a badge all
8 the time. But we don't necessarily have any
9 results. Now, it could be just miscommunication,
10 and maybe the claimant had a security badge but not
11 a film badge and they didn't enter radiological
12 areas. We don't know. But the fact that the
13 claimant said they wore a badge every day sort of
14 gave us pause. They said the badges were exchanged
15 several times a week.

16 And here's another direct quote from
17 the CATI. It says, "The areas of contamination
18 were all over the site. CPP was the most
19 contaminated area. There were a lot of 55 gallon
20 waste drums stored there. They had a lot of spills
21 and evacuations which required restriction from

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1 the area for two to three days at a time."

2 As far as work location, he was at, "CPP
3 a lot of years. This was a very contaminated area
4 because of the stack emissions, and also worked on
5 the calciner project."

6 Now, the location file card outside the
7 SEC period does indicate a brief assignment in CPP
8 of about two months in 1978, but we didn't find a
9 dosimetry badge in the records for that either. Of
10 course, it's outside the SEC period, so somewhat
11 moot for our purposes today.

12 So, again, this is the information I
13 just read off.

14 And category five, which is really the
15 problematic area that we found. And again, this
16 was discussed somewhat in Tim's presentation. And
17 this is where we just simply don't have those
18 individual dosimetry reports in NOCTS that would
19 allow us to use dosimetry to place the worker in
20 a given area. And only the summary record is
21 available, and I have an example one here. As you

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1 can see, it just has an annual listing of years.
2 There aren't even really column headers involved,
3 but essentially non-penetrating, penetrating, and
4 then likely neutron and perhaps extremity. So,
5 that's category five.

6 And just to move on with that, without
7 those individual reports, we can't tell where the
8 worker was badged. But the fact that there's an
9 annual summary indicates they were in fact badged
10 for at least parts of those years.

11 It initially prompted us to sort of move
12 into what I'll call phase two of our investigation,
13 once we uncovered this and saw, in fact, four out
14 of our 30 original claimants fell into the
15 category. So, we said, "Okay. Let's see, try to
16 get an idea of the actual scope of that problem."

17 And basically we came up with 144 out
18 of 796 SEC claims that we looked at fell into this
19 category where in NOCTS all you had was an annual
20 summary. And so it would be impossible to make an
21 SEC determination based on what was in NOCTS.

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1 Of those 144 claims, 39 had direct
2 evidence of assignment to CPP during that period.
3 And when I say direct, I really just mean that
4 location file card had assigned that worker to CPP
5 during the SEC period. And that's what we consider
6 to be direct evidence.

7 So, 39 that we have now at CPP who just
8 don't have the dosimetry records in NOCTS to prove
9 that they were in CPP. So, that obviously is
10 problematic. And 12 of those 39 also worked for
11 subcontract workers, subcontractors.

12 So this leads us into finding one of our
13 report, and I'll read it into the record. "The
14 dosimetry records contained in NOCTS are not
15 sufficient to accurately determine if a given
16 claimant worked at the CPP (and thus qualifies for
17 the SEC) for at least some workers, due to the
18 absence of external dosimetry records designating
19 the area worked."

20 So, I'll move on here. Now, there was
21 a technical call between NIOSH, SC&A and the Work

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1 Group in late April of this year. And NIOSH
2 informed SC&A that there were significant
3 additional records that had come from INL that may
4 not be reflected in those NOCTS records.

5 And NIOSH provided SC&A with a listing
6 of those SRDBs, the Site Research ID numbers, so
7 that we could quickly go in and find those. And
8 we looked and then, wow, there's over 7,000 pages
9 related to CPP, which include both the area routine
10 reports and the visitor/temporary badges.

11 So, again, just to reiterate, we found
12 39 claimants after we identified this problem with
13 the category five of not having sufficient
14 dosimetry records. And, again, we have 39 that
15 didn't have sufficient NOCTS records and we had
16 direct evidence that they were assigned to CPP
17 during the SEC period. And, again, 12 of these 39
18 were employed by subcontractors.

19 So we said, "Okay, let's go into these
20 supplemental records that have become available,
21 and let's see if we can find them, at least find

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1 one dosimetry badge associated with CPP." And in
2 36 out of those 39 cases, we could find at least
3 one dosimetry badge associated with CPP for those
4 claimants, which would allow for the SEC
5 determination.

6 The remaining three cases we just
7 simply cannot find in the records. And we're going
8 to talk just a little bit about those.

9 The first one was a construction
10 worker, an equipment operator. The SEC employment
11 was very short. It was only a month and a half.
12 But the location file card indicates they were at
13 CPP quarterly, which, to me, indicates they were
14 supposed to be badged there.

15 But there's also a handwritten notation, such as
16 the example I showed earlier with the TS next to
17 the date, which we believe indicates temporary
18 film. And the claimant also had positive external
19 doses associated with that very brief period at
20 INL.

21 The CATI report had several statements

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1 in here. I think it's appropriate to read them in.
2 He said he thinks he may have had a badge at one
3 time but then the badges were taken away. He does
4 not remember if he wore a dosimeter badge. He
5 cleaned up materials that leaked out of the stack,
6 loaded the materials into 55-gallon plastic lined
7 drums. It is his understanding that the facility
8 had to bury the backhoe he used to clean up
9 materials that leaked from the stack because it was
10 so contaminated.

11 He said there was a trailer that had a
12 monitor attached to it and a man walked around with
13 a Geiger counter as he worked. He does not recall
14 how many days the project lasted. He thinks it was
15 at least a couple.

16 As far as precautions that were taken
17 to protect the worker, he had to wear coveralls and
18 had to change those coveralls every two hours. And
19 he said they walked through some form of arc to be
20 checked for radiation, presumably as they exited
21 whatever construction area they were working in.

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1 The second case had significantly
2 longer employment. Again, employed for a
3 subcontractor, H.S. Wright. Five and a half years
4 of combined employment in the SEC period.

5 There's sort of conflicting
6 information on whether the claimant was badged.
7 In the CATI interview, it says that no badging took
8 place. However, in the DOL case forms --
9 essentially, the application forms -- it did
10 indicate that they were badge.

11 And the annual summary reports that we
12 have -- again, these are category five, so all we
13 have is the annual summaries -- they do indicate
14 external monitoring during the year when the
15 claimant was assigned to CPP, based on the location
16 file card. And, again, this claimant in
17 particular was assigned as CPP construction
18 quarterly as the area code designation in the
19 location file card.

20 So, in the CATI report, work location
21 was unknown, three to four miles northwest of

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1 central. I guess that could be roughly considered
2 in the CPP area. The description of work is,
3 "cleanup work, shovel work, and whatever needed to
4 be done as a laborer. They were called to do
5 cleanup at Wright's, just over the fence. They
6 were pulled out because they said it was too hot."

7 And our final case here is, again,
8 another heavy equipment operator for H.S. Wright.
9 This particular claimant had five separate
10 employment periods at INL. So, again, we're
11 talking about intermittent type of employment. In
12 total, it was about four years of SEC employment.

13 The location file card, again, had CPP
14 construction. One of them was designated as
15 monthly. The location file card also indicated
16 the claimant also assigned to MTR, coincidentally,
17 with two of these three periods that indicated CPP.

18 The claimant registered positive
19 penetrating dose during two of the periods. The
20 third period was zero dose but did indicate he was
21 monitored. And the CATI report was performed with

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1 the survivor, so we really couldn't glean any
2 information from that, unfortunately.

3 So, that leads us to finding two, which
4 I'll read. "Based on SC&A's evaluation of
5 recently captured supplemental dosimetry records,
6 as well as observed claimants with inadequate NOCTS
7 records, it is apparent that the reviewed claimants
8 who worked for the Atomic Energy Commission or the
9 prime contractor and who have direct evidence of
10 work at CPP have at least one corresponding
11 dosimeter badge associated with CPP to allow for
12 SEC determination. However, SC&A could not locate
13 corresponding dosimetry in the supplemental
14 records for some claimants who worked as
15 subcontractor trades workers and who have direct
16 evidence of being assigned to CPP. Thus, SC&A was
17 unable to validate the SEC Class Definition as
18 proposed by NIOSH."

19 So, just some summary conclusions here.
20 It's really our opinion that for most workers,
21 especially workers of the prime contractor, the

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1 chances that they would be accidentally missed by
2 the Class Definition is probably very low. But as
3 we just went over, we were unable to locate
4 dosimetry for three of the 12 subcontract workers
5 who were identified as having the insufficient
6 NOCTS records for SEC determination, and who also
7 had direct evidence of being assigned to CPP.

8 This might suggest a problem with
9 either how construction trade workers were badged
10 and/or how their company records were retained.
11 And that was based on the records we had at the time,
12 both in NOCTS and the supplementary that we had.

13 As far as recommendations, these are
14 to, to the extent feasible, figure out if there is
15 evidence to sort of mitigate what appear to be
16 missing dosimetry records for these subcontract
17 claims and any other potentially affected claims
18 down the line.

19 We also feel it would be very
20 instructive if we conducted focused interviews
21 with these sort of intermittent subcontract

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1 workers and trade workers to talk to them to see
2 if they also agree that pretty much you had to have
3 a badge if you were going to enter the CPP area and
4 that badging was pretty much universal.

5 And also what would be very useful, to
6 the extent feasible, is if we could figure out which
7 subcontractors actually supported radiological
8 work at CPP. And somewhat importantly, what
9 subcontractors didn't support any radiological
10 work. Because if we came across situations where
11 we don't have badging for someone, but they worked
12 for a subcontractor that just, for whatever reason,
13 never performed any radiological work, that would
14 be significant.

15 And also if we could obtain rosters of
16 workers who might have been involved in
17 radiological activities, then we could go and
18 compare these against the records we have to see
19 how that all stacks up.

20 So, these are sort of our summary
21 recommendations. That concludes my presentation,

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1 and I'd be happy to field any questions.

2 Am I still on the line?

3 MR. KATZ: Yeah, you're on the line,
4 Bob. Thanks.

5 MR. BARTON: Okay.

6 CHAIR SCHOFIELD: Hey, Bob. This is
7 Phil. I've just got one question for you. Did
8 Department of Labor by any chance give you a list
9 of all the prime contractors and subcontractors
10 that have existed out there? I know it's quite
11 extensive that have come and gone through that
12 facility.

13 MR. BARTON: We do have a list. It is
14 very extensive. It's something like 50 pages, of
15 maybe 30 entries a piece, of all of the prime and
16 subcontractors and also what codes were used to
17 identify those subcontractors and prime
18 contractors and dosimetry records and things like
19 the location file cards.

20 So, there's a reference out there. As
21 to where that reference came from, I can't really

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1 say at this time. I don't know if the folks over
2 at NIOSH might have more information on that. But
3 it was a very extensive list of all these different
4 subcontractors that have operated out there at one
5 time or another.

6 CHAIR SCHOFIELD: Okay. Thanks.

7 MEMBER BEACH: Hey, Bob. This is
8 Josie. I have a question for the record. I know
9 you got NIOSH's slide presentation very late, but
10 your recommendation stands even with the changes
11 that NIOSH has made to the Class Definition? Is
12 that correct?

13 MR. BARTON: Well, it would be the
14 three workers that we went over at the end there,
15 where they have insufficient NOCTS records but we
16 also found evidence that they were at CPP. Their
17 employment periods were not necessarily restricted
18 to the post-1970 period, so I believe that
19 recommendation would still stand for evidence that
20 maybe we still have claimants even in that earlier
21 period who we can't find dosimetry of but we have

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1 evidence that they were working at CPP, or at least
2 assigned to CPP.

3 MEMBER BEACH: Thank you.

4 MR. BARTON: That said, I believe that,
5 in the next presentation, I think there might have
6 been additional information, specifically about
7 these claimants, which certainly might have an
8 effect.

9 MR. FITZGERALD: This is Joe. But I
10 guess, in general, as Tim pointed out, there's a
11 whole slew of records that have not been reviewed
12 yet, which is the CX database. So, clearly, we
13 don't have all the cards on the table right now.

14 MR. STIVER: Yeah, this is Stiver. I
15 certainly agree with that. I mean, 25 percent of
16 the subcontractors that we did look at, you know,
17 we were able to find records for. Now, maybe those
18 CX records that may be available in a few weeks can
19 kind of flesh out that missing area, that gray area.
20 But we certainly would want to take a look at those
21 records in detail before drawing any conclusions.

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1 MR. BARTON: Yeah, I would reiterate
2 that when we did this analysis and we found that
3 25 percent, we were operating with the listing of
4 supplementary records. We list them out in our
5 actual report, so you can see they were quite
6 extensive.

7 And as I said before, we started with
8 39 total claims that we didn't have sufficient
9 records for, but evidence at CPP, and sort of
10 combing through those records, which is really no
11 small feat. Most of the records are not in
12 condition where you can do word searches in the
13 traditional sense. So, you're actually left going
14 line by line sometimes.

15 We were still able to find 36 of those
16 39, but, again, three we couldn't. And those three
17 happened to be three of the 12 subcontractors.
18 Again, it was direct evidence of being assigned to
19 CPP and insufficient NOCTS records.

20 MEMBER MELIUS: This is Jim Melius. I
21 guess my question is more, what's the next step to

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1 take? Your recommendations and your slides and
2 report are pretty general. And I'm trying to
3 understand how do we resolve this issue.

4 MR. BARTON: I guess one part of it is
5 that notion that we didn't have -- I guess that we
6 have some new records that are on the way or maybe
7 just got our hands out, which might clear up these
8 25 percent of the subcontractors we found that were
9 definitely problematic from an SEC administration
10 standpoint.

11 So, certainly examination of those
12 records would help. But the other larger facet,
13 I think, was to perform these focused interviews.
14 If we could find some former workers who weren't
15 -- didn't spend their entire career there but
16 really maybe worked out of a local union and went
17 on the site for a few months at a time, and talk
18 to them about what they recall, if they worked at
19 CPP and what precautions were taken and whether
20 they could have entered areas of the facility
21 without having a film badge.

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1 I think those are really the two main
2 ones. And the third one was if we could find
3 information specific to what subcontractors were
4 involved in radiological activities, that would at
5 least narrow our focus.

6 And then beyond that, to the extent
7 feasible, if we could get a list of the actual
8 workers, again, we could stack that up against the
9 badging records we have and see if we find workers
10 who were assigned to radiological activities but,
11 again, we can't find any badging related to it.

12 MEMBER MELIUS: Yeah. I mean, it
13 would seem to me that, I mean, a sample of 12 is
14 pretty small. It doesn't seem to me that, say,
15 presumably, the three out of the 12 subcontractor
16 workers get resolved somehow, at least for me, that
17 wouldn't put to bed the issue as to whether there
18 was adequate monitoring and adequate
19 record-keeping to support the original Class
20 Definition proposed by NIOSH.

21 And so I guess my question is, where do

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1 we go from here? And I think you're saying the
2 first step would be interviews, the focused
3 interviews. And then where? You're going to need
4 to look at these missing records, or about to be
5 delivered records, to shed some light on what the
6 next steps would be?

7 MR. BARTON: Yes, I certainly think
8 that would be important. And, well, I guess one
9 clarifying comment. I agree, 12 doesn't sound
10 like a large number. But, again, this was not a
11 representative study. This was an iterative
12 process where we went looking for claimants who
13 would be problematic for this.

14 How we get down to 12 is first we
15 identified all the claimants who had insufficient
16 NOCTS records. And then from those we looked
17 through and said, alright, well, how many of them
18 have direct evidence of work at CPP based on these
19 location file cards? And that narrowed it down to
20 39. And then in those 39, how many worked for
21 subcontractors versus the prime contractor? And

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1 now we're down to 12. And then three of them we
2 could not find in both sets of records, both the
3 supplemental that was available, and what's in
4 NOCTS obviously is insufficient.

5 So, while 12 doesn't sound like a big
6 number, that's sort of, you know, as we were going
7 around and kind of lifting up every rock, that's
8 where we ended up. So, it does seem like a small
9 number, but when you look at the whole, we got to
10 that small number by sort of looking for, I guess
11 you could call the worst case scenario.

12 MEMBER MELIUS: Yeah, but how many
13 subcontractors worked at CPP area? What was the
14 numbers of workers that were in there over the time
15 period involved?

16 MR. BARTON: Right, and I understand
17 that.

18 DR. TAULBEE: This is Tim. If I could,
19 as you're trying to discuss or talk about kind of
20 your path forward, I was able to get some follow-up
21 following SC&A's report. If you'd like me to go

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1 over that a little bit here with these three cases,
2 I'd be happy to do so.

3 MEMBER MELIUS: I'll toss it to Phil,
4 who's the --

5 CHAIR SCHOFIELD: That sounds like a
6 good idea to me because it's kind of -- as Jim has
7 pointed out, we're kind of looking at a drop in the
8 bucket of what potentially may be out there.

9 DR. TAULBEE: Okay. Give me just a
10 second here to pull up the file.

11 MEMBER BEACH: While you're doing
12 that, Tim, this is Josie. So, one thing, Bob, that
13 struck me when I read your full report -- of course,
14 I didn't have it in my hands very long. But when
15 I was looking at the claims that you had records
16 for, it was very telling, the last sentence in your
17 summary that said without more specific knowledge
18 as to work locations or job duties during periods
19 with no dosimetry cycle badges, it's not possible
20 to determine whether the claimant was badged or
21 should have been badged.

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1 You put that in almost every one of
2 these, so it just leaves me believing there's still
3 more information that we need, even pertaining to
4 some of these claims that are in categories -- I
5 believe that was in category two I was just looking
6 at.

7 So, anyway, there seems like a lot of
8 missing information still.

9 MR. BARTON: That's correct. And
10 really it's a question of when you see what appears
11 to be a gap in the badging, which many of those 30
12 claims showed. And we tried to look at all the
13 information, and we tried to present all the
14 information that was available for those
15 claimants.

16 And you eventually get to a point where
17 you don't have the record or the information
18 available to make that determination of whether
19 this is an actual gap in badging or if there's a
20 reasonable explanation for the gap in badging or
21 if the person wasn't exposed.

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1 So, again, I talked a lot about that
2 gray area, and that's exactly what it is. It's an
3 area where we just simply don't have the
4 information to say one way or the other whether what
5 appears to be a gap is in fact a problem from an
6 SEC --

7 MEMBER BEACH: Right, and I guess I
8 want to -- and, Bob, I wanted to point that out just
9 simply because while we have the three that we know
10 we don't have information more, there's still, like
11 you said, gray areas in a lot of the others also.

12 MR. STIVER: This is Stiver. I really
13 believe that we need to take a look at the CX
14 dosimetry data. So, for one thing, to see if
15 there's any patterns over time. Whether there are
16 additional gaps with that data may kind of provide
17 us more assurance that, for at least the
18 subcontractors, that we're not looking at a
19 situation where record retention may not have been
20 as thorough as it had been for the AEC workers or
21 prime contractors. That would raise another

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1 issue.

2 Another thing that we want to keep in
3 mind is, did the distribution of claimants as it
4 exists now really reflect the distribution of the
5 types of workers? That is, are there some
6 categories, say, some of these subcontractors,
7 that may be under-represented in the claimant
8 files? Are there more of them out there that just
9 aren't filing claims, in other words?

10 I don't know how we would grapple with
11 that, but I think as a first step we would certainly
12 want to look at the new CX records when they become
13 available.

14 DR. TAULBEE: Alright, this is Tim.
15 Would you like for me to go over what we've been
16 able to find for these category fives?

17 MR. KATZ: Yeah, Tim. Go ahead.

18 DR. TAULBEE: Okay. Alright,
19 obviously, when we got SC&A's report last week and
20 we looked through it and got to the category five
21 claimants, this caused us some pause as to we've

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1 got potentially people who were in CPP, and as Bob
2 pointed out, direct evidence they were in CPP. And
3 the dosimetry is an annual summary. And so it's
4 not very informative.

5 Now, when we did our evaluation, we
6 found more than just these few. We did not focus
7 down on just construction trades. We were looking
8 at more where we have some what we call potential
9 evidence of somebody working in CPP. That's the 32
10 claims where we have annual summaries and we don't
11 know where they worked. They could have been at
12 CPP. They could've been in MTR. They could have
13 been somewhere else, but we have a suspicion they
14 might have been at CPP.

15 Well, with these category five cases,
16 with the annual summaries, going back to my initial
17 presentation talking about why we just have annual
18 summaries and not the full dosimetry report, was
19 due to an efficiency measure, that DOE could just
20 send us the annual summaries and that was going to
21 be sufficient.

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1 So, it's not that these records don't
2 exist. It's more of we didn't need them to do dose
3 reconstruction, and therefore we didn't request
4 them.

5 Following Bob's report, last Wednesday
6 when I got this, I called up the site and said, "For
7 these three people, can you send us what dosimetry
8 you have for them? Not just the annual summary for
9 the original agreement, but can you send us their
10 files as a supplemental dosimetry request so that
11 you all can evaluate this?"

12 Those came in last night. And I
13 certainly understand the initial discussions of
14 things coming in at the last minute. And we
15 definitely need to do better on this from that
16 standpoint so everybody has access to the
17 information in a more timely manner.

18 But what I did last night with these is
19 I went through each of these cases and looked at
20 the dosimetry. And I've got it here by claim
21 number.

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1 Ted, just before I go any further here,
2 this is closed off to the public. Correct?

3 MR. KATZ: Right. No, the Live
4 Meeting is safe space.

5 DR. TAULBEE: Okay. So, when I pull up
6 these slides, I want to remind everybody this is
7 PII information, so I will not be talking about the
8 individuals by name.

9 I've tried to highlight the dosimetry
10 that is pertinent here so that you can scroll
11 through and find it. The site also was very
12 gracious, when they sent these files yesterday,
13 they put an asterisk or a star by the pertinent
14 claim record.

15 So, in the first particular case, where
16 the original record indicated work at CPP and area
17 code 115, starting in August of '74 and running
18 through October 1st of '74, we were able to find
19 the dosimetry for this individual, starting in
20 August of 1974. I've highlighted the result
21 there.

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1 If you go to the next record that was
2 sent by DOE last night, here's the September of 1974
3 badge. And then in page 5 here, you've got the
4 October of 1974 badge for this individual.

5 So, while the annual summary doesn't
6 show the work location and the locator card shows
7 the work location, when we get these CX reports --
8 because 115 is part of that CX series -- we should
9 be able to resolve all of these particular
10 discrepancies.

11 In this particular case, we have all
12 three dosimeters for this particular individual
13 during this time period that he worked. But,
14 again, the site wasn't geared to provide all the
15 of CX reports. If you look in the upper corner here
16 of this particular report, you'll see a number,
17 000-17691.

18 That's the file number that this came
19 out of. So, what the site is doing right now, why
20 they can't just immediately send us the CXs, is they
21 have to go through these files and identify whether

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1 this is a CX report or an MTR report.

2 And so they're compiling all of these
3 in order to send to us. For this particular
4 person, they were able to easily find the dosimetry
5 page because that's how their dosimetry is indexed.
6 That's their database. They plug in this
7 particular claimant's name or social security
8 number or S number and they can find these three
9 dosimetry reports very quickly.

10 And all of the dosimetry that I'm
11 showing you right now was requested from the site
12 last Thursday. They didn't work Friday. They
13 were able to get it to us by Tuesday afternoon or
14 by Tuesday evening.

15 So, this is how they're indexed.
16 They're not indexed by the CX or CPP type of
17 scenarios. So, from an individual claimant
18 standpoint, you can pull back and get this
19 information fairly rapidly. They are trying to
20 get us all the complete set of the CX reports, but
21 it's going to take them a little bit of time.

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1 So, this was for the first case number
2 one that Bob pointed out to us. Any one of these
3 three reports obviously places this person at CPP
4 and CPP construction, and therefore would be part
5 of the SEC class.

6 This is case number two. And across
7 the top I've highlighted, you see this one is
8 labeled CX area exposure report. And this is where
9 the contractor code is not 115, which was CPP
10 quarterly, CX quarterly; this is the CX area
11 exposure report. So, looking through, in Bob's
12 report, for this particular claim, if you look on
13 page 39 of his report, he shows the location card.
14 But, again, when we did the evaluation, he only had
15 access to the annual summaries.

16 I originally thought the CX reports
17 were part of all of the CPP reports. We've learned
18 that they are not. But in this particular case,
19 we can ask the site to try and locate this person's
20 dosimetry and send us a full report. And they did
21 so. And here is a badge from August of 1967, which

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1 indicates that he was in that particular area of
2 CPP. So, this would result in including the
3 individual.

4 Here is the dosimetry report for
5 September of 1967. From the location card, as Bob
6 pointed out there in his figure 20, he has dual
7 identical time periods for both CPP and for MTX.
8 And so what I'm showing you here is this particular
9 individual, just his CPP badges, his CX exposure
10 reports.

11 But if you go through his complete file,
12 which I put out there on the Advisory Board document
13 review, I sent all of you the link to get to it last
14 night, you can go through his individual dosimetry
15 that they sent to the supplemental and you can find
16 this MTX report as well.

17 So, from the second person, again,
18 we've got dosimetry here that clearly puts them in
19 CPP during the covered period. And this is prior
20 to our expansion of the Class, by the way. This
21 is 1967, so this is relevant from that standpoint.

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1 The last case that Bob brought up here
2 was a very interesting particular file for this
3 particular individual. The dosimetry
4 supplemental file that DOE sent last night is 122
5 pages long of dosimetry. And in this particular
6 case, the slide that I've got up there in front of
7 you is showing the CX area. This would be area code
8 11. This was the earlier one before it went to 113
9 and 115.

10 And you can see from his earlier time
11 periods, you've got monitoring for this individual
12 throughout the mid-1960s. And what I wanted to
13 point out here is -- let's see here. Let me make
14 sure here I got the dates right. One of the
15 indicators that Bob had talked about with these
16 individuals was -- and I'm sorry I'm jumping around
17 here. Let me get back to where I wanted to go.
18 Here.

19 This is the individual who was
20 indicated that they had a positive exposure in
21 1966, but you couldn't tell from the annual summary

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1 where did that exposure occur. Did it occur at
2 CPP? Did it occur at MTX? Where did it occur? In
3 this particular case, if you go off to the right,
4 you'll see the dosimeter results right under
5 current period.

6 You got open window and closed -- or
7 shallow and deep, rather -- and you've got 55
8 millirem here for this particular person. If you
9 go over to the contractor code -- or not contractor
10 code -- the area code, APN/113, that says this
11 occurred at CPP.

12 As I go down two slides, you've got the
13 next positive dose that the individual had, that
14 was reported there in Bob's report, of 45 millirem.
15 This one actually didn't occur at CPP. This one
16 occurred in MTX. And you'll that APN/333 for the
17 code. And that corresponds to MTX or MTR
18 construction.

19 So this is an individual who's badged
20 did multiple different areas. Again, only one
21 badge in CPP qualifies for being part of the SEC.

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1 And again, this individual, like the previous two,
2 when you obtain the actual dosimetry reports,
3 clearly puts them at CPP during that time period,
4 and so they would be included in the Class.

5 So, the other four individuals that
6 were in the gray area in Bob's report, we have
7 requested their supplemental dosimetry, but I
8 prioritized these three because these gave me the
9 most pause. And I wanted to really track this one
10 down, especially before today if at all possible.
11 And so folks at DOE worked diligently to get this
12 information, and I really commend them for doing
13 so, as well as the staff here at NIOSH to get the
14 records transferred here electronically last night
15 and working late in order to get this out.

16 So, hopefully, the Board, the Work
17 Group, SC&A can understand that there is more
18 information out there that I think will really help
19 in your evaluation. And I'd really like to point
20 this out and hope that you will review it when we
21 get all of the CX reports.

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1 Or if you run into a claimant issue,
2 request the information from DOE and see what it
3 is they come up with from their database, which is
4 more geared on an individual basis and not, as
5 you're saying, rosters-type of scenario.

6 So, with that, I'll be happy to answer
7 any questions.

8 MR. BARTON: Tim, this is Bob Barton.
9 Aside from the NOCTS records that only have the
10 annual summaries -- which I guess is part of, as
11 you said, an efficiency measure -- for the
12 claimants who, in addition to those annual
13 summaries, do have the area dosimetry reports,
14 these additional CPP construction reports, would
15 those all be reflected already in those records?
16 Or these additional records that are just now
17 coming in, would those also have to be applied to
18 the claimants who had already area dosimetry cycles
19 in their NOCTS file but maybe not a complete
20 accounting of every record?

21 I'm trying to figure out whether the

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1 ones who do have the routine monitoring forms with
2 the area, if those records are complete as DOE
3 considers them.

4 DR. TAULBEE: The short answer is no.
5 And the reason actually comes back to the temporary
6 badges. And if I can go back -- let's see if I can
7 do this. If I can go back to my original
8 presentation, and let me go up a few slides here.

9 This is one of the temporary badge
10 reports that I just pulled up. And the way they
11 did their indexing for individuals is, yes, a
12 temporary badge was positive. Then the badge was
13 entered into their index. If it was not positive,
14 it was not entered.

15 So, routine folks are picked up. The
16 CX folks are picked up. But the temporary badges,
17 in this particular case you see one positive badge
18 result here on the temporary report. That was
19 picked up in their index. So, when they're sending
20 us results, they're only going through their index
21 and what they find.

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1 This is part of why we physically
2 captured all of the temporary badge reports when
3 we were onsite in April, was because we learned this
4 at that time in talking with the dosimetry folks,
5 that these weren't necessarily entered into their
6 index if they had a zero dose.

7 So, the only way to identify some of the
8 people outside the index is to go through this
9 temporary badge report and find them, like you did
10 with a large number when you were taking your 39
11 folks that you wanted to do follow-up on. And it's
12 very tedious. And you did a great job on that,
13 because these are not easy to try and find when you
14 go through there. We've been struggling
15 internally with it. Lara Hughes and Mitch Findley
16 have been working with these.

17 And we certainly understand the pain.
18 It's not simple to go through. And probably one
19 of the big steps that's going to have to be done
20 is these are going to have to be coded in order to
21 look people up faster from that standpoint.

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1 Does that answer your question, Bob?

2 MR. BARTON: Yes, it does. Thank you,
3 Tim.

4 MEMBER MELIUS: This is Jim. I just
5 want to follow up on that part of it. In terms of
6 then implementing this Class Definition, I mean,
7 the steps would be that presumably it's approved
8 and so forth. The claim goes into DOL. They have
9 employment information during the appropriate time
10 period. DOL would then have to request this kind
11 of a record search from DOE?

12 DR. TAULBEE: The way I envisioned it
13 working, and the way I talked with Greg Lewis from
14 DOE and Craig Walker, was that DOL would send a
15 request to DOE asking whether this person worked
16 at CPP, or met the criteria because we've now
17 changed it and opened it up larger.

18 And so what DOE would do is they would
19 go through and try and find a dosimeter badge issued
20 at CPP up through February 1970, or any badge from
21 the '70 to '74 time period.

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1 And, really, they only have to find one.
2 They don't have to go through everything. If they
3 find a routine badge, they're done. It only runs
4 into the individuals that they're not finding in
5 their system, that at that point they would need
6 to go to these temporary badges to try and see if
7 they were monitored.

8 Does that answer your question, Dr.
9 Melius?

10 MEMBER MELIUS: Yeah. Yeah, it does.
11 As a follow-up to that, what's the rationale for
12 requiring external radiation monitoring for the
13 expanded part, the '70 to '74 period?

14 DR. TAULBEE: The rationale is that the
15 infeasibility deals with plutonium and other
16 actinide exposures separated from fission products
17 in the CPP processing building, particularly the
18 cells and the operating corridors, the maintenance
19 corridors, as well as the laboratories.

20 You couldn't physically get there
21 without wearing a dosimeter badge. There was

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1 security at the front gate that was checking your
2 security credential as well as the dosimeter. And
3 some of Ms. Stanger's memos, correspondence, is
4 indicating, this was very well-known. People had
5 to wear a dosimeter badge to go into these areas.

6 So, the rationale of opening it up for
7 anybody monitored is that somebody physically
8 could have been working at their main job at Central
9 Facilities or the Burial Grounds. And they could
10 have gone up to CPP and used their CFA-issued
11 dosimeter, which will have a different area code.
12 It won't have area code 5 or 53 or 55. Or under
13 the CX reports, it wouldn't show up in 11, 113 or
14 115. MTR, for example, is 3. And they could have
15 physically one into one of these operating
16 corridors or one of these cells and done some work.
17 And we wouldn't have a record that they were
18 physically in CPP and had this potential exposure.

19 So, that's our rationale for opening it
20 up. But we're still restricting it to people who
21 were badged, because you couldn't have gone into

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1 those buildings without a badge. A film badge, I'm
2 sorry.

3 MEMBER MELIUS: So, who are we
4 excluding? I mean, in a practical sense. Is
5 that --

6 DR. TAULBEE: Accountants, clerical
7 folks that worked at Central Facilities. The
8 laundry folks at Central Facilities were badged.
9 Some bus drivers that may not have gone in, or that
10 were not badged and didn't go physically into the
11 buildings within the fenced areas. Administrative
12 procurement-type of folks, that type of thing.
13 That's who's being excluded.

14 MEMBER MELIUS: Okay. Because, I
15 mean, in the past we found these kinds of
16 definitions to be -- or DOL has found them to be
17 problematic.

18 DR. TAULBEE: Right. And this is one
19 that we vetted with DOL, at least the initial one.
20 And they felt it was workable, with the cooperation
21 of DOE to identify these area codes.

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1 MEMBER MELIUS: Yeah. The other
2 aspect, because I think you're going to write this
3 up as a Revision 1 report, is look at whether a
4 compound definition is sufficiently clear. We've
5 had difficulties constructing compound Class
6 Definitions where we've had like sort of two
7 different sets of criteria into one definition, and
8 what happens to the people that are on the border
9 that overlap between the two. Again, it won't be
10 a large number of people, but it would be some.

11 I would also add that we ought to, and
12 this is maybe for counsel to look at or think about,
13 is this whole issue of health endangerment. We're
14 not really requiring a person to have worked 250
15 days in CPP.

16 DR. TAULBEE: No, because we can't rule
17 out, remember, some of the badges, as Bob pointed
18 out in his presentation, were annual TLDs.

19 MEMBER MELIUS: Right, yeah.

20 DR. TAULBEE: They very well could have
21 been in there for 250 days with one badge.

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1 MEMBER MELIUS: Right. But they could
2 have also been in there for a day.

3 DR. TAULBEE: That is correct.

4 MEMBER MELIUS: Yeah. And when we're
5 restricting it, particularly with a compound
6 definition, I think it could be problematic. That
7 is going to be dealt with, I hope.

8 DR. TAULBEE: Okay. That's all that I
9 have, Phil.

10 CHAIR SCHOFIELD: Actually, I was
11 going to suggest maybe a short ten-minute break
12 right now. I don't know whether people need a
13 break or not. If not, we can continue.

14 MR. KATZ: That's fine, Phil. People
15 need a break, ten minutes.

16 CHAIR SCHOFIELD: Yeah.

17 DR. TAULBEE: Okay. That's sounds
18 good.

19 MR. KATZ: So, it's 12:20 by my clock,
20 so at about 12:30 we'll come back.

21 CHAIR SCHOFIELD: Sounds good.

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1 (Whereupon, the above-entitled matter
2 went off the record at 12:19 p.m. and resumed at
3 12:30 p.m.)

4 CHAIR SCHOFIELD: Well, for those of
5 you who have access to it, it looks like John's
6 already got his slides up on the screen there.

7 MR. KATZ: Yes, he does. And this
8 presentation is also on the NIOSH website.

9 CHAIR SCHOFIELD: Okay. This one is
10 on the NIOSH website?

11 MR. KATZ: Yes. All of the
12 presentations are now on the NIOSH website.

13 CHAIR SCHOFIELD: Oh, okay. I wasn't
14 100 percent aware of that to be honest with you.
15 So, I guess if John's ready to go.

16 MR. STIVER: Okay. I can go ahead and
17 get started. This is John Stiver from SC&A. And
18 as you can see by the title -- I'm assuming
19 everybody can see the presentation. Is there any
20 trouble with that, or does this look okay? It's
21 not too big to fit on the screen or anything like

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1 that?

2 MR. KATZ: It looks good, John.

3 MR. STIVER: Okay. And according to
4 the title, it's "Evaluation of the Areas and Times
5 that NIOSH has Determined Doses are
6 Reconstructable." And this slide presentation is
7 really a companion to the document, the interim
8 progress report on this very subject that we sent
9 out and we posted, I believe, Monday morning.

10 Again, my apologies for the lack of
11 timeliness on this. We were kind of scrambling
12 last week to get it out, and then the 4th weekend
13 and so forth. But in the future everything will
14 be delivered at least a week in advance.

15 Let me move on down here to the next
16 page. And I just want to give you some background
17 here. As you all know, the INL is a very complex
18 site. And accordingly, the Board determined that
19 the review of the ER should be performed in a
20 graded, deliberate manner where we would first
21 conduct preliminary reviews of certain issues that

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1 were of immediate concern.

2 And the near-term tasking to support
3 this meeting, and also the Board session in Idaho
4 Falls, were two-fold. As you know, to evaluate the
5 Class Definition, which we've discussed already
6 today. And also to begin a focused evaluation of
7 those areas, activities, and times that NIOSH has
8 determined doses are reconstructable with
9 sufficient accuracy.

10 I might also mention, there are several
11 areas that are still held in reserve. And,
12 obviously, we would not begin looking at those
13 until NIOSH has made their own determination
14 regarding that reconstructability.

15 And I'd like to reiterate that, again,
16 this is very much a work in progress. This is a
17 progress report. The presentation is really just
18 to inform and recommend areas where we believe more
19 research is needed. And you can see that last line
20 there that I bolded. We expect no judgments or
21 conclusions to be drawn at this preliminary stage.

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1 The way we approached this gap
2 analysis, we really used both a horizontal and
3 vertical approach. Horizontal being looking at
4 dose reconstruction methodology applied across the
5 site and cross-cutting, not really relegated to any
6 particular facility, operation, or time period.
7 And we also went vertical in some areas, individual
8 areas at the INL site, for which we felt it was
9 appropriate at the time.

10 We have six areas of investigation,
11 kind of sub-studies if you will. Two were cross
12 cutting, one being the investigation of fission and
13 activation product bioassay indicator
14 radionuclides, especially this whole notion of
15 using ratios for cesium-137 and strontium-90 to
16 derive mixed fission product and activation
17 product intakes, and also actinide intake.

18 The second cross-cutting aspect was
19 reactor modeling, and this was obviously important
20 to the test research area and also to Test Area
21 North.

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1 We did four vertical analyses, one
2 being the Burial Grounds; Central Facilities Area;
3 the CPP pre-1963, right before the SEC, I believe,
4 from '52 to '63; and then Test Area North.

5 Alright, let's take a look at the
6 fission and activation product and actinide
7 intakes per NIOSH's ER. And NIOSH's methodology
8 is really based on four fundamental assumptions
9 regarding fission and activation products, or FAP,
10 bioassay.

11 NIOSH assumes that sufficient workers'
12 records containing bioassay, both in vitro and in
13 vivo, those results are available to assign intakes
14 and resulting doses of FAP. And some areas and
15 periods may need a coworker model to be developed.

16 Regarding FAP intakes, except for
17 special situations, all the dosimetrically
18 significant intakes are directly tied to an
19 indicator radionuclide, as I mentioned earlier,
20 strontium-90 or cesium-137. And that ratios and
21 intake assignment methods provided in

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1 ORAUT-OTIB-0054 were sufficient to bound all
2 potential exposures to these FAPs at INL.

3 The third assumption regarding
4 actinide intakes, again, except for special
5 situations, the actinide intakes are also directly
6 tied in a constant ratio to fission and activation
7 products. So, therefore, the same ratios can be
8 used, using tables 5-22 for strontium-90, and/or
9 5-23 for cesium-137 out of TBD-5.

10 And, finally, the last, the fourth
11 assumption, the special situations actinide, for
12 personnel who were involved in an operation and
13 certain incidents, either planned or unplanned,
14 with actinide present that were not directly tied
15 to an FAP in a constant ratio, were adequately
16 monitored and the results are available in the
17 workers' records. So, therefore, these intakes
18 and resulting doses can be reconstructed in these
19 special cases.

20 Now, we look at it a couple different
21 ways to evaluate this. First, Ron Buchanan is

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1 heading up the study, and he's doing a really great
2 job on it. We looked at the NOCTS claimant files,
3 specifically for positive bioassay data for these
4 radionuclide ratios. It might kind of give us a
5 second way to kind of triangulate on these ratios
6 to see do the actual data reflect what is generated
7 using the computer from scale that we have in the
8 tables in TBD-5.

9 And also look in the SRDB to evaluate
10 documents that might contain workers' bioassay
11 data to evaluate these ratios. And also look at
12 air monitoring filters, smear data, nasal swabs and
13 so forth that might be available to corroborate the
14 ratios.

15 Where do we stand now? It's kind of a
16 mixed bag. Some of the data provided lower FAP
17 intakes than would be assigned using TIB-0054.
18 So, that gives us assurance that TIB-0054 is
19 actually claimant-favorable.

20 The same can be said for actinides,
21 plutonium-238, using TBD-5. However, some of the

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1 data provided for greater actinide intakes,
2 particularly plutonium-238 and americium-241,
3 than would have been derived using TBD-5.

4 Hang on a second. Jumped ahead again.
5 So, where do we need to go now? Well, we're
6 currently determining if the burn-up in the fuel
7 elements used by NIOSH is applicable/bounding to
8 the situations encountered at INL.

9 We're investigating the use of one
10 model and only three fuel elements to bound the
11 intakes and the doses.

12 And we also need to determine if records
13 analysis of dissolver contents, you know, the
14 chopped, shredded fuel elements are available,
15 preferably for a variety of reactor fuel elements.

16 More document research is needed to
17 evaluate NIOSH's recommended ratio, and especially
18 for actinide. And we believe that the
19 investigations are going to be aided by the
20 electronic bioassay database. Even though it's
21 presently incomplete, it allows us to take a look

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1 at some of the paired FAP and actinide bioassays.
2 It provides more assurance.

3 Let me back up again. At this point,
4 are there any questions? Am I still on?

5 MR. KATZ: Yes, you're on, John.

6 MR. STIVER: Okay. Alright.

7 CHAIR SCHOFIELD: Hey, John. One
8 quick question before you go on. We know that INL
9 handled a number of the different fuel pins and
10 stuff, dissolving them up and processing them.
11 And some of those pins came from, hope I'm not
12 getting into classified area, but they had
13 different levels of enrichment. Some of those
14 fuel pins were made from fuel that was recyclables
15 brought in from the field that had a significant
16 amount of, like, americium ingrowth and things.

17 Is that model going to be able to handle
18 those differences without -- what's your feeling
19 on that model?

20 MR. STIVER: It's kind of what we're
21 trying to investigate at this point by looking at

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1 real bioassay data: do those data corroborate
2 NIOSH's proposed model? Is the model bounding,
3 you know, for the workers who actually have
4 submitted data?

5 Ron, are you online? Maybe you could
6 kind of flesh that out a little bit more.

7 DR. BUCHANAN: Yes, this is Ron
8 Buchanan of SC&A.

9 Yes, Phil, that is exactly the area that
10 we feel still needs to be evaluated further.

11 When I looked at this, the model that is being used
12 is the one model, computer model, saying how much
13 material would be created in a fuel element if it
14 was burned for a certain amount of time in a reactor
15 and then decayed a certain amount of time.

16 And what they essentially did was bring
17 those fuel elements, wherever they were from, into
18 a chopper-shredder, so to speak, I think they
19 called it a dissolver, and had chemicals, acids and
20 stuff, to dissolve the cladding and other materials
21 and start processing it.

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1 And what I'd like to find is some
2 chemical information, some chemical analysis,
3 showing what was in that chopper before they start
4 separating it out, because this is the last time
5 the actinides of plutoniums and uraniums were
6 actually tagged with the fission activation
7 products, the strontium and the cesium. And so
8 what would be very helpful would be to find if there
9 was some chemical analysis, radionuclide analysis,
10 showing what was in that hopper.

11 There had been some hint that there was
12 chemical analysis done, but the documents, due to
13 record retention policies, they couldn't find any.
14 And so they went into the computer modeling. I'd
15 very much like to find if there is some of that data
16 still available. And of course, the secondary
17 back-up, what we're really interested in, is what
18 did the worker actually take in?

19 And so we found some nose swabs, a few
20 other filters, a few bioassay data that we did
21 comparisons on. And we have that in our full

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1 report, about 14 samples.

2 Now, we feel these are indications that
3 we need to look at certain areas. But at this time,
4 we are not completely satisfied that the one model
5 and the three fuel elements does cover. It may,
6 but at this point we are not satisfied that it is,
7 and we feel that this should be investigated
8 further.

9 CHAIR SCHOFIELD: Thanks. I
10 appreciate that.

11 MR. STIVER: Any other questions? If
12 not, I'll move on to the second study, which was
13 reactor modeling.

14 And, again, this is kind of the source
15 term side of the same problem. A lot of it is
16 looking at, what were the intakes? Do the ratios
17 that NIOSH proposed really reflect what the
18 bioassay data suggest? And Steve Ostrow kind of
19 looked at the source term side of the same question.

20 Given the models that NIOSH are using
21 are kind of restricted, and there were so many

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1 different activities going on, so many different
2 kinds of experiments at INL with different burnup
3 rates, different compositions and so forth, do
4 those ratios that NIOSH has developed really
5 reflect the source terms that were in place, or
6 actually available onsite?

7 So, you'll see right here on the slide
8 that air sampling or urinalysis data on exposure
9 to mixed fission and activation products
10 associated with reactors and fuels were basically
11 only in the form of gross beta or gross gamma
12 activity unattributed to any specific nuclide.

13 So we went again and looked at OTIB-0054
14 which provides the guidance on kind of hooking
15 these activity levels back to a particular mix of
16 radionuclides that NIOSH believes would have been
17 bounding for all the potential exposures that could
18 have taken place at INL over time.

19 The OTIB considers nine different
20 cases, four representative reactors with different
21 specific power levels, irradiation times, and

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1 burnups.

2 So, our questions are, first of all, are
3 the many INL reactors and operating scenarios, some
4 of which we can call exotic, are those adequately
5 enveloped by the OTIB cases so that the isotopic
6 ratios are valid? And have all off-normal
7 operating scenarios been identified, and are there
8 also adequately enveloped by the OTIB methodology?

9 Our recommendation at this point:
10 Investigations have been primarily for normal
11 operating conditions for the three major Test
12 Reactor Area reactors: the MTR, the ETR, and the
13 Advanced Test Reactor. We believe that we need to
14 continue to investigate the applicability of
15 OTIB-0054 to off-normal operating scenarios,
16 including special materials irradiation runs and
17 any particular incidents for the TRA reactors, and
18 the characteristics of normal and off-normal
19 operating scenarios for other reactors, such as
20 Test Area North, for example, and the Advanced
21 Nuclear Propulsion reactors, which were much

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1 different in fuel composition and arrangement and
2 operation than other types of reactors.

3 At that point, I'll take a little break.
4 If anybody wants to ask questions, I know Steve has
5 done a lot of research in this. He's very
6 knowledgeable. If you want to get something other
7 than the 10,000-foot view, Steve can provide some
8 specific answers.

9 If there are no questions, I guess we
10 can move on to the next study, the very first
11 vertical study, on the Burial Grounds.

12 And this is just a couple of slides here
13 listing what our concerns are. Joe Fitzgerald has
14 delved into this quite extensively. And we have
15 some preliminary observations and concerns that we
16 listed here.

17 We have a concern that a strict
18 contamination control program was actually in
19 place. The evidence that we've uncovered suggests
20 that may not be the case. The site apparently
21 lacked adequate smear counting capability for some

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1 length of time before the early 1970s.

2 The radioactive waste was not
3 specifically identified for most drums, boxes, and
4 other containers in the early years. And we were
5 looking for an extended time period, I think 1952
6 to -- it was 1970, because I know NIOSH is holding,
7 I believe, a few months from '69 to '69 in reserve.
8 But we're looking at, I believe, '52 to '68.

9 Offsite waste received from
10 commercial, university, ERDA, and military sources
11 in the '60 to '63 were not adequately identified.

12 The AEC also voiced concerns over the
13 conflicted role of the HPs at the Burial Grounds,
14 who were also responsible for much of its operation
15 as well as radiation protection. So there is kind
16 of a concern there that they may not have been
17 conducting a completely independent program.

18 Internal investigations and appraisals
19 bring into question the robustness of the HP
20 program and this so-called defense-in-depth
21 approach for radiological controls, as cited by the

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1 ER.

2 What would we recommend? Conduct more
3 interviews with former Burial Grounds workers who
4 had experience during the time period in question,
5 you know, emphasizing the rad control program.
6 What were their views? Did have any particular
7 observations or specific knowledge of what it was
8 really like?

9 Also conduct additional data capture,
10 focusing on these four things. Additional evidence
11 of potential intakes to rad-waste handlers.

12 How contamination control was
13 administered. You know, where the rubber meets
14 the road. What was it really like?

15 Are there available routine and special
16 air sampling data we could look at?

17 Also the robustness of the health
18 physics program, you know, the independence, the
19 resources, and the monitoring practices.

20 Joe, if you'd like to add to that at all?

21 MR. FITZGERALD: Well, I guess the only

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1 thing I would add is, at this stage, you know, Tim
2 and his folks are still putting the database
3 together. And so this, by force, had to be simply
4 a document review, SRDB-based document review.

5 But, essentially, what we're just
6 trying to do is validate some of the programmatic
7 and source term characterization information in ER
8 for consistency's sake.

9 And I think what we were just pointing
10 out, at this early stage, is that the answer is
11 equivocal. There's just contradictory
12 information from some of the documents that bear
13 further research, certainly some concern over the
14 general strength of the rad program at the Burial
15 Grounds at that time period.

16 So, I'll just leave it at that. But
17 that's certainly, you know, what we have at this
18 point.

19 MR. STIVER: Okay. Thanks. And
20 that's kind of what this slide shows. Obviously
21 you can read this. We need to take a closer look

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1 at the dose assessment feasibility side, too, you
2 know, the procedures and practices that were in
3 place. Can the workers identified? Can all the
4 source terms be identified and addressed? And
5 when the database is complete, we'll certainly use
6 that as well.

7 And the next thing we looked at in kind
8 of an in-depth way was Central Facilities. Again,
9 we had some concerns here that this area handled
10 radioactive materials from all over the INL site,
11 consisting of fission products, activation
12 products, actinides, and any mixture or
13 combination of the above. And as a result, it's
14 difficult to bound internal doses by using the
15 ratio of strontium/cesium-137 using TIB-0054 and
16 OTIB-0060. We don't know the radionuclide mix, in
17 any case, so it may not be practical for each ratio.

18 Four main facilities of concern, the
19 first being the CF-640 machine shop. They handled
20 material that couldn't be worked on in other areas.
21 They were a fully equipped machine shop. Most of

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1 the materials were of a low radiation and
2 contamination level.

3 The other was the maintenance shop,
4 CF-665, where they worked on vehicles and equipment
5 that were used to haul radioactive materials.
6 These vehicles were surveyed prior to shop
7 maintenance and sent to CPP for decontamination if
8 that was necessary.

9 The Central Facilities laundry. They
10 washed coveralls and other protective clothing
11 from all over the site. The old facility that was
12 used from 1950 was demolished in '94. CF-699, I
13 believe it was.

14 And finally the sewage treatment plant.
15 Here you have small amounts of radioactivity were
16 processed through to a drying pond. Actually,
17 most of the radioactivity was from hot laundry,
18 although small amounts could come from the
19 engineering lab and the analytical lab.

20 What do we recommend for CFA? Well, we
21 believe that we need to evaluate the rad surveys

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1 and air sampling results, both during operations
2 and just prior to D&D, to determine, once again,
3 did these ratios really hold or are there other
4 mixes that need to be considered?

5 This needs to be compared back to the
6 values, obviously, in tables 5-22 and 5-23 of
7 TBD-5.

8 Any questions regarding Central
9 Facilities?

10 Okay. In that case, I'll move on to
11 CPP, pre-1963, before the SEC. As you know, the
12 currently proposed Class, from '63 to '74, with
13 modification, has already been discussed.

14 The rationale for the SEC Class,
15 obviously, is: "Increased potential for intake due
16 to poor contamination control and inadequate
17 personnel monitoring for exposures to transuranics
18 separated from mixed fission products makes it
19 unlikely that exposures to alpha emitters can
20 adequately be reconstructed from January 1963
21 through December 1974."

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1 However, NIOSH has determined that they
2 believe it's feasible to reconstruct all internal
3 and external exposure at CPP prior to 1963, because
4 INL is kind of unique in a way. When it first came
5 on line in the first part of the 1950s, they a lot
6 of experience from previous activities at other
7 sites. And they also had some of the best HPs and
8 engineers in the business working there who
9 designed the program.

10 And so it's not the situation we have
11 at a lot of sites, especially like the AWEs and so
12 forth, where the program developed over time and
13 improved. Here they started out with a really good
14 program based on experience gained at other sites.

15 But over time, that program kind of
16 deteriorated as some of the key people left and
17 other contractors came in, cutting costs and so
18 forth. And so contamination really became a big
19 problem with CPP in the time period, basically,
20 NIOSH determined really around 1963.

21 So, we're taking a look at that and

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1 trying to determine if that is really a reasonable
2 cut-off date or start date for the SEC. And this
3 Table 7-5 from the feasibility summary for the ER
4 shows that, prior to '63, NIOSH believed that all
5 these different radionuclides can be reconstructed
6 with sufficient accuracy.

7 What are our concerns and the focus for
8 our investigation? Which is very much a work in
9 progress, I might add. We're looking at
10 contamination incidents and the control program
11 that was in place prior to '63. We're assessing
12 the internal dosimetry program and obviously
13 looking at relevant claims for bioassay coverage
14 in relation to established assignments to CPP, the
15 adequacy of the bioassay program to cover internal
16 exposures to alpha emitters, and characterizing
17 temporal changes in source term and exposure
18 potential.

19 Our recommendations. Continue SRDB
20 review, looking for documented contamination
21 events and evaluation of contamination control;

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1 variations in radiological activities, basically
2 the source terms at CPP; and taking a look at
3 available hardcopy bioassay data that might be
4 specific to these alpha emitters at that site.

5 Looking at the claim file review,
6 again, in NOCTS to compile internal monitoring data
7 on a sample of the claimant population at CPP to
8 identify incidents reported in dosimetry records
9 or CATI reports. And, basically, to evaluate the
10 adequacy of internal monitoring for the purpose of
11 dose reconstruction in general.

12 Any questions on CPP? Bob is available
13 to provide details on that if anybody has any
14 questions.

15 The last area we looked at was Test Area
16 North. John Mauro and Amy Meldrum took a look at
17 this site. And there was a lot of interesting
18 activities going on here. This is kind of a
19 breakdown structure of the different programs that
20 took place at Test Area North. The Site Profile
21 and the Evaluation Report provide a lot of detailed

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1 information on what was going on in the facilities
2 over time.

3 And this is just to kind of reiterate
4 what's already out there in the literature at this
5 point. All we did with Test Area North, because
6 of the cross-cutting nature of the internal
7 exposure issues regarding the bioassay, the source
8 terms, the reactors and so forth, we thought there
9 was no real reason to really try to look at TAN in
10 isolation regarding internal dosimetry.

11 So we decided to look at the
12 completeness of the external dosimetry data, for
13 the reasons stated. The Evaluation Report and the
14 Site Profile show that there was a very high quality
15 and complete set of external dosimetry data, with
16 maybe an exception in some of the neutron data at
17 certain periods of time. And because, as I
18 mentioned a minute ago, the internal side of the
19 house is already being investigated in another
20 sub-study.

21 We took a look at the SRDB. Amy delved

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1 into this in detail. And Table 6 on pages 27 and
2 28 of the interim report lists all these data, kind
3 of a summary of what we found.

4 Thirty-seven SRDB documents, over
5 12,000 pages in total. All these different areas
6 mentioned within the site were identified.
7 Approximately 200,000 badge changes, dosimeter
8 changes in total were found, and approximately
9 7,000 neutron badges.

10 This graphic here kind of shows you, the
11 Y-axis is time -- or, excuse me -- no. Anyway, this
12 really is just a listing of all the dosimeters by
13 time periods, from '55 up to 1970. And I think the
14 axis is not quite right on this.

15 There's just a number, each plant, as you can see
16 there in the caption, at every point on there is
17 a day in which a dosimeter change-out was observed
18 in a SRDB document. With the exception of 1961,
19 there are thousands of them taking place. There's
20 a lot of data here.

21 And this table breaks it down by

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1 sub-area. You can see the Aircraft Nuclear
2 Propulsion program is well-represented in the
3 early days from '55 at least up to '62. Initial
4 Engine Tests and the STEP program are
5 well-represented. Low Power Test Facility
6 actually operated quite a bit longer than that, but
7 they're kind of a paucity of data here for that
8 particular facility. TSF is fairly
9 well-represented from '64 and on.

10 So, mostly, I guess we can say here our
11 initial observation of the quality and the
12 completeness of the external dosimetry data is very
13 good. There seem to be some temporal and
14 informational gaps, particularly dosimeters of the
15 sub-areas of TAN. And we believe that maybe
16 additional SRDB searches can help fill those gaps.

17 At this moment in time, Amy and John
18 Mauro are looking at the completeness of the
19 neutron dosimetry data. So, we're doing a
20 completeness data on the neutron data.

21 And there is one kind of

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1 recommendation, if you will, that really has more
2 to do with coworker modeling for this particular
3 case. And this kind of cuts across what the SEC
4 Work Group and some of the guidance Jim Neton has
5 put out, revised guidance that just came out
6 recently.

7 But we think, for this particular site,
8 for TAN, that records sometimes don't provide the
9 information on the sub-areas where a worker
10 experiences exposures. And given the variety and
11 uniqueness of some of the activities that took
12 place in the different sub-areas, we believe that
13 the complete data set really can't be used to build
14 a coworker model for unmonitored workers at a given
15 facility, because you don't have a homogeneous
16 population.

17 It's not like you have a bunch of guys
18 on a factory floor milling uranium or something.
19 You've got all these different things going on. So
20 to try to mix it all together and rank it and create
21 a distribution, we don't feel that is really the

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1 best way to go.

2 Rather, we would think that the
3 coworker model should really try to focus on, you
4 know, if the granularity in the data is there, we
5 think, at least at this stage, the best approach
6 would be to build coworker models for the different
7 sub-activities or sub-areas, if indeed it is found
8 that a coworker model is needed given there's so
9 much data available. There might not be a need for
10 a coworker model. So, that was kind of very
11 preliminary in nature.

12 That pretty much sums up the status
13 report. Are there any other questions, concerns,
14 observations that anybody would like to raise?

15 In that case, Phil, I guess you can move
16 on. Thank you.

17 MEMBER MELIUS: Excuse me. This is
18 Jim Melius. And I guess this question is for both
19 John and for Tim. I'm just trying to get a sense
20 of what the schedule is for going forward on the
21 site, because there's sort of a lot of different

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1 sub-evaluations going on. And I'm trying to
2 figure out, sort of, what are the next steps?
3 There's some reserved parts of the original
4 evaluation. You know, there's the Argonne-West
5 evaluation, which is underway.

6 And then plus you have what appears to
7 be a number of SC&A sub-Evaluation Reports coming
8 out at some point. Though, some of those appear
9 to be dependent on all the records becoming
10 available.

11 Did you get all that? I know it's a big
12 question.

13 DR. TAULBEE: This is Tim. I can speak
14 to kind of the general NIOSH schedule as to what
15 we are doing. In the immediate future is,
16 obviously, from our standpoint, to revise the
17 current ER and get it to the Board as absolutely
18 fast as we can.

19 And then, basically, as far as the
20 addendum component to the areas that we reserved,
21 we are waiting until after we get done with the ANL

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1 ER, which is in full-blown right now. We have
2 received all of those documents from the site, as
3 of last week, that we had captured in the spring.

4 So, the team is actually diligently
5 working on ANL-West right now so that we can meet
6 the goal of getting it to the Board, hopefully about
7 a month before the Board meeting so that everybody
8 has time in order to read and review that one before
9 we present it in November.

10 Once we get that to the Board, then we
11 will be going back on the addendum, the reserved
12 areas, the ARA area with the hot cell that's there,
13 Test Area North with the area that we reserved from
14 there to due to the uranium work that was going on.
15 And then, of course, the Burial Grounds in the '69
16 and '70 time period. But right now our immediate
17 is fixing the current ER and continuing the
18 ANL-West evaluation.

19 MEMBER MELIUS: And just a follow-up on
20 that, Tim. Where does a coworker model or
21 development of coworker models fit into these?

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1 I'm just trying to -- it came up a little bit in
2 John's presentation, and I'm just trying to get a
3 handle on sort of the amount of work involved. It's
4 sort of also buried within sort of the -- what you
5 already determined to be feasible but which still
6 need to be further developed.

7 DR. TAULBEE: Right. I don't see the
8 coworker models really being started until after
9 the ANL-West ER is complete, because of the
10 staffing and, you know, the same people working on
11 the project. So I don't see that until really this
12 fall at the soonest that we would get underway with
13 that.

14 MEMBER MELIUS: Okay. That's fair.
15 And John?

16 MR. STIVER: Again, I think some of our
17 studies we should be able to wrap up over the summer
18 and the first part of this fall, probably in the
19 September timeframe.

20 There's one little problem we're
21 encountering here, which has to do more with the

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1 site's ability to host us. Tim and his crew are
2 up there trying to get Argonne-West finished up.

3 I don't think that we're going to be
4 able to do follow-up interviews probably until
5 sometime late September or October, especially
6 related to the Burial Grounds, you know, or some
7 of these areas, CPP in the early years, where we
8 would like to do some more focused interviews. So,
9 those aspects, obviously, won't be finished up at
10 that time.

11 Anything we got in coworker models,
12 obviously, is going to have to wait for another
13 round of reviews. Unless they actually have those
14 prepared, it will be sometime next year I would
15 assume.

16 But I think at least some aspects, like
17 the reactor study, bioassay review, some of the
18 external dosimetry reviews, I think we can
19 certainly have those wrapped up probably by
20 September, I would think.

21 MEMBER MELIUS: Okay. That's

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1 helpful.

2 CHAIR SCHOFIELD: This is --

3 MR. KATZ: Phil, were you trying to say
4 something?

5 MR. STIVER: We lost you, Phil.

6 CHAIR SCHOFIELD: I'll try this again.
7 I was wondering how long you -- it sounds like
8 there's going to be a lot of data entry on these
9 records here you're waiting for from DOE. How long
10 do you expect that to take?

11 DR. TAULBEE: Who are you addressing
12 that to?

13 CHAIR SCHOFIELD: NIOSH.

14 DR. TAULBEE: Okay. Which records?
15 Are you talking about the CX records?

16 CHAIR SCHOFIELD: Yeah, the CX
17 records.

18 DR. TAULBEE: Those I'm hoping that we
19 can get by the end of the month, if not the first
20 week or so of August. So, those I hope to be here
21 within the month. I really, really hope so. In

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1 fact, I really hope it comes sooner than that, but
2 I can't promise that because of resources at the
3 site I have no control over.

4 But from a data entry standpoint, we're
5 not really going to be doing any data entry. It's
6 more of an evaluation of the current claims: does
7 that solve our gap issues, or fill in those
8 particular areas where we wanted to do some
9 additional follow-up? But that's relatively
10 small.

11 CHAIR SCHOFIELD: Oh, okay. I was
12 thinking that you're going to have to do data entry
13 on all those. I'm sorry, I had the wrong train of
14 thought there.

15 DR. TAULBEE: No, the data entry has to
16 do with the bioassay data and the coworker type of
17 models. The current bioassay database has
18 numerous issues in it. And we are looking at
19 approaches on how to clean that up, and one
20 particular approach is to do a second coding. And
21 then you've got two blind codings and do matches

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1 and then find discrepancies between the two.

2 But that's something that we're still
3 kicking around internally, but, again, I don't see
4 -- if we start doing the data coding, that's going
5 to be happening between now and the fall when the
6 health physicists become available in order to
7 actually process the data. Right now, they're not
8 available. They're working on ANL-West.

9 CHAIR SCHOFIELD: Okay.

10 MEMBER MELIUS: So, Tim, if I
11 understand you correctly, then, the current
12 recommendation is like a two-part Class
13 Definition. But really the data needed to
14 evaluate the first part of that definition you're
15 really not going to have in-hand until after our
16 meeting in July.

17 DR. TAULBEE: I don't believe so. If
18 we do, I will certainly present it, but I don't
19 believe that we will have that by then. I really
20 don't.

21 MEMBER MELIUS: But, I mean, I don't

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1 think I want to rush you to present it, because I'm
2 sure there's not really adequate time. And plus
3 there's the issue of how do we evaluate it and so
4 forth and be fair to everyone involved to look at
5 it and have to have time to deal with it.

6 I would just add, then, that if that is
7 going to be the case, then I think another argument
8 for when you do this revision, one, that you present
9 it as sort of two separate Class Definitions. It
10 makes it a little easier for the Board to look at
11 it. And the second Class Definition, the roughly
12 '74 period, the Board might be amenable to
13 approving in the July meeting.

14 DR. TAULBEE: Okay. I'll need to talk
15 with Stu and our OGC to address how we go about doing
16 that. I am not sure how we fundamentally do that.
17 But we can investigate.

18 MEMBER MELIUS: Yeah, I mean,
19 whatever. I mean, the Board can separate them.
20 But either way, it doesn't make any difference. I
21 guess in terms of presenting it and making sure that

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1 the rationale for the two different Class
2 Definitions is clear in Revision 1. I think that's
3 the most important thing.

4 DR. TAULBEE: Okay.

5 MEMBER MELIUS: Do you know what I'm
6 saying?

7 DR. TAULBEE: I'm following what
8 you're saying.

9 MEMBER MELIUS: The same goes back to
10 the questions I asked earlier so that we have that
11 and I don't have to necessarily ask all the
12 questions again at the Board meeting.

13 DR. TAULBEE: Okay. I also do think
14 that within the next week or two the four cases that
15 were identified in SC&A's report, Bob's report,
16 that were the category fours, we should have those
17 dosimetry records as well, I think, before the
18 Board meeting. I'm hoping they come in next week,
19 if not this week. So, that might be additional
20 data that Bob can look at it and we can certainly
21 look at as well.

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1 MEMBER MELIUS: Yes.

2 CHAIR SCHOFIELD: The only suggestion
3 I've got is that I'd like to see something from both
4 NIOSH and SC&A on what they see as their timeline
5 going forward from here, if that's a doable thing
6 before the Board meeting.

7 MEMBER MELIUS: Or at the Board
8 meeting, Phil?

9 CHAIR SCHOFIELD: Or at the Board
10 meeting, yeah.

11 MEMBER MELIUS: I was thinking very
12 importantly at the Board meeting, at least to the
13 extent you can, whatever you've learned, you know,
14 during the few weeks between now and the Board
15 meeting, that would be helpful to have that
16 prepared as part of the presentations for the Idaho
17 meeting, I think would be helpful, because it is
18 very complicated, confusing.

19 DR. TAULBEE: Okay. I can certainly
20 do that from NIOSH's side.

21 MR. STIVER: I'll take care of it for

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1 SC&A.

2 MEMBER MELIUS: Okay.

3 CHAIR SCHOFIELD: Okay. Thank you.

4 All vacations are hereby suspended.

5 MEMBER MELIUS: From what I
6 understand, nobody told Stu or Jim. I heard even
7 LaVon's away this week.

8 CHAIR SCHOFIELD: That's what I hear.
9 What's with this?

10 MR. KATZ: I think they're actually the
11 -- there's a health physics meeting, annual
12 meeting. I think that's where they are.

13 DR. TAULBEE: That's next week.

14 MEMBER ROESSLER: I think there's good
15 fishing somewhere.

16 MR. SUNDIN: This is Dave Sundin. Stu
17 is actually touring with some senior -- doing a
18 building walkthrough with some senior CDC staff
19 right now.

20 MEMBER MELIUS: Oh, okay.

21 MR. KATZ: So, this is Ted. So, I

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1 think you guys have sort of fleshed out in this
2 discussion what to expect for the Board meeting,
3 right? Because if we amend both those
4 presentations -- and I want to compliment. The
5 presentations were really very clear. It was very
6 nicely done on both sides. But if you flesh them
7 out to reflect the questions and issues that were
8 raised here, and also the path forward on both
9 sides, it seems like that's what will be laid on
10 the plate for the Board, right?

11 Are there other preparations that we
12 need, Board Members, in advance of the Board
13 meeting?

14 CHAIR SCHOFIELD: Josie, you got any
15 input?

16 MEMBER BEACH: No, what we've
17 discussed, I don't see anything additional that's
18 needed at this time.

19 MR. KATZ: Good.

20 MEMBER MELIUS: I would just add I
21 think you need to cut back on the length of the

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1 presentations. I don't think --

2 MEMBER BEACH: Oh, yeah.

3 MR. KATZ: Oh, no. We don't have as
4 much time, but that's absolutely right. I think
5 we'll need to be more succinct. But I think you
6 guys did a great job of being very clear on a lot
7 of complicated matters.

8 DR. TAULBEE: I actually plan on my
9 presentation being quite short, this next one, and
10 just focus on the change in the Class Definition
11 and why.

12 MEMBER MELIUS: I'll believe it when I
13 see it, Tim.

14 (Laughter.)

15 DR. TAULBEE: Okay.

16 MEMBER ROESSLER: Tim, this is Gen.
17 When you talk about the change in the Class
18 Definition, I think you could borrow some of the
19 words that when Bob made his presentation,
20 verbally, he had, I think, a very nice way of
21 explaining it.

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1 DR. TAULBEE: Okay.

2 MEMBER ROESSLER: You can maybe get
3 that out of the notes, or he has it.

4 DR. TAULBEE: Okay. Thank you.

5 CHAIR SCHOFIELD: So, does anybody
6 have any further input?

7 MR. KATZ: Are there any petitioners on
8 the line? Can we just ask, Phil, if they're on the
9 line and they want to say something about what
10 they've heard today, by all means, you're welcome.

11 (No response.)

12 CHAIR SCHOFIELD: I hope we didn't bore
13 them to death.

14 MR. KATZ: How could this be boring,
15 Phil?

16 CHAIR SCHOFIELD: Yeah, but sometimes
17 the discussions, you can lose a lot of the people.

18 MR. KATZ: I'm teasing, I'm teasing.

19 CHAIR SCHOFIELD: Well, unless
20 anybody's got anything else, I think, hopefully
21 we'll have something to distribute here before the

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1 Board meeting for people's comments, assuming that
2 is something reasonable both NIOSH and SC&A have
3 time to do.

4 MR. KATZ: Right. And let's work on
5 getting those presentations, since you've done all
6 the background work already, for the Board meeting
7 as soon as we can in advance of it.

8 DR. TAULBEE: Yes, they are due
9 beginning of next week on our end.

10 MR. KATZ: Super.

11 CHAIR SCHOFIELD: Well, I want to thank
12 everybody for all the hard work they've done and
13 for their input. You got anything, Ted?

14 MR. KATZ: No, I think you're ready to
15 adjourn us.

16 CHAIR SCHOFIELD: Okay. Well, unless
17 there's something else, I'm saying we're done.

18 (Whereupon, the above-entitled matter
19 was concluded at 1:19 p.m.)

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