

UNITED STATES OF AMERICA
CENTERS FOR DISEASE CONTROL

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NATIONAL INSTITUTE FOR OCCUPATIONAL
SAFETY AND HEALTH

+ + + + +

ADVISORY BOARD ON RADIATION AND
WORKER HEALTH

+ + + + +

92nd MEETING

+ + + + +

TUESDAY
JULY 16, 2013

+ + + + +

The meeting convened at 8:30 a.m.,
Mountain Daylight Time, in the Shilo Inn, 780
Lindsay Blvd., Idaho Falls, Idaho, James M.
Melius, Chairman, presiding.

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PRESENT:

JAMES M. MELIUS, Chairman

HENRY ANDERSON, Member

JOSIE BEACH, Member

BRADLEY P. CLAWSON, Member

R. WILLIAM FIELD, Member

MARK GRIFFON, Member

DAVID KOTELCHUCK, Member

JAMES E. LOCKEY, Member

WANDA I. MUNN, Member

JOHN W. POSTON, SR., Member

DAVID B. RICHARDSON, Member*

GENEVIEVE S. ROESSLER, Member

PHILLIP SCHOFIELD, Member

LORETTA R. VALERIO, Member

PAUL L. ZIEMER, Member*

TED KATZ, Designated Federal Official

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

2 8:33 a.m.

3 CHAIRMAN MELIUS: Okay. Welcome
4 to the whatever meeting we are, what is it?

5 MR. KATZ: 92nd.

6 CHAIRMAN MELIUS: Number 92
7 meeting of the Advisory Board on Radiation and
8 Worker Health, and I'll turn it over to Ted
9 for preliminaries.

10 MR. KATZ: Thank you. Right,
11 welcome everybody, on the line as well. So
12 let me remind folks on the line and we'll try
13 to do this periodically, to please keep your
14 phones on mute, except when you're addressing
15 the group. Press *6 if you don't have a mute
16 button. That will mute your phone, and then
17 pressing *6 again will take your phone off of
18 mute.

19 The other thing for everybody on
20 the line is please don't, at any point, put
21 the call on hold. But hang up and dial back
22 in if you need to, because hold will disrupt

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1 the audio for everybody. Thank you.

2 So the materials for this meeting
3 are posted on the NIOSH website. That's all
4 the presentation materials and some other
5 background meeting as well, background reading
6 materials as well. They're on the NIOSH
7 website under the Board section, under the
8 Meetings page for today's date.

9 So you can follow along that way.
10 We're also, for the first time, running this
11 meeting with Live Meeting as well, Live
12 Meeting for the presentations. So the
13 presentations, as they're being shown here,
14 you should be able to watch them on Live
15 Meeting, and that information, to log into
16 Live Meeting, is on the agenda, which is on
17 that NIOSH website.

18 So if you log in there, you should
19 be able to see the presentations as they're
20 shown here, although if you have a problem
21 with Live Meeting, again the presentations are
22 all posted on that website, and you can just

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1 pull them up and look at them yourself,
2 changing the pages yourself if you want to.

3 Okay. Public Comment tonight is
4 from 5:00 to 6:00 p.m., and as usual we'll
5 start with people, commenters in the room, and
6 then we'll have folks who want to comment on
7 the line. I have a couple of inquiries
8 already for people who would like to comment
9 from afar and that's great. Happy to have
10 you.

11 Okay. Let's go to roll call, and
12 with roll call, I will -- as I do roll call,
13 I'll address conflicts of interest that relate
14 to today's sessions. There are not that many.

15 (Roll call.)

16 MR. KATZ: That covers it for roll
17 call, and Jim, it's your meeting.

18 CHAIRMAN MELIUS: Okay, and the
19 first item on our agenda is a NIOSH Program
20 Update.

21 MR. HINNEFELD: Well good morning
22 everyone. Those of you on the phone this is

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1 Stu Hinnefeld, Director for DCAS at NIOSH.

2 As is our custom, I'll give a
3 short program update. There are a number of
4 statistics here I'll go through pretty
5 quickly. If you have any questions on those,
6 or any questions on those, or any questions at
7 any time, please just let me know.

8 In terms of the program news, it
9 occurred to me, as I was putting the slides
10 together, we're in the process of essentially
11 rebidding our dose reconstruction contract. It
12 was originally scheduled to end at the end of
13 April of this year. Some time ago, working
14 with our Programs and Grants Office, we
15 granted a six-month extension to the existing
16 contract, to provide, essentially provide time
17 for an orderly procurement process.

18 We are at the stage now where the
19 RFP has been on the street for a while, and
20 the proposals from potential, from the bidders
21 were due last Tuesday. So the proposals are
22 in. I am not on the Technical Evaluation

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1 Board, so the Technical Evaluation Board are
2 the people who know about the responses, you
3 know, who and how many.

4 So but they -- I do know they have
5 work to do. So one or more entities responded
6 to the proposal. So that will be proceeding.
7 We'll see how that procurement, with any luck,
8 will go a little smoother than last time, when
9 we tried to rebid the contract and it was a
10 very, very difficult procurement process
11 involving a number of short term extensions.
12 We're hoping we can get this one done in the
13 autumn time frame, and just go ahead and make
14 the award, and then move seamlessly into a new
15 contract.

16 I wanted to mention chronic
17 lymphocytic leukemia a little bit. Everybody
18 knows we've added that as a covered condition,
19 you know, essentially removed the radiation
20 risk factor of zero from chronic lymphocytic
21 leukemia, and by making a regulation change, a
22 rule change some time ago.

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1 In doing that, we developed a dose
2 model which was a relatively complicated dose
3 model. Rather than having one target organ,
4 you have target lymphocytes, which are
5 distributed throughout the body, with some
6 uncertainty in which organs they are located
7 in.

8 So you have an uncertainty
9 distribution on the location of your target
10 organ, and you have an uncertainty
11 distribution of the doses apportioned to those
12 organs or tissues, where the target
13 lymphocytes might be.

14 So it's a pretty complicated
15 arithmetic problem to put all those
16 combinations together, and it's being built
17 into our dose reconstruction tools for site by
18 site. So we're still working through that. We
19 made a lot of progress on completing those
20 revised tools and rolling them out.

21 So many of the chronic, most of
22 the chronic lymphocytic leukemia cases now

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1 have a way to be done and are being done. But
2 there's still a handful that we're working
3 through the models on, in order to complete
4 all of those. So those are, those cases are
5 not all quite available yet.

6 We continue to participate in
7 outreach activities. I don't talk about
8 outreach activities very much. But we
9 participate in a Joint Outreach Task Group
10 with the Department of Energy and the
11 Department of Labor, you know, for this
12 program, and also for the Former Workers
13 Monitoring Program, and they are here, by the
14 way today.

15 The Former Workers Monitoring
16 Program folks from here in Idaho are here, and
17 they're hopeful to find some additional former
18 workers for their program.

19 We've participated in joint
20 outreach task activities this year in Chicago
21 not long ago for Argonne and Fermi Lab, and
22 somewhat earlier than that, we participated in

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1 the sort of an ad hoc outreach activity in
2 Attleboro, Massachusetts for the site we know
3 as nuclear, let's see, Metals and Controls, an
4 AWE site up there.

5 That was really done at the behest
6 of the Congressman from that area, Congressman
7 Kennedy. So we participated in that. In
8 addition, through our outreach contractor, we
9 do dose reconstruction SEC workshops with
10 affected populations, whether they be claimant
11 advocates in Labor, a lot of local Labor
12 officials.

13 We've done a couple of those in
14 the Los Alamos area for, one for the Los
15 Alamos building trades folks and one for the
16 fire and security services. And then we
17 expect to do a workshop, a longer workshop in
18 Cincinnati, for collection of people from a
19 number of sites toward the end of September.

20 So those outreach activities
21 continue on as part of our work to the, with
22 the claimant community. Also not on the

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1 slide, but something I think I probably should
2 talk about briefly, is we've had occasion to
3 examine our conflict and bias policy, conflict
4 or bias policy recently, and our use of it and
5 our behavior with respect to it, and
6 historically our behavior with respect to it,
7 based on some emails that go back a number of
8 years.

9 Our conflict and bias policy has
10 evolved quite a lot in the last ten years,
11 since I've been on the program. We started
12 with sort of a common understanding, that if
13 you had worked in the radiation safety program
14 at the site, you should not do a dose
15 reconstruction from that site.

16 So that was essentially the
17 starting, the starting block of this, and
18 whether you should not do it or review the
19 dose reconstruction. So that, you know, I'm
20 conflicted at Fernald. I can't do those dose
21 reconstructions.

22 Now it's gone beyond that. We've

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1 been, through experience, have recognized
2 additional considerations that should be added
3 into that process as we go forward. For some
4 time, we identified what we call "key program
5 functions," and decided that not only should
6 you not do dose reconstructions; you should
7 not do any of these key program functions that
8 are for site-specific documents if you're
9 conflicted at a site.

10 That's things like author of the
11 Site Profile, worked on the SEC Evaluation
12 Report, things of that sort. Then some time
13 later, and I'm thinking this was on the order
14 of three years ago, although I'm going by
15 memory here on dates, and so I may not have
16 the dates exactly right, on advice from -- we
17 always get advice about these things from
18 counsel and the Office of Ethics.

19 On their advice, we expanded the
20 policy a little farther, to line up more
21 appropriately, I guess in the eyes of the
22 attorneys, with the language in the law and

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1 the regulation that cover such things. That
2 gets into language that people like me don't
3 understand, things like a specific, or a
4 particular item with a specific party or a
5 particular -- what's the language?

6 CHAIRMAN MELIUS: Particular --

7 MR. HINNEFELD: Okay. There are
8 general matters and there are specific
9 matters, and there are --

10 So language that I can't remember
11 and don't understand.

12 (Off mic comment.)

13 MR. HINNEFELD: Yes. I know what
14 I can't do, and so it's -- in order to
15 interpret that, then it became a little
16 broader application, in terms of what people
17 are allowed to do, and we've -- to the point
18 where we are today.

19 So that if someone is to
20 participate even, you know, not author but to
21 participate in this, someone who is employed
22 by the program needs to be treated like

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1 someone who is not employed by the program.

2 So if someone wants, you know, if
3 the people working on the Fernald, I'll just
4 keep using myself, although I'm not a terribly
5 good example because I've got an authorization
6 to participate.

7 But if I did not have an
8 authorization to participate in Fernald, and
9 somebody wanted to get my input about what
10 happened at Fernald, then you know, somebody
11 on my staff, then they would have to interview
12 me, document the interview, just like they
13 would with any other, any other former Fernald
14 employee who's not employed by the project. So
15 there's been this evolution of items that
16 could be done.

17 So that's also then affected how
18 we've behaved. I mean many years ago, quite a
19 long time ago, I attended some Fernald Work
20 Group meetings. But then we adopted this
21 latest policy that said you shouldn't
22 participate if you have a conflict.

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1 Not only should you not have, you
2 know, I wasn't performing a key program
3 function, but I would go to the Fernald Work
4 Group meetings. Then when the latest revision
5 of policy comes out that says you shouldn't
6 participate, well then I didn't. I stopped
7 participating in the Fernald Work Group
8 meetings, until I got authorization from the
9 Office of Ethics to again participate.

10 So during this whole evolution,
11 there were, and because of the evolution,
12 because of the specific nature of the
13 requirements, and because of some things some
14 of our folks said in emails from a number of
15 years ago, that maybe -- and the email
16 actually predates the effective date of the
17 latest policy, but was sort of during the
18 rolling implementation of the latest policy.

19 We needed to make sure that
20 everybody was aware of what does this really
21 mean, what does this policy mean in terms that
22 we can understand? So we've put out a message

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1 to all the staff, saying this is what's
2 expected.

3 Now naturally when you do that,
4 you get questions. People think of well what
5 about this situation and what about this
6 situation, which you know, frankly I didn't
7 think about when I wrote the message
8 originally.

9 So we're working with the Office
10 of General Counsel to arrange some answers and
11 probably a briefing, a give and take sort of
12 question and answer briefing period for the
13 people that are affected, to make sure that
14 we're implementing this correctly.

15 Made sure everybody knew that this
16 is a company policy or an Institute policy,
17 and it's to be complied with. Just like any
18 other policy, if you don't comply with
19 policies, you're subject to discipline. So
20 that was part of the message we sent.

21 So that's the message that we've
22 taken from that, and I think periodically we

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1 probably just need to remind ourselves about
2 what this policy says and how we're supposed
3 to behave, in accordance with it. So I'll be
4 glad to answer any questions about that or any
5 of the other news items I've got here.

6 CHAIRMAN MELIUS: Questions for
7 Stu?

8 (No response.)

9 CHAIRMAN MELIUS: If not, I'll --
10 I have some. First of all, just on the topic
11 you just brought up, and I'm not sure if
12 everybody on the Board is aware of the latest
13 round of emails. But I only get Stu, it's a
14 question of, you know, the timing of when
15 policies went in place.

16 There is one email there from an
17 individual who says that states that he has,
18 knows he has a conflict of interest, but still
19 feels obligated to participate and provide
20 information and a recommendation on the site
21 that he has conflict on.

22 So I mean I don't think it's a

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1 question of when that was put in place; it was
2 a question of someone thinking that they were
3 not bound by any conflict of interest
4 policies.

5 I think that's a very serious
6 problem, and needs to be addressed.

7 MR. HINNEFELD: Well that's
8 certainly the intent of the message. The all-
9 DCAS message that I sent was that hey, this is
10 the policy and you're subject to discipline if
11 you don't follow it.

12 CHAIRMAN MELIUS: But you know
13 obviously, in retrospect, it should have been
14 dealt with at the time, because it wasn't a,
15 you know, an email just to one individual.
16 Others were aware of it.

17 Secondly, I think with these
18 emails, there's certainly a person who
19 information relevant to a Class Definition at
20 the site, which is the Mound Site, was not
21 brought forward, information that was
22 pertinent to that, until it was finally

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1 revealed some months later and was brought to
2 attention.

3 My understanding from talking to
4 Stu is that once it was brought to his
5 attention, then there was follow-up. But
6 there was a period of months when information
7 that essentially would have and did
8 significantly change the Class Definition, was
9 known to people in the program; it was not
10 dealt with. That delayed, at least to some
11 extent, maybe a month or two, maybe longer,
12 the action.

13 I think that's also a serious
14 problem. There were clearly people that
15 objected to the -- didn't like the Class
16 Definition, didn't like what was being done
17 with that at that particular site, and were,
18 you know, again taking steps to try to
19 undermine that.

20 I think that seriously hurts the
21 integrity of the program, and I'm hoping that
22 will be addressed also. Now that individual

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1 is no longer involved in the program, so it's
2 not someone we're currently dealing with. But
3 I think it's a pretty serious situation, at
4 least as reflected in those emails, which
5 again may not be complete. There may be other
6 information. But it certainly appears.

7 I think we'll be hearing from the
8 petitioner involved in the public comment
9 period, who also has views on this.

10 MR. HINNEFELD: Yes. I understand
11 that, and I can tell you that we are trying
12 our best to be diligent and make sure we see
13 all the evidence. Now if it's not, you know,
14 say in making sure that people are aware of
15 their obligation to do that. They do that
16 through performance, a review and performance
17 intervention.

18 CHAIRMAN MELIUS: Yes, and I would
19 add that in that same set of emails, the
20 person, one of the people involved also made
21 some disparaging remarks about Board Members
22 who were involved in this, because they, this

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1 Board Member disagreed with them, and was
2 asking questions, which is also, I think, not
3 appropriate.

4 MR. HINNEFELD: That's not
5 appropriate.

6 CHAIRMAN MELIUS: The disagreement
7 can be, it may be appropriate, but expressing
8 it and using that as a reason for taking some
9 of these actions, I think, also doesn't speak
10 well.

11 MR. HINNEFELD: Yes, and that was
12 actually, that's come up before in email
13 exchanges, and attitudes toward the Board and
14 the quality of the research we present to the
15 Board.

16 CHAIRMAN MELIUS: Yes, yes.

17 MR. HINNEFELD: I can say that
18 it's something we're aware of, and we're
19 attempting to address. You know the three of
20 us, four of us in the room, counting Josh from
21 Cincinnati. I think you know that we're
22 trying to pursue and make sure we have a basis

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1 for the things we put in front of the Board.

2 CHAIRMAN MELIUS: Yes, and we
3 appreciate that. But again, to make everyone
4 aware. One other subject on budget. One is,
5 I'll update the Board on is with the
6 sequester, Stu and I had a telephone call,
7 once Stu figured out sort of how much money
8 they had. As you remember, the ORAU contract
9 was hit particularly hard or
10 disproportionately because of the, just the
11 nature of what could be done.

12 At that time, it was the, sort of,
13 I won't say the target. It wasn't targeted,
14 but it ended up it's basically bearing the
15 brunt of the sequester, and Stu worked with
16 them and he and I had a conversation, Ted was
17 involved also, to talk about making sure that
18 the -- we were in tune on terms of what
19 priorities would be for handling that.

20 We prioritized obviously towards
21 the outstanding Special Exposure Cohorts that
22 needed to be actioned on and stuff that could

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1 be done in, you know, a reasonable time period
2 and so forth, affected by the sequester,
3 obviously keeping the dose reconstruction and
4 other activities going.

5 I think that's worked out as well,
6 though not to say that the sequester didn't
7 have an impact on what could be done and
8 certainly could slow down resolution on a
9 number of items. I think we've had to, and we
10 may continue to have to put off or delay, at
11 least not get certain things done, Site
12 Profile reviews and so forth, as quickly as we
13 would may like to, because of budget issues.

14 The budget for next year is still
15 up in the air, and we won't know in, I think
16 until -- well, hopefully we'll know before
17 October 1st, but we'll see.

18 MR. HINNEFELD: I'll give you 2 to
19 1 odds that we'll start on a continuing
20 resolution. I'll give you 2 to 1 at least on
21 that.

22 CHAIRMAN MELIUS: Yes, yes.

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1 MR. HINNEFELD: Yes, thanks Jim. I
2 neglected to bring up the money issue. There's
3 essentially no good budget news, but if you
4 want to look for a silver lining, ORAU had to
5 absorb a year's worth of sequestration cuts in
6 six months, and this coming year, they'll be
7 able to plan the cuts over 12 months. So it's
8 an easier per month adjustment maybe.

9 You know, you never know what's
10 going to happen in the future. We may lose
11 more money. So that's it, plus we've saved
12 money in other areas. The travel, the
13 budgeted travel expenditures are quite a lot
14 down thanks largely to Ted and the use of Live
15 Meeting. We've had some attrition, and so our
16 PS&B is down noticeably from last year.

17 So there's chunks of money that
18 are programmatic money, and we're working with
19 FMO to see exactly what we can get on the ORAU
20 contract, and what we'll have. Of course,
21 next year we just expect, everybody expects a
22 continuing resolution, because the three

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1 budgets, the President's, the House and the
2 Senate are just not even remotely similar. So
3 everybody expects a continuing resolution for
4 next year.

5 CHAIRMAN MELIUS: And I would just
6 add for Board Members, I think it's important
7 that for, you know, Work Groups to keep some
8 of the budget constraints in mind when you're,
9 you know, assigning work, because whenever we
10 look into something in a Work Group, it
11 usually means work for SC&A, which is not been
12 as affected this time.

13 But we don't know going forward,
14 and also for, you know, NIOSH has to respond,
15 or are you asking NIOSH to elaborate on
16 something or whatever. I think again, I think
17 everyone's doing fine on that. But do keep it
18 in mind and, you know, at least if you have
19 six things that need to be followed up on from
20 say a Site Profile review, try to prioritize
21 those, so that at least the more important
22 ones, the ones that may have the most impact,

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1 will get done first.

2 That's not always easy to judge
3 until you've done it, but I think we all need
4 to do the best we can on that.

5 Finally, I have a question on,
6 which actually came up after last meeting. But
7 what is the notification now for -- how does
8 word get out about these Board meetings?
9 Because some people last time had felt that
10 they, in the Augusta meeting, that they had
11 not heard about it ahead of time.

12 MR. HINNEFELD: I checked on that.

13 CHAIRMAN MELIUS: Yes.

14 MR. HINNEFELD: The notification
15 goes to claimants within a geographical area.
16 I want to say it's 100 miles, 50 miles,
17 something like that, who have active claims.
18 In other words, the claim has -- they've
19 submitted a claim, and it has not been sent
20 back with the final dose reconstruction. So
21 that's the notification list.

22 And you know, we've not made any

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1 adjustments to that for this meeting. I don't
2 know, you know, where else to go with the
3 notification.

4 CHAIRMAN MELIUS: But my
5 recollection, we used to do outreach to the
6 local newspapers --

7 MR. HINNEFELD: Oh, I think we do
8 send those.

9 CHAIRMAN MELIUS: To the local
10 unions, the programs and so forth, the
11 screening programs.

12 MR. HINNEFELD: I don't recall if
13 we've contacted unions in the past. I believe
14 we still send a notice to the newspaper.
15 Whether they run it or not, I think, is a
16 newspaper's option.

17 (Off mic comment.)

18 CHAIRMAN MELIUS: Okay, because
19 for some reason, something slipped up and I
20 guess I don't know what happened.

21 (Simultaneous speaking.)

22 MR. HINNEFELD: -- there was a

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1 particular guy that got up at Savannah River
2 and said hey, I didn't know. I should have
3 known. Well, he was not an authorized rep for
4 any active claims, and so he didn't get the
5 notice.

6 CHAIRMAN MELIUS: But he was a
7 petitioner, I thought. I thought that was --

8 MR. HINNEFELD: No. The one who
9 complained about not being noticed is
10 essentially wants to function as an
11 administrative rep, or is an administrative
12 rep. But he has not been an administrative --
13 he was not a rep for anyone with an active
14 claim.

15 CHAIRMAN MELIUS: Yes. We're
16 thinking different people then.

17 MR. HINNEFELD: Okay.

18 CHAIRMAN MELIUS: I'm talking
19 about a petition, petitioner.

20 MR. HINNEFELD: Okay. The
21 petitioner didn't know. I would have thought
22 the petitioner would have been told.

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1 CHAIRMAN MELIUS: Yes. Well, I
2 don't know. But anyway, just make sure, and I
3 think that's critically important, because
4 there are delays now in setting up the
5 meetings and so forth, and we need to make
6 sure that word gets out as timely as you can,
7 given some of those constraints.

8 MR. HINNEFELD: Right.

9 CHAIRMAN MELIUS: Any other
10 questions, comments for --

11 MR. HINNEFELD: Are there any
12 questions on any of the statistics? I didn't
13 run through those, but there's no real need if
14 you've got them all.

15 CHAIRMAN MELIUS: Yes.

16 MR. HINNEFELD: It's the same --

17 MR. KATZ: Oh, and for Board
18 Members on the line, just Zaida has muted all
19 the lines. So you'll have to press *6 to come
20 off mute, in case you don't know that.
21 Thanks.

22 (Off mic discussion.)

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1 CHAIRMAN MELIUS: Okay. Yes,
2 Brad.

3 MEMBER CLAWSON: Who is handling
4 the media outreach and stuff for NIOSH?

5 MR. HINNEFELD: Josh, Josh Kinman.

6 MEMBER CLAWSON: So like for this
7 meeting, where did it go?

8 MR. KINMAN: Every local TV
9 station --

10 MR. HINNEFELD: Josh, Josh. Can
11 you speak into the mic?

12 MR. KINMAN: I'm sorry. So the
13 notices will go out to all of the, any media.
14 I pull everything up that I can find within
15 the areas. I've been finding that most of the
16 time, there is very little media interest in
17 Board meetings.

18 They're shared with any outreach,
19 and as far as the petitioner, we document all
20 of our interactions with petitioners, notify
21 all of them, and if -- I'll look into what
22 happened at Savannah River and find out if

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1 that was the case and why. But generally, as
2 far as media, there's very little interest.

3 CHAIRMAN MELIUS: Okay, thank you.
4 Anybody else?

5 (No response.)

6 CHAIRMAN MELIUS: Okay. Thank
7 you, Stu, and now we'll hear from the
8 Department of Labor, which is --

9 (Pause.)

10 CHAIRMAN MELIUS: Welcome, Chris.

11 MR. CRAWFORD: Good morning.

12 CHAIRMAN MELIUS: Tell Jeff we
13 miss him, but --

14 MR. CRAWFORD: As it says on the
15 slide, my name is Frank Crawford, and I'm
16 delivering the DOL presentation today, in lieu
17 of Jeff Kotsch, who couldn't be here. These
18 are very tiny arrows, so okay.

19 It's quite a large slide
20 presentation, so I'm going to have to skip a
21 lot of the detail. I'm told that it will be
22 on the DCAS NIOSH site, for people who aren't

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1 here. I won't go over the enactment of the
2 EEOICPA, which I think by now everyone here is
3 familiar with.

4 The case statistics, just one
5 little caveat. They're looked at in several
6 different ways, and some of the Part B
7 statistics you will see will be only
8 radiation-related cases, that is, cases
9 handled by DCAS essentially, whereas some of
10 our other statistics will be based on all Part
11 B cases, which includes chronic beryllium
12 disease and silicosis. So if you see some
13 obvious number discrepancies, that's part of
14 what we're seeing here.

15 So to date, apparently we've had
16 163,912 cases filed, and we paid out over 9-
17 1/2 billion dollars in total compensation.
18 That's for the entire EEOICPA program.

19 We had 40,108 cases referred to
20 NIOSH for dose reconstruction, 37,917 cases
21 were returned by NIOSH, 32,000 with dose
22 reconstruction and about 5,800 without a dose

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1 reconstruction. On the latter, probably many
2 of those were recalled for SEC processing. But
3 there are other reasons too sometimes a dose
4 reconstruction doesn't get done. There are
5 2,191 cases currently at NIOSH, by our count.

6 Of the 32,000 cases returned with
7 a dose reconstruction, we see that 26,000 of
8 those have a dose reconstruction and a final
9 decision, of which 9,300 were approvals and
10 16,800 were denials. Now these, I believe,
11 are radiation-related cases, because of the DR
12 coming back. The next slide has a different
13 view.

14 Of the Part B cases filed we see
15 in this colorful pie chart, NIOSH really is
16 only handling about 34 percent of the normal
17 radiation-related cases. That other category
18 is going to be primarily beryllium disease and
19 silicosis. It's a pretty large category. I
20 hadn't been aware myself of how big a part of
21 the program that is.

22 Then we have SEC cases. Some are

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1 referred to NIOSH and some are not, and then
2 some smaller part of RECA cases, 10 percent.

3 Of the Part B cancer cases with a
4 final decision to accept, we have 8,623
5 accepted DR cases, with over 12,000 payees
6 and 1.28 billion paid in compensation. Of the
7 accepted SEC cases, we have 19,363 cases, with
8 32,000 payees and 2.89 billion in
9 compensation. So the SEC cases quite
10 outnumber the DR cases.

11 Cases accepted based on the SEC
12 status and having a PoC of greater than 50
13 percent, that is with a dose reconstruction
14 done, 633 cases in that category, with 770
15 payees and about 95 million in paid
16 compensation. The totals of all accepted SEC
17 and DR cases, 28,619, with 45,000 payees and
18 4.26 billion in compensation paid out.

19 This is special for Ms. Munn. This
20 time we went back to the top four work sites
21 for the quarter. These are Part B EEOICPA
22 cases, and we'll see. As Stu mentioned

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1 earlier, the only surprise on this list is one
2 of our old favorites, Hanford, Savannah River
3 and Los Alamos, with the additional of Metals
4 and Controls.

5 Jeff and I asked about this, and
6 it turns out that Representative Kennedy from
7 Massachusetts had a town hall meeting
8 specifically for Metals and Controls, which
9 generated a lot of cases all at once. So
10 that's why the quarterly ranking is so high.

11 The EEOICPA Part B cases, final
12 decisions. We have 51 percent approved and 49
13 percent denied. These would include, I
14 believe, the SEC cases as well. We have now a
15 bar chart with percentage of new cases for DOE
16 versus AWE sites, and we see there's -- if
17 anything, there's a trend of more AWE cases in
18 recent years, although still a great majority
19 of the cases are DOE sites. Metals and
20 Controls would be an example of the AWE sites.

21 DOL also participates in the Joint
22 Outreach Task Group, and these include town

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1 hall meetings and traveling resource centers.
2 In the cases of small SECs, press releases are
3 issued. From what we just heard Josh Kinman
4 say, we don't know where they go from there.

5 Also, the outreach people have
6 been hosting informational meetings regarding
7 medical benefits, which is quite a complicated
8 subject, provided under the EEOICPA. I think
9 we've all seen this. The Joint Outreach Task
10 Group has many departments and Members.

11 They're all monthly conference
12 calls, and there's a JOTG meeting scheduled
13 for September, tentatively. There's no chance
14 of reading all of these meetings, but I will
15 mention that this is for fiscal year 2013.
16 That is from October 1st, 2012 through
17 September 30th, 2013.

18 We've had SEC meetings at Hanford
19 and Clarksville. We've had SEC and medical
20 benefits meetings at Oak Ridge X-10. Also at
21 Fermi National Accelerator Laboratory and
22 Argonne National Laboratory.

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1 At Los Alamos, we also had an SEC
2 and medical benefits meeting. We're up into
3 February 20th now. Then in Knoxville, which
4 was a little bit enigmatic, there was medical
5 benefits meetings for physicians and health
6 care providers. Presumably, this is for
7 people who are living in the Knoxville area,
8 and need information about medical benefits.

9 Then in Hanford, it was a town
10 hall for claimants and medical benefits
11 meeting just last month. Santa Fe,
12 Albuquerque and Grants, New Mexico had medical
13 benefits meetings in June also, and then
14 Jolingbrook, Illinois -- Bolingbrook, sorry,
15 Illinois, had one also in June. This was a
16 meeting of the Joint Outreach Task Group.

17 Now this week, it looks like,
18 there was a Portsmouth, Ohio medical benefits
19 roundtable. As you see, claimants' physicians
20 and home health care providers will be
21 attending these meetings.

22 Now we come to a slide on SEC

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1 Petition Site discussions, which was the
2 ABRWH's agenda for March 2013. We see that
3 Rocky Flats, Baker Brothers and Pantex are
4 represented here on this chart. I won't go
5 through the individual numbers, there are too
6 many of them.

7 We can see that progress is being
8 made, I think is the main message here. Also,
9 same topic. We see figures for the Feed
10 Materials Production Center, Idaho National
11 Laboratory and Brookhaven National Laboratory,
12 and here we go.

13 This slide, Employee Eligibility,
14 just reviews the slightly different provisions
15 under Part B and Part E of the Act, with
16 respect to coverage, and we'll see the next
17 slide, I think, with respect to survivors.

18 Both parts of the Act, B and E,
19 cover DOE contractors and subcontractors. For
20 DOE federal employees, however, only Part B
21 covers them. They're not covered under Part
22 E. For AWE employees, it's the same. They're

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1 covered under Part B, but not E. The same for
2 beryllium vendors. RECA, however, employees
3 there are covered under both Parts B and E.

4 Covered conditions. We see, again
5 we're contrasting Parts B and E here. Chronic
6 beryllium disease is covered under both Part B
7 and Part E. Beryllium sensitivity, which is
8 covered by Part B but only for medical
9 monitoring. Under Part E, it's covered for
10 compensation and health benefits.

11 Chronic silicosis is covered under
12 both parts of the Act. Cancer under both
13 parts of the Act, and any condition related to
14 toxic exposure, as you might expect, is not
15 covered under Part B but is covered under Part
16 E.

17 Survivor definitions, just to make
18 our life more complicated, are not the same
19 for Parts B and E. However, there's some
20 overlap. Certainly spouses at the time of
21 death covered under both parts of the Act.
22 Children under age 18, under age 23 if full-

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1 time students or any age if medically
2 incapable of self-support, are covered under
3 both parts of the Act. Adult children,
4 however, are covered only under Part B. Part
5 E has no coverage for adult children.

6 Benefits are complicated,
7 particularly for Part E. Under Part B, as we
8 all know, I think by now, \$150,000 benefit can
9 go to the employee. I think this should be
10 "or the survivor." There's a plus sign here.
11 Under Part E, the impairment is measured as a
12 percent, and you get \$2,500 per percentage of
13 impairment. That's for the employee.

14 Under RECA, there's a \$50,000
15 benefit under Part B. Under Part E, there is
16 a wage loss of 10 to 15 thousand dollars per
17 year for the employee. There's also \$125,000
18 survivor benefit for RECA employee survivors.
19 There's also a cap of \$400,000 for Parts B and
20 E benefits combined.

21 (Off mic comments.)

22 MR. CRAWFORD: Then are there any

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1 questions?

2 CHAIRMAN MELIUS: Any questions of
3 DOL? Okay.

4 MR. CRAWFORD: Thank you.

5 CHAIRMAN MELIUS: Thank you. I
6 actually, come back. I have a question.

7 (Laughter.)

8 CHAIRMAN MELIUS: Actually, I have
9 a suggestion actually.

10 MR. CRAWFORD: Yes.

11 CHAIRMAN MELIUS: It seems to me
12 if Congressman Kennedy can get a big, you
13 know, large number of claims by holding a town
14 meeting near one of the AWE sites, that the
15 Joint Outreach Group should also consider
16 doing some of those sites, because a lot of
17 them have a large number of employees that are
18 there, and I think we've always sort of
19 assumed that maybe not many would be living in
20 the area, or they might be hard to reach, due
21 to the age of groups and so forth.

22 But the Congressman seems to have

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1 found some way of attracting them, and it may
2 be something to consider for some of the other
3 sites. There's a number of them around the
4 Boston area, I recall, Ohio and so forth we've
5 looked at that are, have numbers.

6 I think you did one for -- did
7 they do one for Cincinnati, General Electric?
8 I can't remember.

9 MR. HINNEFELD: We did a GE-
10 specific I think SEC meeting.

11 CHAIRMAN MELIUS: Yes.

12 MR. HINNEFELD: Just from that,
13 the Joint Outreach Task Group at DOL's urging
14 actually is considering a meeting in exactly
15 that area, the Massachusetts-Connecticut area.
16 I don't know if they're -- that's what they're
17 trying to decide, because there are a lot of
18 AWEs. There are also a lot of AWEs in the
19 Niagara Frontier in Western New York.

20 So that might be another place
21 they want to go. But this whole Metals and
22 Controls thing, I think, kind of brought home

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1 to them that there are these sites up there.
2 Not only that one, but also Connecticut Area
3 Aircraft Nuclear Engineering Laboratory,
4 CAANEL.

5 CHAIRMAN MELIUS: Yes.

6 MR. HINNEFELD: You know, I think
7 it's Pratt.

8 CHAIRMAN MELIUS: That was again a
9 large --

10 MR. HINNEFELD: Pratt and Whitney.
11 I think that's a Pratt and Whitney --

12 CHAIRMAN MELIUS: Yes, Pratt and
13 Whitney is a large --

14 MR. HINNEFELD: Yes. And so we've
15 heard some interest through our Worker
16 Outreach contractor from that site, from Pratt
17 and Whitney. So that kind of fits into DOL's
18 plan, to kind of go up into that area. So I
19 think they were planning to do that under the
20 Joint Outreach Task Group.

21 CHAIRMAN MELIUS: You know, like
22 again, Pratt and Whitney has a very active

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1 union and active union retiree group there in
2 Connecticut, and I'm sure some of these other
3 facilities do. So I'm glad they're doing
4 that. It was, you know, I think again, maybe
5 not as many as the larger sites in terms of
6 potential claims, but we've already done a lot
7 of meetings at the larger, bigger sites.

8 MR. HINNEFELD: Right.

9 CHAIRMAN MELIUS: So good. Okay,
10 thanks. Next, Department of Energy.

11 MR. LEWIS: And while Stu's
12 queuing this up, just to clarify, one of the
13 issues with the Joint Outreach Task Group
14 holding meetings by the AWEs is that for
15 Department of Energy, our main interest in the
16 JOTG is for our Former Worker Medical
17 Screening program, and the Former Worker
18 Program does not cover AWE facilities. It
19 only covers Department of Energy.

20 So that doesn't at all preclude
21 the other groups of having the meetings. But
22 we would not be the driving force behind a

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1 meeting for an AWE. Okay, so --

2 CHAIRMAN MELIUS: And Brad, can
3 you hold your questions, please? Let him
4 start.

5 MR. LEWIS: I'll try to address
6 some of them during my presentation, but I'll
7 leave plenty of time for questions.

8 Good morning, everyone. My name
9 is Greg Lewis. I'm with the Office of Health
10 Safety and Security within the Department of
11 Energy.

12 (Pause.)

13 MR. LEWIS: There we go. Okay.
14 So I'm here to talk to you about our role in
15 the EEOICPA Program. As most of you know, our
16 main role is to provide records. We provide
17 records and information to NIOSH and
18 Department of Labor, so they can reconstruct
19 dose and adjudicate claims.

20 We do this in primarily three
21 ways. The first is information related to
22 individual claims. So when someone files a

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1 claim with Department of Labor or needs a dose
2 reconstruction with NIOSH, they'll send a
3 request to the Department of Energy site or
4 sites where the person might have worked and,
5 you know, we'll go scour our records and
6 provide information back to them.

7 The second is for large-scale
8 records research projects like Site Profile
9 reviews, Special Exposure Cohort research
10 projects, or the Department of Labor Site
11 Exposure matrix. The third is to work with
12 both Department of Labor and NIOSH to do
13 research on covered facilities.

14 Our site point of contacts are the
15 individuals out at each DOE site that manage
16 and drive our records research activities.
17 They coordinate with NIOSH, the Advisory
18 Board, Department of Labor and all associated
19 contractors. They set up tours, site visits,
20 worker interviews. They identify subject
21 matter experts on site that might be able to
22 find the right records or answer the questions

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1 that these researchers have, and they also
2 work with the workers on site on occasion.

3 Sometimes, you know, they'll point
4 them in the right direction. They'll help
5 them file their claim if need be, or they'll
6 answer questions about, you know, where the
7 records are or what Department of Energy is
8 doing to pull those records. Just for
9 reference, Richard Dickson is our Site Point
10 of Contact for the Idaho National Lab.

11 So for individual records, we do
12 about 16,000 records requests per year.
13 Recently, these are all now going through our
14 SERT system, Secure Electronic Records
15 Transfer System, which I think I've talked
16 about in some previous meetings. But that's
17 really enhanced our ability to send and
18 receive requests from Department of Labor and
19 NIOSH. It's also helped us with tracking and,
20 you know, managing our responses.

21 Many times individuals worked at
22 multiple sites, particularly in the Oak Ridge

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1 areas or, you know, with certain sites, with
2 the labs in the Nevada Test Site, for example.
3 So we'll often have to go to multiple
4 different locations for one individual. Our
5 records packages can often be hundreds of
6 pages long, and in certain cases, they've been
7 boxes and boxes of information just for one
8 individual.

9 You know, we have established
10 procedures at each site, and we often check
11 many different locations. At one site,
12 there's over 40 different places that someone
13 could go, particularly if someone had a 30-
14 year career. Oftentimes, as contractors
15 changed or as technology changed, there will
16 be multiple different databases that we
17 migrated into.

18 So they might have to check one
19 database from 1970 to '75, and then a separate
20 database from '75 to '82 or something like
21 that. You might also have to go to
22 microfiche, microfilm, hard copy paper

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1 records. There's a lot of different places
2 that we might go for records, and we have
3 these search procedures and our Site Point of
4 Contacts and their staff help determine, you
5 know, where the right places to go for each
6 individual are.

7 So with the large-scale records
8 research projects, obviously those are driven
9 by Department of Labor or NIOSH. So we
10 respond to their inquiries, and try to work to
11 answer their questions or provide them the
12 information that they need.

13 We also, we review many of these
14 due to classification, but we believe we have
15 procedures in place that allow that to be
16 done, for the most part, without causing any
17 significant delays. I know records that,
18 documents or reports that come through
19 headquarters we turn around very quickly.

20 On occasion, due to the site's
21 workload or staffing, it can take a little bit
22 for large requests to get reviewed for

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1 classification out at the sites. But for the
2 most part, you know, we do that without undue
3 delays.

4 So I put up -- these are some of
5 the sites. This isn't all, but these are some
6 of the sites where we're supporting SEC
7 research, and that's to varying degrees. Some
8 of these we've provided most of the
9 information, and now it's at the point where
10 NIOSH may be coming back for smaller, more
11 targeted questions, and in some of them we're
12 still providing quite a bit of information.

13 One of the ones I want to talk
14 about up there, which I think I would get
15 questions either way, is the Savannah River
16 Site. I know that we have been really pushing
17 the site to respond a little bit quicker than
18 they have been. We're continuing to work with
19 them. We've approached their management on
20 numerous occasions and their management has
21 been working with us to try to find a way
22 around some of the challenges we've faced.

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1 In short, most of the issues are
2 caused by some existing, you know, budget cuts
3 and staffing issues out at Savannah River, but
4 are over and above the EEOICPA program. Due
5 to the sequestration and, you know, budget
6 cuts down there, they've had a few different
7 reduction in force, you know, episodes, and
8 they've been down in staff at some of the key
9 locations, particularly the records center,
10 but also in dosimetry.

11 So we have been working with
12 management. Mr. Podonsky, my boss within HSS,
13 is very involved. We're going to be sending a
14 formal letter down there within the next
15 couple of weeks, as just another effort to try
16 to expedite this.

17 We do think that at this point
18 we've started to make some progress, just
19 within the last couple of weeks. We believe
20 within the week, a representative from SC&A
21 will be upon the unclassified network within
22 Savannah River Site, and able to do all of the

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1 keyword searches himself.

2 So we think that's going to be the
3 key to resolving the request for unclassified
4 keyword searches. We're also moving forward
5 with setting up interviews. I know that SC&A
6 again is working with the site, and they're
7 starting to contact workers and, you know, see
8 who's available for interviews and when they
9 can do them, moving towards a site visit.

10 We have not been able to complete
11 the classified keyword searches. That's one
12 of the things where staffing had been a
13 significant challenge for the site. As of
14 last week, they've told us they've now
15 identified a staff member to do those searches
16 and, you know, we're following up to see how
17 quickly they can do those searches.

18 We don't believe it should take
19 too long once they get the staff assigned and
20 on it. But we're going to see, and we also
21 hope this formal letter will give that a nudge
22 to move forward as well. So again, we're

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1 continuing to work with the site, but it has
2 been a challenge to get that done in, you
3 know, in a timely manner.

4 I know, I think the Board's
5 expectation has been that it would be moving
6 forward quicker than it has. So we're doing
7 the best we can to get there.

8 I think I talked about document
9 reviews a little bit earlier. Again at
10 headquarters, the average turnaround time is
11 about eight working days at the sites, and
12 that's also because the headquarters documents
13 are NIOSH reports, which are typically, you
14 know, shorter, whereas the site requests are
15 for source documents, and it can be many
16 source documents, you know, boxes and boxes of
17 records.

18 So they do take a little bit
19 longer, but for the most part, we believe
20 we've been able to do those in a timely
21 manner.

22 Then the third function that we

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1 support is facility research. We update the
2 database of over 300 covered facilities,
3 beryllium vendors, AWEs and Department of
4 Energy sites. The full listing is on the
5 website with the link on your screen there,
6 and for those on the phone, that's going to be
7 in my presentation, page 13.

8 We are working with DOL, NIOSH and
9 a few, you know, different facilities, trying
10 to refine the years or make sure we have the
11 correct years.

12 Outreach. Again, I think Chris
13 covered the Joint Outreach Task Group. So
14 I'll move forward, and I think he's, he was
15 correct. I think September and October, the
16 next meeting is tentatively scheduled for the
17 Bay Area, both Livermore and Berkeley, and
18 then we just had a meeting in Chicago about a
19 month ago. We targeted Fermi and Argonne
20 workers.

21 So the Former Worker Medical
22 Screening Program is a program that my office

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1 funds and supports through cooperative
2 agreement holders. It's a program that offers
3 a free medical screening to all Department of
4 Energy federal contractor and subcontractor
5 workers from all DOE sites.

6 We provide screenings close to
7 their location. We have certain cooperative
8 agreement holders that do local programs
9 around the larger DOE sites. But for the
10 smaller DOE sites or for an individual that
11 say has retired to Florida or moved out of the
12 area, we have a supplemental screening program
13 that contracts with local clinics throughout
14 the country to provide these screenings.

15 The local screening programs for
16 the Idaho National Lab are -- for the
17 production workers, it's the Worker Health
18 Protection Program, and there's
19 representatives from the WHPP, as they're
20 called, out in the lobby to talk to folks. For
21 construction or trade workers, it's the
22 Building Trades National Medical Screening

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1 Program, and the contact information is on my
2 slide here.

3 So I think with that, are there
4 any questions?

5 CHAIRMAN MELIUS: Seeing none --
6 oh Brad. What a surprise.

7 MEMBER CLAWSON: Greg, I know that
8 you do a lot of work on this and stuff like
9 that. But you realize what this makes it look
10 like with Savannah River. When we have to
11 have, we've been trying for how long to be
12 able to get in there.

13 My question to you is there
14 anything that the Board can do to help
15 facilitate or assist? Looking at it from the
16 claimant's standpoint, there's all this
17 information out there and we can't get to it.

18 It really, it really puts us in a
19 bad situation. I'm wondering is there
20 something as a Board that we can do to help
21 facilitate this?

22 MR. LEWIS: Well offhand, I would

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1 say from the Board's standpoint as far as
2 research or being accommodating or trying to
3 work with us or work with the site to come up
4 with creative solutions to get the research
5 done, I think the Board has really done
6 everything in their power.

7 Again, I said the representative
8 from SC&A has gone down there to Savannah
9 River, received training on their networks,
10 general employee training, received a site
11 badge, and is now going to be able to do all
12 of the searches himself from offsite.

13 So I think in some ways, that will
14 make it easier from now on, you know, for the
15 Board to do this research. But on the other
16 hand, it was a pretty significant hurdle to
17 get this set up. So from that standpoint, I
18 think the Board is doing everything in its
19 power.

20 I would say, though, being a
21 Presidentially-appointed board, you certainly
22 have some influence and could, you know, let

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1 us know formally about your expectations.
2 That's certainly an option. I don't want to
3 encourage that one way or another, but that's
4 still, that's certainly something you could
5 do, that would be taken seriously at DOE, both
6 by HSS and by the sites.

7 You know, but we are continuing to
8 try to make every effort from my office,
9 Health Safety and Security standpoint, to
10 expedite this. So you know, I realize it's
11 been a little bit longer than you would like,
12 than we would like, but we continue to make
13 every effort.

14 MEMBER CLAWSON: Well Greg, I was
15 wondering if it would help to have a letter
16 from the Board to Savannah River or to DOE
17 headquarters, because really, and I don't mean
18 to put -- this is beyond really a joke
19 anymore, you know. They can come to it or
20 whatever else.

21 But when we can't even get access
22 to this classified information, it's fallen

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1 really quite fast. I just -- if there's
2 something that we can do as a Board to assist,
3 I think that it would be very beneficial for
4 all parties. So if there's something we can
5 do, I would appreciate it.

6 MR. LEWIS: You know from my
7 standpoint, you know, I think all I can say, a
8 letter would, you know, is certainly an option
9 available to you, and I don't think would
10 hurt. Again from my standpoint at HSS, we are
11 already doing everything we can. But, you
12 know, a letter is certainly an option.

13 MEMBER CLAWSON: And I do realize
14 that you guys are. It just seems like to me
15 sometimes it's falling on deaf ears, and I
16 wonder who the contractor really is working
17 for, because when they're not listening to
18 their own boss, that's kind of hard.

19 CHAIRMAN MELIUS: I mean my
20 understanding, and I'm not sure Greg's sharing
21 all of this, but there's pretty good high
22 level attention to this within DOE. Glenn is

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1 really working hard to, Podonsky, to get this
2 addressed, and I think we're already seeing
3 some progress. I think we have a way of
4 monitoring it, and I'm not sure being more
5 formal about it at this time is necessarily
6 helpful.

7 I don't think it would be
8 unhelpful, but I just think that -- I think
9 we're working to get it resolved, and it's
10 certainly something we're keeping an eye on,
11 and I've been informed quite regularly, as
12 this has gone along and so forth. So I think,
13 you know, I think we're making some progress.

14 I think the unfortunate thing
15 about, you know, it's a big site. We have a
16 wide, a large SEC potential there, a lot of
17 data, which makes -- you know again, means
18 that more information's being requested and so
19 forth. Unfortunately, it's at a time when
20 there are budget cuts going on within the
21 federal government, that are impacting this.

22 I think what we need to do is make

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1 sure one, that we're doing this cooperatively,
2 which I think we certainly are and everybody's
3 working together on this, and secondly, that
4 we're, you know, prioritizing appropriately in
5 terms of requests. These aren't just, you
6 know, sort of shotgun requests for tons of
7 information that really isn't relevant.

8 But I think they are as focused as
9 they can be, you know, given it's a large site
10 and you don't know what's there until you've
11 seen some of it and so forth. I think that's
12 probably the main thing we can do, is make
13 sure that our requests are appropriate.

14 At the same time, we need to do a
15 thorough and credible job of evaluating the
16 SEC, evaluating that site. So it's not
17 something that can be done easily or quickly

18 MR. LEWIS: And first, I do want
19 to say that the Board, their contractor and
20 NIOSH have been very accommodating and very
21 reasonable with the request. They've been
22 very targeted and when we've asked some

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1 questions or said do you really need all of
2 this, you know, they've been very
3 accommodating, trying to narrow it down,
4 trying to work with us.

5 So I would say it's been a
6 pleasure working with the Board and the
7 contractor. And then another thing, just to
8 reiterate what Dr. Melius said. Glenn
9 Podonsky, my boss, is very aware, engaged and
10 involved. Pat Worthington and I briefed him
11 last week, and I've been briefing him, and he
12 has been applying pressure and will continue
13 to do so, to expedite this.

14 CHAIRMAN MELIUS: Yes, and
15 certainly tell Glenn we appreciate his
16 involvement and effort. Any other questions,
17 comments?

18 (No response.)

19 CHAIRMAN MELIUS: Okay. If not,
20 thank you very much, Greg. I'm sure Brad will
21 have a few more comments and questions before
22 you leave the room.

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1 (Pause.)

2 CHAIRMAN MELIUS: I hope I need no
3 introduction. State your name, right. This
4 is the Jim and Jim presentation. We've been
5 working with the SEC Evaluation Work Group
6 with NIOSH cooperatively, to try to address
7 the issue of sufficient accuracy, and we're
8 pursuing that. NIOSH has done sort of two
9 background White Papers that were helpful but
10 really didn't sort of get to the core of the
11 matter.

12 So at the meeting we had a few
13 months ago, we asked NIOSH to draft up an
14 outline of what they thought sort of the key
15 issues were, in terms of approaching
16 sufficient accuracy. That was a three-page, I
17 believe it is outline. It's been in all that
18 voluminous material that we were all sent
19 before this meeting by the shortest, next the
20 agenda.

21 I don't know if anything else made
22 it under 20 pages or 50 pages or three pages.

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1 So hopefully you've had a chance to read it. I
2 will sort of go through it a little bit. We're
3 going to continue this discussion after our
4 break this morning, because coworker models
5 are I think one key area of this issue that
6 we're going to have to deal with.

7 They're coming up. They're
8 becoming more important. They're important
9 for the Savannah River Site evaluation;
10 they're important for Fernald, they're
11 important for a number of sites we've dealt
12 with in an ongoing fashion, and how we
13 evaluate those is in some ways tied back to
14 the whole issue of sufficient accuracy.

15 So I'm just going to go through a
16 few quick slides, mainly summarizing the NIOSH
17 outline. Again, remind us all of the
18 regulation, radiation doses can be constructed
19 with sufficient accuracy, if NIOSH has
20 established the access to sufficient
21 information.

22 Estimate the maximum radiation

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1 dose for every type of cancer for which
2 radiation doses are reconstructed, that could
3 have been incurred in plausible circumstances
4 by any member of the Class, or NIOSH has
5 established, has access to sufficient
6 information to do it more precisely than the
7 estimate of the maximum radiation dose.

8 So this is the regulation we've
9 lived with for quite a number of years now,
10 and continue to try to interpret that and
11 apply it to all of the sites that come up, in
12 terms of making some assessment on,
13 particularly on SEC evaluations. Just to go
14 through briefly through the NIOSH outline,
15 there's a section there, what they refer to as
16 preliminary steps.

17 But what probably are the most
18 time-consuming, and the most important part of
19 what we do, and probably the most influential
20 is really what are the actual facts about the
21 site. We then have to try to apply our
22 evaluation and NIOSH applies theirs to those

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1 set of facts.

2 What information's available, what
3 was done at the site, identifying the exposed
4 populations, trying to understand better about
5 what information's available on those
6 populations. Probably on, my guess is 90
7 percent of the sites, it's relatively
8 straightforward, and that information is
9 really what guides our assessment of, you
10 know, whether or not dose reconstruction can
11 be done at that site.

12 It's time consuming, but it also
13 usually gets us to the answer most readily, in
14 terms of what we're trying to make our
15 evaluation. Then, as it goes through the
16 outline, divided into sort of two types of
17 data.

18 One is personal monitoring data
19 that is available, at least to some extent on
20 most of the sites and covering a significant
21 proportion of the people that work on some
22 sites, not on others. So when personal

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1 monitoring data, what NIOSH is trying to do is
2 number one, demonstrate that the highest
3 exposed workers were covered; one can bound
4 the dose.

5 That everybody at the site was
6 monitored, which is probably a rarity, but not
7 necessarily for external exposures; and/or
8 that the monitor group included those that
9 were, had the highest exposures. Again, the
10 concept of bounding.

11 So if not everyone was monitored,
12 than it's clearly important to understand who
13 had the highest exposures and that there's
14 information on them, on that. The monitoring
15 method is important in a practical way
16 obviously, and then NIOSH for a number of
17 years applied coworker models for sites where
18 not everyone was monitored.

19 Again, we'll be spending some more
20 time on that after our break today. But the
21 concept is that the coworker models, they must
22 be inclusive. They need to cover everybody

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1 and be able to be applied to everybody at the
2 site, and second, that they need in some way
3 to account for what's referred to here as
4 stratification, but that there may be people
5 that were monitored in a different way or
6 worked in a different part of the site, or had
7 different, did different tasks at a site or
8 worked in different buildings at a site.

9 So that that -- that at least has
10 to be evaluated. If a coworker model's going
11 to be used based on personal monitoring or
12 even on other data, that stratification
13 becomes one of the important things that's
14 looked at. Again, I think the one we most
15 commonly dealt with has been the issue of
16 construction and maintenance workers, and
17 whether they are, essentially have the same
18 method of monitoring, as well as the same
19 distribution of the results of that monitoring
20 as do the production workers, and that's often
21 been a problem at many sites.

22 I'll just add that all this is

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1 also assuming we, in a practical way, that one
2 has a way of placing people within those
3 stratas, if there is stratification, really
4 placing people within however one breaks down
5 the coworker model and uses that. There can
6 be more than one coworker model at a site,
7 depending on where people work, and it can
8 apply to different types of exposures.

9 In some, it may be very good for
10 it. Typically for external exposures, it's
11 much more data. So the coworker model is much
12 easier to develop and to evaluate, whereas for
13 internal exposures, there's often less data.
14 Methods have changed over time, and it's a
15 much more difficult endeavor to try to deal
16 with that. That's typically where we found
17 the most difficulty, in terms of dealing with
18 Special Exposure Cohort petitions.

19 Now the outline also identifies
20 some other types of data, and I'll sort of
21 briefly summarize that. But obviously there
22 can be air monitoring, source-term, surrogate

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1 data available. It can be something that has
2 to be evaluated for its sufficient accuracy.

3 These, at least in a practical
4 sense, are much more problematic, because they
5 usually indicate the personal monitoring
6 wasn't available for that, though in some
7 cases they can be used to fill the holes or
8 gaps in the personal monitoring, or combined
9 in some way, because for certain exposures one
10 has personal and other exposures one doesn't
11 have personal monitoring available.

12 Basically, what NIOSH's usual
13 approach here is to develop some sort of
14 summary of that monitoring, or develop a model
15 based on that monitoring, that one has to
16 account for the highest exposure; again, it
17 has to be bounding, but at the same time has
18 to be plausible.

19 For this type of data, that's
20 maybe more difficult than for personal
21 monitoring, because again you're using sort of
22 indirect indicators of exposure under that,

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1 and one doesn't have as comprehensive a set of
2 data. So it can be much more difficult both
3 to bound it, be sure you're bounding, but be
4 sure that you're bounding at the same time,
5 you're not being unrealistically high with
6 that bounding.

7 Then finally, and one that we
8 probably have not dealt with it much, but it
9 is the question of, you know, what is
10 sufficient accuracy. How much, how accurate
11 do we need to be? To date, I think our main
12 pattern, in terms of how we've evaluated that,
13 is that for, and this has evolved I think over
14 the last several years for the program, is for
15 situations where there's a very low potential
16 for exposure.

17 I think, you know, the easiest
18 example is the residual periods, where
19 operations have ceased; there's some
20 contamination on the site, but usually it
21 involves a lower level of exposure. I think
22 we've been willing to accept a lesser degree

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1 of accuracy, in terms of the information,
2 because one, we usually don't have as much
3 information; it's usually less personal
4 monitoring for example, or whatever.

5 But also, the range of exposures,
6 the variability of exposures is probably going
7 to be much less and at a much lower absolute
8 value than would be found during production
9 periods. But we've never really sort of
10 looked at that in any very rigorous way, or
11 tried to set a level.

12 For those of you that are new to
13 the Board or not even that new, we wrestled
14 with all of these same issues, and the issue
15 of defining sufficient accuracy when we first
16 started the Board, first started the program
17 and when the first set of regulations were
18 developed. We didn't have good answers then,
19 and I'm not sure we have easy answers now.

20 But it's not -- all this is not a
21 new issue, but it is something that I think is
22 becoming more important as we deal with maybe

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1 some of the more difficult Special Exposure
2 Cohort evaluations.

3 Then the other area where I think
4 this is also going to become key is how much
5 accuracy, you know, what is sufficient
6 accuracy with the coworker models, which will
7 be presented a little bit later today, this
8 morning.

9 It's sort of how do we evaluate,
10 for stratification? How much difference, how
11 much differences there have to be between
12 people in one building or people in different
13 tasks, between construction workers and
14 production workers, in order to say that a
15 single coworker model is adequate and
16 sufficient for that particular group of
17 workers?

18 Does one need a separate one for
19 construction workers or for people in Building
20 A versus Building B? How we evaluate that
21 and, I think as we'll see, look at
22 percentages, when one starts trying to do that

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1 at a say more rigorous statistical approach,
2 then what's the test of that? How much
3 accuracy does that statistical test have to
4 meet? What parameters do we have to use for
5 that test?

6 So I think that's where we are
7 now. The Work Group had a short conference
8 call to discuss the outline. We want to,
9 since it's a key issue, we cant to keep
10 bringing it back to the Board for review and
11 discussion. We'll continue. I think we can
12 maybe talk some more after we've gone through
13 the coworker issue, because that, as I said, I
14 think is one major aspect of that.

15 Let me give Jim Neton a chance to
16 fill in, if you want to, or make comments.

17 DR. NETON: I think Dr. Melius did
18 a great job of summarizing what was in the
19 three-page outline that we put together, and I
20 don't know if I have too much more to add,
21 other than I do think that this concept of
22 small low level exposures and sufficiency

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1 accuracy in one consideration needs to be
2 addressed at some point.

3 Because we have been behaving that
4 way pretty regularly in the residual
5 contamination period, and that's something
6 that I'd be very interested in discussing
7 further. The other pieces of the document
8 really sort of follow out of what we've been
9 practicing. It's sort of a practical
10 discussion of how we've been behaving all
11 along, using the hierarchical model and that
12 sort of thing. I think that part seems okay
13 to me.

14 CHAIRMAN MELIUS: Yes, and I think
15 from our discussion in the Work Group with
16 NIOSH, I think what we're probably aiming for
17 is not a new definition of sufficient accuracy
18 or, heaven forbid, a new regulation, but
19 something that would, a set of guidelines like
20 we've agreed on for reviewing SEC evaluation,
21 reviewing sufficient accuracy.

22 We have them for surrogate data.

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1 We have them for SEC evaluations in general.
2 Yet these are the parameters you need to look
3 at and evaluate in reaching conclusions. Not
4 strict criteria, because I think there are
5 just too many, these sites are too
6 complicated, the situations are too
7 complicated, that to try to develop criteria,
8 we'd spend lots and lots of time, and we
9 already spend enough time doing this, all this
10 work.

11 So but I think as a set of
12 guidelines, so at least we're consistent in
13 the approach that we use, and that we consider
14 what needs to be evaluated as part of doing
15 that. Again, it wouldn't have specific
16 criteria, and I think sometimes people look
17 for those in looking at these guidance.

18 They're not that. They're
19 guidelines for how to do the evaluation, what
20 should be done. I think we would come up with
21 a, hope to come up with the same for this. But
22 again, we're looking for input from all of the

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1 Board. Again, it should be something that
2 we're all comfortable with and that we all
3 would find helpful.

4 So let me open it up for comments
5 or questions. Yes, Gen.

6 MEMBER ROESSLER: You brought up -
7 - by the way, that was really a very good
8 summary of the outline and everything, and I
9 think we want to keep this in front of us for
10 a reminder. My question has to do with the
11 questions that come up, like how much accuracy
12 is sufficient. That's the basic question.

13 It seems like to answer a question
14 like that and to keep consistency across the
15 program, we ought to go back and look at those
16 SECs that were denied, or also maybe the ones
17 that were awarded, and try to see what we have
18 done.

19 Is there a consistent pattern? Are
20 there some things in the past, and you
21 referred to what we've done in the past, and
22 how important that is. But are we planning to

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1 do anything like that?

2 CHAIRMAN MELIUS: Well, I think
3 we've already done it in the two White Papers,
4 and I think those were, I believe Ted
5 distributed them again to people. I think
6 what we found is though they were helpful,
7 they didn't really identify an approach to
8 dealing with sufficient accuracy, and some of
9 that is because they were so dominated by the
10 circumstances at a particular site.

11 So the practical issues, you know,
12 what monitoring was done, what information was
13 available at the site, what they did at the
14 site and so forth, really drove those
15 decisions much more than -- you might think in
16 retrospect, and I think what may be a way of
17 approaching it, again thorium.

18 Thorium, you know, was the one
19 that probably led to, you know, a number of
20 SECs early on. But then, you know, as we get
21 into some of the other sites, we found that
22 had sufficient information there to be able to

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1 do dose reconstruction.

2 It was just a practical, you know,
3 situation of what was available at a
4 particular site, that allowed us to reach
5 those conclusions, rather than any sort of
6 principal or any sort of calculation or
7 difference in approach on sufficient accuracy.
8 I think what we, what may be worthwhile doing
9 is after we've come up with a set of
10 guidelines, is then think back do these make
11 sense in terms of our past? Do these capture
12 our past decisions, and do that.

13 I mean I'll -- when NIOSH first
14 gave us this outline, I sort of skipped over
15 the beginning. I said oh well, we do that all
16 the time. This is sort of the second slide I
17 showed with, you know, what are the practical
18 issues.

19 But when you think about it, those
20 really are what drives so much of what we've
21 done. It's our evaluation of the information
22 available on the site, and being consistent in

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1 how we approach that, making sure we don't
2 miss, you know, what happened in different
3 buildings or something like that, that we have
4 as complete information as possible.

5 But I think we can go back and do
6 that. It just didn't seem to be, I don't
7 think we had the right way of approaching it
8 early on. Maybe we picked the wrong example
9 with thorium. Maybe there are some other
10 examples that would be, would have been
11 better.

12 But right offhand, I think we all
13 thought that would have been the best example,
14 because we had, you know, SEC evaluations,
15 sort of granted SECs, we had not granted SECs,
16 and we had some tough decisions on those,
17 where the Board wasn't certain what to do. But
18 that appeared to be more due to the
19 information available. But that is something
20 we can revisit. Henry?

21 MEMBER ANDERSON: Yes. It seems
22 to me one of the other things that we've

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1 struggled with is, and it's sort of wrapped up
2 into variability, and that's kind of the range
3 of exposures, where I think we're comfortable
4 in the residual period that by and large the
5 range of the exposures is quite manageable,
6 where if you have orders of magnitude
7 differences, then you get into choosing a
8 highest variable, and then say well, that will
9 be bounding, that that bound then starts to
10 press the plausibility issues.

11 So one of the key factors that I
12 think we have to come to grips with, is there
13 a range of exposures where unless we've got
14 lots of data, it suggests there's, it's
15 problematic where we start applying these
16 various statistical things.

17 Then it's well, that seems too
18 high, so let's just come up with something a
19 little bit lower, and that seems -- and then
20 we get into very much of a subjective decision
21 process. That, I think, is really a
22 challenge. So good description of the

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1 variability in what is an acceptable range of
2 variability, if we're going to apply some of
3 these, I think, is really a critical thing to
4 look at.

5 CHAIRMAN MELIUS: Yes. No, I
6 agree, and then I mean I think we all have in
7 the back of our mind, even though we may not
8 have a number for health endangerment. We do,
9 you know, think to what extent is this
10 exposure going to affect, you know, dose
11 reconstruction? Is it going to have an impact
12 in that?

13 If it's a relatively low exposure
14 and the variability is contained, you know, in
15 a practical way by the circumstances, then I
16 think we say well, it's not really going to,
17 you know, affect -- very unlikely to affect
18 individual dose reconstruction involved, and
19 therefore we're comfortable because we --

20 We're comfortable with both the
21 bounding and we're comfortable that even
22 though maybe we don't have as much

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1 information, monitoring information, we have
2 enough that we can feel that it's a fair
3 approach, and that NIOSH is again, being a
4 claimant, giving benefit of the doubt to the
5 claimant in terms of doing that, but at the
6 same time coming with an actual, you know,
7 conclusion that we can do dose reconstruction
8 with sufficient accuracy, for that particular
9 exposure.

10 Yes, and there are circumstances
11 where, on the residual where we have not,
12 where there's construction going on or some
13 other activity on the site, that we know that
14 that range would have been much, could have
15 been much higher. I can't see who -- Phil,
16 yes.

17 MEMBER SCHOFIELD: The one word
18 that really bothers me at some of the
19 facilities, say like a Rocky Flats or Savannah
20 River or Oak Ridge, is "plausible."

21 (Off mic comment.)

22 MR. KATZ: Phil, your mic's off.

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1 Phil.

2 MEMBER SCHOFIELD: Oh, okay. All
3 too often we've had personnel at some of these
4 facilities have been close to the unplausible.
5 So this definition of what is plausible and
6 what is not, at some of more the complicated
7 and the sites where the risk factor is much
8 higher. I think we need to try and narrow
9 that definition a little more stringently.

10 CHAIRMAN MELIUS: Well, I mean I
11 think that's what we're sort of looking at
12 really, is what is plausibility, because a
13 bound, you know, we can come up with a high
14 number and bound any exposure. I'm sure
15 there's someone who will have a counter-
16 example, but what we've encountered so far at
17 these sites, we can always bound.

18 But is it a plausible bound, and
19 that's what we really, I think, wrestle with
20 that, and you're right. We need to come up
21 with some better parameters on and
22 consistency on how we do that, at least try to

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1 capture what we've done so far, so we all have
2 the same understanding and can apply that.
3 Wanda.

4 MEMBER MUNN: Some of these
5 comments are certainly well-received. The
6 problem, the basic problem that we have is we,
7 and in very simplistic terms, trying to
8 eliminate all of the technical information
9 that puts layers of complication on what we're
10 looking at, is the fact that we do not have a
11 situation where we have cause and effect of
12 what we're talking about.

13 We have a situation where we have
14 an influence on the outcome of exposure, but
15 the fact that simple exposure does not
16 translate to either harm or benefit is, leaves
17 us with a situation where we have no clear
18 defining line. Without a clear defining line,
19 where we can say anything below this kind of
20 exposure for this different type of radiation,
21 is not going to be of deleterious effect to
22 anyone.

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1 But there's a point where anyone
2 would agree that there is going to be harm
3 above that limit. But that limit cannot be
4 defined, despite the fact that we have over
5 100 years of experience in defining outcomes
6 and recording outcomes. Until we can come to
7 some grips in this body, of what we consider
8 to be the gray area, then it's hard to see how
9 we can address the question of sufficiency.

10 We probably cannot even agree on
11 where the gray area is, below which there's
12 not likely consequence and above which there
13 certainly will be consequence. That's a very
14 large gray area, and although I really
15 appreciate the work that's being done in
16 recent months, trying to pin this down better.

17 It turns out to be a statistical
18 ball of tar, and for those who are not really
19 well-versed in statistics, it becomes a
20 problem of definition, which although
21 eliminated by our discretions and by the
22 papers, still does not show a clear path on

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1 how we come to our decisions about the
2 definition of those terms.

3 I'm at a loss to see how we're
4 going to get past that, in the absence of
5 cause and effect, and in the absence of clear,
6 bright lines from which we can say here's our
7 standard by which we have to make our
8 decision. We're dealing in an extremely
9 amorphous area when we're trying to define
10 these terms, and if we're going to insist on
11 defining them clearly, in order for everybody
12 to be in the same boat, then I guess I'm
13 saying what I suspect most people feel. This
14 is a thorny issue, and I'm not at all sure
15 that we can resolve it.

16 I commend your efforts to try to
17 get us to an agreement point. I'll be very
18 interested in seeing how we get there, if we
19 can get there.

20 CHAIRMAN MELIUS: We'll see. I
21 just would point out that, yes, I guess two
22 things. We wrestled with trying to define

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1 health endangerment when we first started
2 here, and then for some of the reasons you
3 stated, we decided that, you know, a
4 quantitative definition was not going to be
5 necessarily feasible to do and reach.

6 But also, I think we have to also
7 remember that the risk, the evaluation of risk
8 that we're feeding information into is the
9 IREP model. That's what Congress set for us,
10 and we're doing what Congress, you know, we're
11 implementing this Act, is what NIOSH is doing
12 and so forth, and they defined what, you know,
13 the level of risk is through the -- and who
14 gets, at least in terms of compensation for
15 these workers, through the IREP models.

16 So it's what we're feeding into
17 the IREP model is what we're focusing on, and
18 can the exposure part of that be reconstructed
19 with sufficient accuracy, to be then fed into
20 the IREP model. So the risk determination for
21 purposes of compensation are in some ways out
22 of our hands.

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1 It doesn't mean that the bigger
2 questions don't, that you put out, aren't
3 still there. But we in some ways have a more
4 limited role than determining whether or not
5 this level of exposure, presuming we agree on
6 it and so forth, is sufficient in terms of
7 compensation. We have a more prescribed sort
8 of approach to that.

9 For Board Members on the phone,
10 Paul's part of the Work Group. I don't know
11 Paul, if you're still on, if you have comments
12 or David or others? Ted probably has them
13 muted.

14 MEMBER RICHARDSON: Dr. Melius?

15 CHAIRMAN MELIUS: Yes.

16 MEMBER RICHARDSON: Can you hear
17 me?

18 CHAIRMAN MELIUS: Yes, we can.

19 MEMBER RICHARDSON: Okay. I
20 appreciate the discussion. I was, and I agree
21 with what you've characterized with how we've
22 been operating, in terms of dealing with

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1 settings where, for example, residual periods
2 where effective dose we weren't more
3 comfortable I think coming to where it was
4 bound and why.

5 It's led me to think a little bit
6 about, I think actually the language,
7 sufficient accuracy is probably good if, you
8 know, in the kind of more standard sense of
9 accuracy as being how close is the assigned
10 dose or distribution of assigned dose as to
11 the worker's true dose.

12 I mean you want something that's
13 accurate, from that sense. So it shouldn't be
14 biased, and if there's also an aspect of
15 precision there, how close are the agreement
16 of the values in the distribution there. So
17 that's, I mean that led me to think we have
18 like a situation of residual period where we
19 can, you have relatively good precision in
20 applying those doses, because the range at
21 distribution is relatively narrow.

22 You have a good precision and it's

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1 unbiased with a -- it's sufficiently accurate.
2 But when the bounding gets large, I would
3 imagine you've got poor precision, where the
4 accuracy is low over a wide distribution.

5 So it might be that we -- I'm not
6 sure if this is helpful or not, but as you
7 start to think about the, you know, pulling
8 the language of sufficient accuracy out into
9 issues of bias and precision, I think that's
10 getting at some of the discussion.

11 You want assigned values that are
12 close to true values, and we want to be able
13 to do that with little or no bias hopefully,
14 and as the precision of those estimates get,
15 of the distributions we're talking about get
16 wider, the accuracy is less.

17 I mean I've gone around and around
18 in my head trying to think about what we were
19 talking about. We could try a little bit more
20 to have a, something that ties -- but what I
21 think what we were saying is something that
22 ties the, what you described as the absolute

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1 value of the assigned dose, which is kind of
2 the precision of the range of the values from
3 zero to the bounding dose, giving us a sense
4 of if the precision is good or poor, and
5 therefore whether the accuracy is good or
6 poor.

7 CHAIRMAN MELIUS: No, I think that
8 is certainly the way I've been thinking about
9 it more, and I think the coworker model issue
10 sort of brings that concept forward, because
11 that's -- because we're trying to deal with
12 that in more statistical approaches, and I
13 think, you know, in terms of precision and
14 bias and which at least us epidemiology people
15 are used to dealing with are, become important
16 in evaluating those.

17 MEMBER RICHARDSON: Yes, and we
18 have decisions or discussions that turn on
19 both of those, like in a sense are they
20 bounding? I mean are the values, is there
21 good trueness to the assigned values. But we
22 also have discussions about the precision of

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1 the distributions.

2 I think intuitively, I tend to
3 feel like when we get to places where we're
4 talking about bounding doses which have, you
5 know, are not accurate, you know, in closeness
6 of the assigned dose to the person in a
7 relative sense. But as you said in an
8 absolute sense, the magnitude of the kind of
9 dose is relatively small, meaning the
10 precision is relatively good, and we start to
11 feel comfortable bounding a dose there.

12 CHAIRMAN MELIUS: Yes, okay. Thank
13 you, Dave. Paul, are you on the line and wish
14 to comment?

15 (No response.)

16 CHAIRMAN MELIUS: Okay. Anybody,
17 any other Board Members? Okay, good. So our
18 plan is we'll talk more later and sort of
19 moving forward here. I'll tell you what
20 happened in the Work Group call. We went over
21 the outline and said well, what's the next
22 step? Should we develop the outline to a

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2 MEMBER ZIEMER: Can you hear me?

3 CHAIRMAN MELIUS: Oh yes, now we
4 can. Sorry. Go ahead.

5 MEMBER ZIEMER: Yes. I thought I
6 was off mute, and it didn't seem to work. Yes,
7 this is Ziemer. Most of my comments have
8 already been said in the Work Group, and I
9 kind of agree that we're not really looking
10 for a bright line or a numerical bat or
11 anything like that. We're looking for a
12 process --

13 CHAIRMAN MELIUS: We lost you
14 there, Paul.

15 MEMBER ZIEMER: Can you hear me
16 now?

17 CHAIRMAN MELIUS: Yes, we can.

18 MEMBER ZIEMER: Thank you. I
19 don't think we're looking for any kind of a
20 bright line or value, or necessarily even a
21 specific range in every case. It may be very
22 site-specific. But we have to have a process,

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1 I think, where we are able to make the
2 evaluation, have reached sufficient accuracy
3 for this situation, and that's where we need
4 criteria rather than numbers.

5 Keep in mind, for example, we do a
6 lot of dose reconstructions where precision or
7 let me keep it with accuracy, accuracy is not
8 the issue. The cases where we already passed
9 the 50 percent value with just the external,
10 and we don't have an accurate dose. We have a
11 dose that gives us a point where we can make
12 an accurate decision on compensation.

13 That often happens, where we have
14 cases where we have already accumulated enough
15 dose to go over the 50 percent mark, without
16 completing the total dose reconstruction. So
17 we don't necessarily need accuracy for
18 individual doses. We need to make sure that
19 we have done what is sufficient to get what I
20 would call an accurate decision on
21 compensation.

22 So we need to keep that in mind,

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1 and whether it's with coworker doses or
2 individual doses, it's the process that makes
3 sure that we have the information that's
4 necessary to make a correct decision on
5 compensation. So this is not a straight
6 statistical thing. This is a combination of
7 both the science and the policy.

8 You know, we already know that in
9 cases where the uncertainty is great, that it
10 tends to favor the claimant. So we need to
11 keep those things in mind as we think about
12 sufficient accuracy.

13 CHAIRMAN MELIUS: Thanks, Paul.
14 Jim Lockey.

15 MEMBER LOCKEY: Jim, when I was
16 listening to David in your review, just for my
17 clarification, if in the residual periods, in
18 moving forward, where we're getting the lower
19 exposure situations. Is it the group's
20 thought that maybe more precision should be,
21 precision in relationship to the maximum dose
22 or the highest range, plausible concentration

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1 perhaps is more important than precision under
2 that, or is it a combination of both?

3 CHAIRMAN MELIUS: I think it's a
4 combination of both. It's sort of the range
5 that we're operating in, and the absolute
6 value of that range, of that. I'm not sure
7 we've gotten to a point where we're -- whether
8 we really evaluated that part of it, because
9 I'm not sure how that extends beyond that.

10 I think we're all comfortable with
11 the residual period approaches given, you
12 know, the circumstances most commonly found
13 there. I'm not sure how we then, are we all
14 comfortable? Are we ready to extend that out?
15 How do we extend it out beyond those ranges?

16 MEMBER LOCKEY: So if we had, if
17 we felt very comfortable that the bounding
18 dose was very precise, that in itself would
19 not be enough, because we don't have, we may
20 not have enough precision in relationship to
21 the lower exposure situations under that
22 bounding dose, maximum bounding dose?

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1 CHAIRMAN MELIUS: Yes. I think
2 some of -- how does it apply to that
3 population, because if the bounding dose is
4 very high, the range is high of exposure with
5 the population. You can have a precise
6 bounding dose. It only may apply to -- how
7 well, is that sufficiently accurate for
8 everybody else in that exposure circumstance,
9 everyone else in that building or whatever.

10 MEMBER LOCKEY: So that it breaks
11 down to job position, job task, and would it
12 fall under that?

13 CHAIRMAN MELIUS: Yes, yes. I
14 think we have an example coming up. Anybody
15 else? Okay. Thank you. We'll, I guess we
16 can talk more about moving forward later after
17 we've done the coworker, and we have some
18 Board work time.

19 We are on our break, and since we
20 are a little bit past, and since, if I told
21 people to come back in 15 minutes they might
22 not anyway, why don't we plan on what -- we're

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1 not really scheduled. So a 25 minute break.
2 So yes. So come back at quarter of. Is that
3 fair? Okay.

4 (Whereupon, the above-entitled
5 matter went off the record at 10:22 a.m. and
6 resumed at 10:49 a.m.)

7 CHAIRMAN MELIUS: Okay. We'll get
8 started again. I think LaVon. No, keep him
9 on his toes. We're going to talk about
10 coworker models, and Jim Neton and Arjun will
11 be speaking, and between now and lunch, and
12 based on, is it OTIB-53? And then there's an
13 SC&A review of that, which everybody received
14 ahead of time and is memorized, so the quiz
15 will be later. So go ahead, Jim.

16 DR. NETON: Testing. That's good,
17 thanks. Okay. Thank you, Dr. Melius. I thank
18 you for setting the stage with the sufficient
19 accuracy. I think you're absolutely right. A
20 lot of what I'm going to talk about might fit
21 into your, especially with the coworker model,
22 approach that NIOSH has been using for quite

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1 some time now.

2 I think we started, TIB-19 was the
3 first procedure or whatever that we put in
4 place back in 2005, and we've had various
5 iterations of coworker documents since then,
6 specifically to address more and more detailed
7 and sophisticated analyses, including censored
8 data, number of data sets and most recently
9 stratification of data in Report 53.

10 So I'm going to try to get sort of
11 an overview of where we were and where we
12 ended up with 53, to get the conversation
13 going. But I would like to acknowledge that a
14 lot of this work was done by some very
15 talented statisticians that included Tom
16 LaBone, Nancy Chalmers and Daniel Stanescu.
17 Tom and Nancy are with ORAU and Daniel's on
18 our staff.

19 So just I'm going to have a few
20 slides of background, just for those maybe who
21 are new to the Board, and just to make sure
22 everybody's on the same page. The reasons for

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1 using coworker data are pretty obvious. The
2 workers were unmonitored, and more
3 significantly, they were potentially exposed.

4 I mean there are a number of
5 workers that are never monitored, and the
6 potential for exposure can be very small or
7 zero. So we need to keep that in mind, as we
8 move through in this discussion.

9 But for workers that were
10 monitored and who were potentially exposed,
11 the data could have been either lost or
12 destroyed, and this one was envisioned in the
13 Act. Or, as Dr. Melius talked about earlier,
14 monitoring methods were not reliable. The
15 data couldn't measure what they purported to
16 measure, something to that effect, the
17 neutrons early on in the complex, maybe
18 something like that.

19 Or lastly, available data
20 insufficient to complete a dose
21 reconstruction. You may have a few data
22 points, but a person's career spanned 20-30

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1 years, and those few data points aren't
2 sufficient, so you need to rely on some other
3 source of information.

4 We have developed, I think since
5 2005, at least a dozen coworker models for
6 internal and probably an equal number for
7 external dose at various sites, and the data
8 has come from any of these four different
9 sources.

10 Preferably, we end up using the
11 cover facility databases that we can obtain,
12 which would include the urinalyses results,
13 the GLD measurements, the film badge
14 measurements, that sort of thing, and those
15 are the best sort of data if they're complete
16 and accurate and have very well identified. We
17 prefer to use those.

18 But lacking that information, we
19 have used epidemiologic study data that was
20 collected at ORAU for the Center for
21 Epidemiologic Research, or even CEDR, the
22 Comprehensive Epidemiologic Data Resource that

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1 lists epidemiologic data sets in a de-
2 identified fashion, which is kind of important
3 in this discussion.

4 But we've used that, and also
5 there's a TIB out there that talks about using
6 claimant data. If we don't have any other
7 sources and we have a fairly robust set of
8 claimant data, and we can demonstrate, at
9 least statistically, that the claimant data
10 are not a biased sample of the entire
11 population, we've even used that in the past.
12 So there's a large number of locations where
13 we can obtain data for these models.

14 The general approach is to look at
15 the data of the moderate population, and of
16 course we looked at the pedigree of the data,
17 determined the measurements reliable,
18 established if the monitoring population is
19 represented in the work force. That's pretty
20 much the key on this slide, is that we're the
21 highest exposed people monitor, okay. That
22 gives us a good handle.

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1 Or, at a minimum, we're the
2 representative, a representative sample of the
3 workers monitored. If it's a representative
4 sample that was monitored, then we have a
5 fairly reasonable accurate model. If the
6 highest exposed workers were monitored and
7 we're applying a coworker model, then we'll
8 probably have a slightly biased high estimate
9 of the workers. We'll talk a little bit more
10 about that later.

11 The statistical approach for doing
12 the coworker evaluation is well-described in
13 Procedure 95. That basically says you review
14 the data and apply a statistical distribution,
15 which is fit a log-normal distribution. It's
16 been well-established log-normal distributions
17 are applicable to environmental and
18 occupational data, and group the data as
19 appropriate.

20 Sometimes, when the data are
21 sparse, one has to go to monthly, annual and
22 sometimes up to three years' worth of data to

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1 fill a gap. Then one generates a summary of
2 statistics, evaluates a fit to the data. It's
3 a pretty straightforward regression analysis
4 that was done early on these procedures, and
5 like I say, those early models that we
6 developed did exactly just that. I'll show
7 you a couple of examples.

8 As Dr. Melius alluded to earlier
9 though, the external coworker models are much
10 more straightforward to apply to internal.
11 There's a variety of reasons for that. Many,
12 many more people were monitored for external.
13 There's little interpretation required in the
14 internal world, as I'll talk about a little
15 bit later.

16 The excretion values that you
17 obtain really don't provide information as to
18 what a person's intake was. It has to be
19 converted to some sort of an intake to be
20 meaningful. That's really the trick, and I
21 want to really emphasize that in my discussion
22 here.

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1 This is just an example, I think
2 it's probably too simplistic, but a coworker
3 distribution for external dosimetry of an
4 untransformed data set where, you know, it's
5 pretty clearly log-normal. I've truncated the
6 distribution at 500. It extends way out.

7 But to get that nice little
8 characteristic log-normal shape, I left it
9 truncated at 500. But you get the idea of
10 what I'm talking about, and many of the data,
11 most of the data we have looks similar to
12 this.

13 If one transforms, takes a lot of
14 the data and plots it on what we call a Z-
15 score plot, which is a standard normal variate
16 with a Z-score of zero being a central
17 estimate of the data set, and then the values
18 to the left and the right in units of
19 essentially standard deviations, one normally
20 obtains a plot that looks similar to this for
21 external data.

22 Here, we'll have a geometric mean

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1 of about 130 millirem, and a fairly large GSD.
2 I mean you can see here's six and a half.
3 Interestingly, this is an aside, if you see
4 where that site of administrative dose limit
5 is, that tailing off at the top, this is very
6 frequently seen in external dosimetry results,
7 where, as workers approach the site
8 administrative limit, they start pulling them
9 out of the workforce and fewer and fewer
10 measurements are obtained in that area.

11 But internal is what I really want
12 to talk about today, because I think it's the
13 most complicated thing, and is really the
14 subject of TIB Report 53. In the internal
15 world, we often have multiple bioassay results
16 per monitoring period. They'll have a routine
17 monitoring program, but sometimes workers are
18 sampled more frequently than others, based on
19 the potential for exposures or even in cases
20 where there's incidents, one will take
21 multiple samples.

22 In that situation, if you're

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1 trying to model one year's worth of exposure,
2 you can have many bioassay results for several
3 people, and few bioassay results for the
4 remainder of the population. That tends to
5 skew the results, if one uses all of those
6 data.

7 In fact, the bioassay results from
8 one individual are going to be correlated,
9 because it's the same individual being sampled
10 repeatedly, and that violates the presumption
11 of statistical independence of the data. So
12 given that, I'm going to talk about this a
13 little later.

14 In Report 53, there's this one
15 person/one sample concept that we've adopted,
16 that heretofore had not been applied in most
17 of the coworker models. As I mentioned
18 earlier, the raw data must be converted to
19 intake and then dose. So you can have 1,000
20 bioassay results in one year that say .03
21 picocuries per liter are being excreted on
22 average by this population.

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1 But what does that mean in terms
2 of dose? What is the intake the population
3 was breathing in? That's critical here, and
4 if you're going to build a coworker model for
5 external, the exposure pattern has to be
6 presumed. If you measure a film badge, you
7 measure a film badge and it represents that
8 exposure period.

9 Here, what is the exposure
10 potential? Acute, chronic, mixed? In this
11 situation, we talked about this a long time
12 ago. We have defaulted in these coworker
13 models to chronic exposures, and we believe it
14 is a claimant-favorable approach, to assume
15 that the geometric mean of the distribution
16 represents a constant. Everyone would have a
17 constant excretion that was unmonitored at the
18 geometric mean of that distribution.

19 So this is just a summary of what
20 possible calculations go into a coworker
21 model. In the first box on the upper left, of
22 course you have the urine data, the raw data

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1 that we obtain from some database. In the
2 second box we have the, what we call the one
3 person/one sample urine data.

4 In 53, we've adopted an approach
5 where if you're modeling one year, you will
6 take the average value of the person's urinary
7 excretion in that one-year increment, and use
8 that as one of the data points in the coworker
9 distribution. In our opinion, that actually
10 is more reflective of intake than any other
11 method you could use, such as using all of the
12 data by itself in that one-year increment.

13 If you think about it, it's almost
14 like -- you take the average value of the
15 person's urinary excretion in that one-year
16 period, and multiply it times a day, the
17 monitoring period, you have picocurie per
18 liter days. An integrated estimate of that
19 person's exposure over that one period. It
20 just makes perfect sense to us.

21 The third box on the lower left
22 shows that we will take, using the one

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1 person/one sample urine data, the 50th and
2 84th percentile of the data. That's
3 generating a log-normal distribution plot, and
4 then the subsequent in Box 4. You take the
5 50th and 84th percentile intake rates and
6 calculate geometric mean and geometric
7 standard deviations.

8 That's where the rubber meets the
9 road. That's where you're converting a
10 bioassay excretion value, an average bioassay,
11 a 50th percentile bioassay excretion value
12 into some chronic intake over a period of
13 time. Of course, and in Box 2, 3 and 4 is
14 where we can actually look into the, peer into
15 the inner workings of the models, and see how
16 they behave.

17 We can't do anything in Box 5,
18 which is person-specific intakes and doses.
19 That gets into some very -- that was coworker
20 model by cancer type and all of that sort of
21 thing. It's just not possible. Of course,
22 the final outcome is Probability of Causation.

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1 As Dr. Ziemer mentioned earlier,
2 the real question here is do we have a model
3 that provides an accurate compensation
4 decision for a worker?

5 Okay. This is just an example of
6 the probability of distribution for a single
7 year for urinary excretion. Here you have the
8 standard normal quantiles on the X axis. My
9 geometric mean line's a little off; I wasn't
10 perfect in lining it up.

11 But you can get the idea that the
12 geometric mean of this distribution is .7,
13 with a geometric standard deviation of 4.
14 Fairly large, but this is fairly typical. In
15 this case, N was 332 bioassay measurements.
16 Little N was 196 uncensored, one person/one
17 sample uncensored bioassay measurements.

18 So you get the feel here, and I
19 want you to remember this graph, because I'm
20 going to refer back to it a few times. But
21 this is the distribution that one would see in
22 the monitored population. You can see that on

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1 the Y axis, the quantities vary from .2 up to
2 basically 20. So you've got a couple of
3 orders of magnitude variability in the
4 distribution here.

5 So just to refresh, this is a
6 distribution for a single year. This is what
7 we would calculate for one year, and this is
8 what would go into the intake model. But on
9 the next slide I want to point out to you,
10 there's a number of points here. I think
11 there's 14 points here representing different
12 years.

13 So if the previous slide
14 represented one year, where am I going here,
15 wrong way. If the previous slide represented
16 distribution for one year, that is represented
17 by say the first dot right here. That would
18 be the geometric mean of that distribution on
19 this curve.

20 Now we would take subsequent years
21 of data and fit, and plot them here as well,
22 and then fit the best intake retention curve

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1 we can. It's essentially a linear square
2 regression analysis through these data points,
3 and this is where the rubber meets the road.
4 This is the intake that's going to be assigned
5 for, to this cohort, these unmonitored workers
6 over a period of 14 different years.

7 So if there's a difference in any
8 one of these little points, it may not make a
9 practical significant difference in this curve
10 that's fit, because if you see the values
11 here, the curve predicts that the chronic
12 intake is something like .96 DPM per day, with
13 a standard deviation of .22 DPM per day, a
14 fairly substantial error.

15 This is above and beyond the
16 uncertainty associated with the individual
17 coworker models. That needs to be kept in
18 mind. So what we would do here is we fit this
19 50th percentile distribution, and then re-run
20 the calculation using the 84th percentile
21 distribution to establish the GSD of the
22 intake for this entire 14-year period.

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1 So this is where Report 53 talks
2 about what's the practical significance of any
3 differences in the individual annual coworker
4 models. This needs to be kept in mind.

5 So the application of the coworker
6 model, as I mentioned earlier, is based on the
7 potential that the monitor worker -- with the
8 potential, the exposure potential for the
9 unmonitored worker that we're trying to
10 reconstruct. The person would receive either
11 the full distribution, i.e. the 50th
12 percentile with the geometric standard
13 deviation as the input parameter, or the 95th
14 percentile of the distribution.

15 So for this distribution, they
16 would either, when it's converted to intake
17 and dose, of course, but it's all
18 proportional, it's not that the person gets
19 just the 50th percentile. The entire
20 distribution is input into IREP as well, and
21 that is sampled as representative of our best
22 estimate of the worker's intake for that

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1 particular period.

2 So it's not accurate to say that
3 they're just getting the 50th percentile. We
4 take advantage, well we acknowledge the
5 uncertainty in the data set itself, and
6 incorporate that distribution. So that's an
7 important point to remember.

8 So each situation is evaluated on
9 a case-by-case basis, and I don't want to get
10 into the judgment that's used there. I talked
11 about that in the past, whether you have
12 administrative workers versus clerical versus
13 chemical operators, that sort of thing, and
14 that's taken into consideration.

15 But there is the issue that Dr.
16 Melius mentioned of potential stratification
17 of the data. That's where Report 53 has been
18 issued, and it's our attempt to statistically,
19 provide a statistical framework, which one can
20 analyze data sets for potential
21 stratification. I mentioned earlier that
22 Report 53 introduces the concept of one

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1 person/one sample, OPOS as we call it, and
2 I've got a slide here that basically
3 summarizes what that means.

4 I mentioned earlier, minimizes
5 issues related to correlation of data. It
6 minimizes issues related to one person driving
7 the distribution. I think there's one data
8 set we have. There could be 50 samples from
9 one person and then 100 samples from another
10 person. That person's samples would drive the
11 distribution, totally not appropriate.

12 So to use the data, the concept of
13 the maximum possible mean was developed, which
14 is oftentimes you have a combination of
15 censored and uncensored data. Censored data
16 of course just meaning that the data report is
17 below some limit of detection.

18 So I have three examples here to
19 sort of point out how this one person/one
20 sample would be calculated, given different
21 scenarios. In the first example, you have
22 four data points of 10, 3, 5 and 6. We would

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1 simply just take the mean of those data points
2 and they would be put into the distribution as
3 6, the average value of those four.

4 In the second example, if you have
5 the same data points but the 3 and 5 were
6 censored, the report is less than values, you
7 would still report the data as 6. That's
8 where the concept of the maximum possible mean
9 is. It probably wasn't a 3 or a 5, but it
10 certainly is no higher than a 3 or a 5. So
11 we're just going to assume, for claimant-
12 favorableness, that it was that.

13 In a third example, if you have
14 all censored data, it would -- the average is
15 still 6, but it would be reported as a
16 censored data point, using in the database as
17 a censored datapoint as less than six. That's
18 a pretty simple statistical calculation, but
19 that's very important as to how we treat the
20 data.

21 So to get to the issue of
22 stratification, the monitored population is

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1 really, has got to be a conglomerate of a
2 number of subgroups. You know, you take an
3 entire 500 point data set. There's going to
4 be different subgroups in there.

5 As I mentioned earlier though, the
6 single distribution can be applied if the
7 highest exposed workers were monitored, or
8 workers were sampled representatively,
9 representative workers were sampled of the
10 workforce.

11 You took -- it wasn't biased in
12 some particular means, such as only the lowest
13 exposed workers were monitored or something of
14 that nature. If you do, however, suspect
15 stratification, it can be statistically
16 evaluated, and Report 53 introduces the
17 concept of the Monte Carlo permutation test
18 and the Peto-Prentice test, and I'm just going
19 to briefly describe those today.

20 The Monte Carlo permutation test
21 has some assumptions that the data can be
22 described by a log-normal distribution, which

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1 we know to be the case, and that the data is
2 not heavily censored. No more than 30 percent
3 of the data should be censored.

4 We do believe that it is an
5 important criterion that the data, if you're
6 going to stratify data, it has to be based on
7 some a priori criterion. You can't just go
8 data mining, looking for differences and
9 saying "aha, I find a difference here,"
10 because statistically, if you do enough
11 calculations, you're going to start finding
12 differences that really aren't necessarily
13 based in any reality.

14 The a priori criteria could be as
15 simple as, and this shows up Savannah River
16 construction workers versus non-construction
17 workers at Hanford Area 100 versus 200 Area
18 workers. But we feel very strongly that one
19 needs to have an a priori criterion before you
20 start investigating stratification. You have
21 to have some reason to believe why they're
22 different.

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1 For each of these strata, you
2 calculate the geometric mean and the geometric
3 standard deviation. So you have a delta. You
4 have a difference between the geometric means
5 and the geometric standard deviations of the
6 two strata, okay. Stick with me here. It
7 gets a little more complicated.

8 You calculate, as I mentioned, you
9 calculate the difference between the two, and
10 these differences comprise one data point,
11 with an X-Y coordinate. You're going to have
12 the geometric mean on one side, geometric
13 standard deviation on the other. You plot a
14 single point.

15 Now what you do is you take the
16 entire data set and you randomly pull
17 distributions out of that data set. Say you
18 had 300 samples. 200 were from one strata and
19 100 were from another. You would sample 100
20 random points out of that data set, calculate
21 a geometric mean of standard deviation, and
22 plot it.

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1 Then you would take, what did I
2 say 200? You take the 100 data points and do
3 the same thing, and you keep resampling this
4 distribution 10,000 times, until you generate
5 a plot of the possible distribution of all of
6 the differences between the geometric means,
7 the standard deviations within that one data
8 set.

9 That gives you sort of the
10 universe of possible issues, and what you have
11 here is one of these plots that has a 95
12 percentile confidence envelope. It's an
13 ellipse, and the line drawn around the points
14 there is where 95 percent of the data fall.

15 If the difference that you
16 calculated between the two strata in the first
17 place falls within that ellipse, as shown
18 here, at the 95 percent -- falls within the
19 95 percent confidence band, then it is
20 concluded that the two strata that you
21 attempted to evaluate are not statistically
22 different.

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1 I just have an example here of one
2 where you do the same calculation. This
3 difference over here, this point on the right,
4 is way outside the ellipse. Therefore, it
5 would be concluded that the strata are
6 statistically different.

7 Sounds complex, but it's fairly
8 easy to perform on computers to get these
9 results, and it's visually, it's pretty visual
10 too. I mean it gives you a nice feel for how
11 the, where the data are going.

12 Now the benefits is that you can
13 easily compare whether the different strata
14 are different obviously. But the limitations
15 does require some a priori decision on the
16 distribution of the data points. Here, we
17 assume they were log-normal, which is pretty
18 reasonable.

19 It doesn't work, though, if the
20 data are heavily censored. You end up getting
21 too many random draws of zero. Essentially,
22 you can't -- the censored data is going to

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1 come up zero, and they just can't plot the
2 points.

3 In this case, our statisticians
4 have researched, and it has been determined
5 that the Peto-Prentice test is the most
6 powerful test that can be used to compare two
7 strata in this situation.

8 The Peto-Prentice is really a
9 sophisticated version of a rank order Wilcoxon
10 rank order test that we're all familiar with,
11 the range values. I don't want to belittle
12 it. It's much more sophisticated than I'm
13 going to present here, but essentially the
14 same thing as a Wilcoxon rank sum test.

15 It's a non-parametric test. In
16 other words, no a priori distributions
17 assumed. You merely rank the data points in
18 the distribution. It can handle censored
19 data. It's built to do that, and you can
20 compare whether the strata are different at
21 some p-value. Here we chose the .05 level of
22 significance.

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1 We've done some testing and for
2 cases where both the Monte Carlo and Peto-
3 Prentice are applicable, they typically lead
4 to the same conclusion. So it seems to be a
5 reasonable test. So just to give you an idea,
6 let me go back to this graph here.

7 This is the distribution of all
8 the samples. So in the Peto-Prentice test,
9 what one must do is you rank the samples in
10 this order. It's a cumulative probability
11 plot. It's a survival curve basically. But
12 in this case, it will be a cumulative
13 probability plot, and you take adjacent data
14 points on the curve, add them together and
15 subtract one, and you get a value.

16 So you take the first data point,
17 add it to the second data point, subtract one,
18 get a value, and you do that all the way
19 through the distribution. So you get a series
20 of values. You also, though, keep track of
21 which data points came from which data set. So
22 if I generate all my series of values here, if

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1 I had more data in the high values from one
2 strata, you can imagine you get a much higher
3 number, because the higher values are
4 appearing from that strata in the higher end
5 of the distribution.

6 So it gives you a way of looking
7 at are the data grouping in some particular
8 manner in these distribution of samples. It's
9 kind of very nice, interesting test. Okay. So
10 moving on with the graph, here are two graphs
11 of samples that we've tested using the Peto-
12 Prentice test, and on the left you have the
13 data were combined into a single data set, as
14 we've talked about earlier, evaluated, and in
15 this particular instance, in the Peto-Prentice
16 test we concluded data were not significant.

17 The p-value I think was -- you
18 can't read it very well, but it's like .17 I
19 believe, and the data are -- you can say that
20 they look different, but they're not
21 statistically different by this test. In a
22 second set, the data points, the data are much

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1 more further apart, and as concluded here, the
2 data are significantly different at the .05
3 level. P-value is very, very, very small.

4 So that's used for when you have a
5 very highly censored data set, as opposed to
6 the Monte Carlo permutation test.

7 So in summary, I just point out
8 some of the obvious things I've been talking
9 about here, is that we believe that coworker
10 models can be used to reconstruct doses. But
11 one needs to be mindful of why the workers
12 that are being reconstructed weren't monitored
13 in the first place.

14 I mean you really have to come up,
15 come to grips with that scenario. I mean, you
16 know, if construction workers are different,
17 yes and they're a little higher, but then what
18 were the exposure potentials for the non-
19 monitored workers in that construction, in
20 that construction group?

21 You've got to be careful and
22 review the data for applicability and

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1 representativeness, of course, quality. We do
2 need to be mindful of stratification. We also
3 believe this one person/one sample approach is
4 the way to analyze these data sets. It really
5 makes a lot of sense to us, and the
6 stratification can be evaluated as we propose,
7 using these standard Monte Carlo permutation
8 tests or the Peto-Prentice test.

9 I think that's all I have to say.
10 I'd be happy to try to answer any questions.
11 If not, I think I have some crack
12 statisticians on the phone, phone a friend as
13 they say.

14 CHAIRMAN MELIUS: We'll keep the
15 phone muted as a real test. But Jim, you do
16 get the prize for the best graphics so far.

17 DR. NETON: Oh, thank you.

18 CHAIRMAN MELIUS: The Monte Carlo
19 permutation and LaVon, you'd better get to
20 work, come up with something here.

21 (Off mic comment.)

22 CHAIRMAN MELIUS: So questions for

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1 Jim?

2 MEMBER KOTELCHUCK: Dave
3 Kotelchuck. Your Monte Carlo test uses,
4 assumes a log-normal distribution. But when
5 you evaluate your OPOS data points that make
6 up the distribution, you use an arithmetic
7 mean rather than a geometric mean, which is to
8 say a median. That may not be very different,
9 but with limited numbers of points, those
10 would differ.

11 DR. NETON: Yes.

12 MEMBER KOTELCHUCK: Why do you do
13 that?

14 DR. NETON: When one normally
15 calculates an intake, it's a weighted least
16 squares analysis of the data, and if one boils
17 down the calculation for an intake value, it
18 ends up being the sum of the mean value of the
19 excretion values, divided by the mean value of
20 the intake retention fraction.

21 That's how one would calculate an
22 intake, and so this mean OPOS value is really

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1 sort of a surrogate for an intake value, if
2 you want to think of it that way.

3 MEMBER KOTELCHUCK: That allows
4 you to work backward.

5 DR. NETON: Right. If I had three
6 data points sampled on a person, I would take
7 the average value of the urinary excretion,
8 divided by the average value of the intake
9 retention fraction, and I would get my intake.
10 That's what's -- and that, believe or not,
11 ends up being a weighted least squares
12 analysis.

13 MEMBER KOTELCHUCK: Okay, thank
14 you.

15 CHAIRMAN MELIUS: Other -- yes,
16 Gen.

17 MEMBER ROESSLER: This makes me
18 wish that I'd taken more statistics, a lot
19 more statistics. A simple question. If the
20 Peto-Prentice test is always better than the
21 Monte Carlo, why don't you always use that?

22 DR. NETON: I don't know if it's

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1 always better.

2 MEMBER ROESSLER: Okay. I had got
3 that impression.

4 DR. NETON: I mean I think we get
5 similar results when we compare the two. But
6 I'd have to defer to our statistician as to
7 why one is more preferable. I think if you
8 assume -- I think taking advantage of the full
9 knowledge of the distribution of the data
10 would give you a better statistical test, is
11 my opinion, for the Monte Carlo permutation
12 test.

13 Once you start assuming that
14 there's no distribution and such, you lose
15 some power, I think, in your calculation.

16 CHAIRMAN MELIUS: That's correct,
17 Jim.

18 DR. NETON: Thank you.

19 MEMBER ROESSLER: Then I have one
20 more question. When you're talking about the
21 highest exposed group and then the
22 representative group, what criteria do you use

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1 to decide whether a group is representative?

2 DR. NETON: Now that's the \$50,000
3 question or \$64,000 question, however you want
4 to phrase it. That requires a lot of digging
5 into the data sets themselves, as to -- I
6 think it's time-dependent. If you look at
7 some of the earlier sites that have been added
8 for SEC already, the data, I would say, were
9 not maybe representative.

10 But as you get more closer into
11 time, it's my opinion that the programs
12 started to more and more monitor the highest
13 exposed workers. I believe that's true. I
14 think early on maybe there were sort of cohort
15 model, cohort exposure evaluations, where they
16 would sort of sample a person from the
17 workforce, looking at the highest exposed
18 workers.

19 But it's a very judgmental thing.
20 One needs to look at the data set very closely
21 to determine that. One thing I didn't mention
22 is you notice these large GSDs on these

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1 values, and it's typical, 4, 5.

2 So, you know, one of the
3 criticisms of this test is that you can't see
4 very small differences. Well that's true. I
5 mean we prefer to let the data speak for
6 themselves and say if I can't see a small
7 difference between two data sets that have
8 very large similar GSDs, I think that's sort
9 of obvious that you can't do anything with
10 that. I mean that's just the way statistics
11 works.

12 So to presume that they are
13 different at the get-go to me just seems sort
14 of a violation of basic scientific hypothesis
15 testing. But just my opinion.

16 CHAIRMAN MELIUS: Yes, Bill.

17 MEMBER FIELD: I was curious that
18 you had the opportunity, and maybe there's
19 data sets that aren't even available, that are
20 pretty complete, to actually assess the
21 validity of the coworker models by self-
22 censoring, and then making comparison using

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1 these coworker models.

2 DR. NETON: Yes. We've actually -
3 - that's one of the commitments we have for
4 the ten-year review, is to try to do that, and
5 we did take a data set of tritium results at
6 the Savannah River Site, and did some
7 preliminary analyses and completed it.

8 At the end of the day, I'm a
9 little bit concerned about interpretation of
10 some of the data. But the original estimates
11 that we came up with demonstrated that the
12 50th percentile seemed to be fine, with a full
13 distribution for workers who we expected would
14 be in that category, and the 95th percentile
15 worked fine in the other direction.

16 But you know, that's N equals 1.
17 Tritium is sort of like the easy one, you
18 know, the low-hanging fruit. So I'm not sure
19 how you would, you know, even if you could
20 find and do this for two or three sites and
21 say yes, it looks pretty good, you're always
22 going to have the doubt in the back of your

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1 mind well, does it really work for Site X or Y
2 or a more complicated site.

3 I think right now, the big
4 question in my mind is the construction trade
5 workers, because there, it seems like you have
6 at least the ability to define who was a
7 construction trade worker and who wasn't. As
8 Dr. Melius pointed out earlier, many of these
9 other sites, you really don't know.

10 I mean you have an idea that this
11 guy was working here, but you really only know
12 that he was working there for that particular
13 year, and maybe he changed jobs. So it
14 becomes very problematic to identify and
15 segregate people in most cases except maybe
16 construction workers is a unique example.

17 CHAIRMAN MELIUS: Henry.

18 MEMBER ANDERSON: Yes. Just kind
19 of on the issue of stratification, it seems
20 that it's, you know, it's all heavily
21 dependent on statistics, and you know, a level
22 of statistical significance. We've all had

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1 relatively small databases, and the statistics
2 says oh, it's not statistically significantly
3 different when you look at it.

4 You know, you do, your one where
5 you said "oh, this isn't significantly
6 different" changed the scale, and they're
7 really quite different visually. So you know,
8 is there any thought about, you know, what is
9 the level of statistical significance? You're
10 using .05, which is just a convention
11 basically.

12 You could, it seems that the
13 impetus here is to say there aren't
14 significant differences, so therefore we can,
15 you know, one size fits all for the, you
16 know, everybody was the same and you talk to
17 the workers and they say well geez, you know,
18 that's crazy, that we were all very different
19 and we did this different. We're in a
20 different facility, different things.

21 But the measurements, you know,
22 statistically seem to be similar. So you

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1 might think in terms of, you know, what is
2 that p-value or whatever you're using, to say
3 that isn't stratified or not. You could
4 loosen that.

5 I mean we often on the epi side,
6 you know, when you try to say what goes into
7 your multiple logistic models, you put them
8 in, if it's .01 or .02 or things like that. So
9 you know, how the level of certainty you're
10 asking for to declare that they are different,
11 you know, makes a difference.

12 DR. NETON: You raise a good point
13 and, you know, 95th percentile, of course, is
14 standard convention, which is what we've
15 adopted. But I'd also like to point out
16 again, I can't over-emphasize the intake
17 retention model that we developed, that is
18 really -- ideally, I think the statistical
19 test should be done at that intake retention
20 level.

21 You put the data points in there,
22 and you look for differences between those

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1 models. But you can't always do that, because
2 it's a somewhat more subjective analysis.

3 So the idea here with this looking
4 at the data sets themselves and comparing
5 statistical differences at the one person/one
6 sample distributions was to say if we can say
7 up front that there's no difference here, we
8 don't need to go back and look at the
9 practical significance in the model. It's a
10 kind of two-part test.

11 Because really, the intake that
12 you're assigning is the important thing. I
13 showed you that. Fourteen years' worth of
14 data is 14 years' worth of bioassay points,
15 50th percentiles. If a few of them are
16 different, I'm not sure it's going to make any
17 statistically significant difference in the
18 intake retention fraction, intake retention
19 function that we apply.

20 So but I hear what you're saying.
21 I think you're probably going to hear
22 something similar to what you're describing

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1 from the next speaker.

2 CHAIRMAN MELIUS: I would just add
3 to that I think it's also -- your one
4 person/one sample also ignores error in that.
5 I mean you're taking a mean of that and you're
6 not really addressing the error that's in
7 that, you know, the variability in that
8 person's testing. So that can be problematic
9 to do that.

10 Brad, do you have a question, and
11 then we'll move on to the next presentation.

12 MEMBER CLAWSON: Yes. Genevieve
13 already took the \$50,000 question, but part of
14 my, and I'm not a statistician or a speaker,
15 but the problem that I see with this is it all
16 comes back to the data and the reliability of
17 the data that you get.

18 At so many sites, as you said,
19 very well put, that in the later years, you
20 started to see more of a representative
21 sample. The highest people started to become
22 sampled. But you go back into the earlier

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1 years, and we're looking at very, very small
2 amounts of sampling.

3 Some can call it event-driven or,
4 you know, you can say well that means it would
5 be the highest exposed. Sometimes they used
6 those to just get a baseline of what some
7 people were getting and what the other people
8 got.

9 What I really see on this is it
10 comes down to the integrity of the data in
11 question, and the representativeness of the
12 sample of exposed workers was conducted. It
13 all comes down to this, and I'll be right
14 honest. In the early years, we haven't seen
15 too many sites that were that way.

16 DR. NETON: I 100 percent agree
17 with you. One thing I was going to do is to
18 look at the early years, and which sites --
19 many of the sites that have large data sets
20 like this are already SEC in those very early
21 years, for really not reasons related
22 necessarily to the coworker model, but because

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1 of other issues.

2 But nonetheless, they are SECs,
3 and so they're, you know, that issue has sort
4 of been dealt with in a different way. But I
5 do believe for the more recent years, the
6 data, as you say, are much better and can be
7 used.

8 CHAIRMAN MELIUS: Board Members on
9 the phone have questions?

10 MEMBER RICHARDSON: Yes, this is
11 David Richardson.

12 CHAIRMAN MELIUS: Go ahead, David.

13 MEMBER RICHARDSON: One question I
14 had was you have those great slides that are
15 showing the difference between mean and
16 standard deviation of the distribution of the
17 two groups, and I wondered what is closest to
18 standard deviation for let's say Stratum B.
19 What is closer to the standard deviation in
20 that second stratum?

21 CHAIRMAN MELIUS: I'm sorry,
22 David. I couldn't get your question. You

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1 were breaking up quite a bit.

2 MEMBER RICHARDSON: I have a
3 starting question. What factors influence the
4 standard deviation for what are the strata
5 that you want to look at?

6 DR. NETON: What factors influence
7 the standard deviation? I really don't know.
8 I mean it's what the data said it has in it. I
9 mean if I knew all the factors, I guess, that
10 contributed to it, I could tease them out.
11 But I mean a priori, I would have no way of
12 knowing why there's a GSD of 4 versus a GSD of
13 5.

14 In some cases, it is true when
15 they start reporting the data that are below
16 the lower limit of detection, you in effect
17 end up having two distributions.

18 There's an entire report that
19 deals with that, I think it's 44, that talks
20 about a normal distribution underlying the
21 very low data, which is a distribution about
22 background, and then you have this

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1 superimposed log-normal distribution from the
2 truly exposed workers, and you combine those
3 two and you end up with like extremely large
4 GSD on face value, until you do a maximum
5 likelihood evaluation and you can tease out
6 the two distributions.

7 But aside from that, I don't know
8 of any other way to ferret out the factors
9 that influence the standard deviation.

10 MEMBER RICHARDSON: Let me put it
11 another way. Let's assume that you had two
12 samples drawn from the same population, and
13 one sample was four times bigger, and our
14 question is are those, do those two groups,
15 those two samples, do they arise from the same
16 population or are they a mixture of two
17 normal, two different normal populations?

18 DR. NETON: Right.

19 MEMBER RICHARDSON: It would seem
20 to me that the fact that one sample was four
21 times larger than the other one would
22 influence the standard deviation.

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1 So if we did a test to say do they
2 come from the same underlying population or
3 not and a null hypothesis since they have the
4 same means and the same standard deviation, we
5 might reject that simply because one was
6 bigger.

7 So if one was one-fourth the size,
8 then the log of the geometric standard
9 deviation for the smaller one would be about
10 twice as large as the one --

11 DR. NETON: Yes. I guess that's
12 not intuitive to me, that that would be the
13 case. But I'd have to think about that,
14 David.

15 MEMBER RICHARDSON: I mean the
16 standard deviation is a function of 1 over N.

17 DR. NETON: But if it's the same
18 distribution and you just have a smaller
19 sample size, yes, yes.

20 MEMBER RICHARDSON: So I guess,
21 you know, I mean I'm thinking about that
22 scatter plot, the null hypothesis is that

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1 those two samples have the same mean and the
2 same standard deviation, and that seems to
3 hinge on the fact that, you know, that this
4 one worker subgroup is estimated as precisely,
5 which means we have as much information about
6 it as the other, let's say larger group. I
7 don't know why that would be my starting null
8 hypothesis.

9 DR. NETON: Is Tom LaBone on the
10 phone? He was possibly going to be able to
11 join us by phone. If he could maybe entertain
12 that question? Tom, are you on? Are you on
13 mute?

14 (No response.)

15 DR. NETON: Okay. Well, I guess I
16 can't answer the question off the top of my
17 head. So we'll have to take that under
18 consideration.

19 CHAIRMAN MELIUS: Any other
20 questions from Board Members on the phone?

21 (No response.)

22 CHAIRMAN MELIUS: Okay. We'll

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1 move on, but don't go away completely, Jim.
2 Arjun will present SC&A's review of OTIB-53.

3 (Off mic comments.)

4 DR. MAKHIJANI: Thank you very
5 much, Dr. Melius. I'm really a surrogate for
6 Harry Chmelynski, and I hope he's on the
7 phone.

8 (Laughter.)

9 CHAIRMAN MELIUS: What is a
10 surrogate? Don't we have a policy on this
11 about surrogate, surrogate data? We should
12 have surrogate experts.

13 (Laughter.)

14 DR. MAKHIJANI: I just wanted to
15 put that caveat in. No, but I did review this
16 report. But what I'm presenting is
17 essentially Harry's work. So Dr. Melius, you
18 talked about sufficient accuracy and Jim Neton
19 went over the broad concept of coworker
20 models, and we've reviewed a number of those
21 other reports, Report 75, Report 44, Report 95
22 I think it was.

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1 This particular presentation and
2 review focuses on Report 53, which is
3 essentially when do you compare two groups of
4 workers, and how do you conclude whether their
5 measurements were drawn from the same
6 distribution or not?

7 So the essential question is can
8 you join all the data into one coworker model,
9 or do you need more than one coworker model,
10 and how do you decide that question? This
11 Report 53 came out at the same time as a
12 number of Savannah River reports, which used
13 the method in Report 53 specifically in
14 comparing construction workers with non-
15 construction workers, and that's a central
16 question of SRS as you know.

17 So I'm not going to read all of
18 the slides. I'm just going to give you an
19 overview of some of the things we concluded,
20 and Harry, please feel free to jump in.

21 One of our central conclusions was
22 that when you're comparing two groups of

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1 workers, the sampling protocols of the workers
2 should be same. That is if you're routinely
3 monitoring one set of workers, the other set
4 of workers should also be routinely monitored,
5 and then you can compare the distributions and
6 say well, one was much more exposed than the
7 other. They were drawn from different
8 distributions.

9 But if their monitoring protocols
10 were different, then you can't really be
11 comparing those two and saying are the
12 distributions the same or not, because a
13 priori, their monitoring protocols were
14 different. In the specific case of Savannah
15 River Site, a number of those reports,
16 including Report 56, which was I think, I
17 think Report 56 was for trivalent, I can't
18 remember.

19 Anyway, Report 56 and 58 deal with
20 specific radionuclides at SRS, and both 56 and
21 58 say that construction workers had
22 potentially a different bioassay monitoring

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1 protocol. We talk about whole body monitoring
2 protocols, which is a whole different and more
3 complicated issue actually.

4 So one is being routinely
5 monitored and other not, then we don't feel
6 those can be compared. So the comparisons at
7 Savannah River Site are in question, at least
8 when urine data are being used in that regard.
9 So there's a question of representativeness of
10 the data. So we have people who are
11 monitored. How do they -- I'm sorry for the
12 unclarity of the slide. How do they compare
13 with the people who are not monitored, and
14 what are the characteristics of the
15 unmonitored population?

16 So to give you a specific example,
17 if pipefitters were not monitored, were they
18 the same as construction workers in general?
19 Were they the same as the general monitored
20 population of construction and non-
21 construction workers?

22 So there's a question of

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1 representativeness of data. We feel that
2 based on our prior work that we submitted to
3 the Board and the Work Group, that at least at
4 Savannah River Site, which we've examined in
5 detail, it was necessary to compare subgroups
6 of construction workers, because different
7 construction workers have different exposure
8 potentials.

9 I might mention here, Dr. Neton
10 mentioned, you have to select a priori whether
11 there was a difference in the groups or not,
12 and to some extent we can see that the types
13 of work construction workers did, some
14 carpenters or electricians and pipefitters
15 were different types of work, that may have
16 had different exposure potential.

17 So there's some technical
18 underlying reason to look at groups of
19 construction workers, and that was borne out
20 by the examination of some of the data that we
21 already presented to the Board in previous
22 reports.

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1 So you have to actually at
2 Savannah River Site, we show that you have to
3 examine by job type and area of work. So you
4 have to do multiple pair-wise comparisons. So
5 one, simply saying construction workers versus
6 non-construction workers may not be enough.

7 Now we don't know whether it would
8 be enough at some other site. It may be
9 perfectly okay at some other site or not. The
10 detailed examples that we have done in terms
11 of analysis are from the Savannah River Site.

12 So I'm just using those to put the
13 caveats on the report, not saying generally it
14 would be necessary to do it. But it should at
15 least be examined whether there are groups of
16 construction workers that are different from
17 each other.

18 Once you start parsing one group
19 of workers into subgroups, then you run into
20 data problems, because you have to have a
21 minimum of 30 samples for each category. It's
22 not necessary that 30 samples may be enough,

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1 as I will show. But you have to have a
2 minimum of 30 samples in each category.

3 That you run into practical
4 hurdles, because non-construction workers were
5 monitored more frequently. But with
6 construction workers, you do run into
7 monitoring problems.

8 Another problem is that when you
9 aggregate the data, you're not averaging into
10 one person, one sample, a large number of data
11 points over a single year, and sometimes NIOSH
12 aggregates over two years or three years even.
13 But we know from interviewing workers that
14 sometimes somebody may start out as a
15 construction worker, and may be then hired by
16 the contractor and become a non-construction
17 worker.

18 So within the period of averaging,
19 their job designation may change, and yet we
20 didn't see that NIOSH has a method of actually
21 getting in and sorting out an individual
22 worker's data. Perhaps they do it in

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1 practice, but we haven't actually examined in
2 detail, you know, the entire compilations. But
3 we haven't seen it actually done.

4 That would take a fair amount of
5 work to actually go and find examples of
6 workers whose job designations were changed.
7 But we do know that job designations did
8 change, and this is a little bit of a problem
9 that needs sorting out. It may be a non-
10 problem if job designations didn't change very
11 often relative to the number of data points.

12 So we have some problems with the
13 power concerns, which was Finding No. 8. Now
14 there are a number of ways to do comparisons.
15 So you can start out with a null hypothesis,
16 as Jim Neton says, that you assume that they
17 are the same, and if you don't know anything
18 in advance, this is a pretty reasonable way to
19 start out the comparison.

20 We say we're going to assume the
21 same unless proven that they are different,
22 and that is the approach of Report 53.

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1 Confidence level of 95 percent is set, that
2 you don't want to falsely reject the
3 hypothesis that they are the same, and you
4 want to be very sure of that. But that's
5 called a Type 1 error.

6 But there's the other type of
7 error, that you may falsely accept the null
8 hypothesis that they are the same, when in
9 fact the underlying distributions are
10 different. So that is a problem, because
11 these two types of errors are in tension with
12 each other, if you don't have a sufficient
13 amount of data.

14 To pick up Dr. Richardson's
15 question, the dramatic standard deviations and
16 the relation of those standard deviations with
17 the geometric mean ratios comes into play. So
18 you may actually run into a problem, where
19 even 30 samples may not be enough, and I will
20 illustrate that. Let's see.

21 So again, I apologize. Let me go
22 to the graph. It might be easier to see it.

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1 So this is a chart that illustrates this
2 problem. So here, you have this Type 1 error,
3 and this is the power level that is set, 95
4 percent confidence, and these strips show the
5 Type 2 error rate.

6 So you can see in this third
7 dimension is the geometric standard deviation.
8 As the geometric standard deviation increases,
9 and remember now the ratio of the geometric
10 means is fixed. So this is a very simplified
11 calculation. The number of non-detects is
12 fixed. The ratio of geometric means is fixed.

13 So we're only examining the
14 influence of the geometric standard deviation
15 on the error. If you keep the Type 1 error at
16 five percent and the geometric standard
17 deviation increases, you are falsely accepting
18 the null hypothesis. That is, you're saying
19 they're the same, when they're not actually
20 the same.

21 If your geometric standard
22 deviation is small, then your Type 2 error and

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1 Type 1 error can both be controlled, and
2 you're in very good statistical shape, but not
3 always. And of course, if you have a small
4 number of data points with high variability,
5 you're often going to wind up in the region
6 where your geometric standard deviation is
7 large.

8 And as we have examined, I don't
9 have ready examples for you to present, but I
10 think you will see, as we complete our work on
11 Savannah River report, that this is a pretty
12 big problem in practice. But this a
13 simplified example, and real life actually
14 gets much more complicated than this.

15 So we examine what is the effect
16 of small sample sizes. Let me show you this
17 table. Sorry, there's a table here. So this
18 is a table of neptunium data from Savannah
19 River Site, number of all posts, you know,
20 these consolidated one person/one sample by
21 year, and you can see except for the 60's, in
22 fact we went into the 70's, '74, they're only

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1 ten OPOS data points for construction workers.

2 Throughout the period, you
3 actually don't meet the minimum number of data
4 points that you need. They're never more than
5 30 in the entire '74 to 1989 period. The
6 practical effect of that is you could have the
7 geometric means being different in 1974 by as
8 much as 3.8 or a different test, as much as
9 3.5, and you would still say that the
10 distributions are the same.

11 So you wind up in territory that
12 could be very claimant-unfavorable, when
13 you're saying you're going to ascribe doses to
14 construction workers based on all monitoring
15 data, which is dominated by non-construction
16 workers, because they were the most frequently
17 monitored, and for -- you could be off by as
18 much as a factor of 3.8, 10, 12, 15, 11.

19 You could be off by a very large
20 factor. So you could be very claimant-
21 unfavorable, and this is shown in the chart.
22 So this chart kind of illustrates when you set

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1 a Type 1 error rate that is at this 95 percent
2 level, you have this whole gray region
3 basically of indecision.

4 You could wind up in a situation
5 where you're saying yes, they're the same,
6 when applying that hypothesis could result in
7 a very non-claimant favorable dose or intake
8 calculation.

9 So this is a very significant
10 problem, because in practice you run into
11 these data limitations, and very often when
12 you have even more than 30 data points, if
13 your geometric standard deviation is high,
14 then your Type 2 errors that is falsely
15 accepting the null hypothesis can get out of
16 control.

17 If you relax the Type 1 error from
18 95 percent to 90 percent, because there's a
19 tension between these two errors, you can
20 reduce the Type 2 errors. But you know, it
21 depends on how big your -- your geometric
22 standard deviations and geometric means are in

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1 certain relation to each other, you can't fix
2 this problem without a sufficient number of
3 data points.

4 There are alternative approaches
5 available. You could do a different test. We
6 started with a test. NIOSH started with a
7 test that will assume they're the same. Of
8 course, you could start with the opposite
9 test, which is more or less the same thing.
10 You have opposite definitions of Type 1 and
11 Type 2 errors.

12 But you could also start with a
13 test saying non-construction workers were
14 typically more exposed than construction
15 workers, and you could test that hypothesis
16 using the same set of data. You could start
17 with the other tests, saying non-construction
18 were less exposed than construction workers,
19 and you could test that.

20 Typically, that second test would
21 be more claimant-favorable if what you're
22 examining is construction workers. The first

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1 test would be more claimant-favorable if what
2 you're examining is non. So it's not a priori
3 given; at least we don't agree that a priori
4 you should set a null hypothesis that says
5 they're the same, and examine whether they're
6 different or not.

7 In fact, some of the data indicate
8 that they are different, so there's no a
9 priori reason to assume that they're the same
10 and test that hypothesis. So that concludes
11 my presentation. Harry, did you want to jump
12 in and say something supplementary?

13 DR. CHMELYNSKI: Yes. Arjun, can
14 you hear me?

15 DR. MAKHIJANI: Yes.

16 DR. CHMELYNSKI: Okay. Earlier in
17 the morning here, there was a discussion on
18 sufficient accuracy, and I believe the latest,
19 the last figure, which is Figure 2 on page
20 ten, shows from a statistical perspective what
21 we mean by sufficient accuracy. It's really
22 the width of that gray region.

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1 In other words, how much different
2 do they have to be before I know I can tell
3 them apart? I see no information on that sort
4 in Report 53. The reason the tests are
5 adopted is, as stated, that they were powerful
6 tests. But we don't know how powerful they
7 are, given the kind of variabilities that we
8 have with the GSDs being high, and also how
9 well the data themselves are reflecting the
10 distribution.

11 Earlier also this morning, we had
12 a discussion about OPOS. One of the problems
13 with OPOS values are if you complete an OPOS
14 value with one person's data for the year, and
15 all we had was a couple of samples, you get a
16 highly variable estimate of the OPOS mean.

17 On the other hand, if you have
18 another worker who had a lot of samples, part
19 of a regular protocol sampling, and in fact
20 they may most likely be the non-construction
21 workers, then that OPOS value is estimated
22 much better.

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1 So there's a basic problem of
2 heteroscedasticity that's introduced once you
3 start using OPOS values, and then trying to
4 conduct tests on these values, where you're
5 assuming they are independent samples, just
6 doesn't make much sense to me, because that's
7 not what they are anymore.

8 So the gray region isn't the
9 really hard question here, I think. It's how
10 far apart do they have to be before we're
11 going to say they're different. I have yet to
12 hear anybody answer that question. So we
13 don't know what we're trying to do here with
14 the test.

15 Granted, we could always say, hey,
16 95 percent will tell me whether they're
17 significantly different. Well yes, but if you
18 don't have enough data, you're always going to
19 say that they're not significantly different,
20 so the test really doesn't tell you anything.

21 The right way of doing these tests
22 is to define how big a difference you have to,

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1 that you want to be able to detect, and then
2 calculate the sample size that will allow you
3 to detect that size of difference when there
4 is a lot of variability.

5 Thirty may be enough, certainly no
6 less than 30. But once you get up into the
7 GSDs, as shown in the other figures, once you
8 get up into GSDs of 5 and 6 and you're
9 comparing these populations with a 95 percent
10 confidence level, it's very hard to show that
11 they're different.

12 To me, that's not very claimant-
13 favorable. What we're saying is that the
14 construction workers have to prove they're
15 different. Now they don't even -- they don't
16 know that we're asking them to do this, of
17 course. But what we're going to say is oh,
18 you guys are all the same, unless somebody can
19 produce sufficient data to show you're
20 different.

21 Well, we already know there isn't
22 very much data. So you know, the idea of

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1 starting out with that null hypothesis that
2 they are the same leaves me very unsettled. I
3 guess that's the gist of what these 15 slides
4 are trying to say.

5 DR. MAKHIJANI: Well, a lot of
6 Harry's remarks relate to the analyses we've
7 done on numbers at Savannah River Site. It
8 may not always be true, but it's certainly
9 true at Savannah River Site, that because of
10 the nature of data, very often you don't have
11 enough data.

12 The result is very claimant-
13 unfavorable. If you conclude they're the same
14 and apply that coworker model in all the years
15 that we're looking at to apply this data, '74
16 to '89, you would be applying a result that
17 would be very claimant-unfavorable. So that
18 in this specific instance -- now it may not
19 always be true.

20 So there's the caveat. This is
21 what we've examined so far, and are continuing
22 examinations into thorium or along the same

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1 lines, but we haven't finished. So we have
2 some significant problems with the practical
3 implications of the OPOS approach. I mean we
4 don't, we don't disagree with the idea that if
5 you have an incident and somebody sampled many
6 times, that you have to take that into account
7 somehow.

8 But in practice, I think applying
9 the OPOS approach as proposed in the
10 comparison of the two workers doesn't seem to
11 work very well, in terms of claimant
12 favorability, among other problems.

13 DR. CHMELYNSKI: Then Arjun, I'd
14 also like to add that there's two topics we
15 haven't addressed on these slides. One of
16 them is the use of the regression on order
17 statistics, and in our review of PROC-95, we
18 indicated that there is a problem with the ROS
19 method, because the data you're using in it
20 are auto-correlated and heteroscedastic.

21 The auto correlations are quite
22 high, around 0.6, 0.7, something like that. So

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1 because of this, the diagnostic statistics we
2 see for those log-normal distribution fits
3 really are not supported by the data. In
4 other words, even when we say that there's a
5 confidence level of 95 percent, that may not
6 be the right answer.

7 The second issue here that we
8 haven't talked about is that the use of OPOS -
9 - I'm sorry, in the first five pages, as we
10 talked about how the data set should be
11 derived using the same protocol, I think all
12 those conclusions apply regardless of whether
13 you use OPOS or not.

14 Now OPOS introduces another
15 dimension to the problem of comparison, but
16 again, if you're using data that's collected
17 under one protocol and then trying to compare
18 it to another set of data that's collected
19 using a different protocol, I just -- I don't
20 see how a statistical test is going to tell
21 you anything. I guess I'm done.

22 CHAIRMAN MELIUS: Thank you.

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1 Questions for -- go ahead, Dave.

2 MEMBER KOTELCHUCK: I have to say
3 that in terms of claimant favorability, using
4 a one-sided test really doesn't make sense. It
5 is, I mean as you know, in a lot of scientific
6 studies you always use the two-sided test.
7 It's the hardest thing to prove, because you
8 would really like to be confident of the
9 result.

10 But in this case, we know that --
11 we believe that the construction workers
12 probably have a lower, they should have a
13 lower exposure than the people who are the
14 non-construction workers. So even with a 95
15 percent probability but a one-sided test,
16 we're much more claimant favorable.

17 I wouldn't take a position about
18 90 versus 95, except in terms of what you
19 said. It would ease things. But at a simple
20 level, a one-sided test would be an
21 improvement in terms of claimant favorability,
22 and I don't think that it would involve --

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1 Jim, I don't think that it would involve major
2 changes in the work, in the tests that you
3 had proposed, right?

4 DR. MAKHIJANI: The one comment I
5 would have is just to refer to the last thing
6 that Harry said, is that the comparisons are
7 based on an underlying assumption that the
8 monitoring protocols were the same.

9 MEMBER KOTELCHUCK: Yes.

10 DR. MAKHIJANI: And so a lot of
11 the problem that we're having with the
12 monitoring protocols, we either know are not
13 the same and, as we've looked at whole body
14 counting data, we're not able to establish a
15 monitoring protocol because, in some cases,
16 monitoring was quite infrequent, and you know,
17 protocols are supposed to be annual.

18 It's very complicated to establish
19 a monitoring protocol sometimes. In case of
20 urine data, you can actually talk about it,
21 and sometimes you can't.

22 MEMBER KOTELCHUCK: I agree. That

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1 is the major problem. Nevertheless, a one-
2 sided test would be an improvement, and it's
3 fairly simple to do.

4 DR. MAKHIJANI: Yes. That was one
5 of our recommendations, that NIOSH should
6 examine whether a one-sided test would be
7 better.

8 DR. CHMELYNSKI: What I might
9 interject here is that the Monte Carlo
10 permutation test may not be amenable to
11 turning it into a one-sided test. Certainly,
12 you can do that with the Peto-Prentice test.
13 But I'll leave it to NIOSH to decide how they
14 would do that with the Monte Carlo permutation
15 test.

16 MR. LaBONE: Hello? This is Tom
17 LaBone. Can you hear me?

18 CHAIRMAN MELIUS: Yes, we can.

19 MR. LaBONE: I'm sorry. I could
20 not master the *6 back when Dr. Richardson
21 asked the question, and I was wondering if I
22 could address that now.

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1 CHAIRMAN MELIUS: You sure can. Go
2 ahead. Sorry.

3 MR. LaBONE: Okay, okay. A number
4 of the concerns that are being raised, I think
5 if you think about this, these are
6 retrospective studies. We do not get to plan
7 the data that we get. We're presented data
8 and we were asked to make the best statistical
9 analysis we could of each data set.

10 So everything Dr. Richardson was
11 saying is correct, is that if you happen to
12 have a smaller -- construction trade workers
13 or a smaller number of individuals, then you
14 have issues with that. That's basically what
15 we have.

16 The other point is that there's a
17 common thread here is that failure to reject
18 the null is not equal to higher doses for the
19 construction workers. Is that -- that's not
20 necessarily true at all. But you might come
21 away from this conversation that it is.

22 So for example, the coworker model

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1 built from the combined data set might
2 actually give higher doses to the construction
3 trade workers. It depends where are they
4 relative to the other subgroups of workers.

5 The other thing is that a lot of
6 the issues being raised are generic problems
7 with null hypothesis testing, this failure to
8 reject the null, the issues with power and so
9 forth. There are other ways of handling this
10 that can get around that. But what we have to
11 do is you have to define what is practically
12 significant.

13 I think Harry alluded to this, and
14 this is a very difficult thing to establish.
15 If you take these data sets and it's
16 neptunium-237 in urine, what is the
17 practically significant difference in the
18 concentrations of neptunium in urine?

19 We looked at that, and we just
20 can't come up with a way to generically do
21 that for every data set we look at. But that
22 would get around the problems of this null

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1 hypothesis testing, where you fail to reject
2 the null, which is basically an unacceptable
3 answer apparently.

4 So that was just -- and the last
5 thing was again, the OPOS process is not an
6 ideal solution. But we feel that it actually
7 solves more problems than it creates and,
8 again, this can go into some more technical
9 details. But those are a couple of issues I
10 wanted to point out.

11 CHAIRMAN MELIUS: Thank you, Tom,
12 and we appreciate how complicated this is, and
13 you're right, that you have to make -- we're
14 dealing with retrospective data, and trying to
15 make the best we can from it. It's difficult,
16 and I think it's also difficult to do this
17 without knowing sort of, I think Harry
18 described, what gray area are you aiming for,
19 and what parameters are you trying address
20 here.

21 Those are not defined, and that
22 makes it even more difficult. Thank you,

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1 Arjun.

2 DR. MAKHIJANI: May I make a couple
3 of comments? I agree with Tom. I wouldn't
4 want you to go away with the impression that,
5 you know, applying this formula in
6 construction workers and non-construction
7 workers will always come up with something
8 that's not claimant-favorable. I believe I
9 actually did say that during my presentation.

10 It's just that in these examples,
11 and with the specific data sets that we've
12 looked at from Savannah River Site that is the
13 result, and partly it may be the result
14 because the monitoring protocols are
15 different.

16 If you look at the neptunium
17 report that we have submitted from the same
18 data set, you'll see some considerable
19 discussion of this very point, that are you
20 coming up with higher results because the
21 monitoring protocols were different, or were
22 the monitoring protocols deficient and missing

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1 routine doses.

2 So there are many permutations and
3 combinations of this problem. I would also
4 agree with Tom, and then we said this when we
5 looked at external dose data for Savannah
6 River Site in the context of a different
7 procedure, that applying this procedure, you
8 could give higher doses than the working
9 conditions warranted for some groups of
10 construction workers.

11 If you look at the report that we
12 submitted on tritium some time back, a couple
13 of reports that are referenced to you, you'll
14 see that that is actually the case. It can
15 also vary by period. The point here of saying
16 that you should, you need to parse the
17 construction workers into subgroups is because
18 the nature of their work was actually
19 different, and their exposure conditions were
20 different, and the data actually show that
21 their exposure conditions were different.

22 So while this formula may be

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1 claimant-favorable for many construction
2 workers, it will also be claimant-unfavorable
3 for many other subgroups of construction
4 workers. Whence the need to parse
5 construction workers into groups, and the need
6 for a lot more data. As it is, we don't even
7 have enough for construction workers as a
8 group quite often. Sometimes you do actually
9 have enough data.

10 CHAIRMAN MELIUS: Thank you. Any
11 other comments, questions? It's getting
12 towards lunch time, I can tell. Yes. What I
13 would like to do is let's talk when we do our
14 Board work, why don't we come back and talk
15 about next steps then? I have some thoughts,
16 but I want to talk this over with NIOSH and a
17 few other people before I put my foot in my
18 mouth or something here.

19 I will say even though Arjun, I
20 like your three-dimensional power graph there,
21 I still think that Jim wins the graphics prize
22 --

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1 DR. MAKHIJANI: I yield.

2 CHAIRMAN MELIUS: Or whoever came
3 up with that. So that's what someone's going
4 to have -- that's still the top graphic for
5 this meeting. We'll take lunch and we'll
6 return at 1:30.

7 MR. KATZ: Just one administrative
8 thing for Board Members. Those of you that
9 haven't sent in your updated ethics form that
10 was requested, that I sent to everybody,
11 either email it yourself to the email address
12 that they give you in that, or you can fill it
13 out here.

14 It doesn't take any time to fill
15 out really, and sign it here and give it to me
16 and I'll give to Zaida or we'll get it there
17 somehow, if you can't scan it in yourself,
18 whichever.

19 (Whereupon, at 12:09 p.m., a
20 luncheon recess was taken.)

21
22

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A F T E R N O O N S E S S I O N

1:41 p.m.

CHAIRMAN MELIUS: Okay, if we can return to business here, reconvene. Ted, do you need to do attendance or anything?

MR. KATZ: Yeah. Let's just check to see who we have from the Board on the line, that's all.

Dr. Ziemer, are you on with us again?

MEMBER RICHARDSON: This is David Richardson.

MR. KATZ: David, welcome. You sound really nice and clear now.

MEMBER RICHARDSON: Thank you. I feel clear.

MR. KATZ: Very good. Paul Ziemer, are you on the line too?

(No response.)

MR. KATZ: Okay, maybe I should just check. Dick Lemen, are you on the line?

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1 (No response.)

2 CHAIRMAN MELIUS: Okay. But we
3 have a quorum and we can proceed. Okay. This
4 afternoon will be the LaVon Rutherford
5 presentations, so hang on. We're ready, and
6 we'll start with an update on the Rocky Flats
7 petition. I believe LaVon will present and
8 Mark will comment, and then we'll hear, open
9 up for questions from the Board, and we'll
10 also possibly hear from the petitioner.

11 Rocky Flats SEC Petition Update

12 MR. RUTHERFORD: Okay. Thank you,
13 Dr. Melius. I'm going to talk about the Rocky
14 Flats petition evaluation, where we currently
15 stand, what's -- and what we're going to get
16 done here in the future.

17 A little reminder. We completed
18 our Evaluation Report and issued it on
19 September 5th of 2012. We presented that to
20 the Advisory Board and the public on September
21 18th, 2012 at the Advisory Board meeting in
22 Denver.

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1 At that time, the Board made a
2 determination at the meeting that we needed to
3 do additional review, needed to send it to the
4 Work Group, SC&A and the company or the
5 Board's contractor to look at, and we needed
6 to do some additional interviews and
7 discussion and document review.

8 So our follow-up efforts that we
9 conducted since we presented the evaluation,
10 we've done data capture, both classified and
11 unclassified, Los Alamos National Lab, OSTI,
12 the Office of Scientific and Technical
13 Information, EMCBC, which is Environmental
14 Management Consolidated Business Center, and
15 DOE Legacy Management. We did those in
16 Denver. We again as I said out in Los Alamos,
17 and yeah, Los Alamos and at OSTI.

18 We also had secure discussions,
19 and I say secure discussions, because these
20 were classified discussions over different
21 things internally. We also secure interviews
22 and we also had unsecured interviews, roughly

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1 19 interviews that were conducted. We
2 discussed during those interviews not only the
3 tritium issue, which was the main focus of the
4 evaluation, but we also discussed things like
5 the neptunium and other things that had come
6 up during our additional data captures and
7 review that became open issues, that we felt
8 needed further follow-up.

9 Both the Work Group and SC&A and
10 ourselves internally felt we needed further
11 follow-up. Then we also did some additional
12 dose reconstruction modeling. If you remember
13 back in the evaluation, when we had presented
14 the evaluation, we had come up with a bounding
15 exposure of roughly 700 millirem, that based
16 on the 1973 incident for tritium.

17 During our presentation of that,
18 we committed to look at that, to see if we
19 could come up with a little more of a precise
20 analysis.

21 So to give us a status on where we
22 are since these additional efforts, we have

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1 completed or we have five White Papers that
2 we've worked on, two of which have been
3 completed, and I'll discuss them a little
4 further. Those five White Papers are made up
5 of follow-up efforts on the tritium issues;
6 evaluation of petitioner concerns about data
7 falsification and/or data invalidation in
8 Rocky Flats Plant Building 123, based on
9 worker allegations; a White Paper on U-233 and
10 thorium strikes; and a White Paper on
11 neptunium.

12 The final White Paper we're
13 working on is other thorium activities, which
14 came about from our additional data capture
15 reviews and interviews. The first White Paper
16 on tritium, we actually issued our report
17 after we had done the data captures, the
18 interviews, went back and looked at all the
19 additional information, and we updated
20 basically our position on the tritium
21 exposures at Rocky Flats.

22 We issued that White Paper on the

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1 25th of June. We provided that to the Work
2 Group on the 26th and the petitioner
3 unfortunately did not get that until 7/3, July
4 3rd, because it was at ADC review. At that
5 point, we had made a point to -- a note that
6 we recognized that we were giving very little
7 time to the petitioner, very little time to
8 the Work Group and SC&A to prepare any
9 responses for the Work Group meeting. So that
10 was pointed out.

11 Based on that, the discussion was
12 that we would present that paper at that Work
13 Group meeting, and then allow additional time
14 for the Board or Work Group and the petitioner
15 and SC&A to review that information, and have
16 a follow-on Work Group meeting at a later
17 date.

18 The second White Paper that we
19 presented was on the data falsification and
20 data invalidation. This actual White Paper
21 was brought about by a petitioner, by one of
22 the co-petitioners, who had identified a

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1 document that presented a potential
2 falsification or validation, lack of
3 validation of data at Building 123, just based
4 on worker allegations. It was an interview
5 that was conducted by the FBI and the EPA.

6 We issued our report on that June
7 25th. We provided it to the Work Group and
8 the petitioners on July 3rd. We presented
9 that to the Work Group at the Work Group
10 meeting on July 8th, and again we pointed out
11 that we recognized the short review time of
12 that information, and based on that, the Work
13 Group intended to do a more detailed review
14 and have a follow-up at a later meeting.

15 There are three other White Papers
16 that we're working on. I'd say thorium
17 strikes U-233. This was an issue that was
18 actually, it was evaluated during the first
19 petition at Rocky Flats, SEC 30 I believe, and
20 we went back and based on some additional
21 discussion during our classified interviews,
22 and some of the reviews that we'd done, we

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1 decided that this needed to be revisited.

2 We had indication of additional
3 thorium strikes that weren't previously
4 identified. So we committed to develop a
5 White Paper for that. That White Paper is
6 very close to completion. It's not only going
7 to look at the exposure from the strikes, but
8 it also looks at the U-233 exposure. Again,
9 this is very close to completion. We plan on
10 having this out later this month.

11 Neptunium. This is another issue
12 that actually came up during our classified
13 interviews and discussions, and also during
14 our document reviews. We went back and we
15 looked at the transcripts and what had been
16 done in the previous evaluation for neptunium,
17 and felt like that issue really had not been
18 thoroughly vetted.

19 So we committed to Work Group that
20 we would put together a White Paper on the
21 neptunium. We have come up with some
22 additional issues on that; however, we do plan

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1 on having that complete by the middle of
2 August, in support for a Work Group meeting
3 prior to the October Board meeting.

4 "Other Thorium Issues" is another
5 White Paper that we're working on. This is
6 again another item that during our classified
7 reviews and some of our interviews, some
8 additional items that we felt had not been
9 really looked at closely previously and during
10 the previous evaluation. We felt it needed a
11 little more of a thorough look.

12 So we've put together, we're
13 working on another White Paper. It's called
14 "Other Thorium Issues." It's basically
15 looking at the other activities outside of
16 thorium strikes associated with thorium. We
17 have included, based on the Work Group
18 suggestion, the magnesium thorium discussion
19 that was brought up by Terrie Barrie. So we
20 are going to include that in that White Paper.

21 I think that's it for me for an
22 update on where we are. Actually, out of the

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1 Work Group meeting, I will make a couple of
2 comments, and I'm probably stealing some of
3 Mark's thunder, but I apologize.

4 We are, had some things come out
5 of the Work Group meeting. We are going back,
6 and we're going to look at some information
7 out of Pantex, to determine, based on some of
8 the modeling that we had done, whether changes
9 in the Pantex program had occurred after the
10 1973 incident at Rocky Flats. So we're doing
11 some additional work there.

12 We're also doing some additional
13 interviews on the data falsification/data
14 classification. We're going to interview some
15 of the former workers that worked at that time
16 period, to see if we can get a better
17 understanding if there was any change in their
18 analysis techniques between before and after
19 the raid that occurred in 1989.

20 There were a couple of other items
21 that came out, action items that came out of
22 the Work Group meeting that we are following

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1 up on as well. That's it.

2 CHAIRMAN MELIUS: Thank you,
3 LaVon. Why don't we hear from Mark, and then
4 we'll open up to questions.

5 MEMBER GRIFFON: And I don't
6 really have much -- that was a good summary by
7 LaVon. I didn't catch whether you mentioned
8 the timing for our next scheduled meeting. Did
9 you --

10 MR. RUTHERFORD: No, I didn't. The
11 date is September 12th or 17th. 12th,
12 September 12th.

13 MEMBER GRIFFON: September 12th,
14 yeah. So the hope is by then we'll have a lot
15 of these items that you mentioned in complete
16 enough form, that we can --

17 MR. RUTHERFORD: We are, I think
18 we're putting a lot of priority on getting
19 these done. I know that the focus is for the
20 Denver meeting in October. So we're going to
21 put a lot of effort towards that and hopefully
22 get it done, and a little better time frame

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1 for the petitioner and the Work Group.

2 MEMBER GRIFFON: Yeah, and we set
3 that time to allow, hopefully to allow SC&A
4 enough lead time to also review all this
5 stuff, because the last meeting we had, it
6 ended up being a phone call meeting, because
7 we were kind of -- the documents didn't get to
8 us with very much lead time. So hopefully
9 that's resolved, yeah.

10 MR. RUTHERFORD: Yes.

11 CHAIRMAN MELIUS: Is that a
12 promise?

13 MR. RUTHERFORD: You know, it's
14 hard to promise when -- it's just hard to
15 promise.

16 CHAIRMAN MELIUS: Okay. Do Board
17 Members have questions?

18 (No response.)

19 CHAIRMAN MELIUS: If not, I'll
20 start. I'm just a little puzzled by the
21 presentation. I'm trying to understand. Are
22 we making progress, I mean in terms of

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1 addressing issues or not? This is all sort of
2 what's happened and what's been produced. But
3 the only content I sort of see is from some of
4 the petitioners' comments, which you'll hear
5 in a second.

6 I mean we'll come back after that,
7 okay, if that's how you want, would rather do
8 it. That's fine. I just didn't, I'm just
9 trying to understand where we really are with
10 this. I thought we were sort of farther along
11 or that we were resolving things.

12 MEMBER GRIFFON: I mean I guess
13 we're in the midst of, you know, we got some
14 assessment of these issues, but we got it at a
15 very late stage, right before the Work Group
16 meeting.

17 MR. RUTHERFORD: Right, right.

18 MEMBER GRIFFON: So we had sort of
19 a preliminary discussion on the Work Group
20 call, but SC&A's really got to come back with
21 a little more analysis on those issues, and
22 see if we --

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1 MR. RUTHERFORD: Yeah. The time
2 period on the papers, I mean, was our fault. I
3 mean I should say it was from our end and, you
4 know, we had initial reviews of the White
5 Papers that came through. We identified our
6 concerns, you know. We had the sequestration
7 came through and dealing with all that.

8 I'm not pushing it all on that.
9 I'm just saying that we wanted to get out a,
10 you know, a product that we could live with.
11 So it was, it took a little time.

12 CHAIRMAN MELIUS: No. We've
13 already concluded it was your fault.

14 (Laughter.)

15 CHAIRMAN MELIUS: No matter what
16 you say. I guess let me put this in a way
17 that's a little bit more fair. You know, and
18 this is both for NIOSH and the Work Group. Do
19 you think that we've, through these additional
20 White Papers, have identified key issues that
21 will address and I won't say close out the
22 SEC, but will make significant progress for

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1 the time for the October meeting.

2 I mean you can't judge what else
3 is going to be found when you're still
4 collecting data and reviewing stuff. So I
5 don't think it's fair to ask that. But at the
6 same time, are we going to be ready to make a
7 recommendation by October?

8 MR. RUTHERFORD: I think the only
9 White Paper that's going to be the holdup is
10 the Other Thorium Issues. Yeah, you can see
11 it's a September date, and it's just whether
12 we can get all the information pulled together
13 on that one or not.

14 The other White Papers, I don't
15 see a problem in getting them together. I
16 think I'm going to, you know, we're working
17 with Joe, Joe Fitzgerald at SC&A. We're going
18 to make sure he's involved and any of the
19 other Work Group Members that want to be
20 involved with the interviews that we conduct
21 for the data falsification.

22 We'll make every effort we can to

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1 have it -- at least answer everything, and
2 get the papers out in support of a Work Group
3 meeting, that we can try to get some
4 resolution.

5 CHAIRMAN MELIUS: Okay. Mark, you
6 have anything?

7 MEMBER GRIFFON: Yeah. I mean I -
8 - that's why we set this Work Group meeting to
9 September, was because we wanted some
10 significant progress, you know, and something
11 to report in the October meeting. I mean I'm
12 a little, I am a little concerned about the
13 thorium, and I think that's a big issue
14 obviously, the whole Other Thorium and you
15 know. I'm not sure we're going to be able to
16 resolve that in time for the October meeting.

17 But I think we'll definitely make
18 progress. We have to make some progress.

19 CHAIRMAN MELIUS: Again, explain
20 to me what the Other Thorium issue is?

21 MR. RUTHERFORD: Well, I'll just
22 yeah. I won't get into details, but there

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1 were other thorium activities that occurred,
2 and we're trying to determine the scale that
3 they occurred, what they occurred, and that I
4 don't think were previously addressed in the
5 last evaluation.

6 CHAIRMAN MELIUS: Okay. That
7 makes sense then. Okay, okay. Thank you.
8 Other Board Members? Board Members on the
9 phone with questions?

10 (No response.)

11 CHAIRMAN MELIUS: Okay. If not,
12 then I think the petitioner has comments, or
13 one of them.

14 MS. BARRIE: Thank you very much.
15 Yes, and I will keep this as brief as
16 possible. The petitioner himself had some
17 health issues to deal with, and he asked me to
18 read his comments.

19 CHAIRMAN MELIUS: Okay. Can you
20 just identify yourself?

21 MS. BARRIE: Oh, I'm sorry.

22 CHAIRMAN MELIUS: We know who you

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1 are, but the people on the phone --

2 MS. BARRIE: My name is Terrie
3 Barrie, and I'm the co-petitioner for the
4 Rocky Flats workers. I want to thank you for
5 this opportunity and thank everyone who has
6 helped me, you know, Rocky Flats workers and
7 other advocates on this presentation on the
8 SEC.

9 The interviewee, the EPA
10 interviewee attested that the bioassay samples
11 sat on the shelf. NIOSH said there is no
12 scientific basis for concluding that sample
13 counting performed weeks after collection
14 would compromise the results.

15 Really? NIOSH said he couldn't
16 find any bioassay procedures for Rocky Flats,
17 which I find very odd, especially since the
18 original author of the Site Profile was the
19 manager of the Health Physics Lab.
20 Fortunately, the LANL petitioners shared a
21 section of his petition, and the NCRP report
22 states, and I quote, "All biological samples

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1 are subject to deterioration by
2 bacteriological action that may interfere with
3 subsequent analysis."

4 I would think that the health
5 physicist would know that. And what about
6 tritium assays? If a sample's slated to be
7 checked for tritium exposure, sat on the shelf
8 for a week or two, would the bioassay results
9 be accurate? I don't know the answer to that.

10 That is something that I think NIOSH needs to
11 address.

12 NIOSH also interviewed a Mound
13 employee, and the Mound employee said that it
14 is high opinion that, and I quote, "It's a
15 valid assumption that Mound procedures would
16 be representative of other DOE sites."

17 However, I found a 1995 document
18 that states otherwise, and it says, Slide 3,
19 "The information gathered from these
20 questionnaire responses illustrates the
21 diversity of international dosimetry practices
22 at DOE facilities."

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1 So it cannot be assumed that the
2 Mound dosimetry procedures are representative
3 of all other DOE sites. I am thankful that
4 DOL is willing to check with their Legal
5 Department, on whether it would be possible to
6 petition the Court to unseal the records
7 seized during the FBI raid.

8 ANWAG and other advocates will be
9 happy to submit briefs to the Court supporting
10 this proposed motion. But I still don't
11 understand why DCAS is insistent that there
12 was no problems at the Rocky Flats plant, both
13 with regards to the bioassay program and the
14 worker protection program.

15 I have discovered a few documents
16 with support worker statements that all was
17 not well at Rocky Flats. I won't be able to
18 go into and explain every one of them, but
19 I'll be happy to talk with you individually if
20 you need some explanations.

21 These following slides from DNFSB
22 shows a variety of problems here. We have

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1 concerns here with the Rocky Flats plant in
2 1993, with worker air monitoring and "air
3 monitoring in the workplace at Rocky Flats is
4 not in compliance," and like I said, there's
5 others on this projection.

6 I'm just going to skip back to the
7 GAO report. So even the GAO identified worker
8 protection issues pre-FBI raid. This report
9 also notes that there was improper use or
10 placement of air monitors, and a year later,
11 they identified a lack of adequate
12 measurements and documentation on extremity
13 doses for certain workers.

14 So let's move on to the tritium,
15 since there is just small time limit here. My
16 understanding about tritium is like the
17 element itself. Information seeps into my
18 brain and just as easily it's seeped out. Some
19 knowledge remains, though. So a good portion
20 of this presentation is just going to be
21 observations or questions to the Board, NIOSH
22 and SC&A.

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1 Okay. In Slide No. 9, which is
2 before this one, we had asked DCAS to explain
3 to find other information about tritium
4 stripping on Building 444 in 1987. This has
5 not been addressed as far as I can tell in the
6 tritium White Paper, and I think that's
7 important, that we need to get to the bottom
8 of that.

9 Is there more documentation? What
10 is tritium stripping on or in Building 444? I
11 think the workers need to understand that, and
12 the Board also obviously.

13 You should also note on this
14 slide, this is the document seized during the
15 raid, which refers to a tritium release from
16 Building 776 in April of 1989. I just located
17 this, and that's why it hasn't gotten to, very
18 far before today.

19 I'm not sure if DCAS was aware of
20 release, of this release. If they were, did
21 they determine that this release was less than
22 the levels in 1973 and '74? But this is one

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1 thing I would appreciate an answer on.

2 During last week's teleconference,
3 Dr. Makhijani asked NIOSH if metal tritides
4 were present at Rocky Flats. NIOSH replied
5 no. There are many Rocky Flats workers who
6 are helping us, and one such worker informed
7 me that tritium metals and tritium oxides were
8 indeed on site, and experiments were done in
9 Building 559, Glove Box C-1 by [Identifying
10 information redacted] using tritides.

11 Many of the workers interviewed
12 during the focus group and other interviews
13 mentioned the fact that tritium alarms went
14 off frequently. I know some of those accounts
15 occurred after 1974, including one from the
16 petitioner. Did DCAS find any information on
17 tritium alarm incidences, and if so, did they
18 rule out those alarms were caused by releases
19 that were less than the 1974 exposure?

20 Special tritium compounds, where
21 does that fit in, or does it fit in when it
22 comes to reconstructing dose for tritium

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1 exposure? Considering the documents that I
2 located on the monitoring insufficiencies at
3 Rocky Flats, there are serious doubts in my
4 mind that the records NIOSH is using to
5 reconstruct dose are true and accurate.

6 One more slide here. Which brings
7 us up to this document. I have that document
8 right here, a copy of it, and it's a 1996 memo
9 from Mr. Mark Silverman that says "Stop
10 destroying Rocky Flats records." So it's easy
11 to assume that even though the documents that
12 say we're not going to destroy records and we
13 have everything, they were still doing it in
14 1996.

15 I'd like to leave you with one
16 last thought from me before I read
17 [Identifying information redacted] quick
18 response, and while this SEC petition is two
19 years old, that's kind of short in the time
20 frame in SEC petitions, these Rocky Flats
21 issues have been around for eight years.

22 We deserve an answer and quickly.

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1 It's not like these are brand new issues to
2 anyone. They need to be investigated sure,
3 but not another eight years down the road do
4 we need an answer. I've been working on sick
5 worker issues for 18 years. I want to retire
6 in two. So I would like to have this resolved
7 by then.

8 Now for the quick response from
9 [Identifying information redacted]. "While
10 will DCAS believe the workers or other experts
11 that fit into their predetermined position?
12 We have tons of people telling DCAS that
13 records are missing, that they have a zero for
14 a badge reading, that instruments were
15 recalibrated to show a background reading that
16 was higher than what the workers' badges read.

17 "Could the reason all of these
18 zero readings be that the lab was remiss in
19 following scientific protocols? No one has
20 believed these workers. We supplied the EPA
21 interview to bolster the workers' testimony.
22 It came from someone who had direct knowledge

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1 of the lab's practices, and worked in the lab
2 for a number of years.

3 "It is unforgivable that NIOSH
4 would dismiss this important information. Yes,
5 the raid happened because of environmental
6 crimes. But the Tiger Teams looked at the
7 whole plant.

8 "Does NIOSH have all four
9 assessment team reports, or just the
10 environmental one? If they do have the four
11 reports, did they review them all and
12 determine that the Tiger Teams found similar
13 problems with personal bioassay lab
14 procedures, or didn't they?

15 "If they had the reports but
16 didn't read them, why didn't they? If all
17 four reports are not available to DCAS, why
18 not? Who has them? If DCAS cannot obtain all
19 four reports, how can they emphatically assert
20 that there were no problems with the worker
21 bioassay program? Will we ever learn the
22 truth?

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1 "I too want to thank all the Rocky
2 Flats workers, and the other advocates who
3 have helped me with this petition. I hope in
4 October, when the Board comes to Denver, we'll
5 have as much time as need to explain our
6 position." Thank you very much, and we'll
7 take any questions.

8 CHAIRMAN MELIUS: Okay, thank you
9 very much, Terrie. LaVon, responses or --

10 MR. RUTHERFORD: We got Terrie's
11 presentation with her, and we're going to
12 follow up on every one of the things she put
13 in there, and we'll make sure that we provide
14 a response to the Work Group as we work
15 through these issues.

16 CHAIRMAN MELIUS: What my
17 recollection is from when the Evaluation
18 Report was first presented, that you were
19 following up on the other tritium scripting
20 time frames, weren't you, or is that --

21 MR. RUTHERFORD: No, not the
22 tritium stripping issue.

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1 CHAIRMAN MELIUS: Okay, okay.

2 MR. HINNEFELD: Yeah, the specific
3 phrase of "tritium stripping" I don't think
4 was in front of us at that point.

5 CHAIRMAN MELIUS: Okay.

6 MR. RUTHERFORD: I would like to
7 say that some of the issues, you know,
8 recognize that we went back and we looked at
9 the issues that one, we didn't feel had been
10 fully vetted in the previous evaluation, and
11 new issues that came up during our classified
12 interviews or other interviews and our
13 document reviews.

14 So some of the things that
15 occurred in the previous evaluation haven't
16 come back on our radar as well, I'll say. So
17 you know, I think we've caught all the issues
18 that I know of, and I certainly have been
19 talking with, or following Terrie's
20 presentations in her documents that she sends
21 over when we look through issues, and we'll
22 follow these up as well.

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1 CHAIRMAN MELIUS: Okay. Thank
2 you. Mark?

3 MEMBER GRIFFON: I mean I just
4 going to ask while you're there, LaVon. One
5 question, I don't know if someone can answer
6 or maybe answer before the meeting's over.
7 Terrie mentioned, I guess it's really an
8 assessment report, right? It's not a Tiger
9 Team. But this four volume report that
10 exists, does NIOSH have this?

11 MR. RUTHERFORD: Yeah. I'm going
12 to say I believe we do, because I believe
13 those were part of those that were looked at
14 during the previous evaluation under SEC 30.
15 I'll verify that we have them, and get you an
16 answer before the end of the meeting.

17 MEMBER GRIFFON: Okay, and maybe
18 if they can be posted or somewhere where
19 others can look at them, you know, that would
20 be useful, I think.

21 CHAIRMAN MELIUS: Any other Board
22 Members have questions or comments? I want to

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1 indicate just in response to one of your
2 comments, Terrie. I think everyone's trying
3 to, doing their best to keep this moving
4 along, and we agree.

5 It's a long time, and although
6 it's -- I don't think we even are comfortable
7 saying it's only two years, because it's
8 something you try to resolve, but try to
9 resolve thoroughly. But every attempt to move
10 it along.

11 I think it's a part of NIOSH and
12 everybody else involved. But we appreciate
13 your input, and input of the petitioners.
14 Thank you. Okay. Let's see where we are, a
15 little bit ahead of time. Hear from somebody
16 new now. LaVon. Is LaVon here?

17 SEC Petitions Update

18 MR. RUTHERFORD: Okay. I'm going
19 to give the status of the upcoming SEC
20 petitions. This is a report that we routinely
21 do at the Board meetings, give you an idea.
22 Gives the Board Members an idea of current

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1 status of existing SEC petition evaluations,
2 what SECs do we have that have just recently
3 qualified and 83.14s that we're working on.

4 It also gives them an idea that
5 on, so they can prepare for future Work Group
6 meetings and Advisory Board meetings.

7 Petitions. We are, as of July
8 5th, we're up to 213 petitions. We have two
9 petitions right now that are in the
10 qualification process, and one petition that's
11 actually in the evaluation process. If you
12 remember, the last couple of meetings, we
13 haven't had any really new petitions. So we
14 have received some new petitions here
15 recently, and I'll talk about those shortly.

16 Currently, there are a number of
17 petitions that are with the Advisory Board.
18 They have had some action taken since they
19 were initially presented to the Advisory
20 Board, but they have not been completely
21 closed out. Some of these I'm thinking or
22 hoping are going to come off the table during

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1 this meeting.

2 We've got the Fernald Feed
3 Materials Production Center, Hanford, Pantex
4 plant, Los Alamos National Lab, Savannah River
5 Site, Brookhaven National Lab. Brookhaven, I
6 believe, is actually going completely away.
7 Baker Brothers, Joslyn Manufacturing and
8 Supply Company.

9 Some of these are in various
10 stages of final closeout and should be coming
11 off -- this should be a much shorter list
12 soon. We have one petition that is waiting
13 for its initial action, and that is the Rocky
14 Flats petition plant evaluation. Again, we
15 did have an evaluation performed under SEC 30.
16 But under this petition, there has been no
17 action taken by the Board as of yet.

18 There are a number of petitions
19 that we have dialed up for 83.14s. Sandia
20 National Lab Livermore. We're actually
21 working this 83.14 in preparation for the
22 October Board meeting. We'll be recommending

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1 a Class up through 1994.

2 Sandia National Lab Albuquerque.
3 This is the early years that used to be the Z
4 Division at LANL. We're still waiting for a
5 claimant for this one, to support an 83.14. We
6 have no claims for this period as of yet.

7 General Atomics, this is -- we're
8 modifying an existing Class Definition. This
9 was one of our old Class Definitions that
10 identified, was very building-specific, would
11 not have been defined this way under current
12 practices today. However, at this time, DOL
13 is implementing this Class, such that it would
14 be just like it was all employees. So we have
15 not received any claims to support modifying
16 the Class.

17 Dayton Project Monsanto. There's
18 a couple of things going on here. We need to
19 modify the Class based on the facility
20 designation change to a DOE facility, and then
21 we'll also add a nine month period where
22 operations shifted from the Dayton project to

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1 the Mound.

2 Again, we have no claim to support
3 this at this time. We've put this on our --
4 routinely checked for claims to support
5 getting these moved forward, so we are
6 looking. Okay, new petitions. We actually
7 had two petitions in the qualification
8 process, K-25, 1993 to '97.

9 If you remember, the statutory SEC
10 goes up to February 1992, and this period is
11 just post that statutory period. We've very
12 close to a finding on this one. The LANL
13 petition is actually for -- this happens every
14 once in a while. We had a petition for a
15 period that's already covered under the SEC.
16 It happens.

17 Sometimes we get individuals that
18 have non-presumptive cancers that would not be
19 a part of the SEC, that petitioned to get
20 their in under the SEC, which that can't
21 happen. So this petition will not qualify.

22 Then we have one petition that is

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1 in the evaluation process, and that is the
2 Kansas City plant qualified for the period
3 1949 to 1993. We had some gaps in monitoring
4 for some activities in Kansas City plant that
5 supported qualification, and we are in the
6 evaluation phase on that one.

7 That petition evaluation will not
8 be ready for the October meeting. I think
9 based on our current project schedule, it
10 would be the following meeting after that. I
11 believe that's it. Questions.

12 I tried to race through it.

13 CHAIRMAN MELIUS: I was talking to
14 the Secretary. I had to hang up.

15 MR. RUTHERFORD: You know, Josh
16 just pointed out that I failed miserably. I
17 forgot we have one other petition that is the
18 qualification phase that we just recently got
19 for Argonne National Lab East, and we are
20 reviewing that petition as well. It is in the
21 qualification phase.

22 CHAIRMAN MELIUS: You may have

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1 said this, but what puzzled me when I looked
2 through the slides is why have you
3 predetermined that LANL will not qualify?

4 MR. RUTHERFORD: Okay. I did
5 answer that. It was pretty -- the person
6 petitioned for a period that's already covered
7 under the SEC.

8 CHAIRMAN MELIUS: Okay. I assumed
9 that, but you had accepted the petition?

10 MR. RUTHERFORD: Well, any
11 petition comes in, we go through the petition
12 process.

13 CHAIRMAN MELIUS: Alright, okay. I
14 thought you had an administrative way of
15 dealing with those also.

16 MR. RUTHERFORD: Yeah.

17 CHAIRMAN MELIUS: No, that's good
18 of you. Any other Board Members have
19 questions for LaVon? Good thing we found you
20 other work to do then.

21 MR. RUTHERFORD: Yes.

22 CHAIRMAN MELIUS: Yeah. Thank

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1 you. Okay. It's a little bit early for a
2 break, and we can do a break now. We can go
3 into the Board work session. We can do that
4 for a while. We can do that to say 3:30 or
5 4:00, and then take a break until 4:30, and
6 then that will give us a break and then come
7 back at 4:30 for the INL, sort of a longer
8 break.

9 I'm not sure. We'll see how we do
10 through the Board Work session. But in terms
11 of Board work session, we're going to need to
12 save some for tomorrow, because the SEC
13 petitions are all, actionable ones are all
14 tomorrow and Fernald, both Pantex and Fernald
15 will be, good chance they will be letters and
16 so forth. We'll need to talk about a little
17 bit.

18 We don't have any scheduled Board
19 work time tomorrow until late. So why don't
20 we go through and let's see how we do. If
21 we're doing well, try to break and, a break
22 before the 4:30 time frame and so forth, or

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1 have a break and then come back. Is that
2 reasonable for everybody?

3 (No response.)

4 Okay. Hearing no objections,
5 we'll move forward. Why don't we start with
6 what's usually the, and I don't have it on my
7 set of this copy of the agenda, but you had
8 some dates you wanted to throw out?

9 MR. KATZ: So this just to
10 schedule further out. So presently, we're
11 scheduled the latest meetings. We have the
12 October meetings, October meeting in Denver.

13 MEMBER ROESSLER: For what, two or
14 three days?

15 MR. KATZ: I'm pretty certain it
16 will be two days, 16th and the 17th. Two
17 days.

18 MEMBER ROESSLER: Two days.

19 MR. KATZ: 16th and 17th of
20 October.

21 MEMBER ROESSLER: Okay.

22 MR. KATZ: So the 16th and 17th of

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1 October, we are planning to go to Denver, and
2 then we have scheduled December 9th at 11:00
3 a.m. for a teleconference, and then the next
4 in-person meeting is January 28th through 30th
5 we have blocked out for that, January 28th
6 through 30th.

7 CHAIRMAN MELIUS: I think Brad's
8 invited us back.

9 MR. KATZ: For the January
10 meeting. That would be lovely. Okay, 28th
11 through 30th.

12 CHAIRMAN MELIUS: Yeah. Most
13 likely the Tuesday and Wednesday.

14 MR. KATZ: Yeah, most likely 28th
15 and 29th.

16 CHAIRMAN MELIUS: Or we could do
17 the 29th, whatever people's preferences are.

18 MEMBER ROESSLER: Okay, I got it.

19 MR. KATZ: No. We can talk about
20 that if we have ideas, but --

21 CHAIRMAN MELIUS: Yeah. I think
22 we're looking for suggestions. But at this

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1 point in terms of what --

2 MEMBER ROESSLER: Kansas City.

3 CHAIRMAN MELIUS: Kansas City.

4 MEMBER ROESSLER: I was just going
5 to suggest that.

6 CHAIRMAN MELIUS: I was reading
7 your mind. Many of you have never been there,
8 and I didn't listen to all of the, LaVon's
9 thing, but my understanding is that the -- I
10 think I heard that the SEC report probably
11 would not be ready in October?

12 MR. KATZ: Oh yeah. Not in
13 October, but --

14 CHAIRMAN MELIUS: Yeah. So it
15 would be ready for the January meeting.

16 MR. KATZ: Correct. So that's one
17 option.

18 CHAIRMAN MELIUS: Okay.

19 MR. KATZ: Augusta is another
20 option, if SRS is ready by then. I couldn't
21 hear.

22 CHAIRMAN MELIUS: Rio. Yeah, I'm

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1 already working on, since Joyce Lipsztein's so
2 involved, that we should do at least do a Work
3 Group meeting. I told him I would displace
4 Mark from the SRS Work Group.

5 MR. KATZ: Not yet.

6 CHAIRMAN MELIUS: Somehow, I think
7 we would be reading about ourselves in *USA*
8 *Today* if that occurred.

9 MR. KATZ: I don't know. There's
10 Pinellas. Do we expect progress in this time
11 frame for Pinellas?

12 Okay. So that's a no from the
13 program for Pinellas in that time frame.
14 Sandia is another arena.

15 DR. NETON: I think Pinellas might
16 be ready.

17 MR. KATZ: Oh.

18 DR. NETON: It's very close to
19 closure.

20 MR. KATZ: Okay. So Pinellas
21 might be ready in time for a January meeting?

22 MR. HINNEFELD: And I think the

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1 action we're working on is Sandia Livermore.
2 So that one, I think, will be done before.

3 MR. KATZ: Before then.

4 CHAIRMAN MELIUS: I'd rather have
5 Rio. Kansas City, I mean we've never been
6 there, and I think that would be first
7 priority. I'll say weather's a factor, but
8 weather's a factor getting anywhere there.
9 Yeah. We'll probably hit the blizzard of --
10 yeah. So let's tentatively do Kansas City,
11 and then --

12 MR. KATZ: Okay. It's Kansas City
13 in January. Okay. So then now we're
14 scheduling out beyond that, and the right
15 weeks for a teleconference beyond that would
16 be the week of March 19th or March 26th. I
17 don't know if I chose the Wednesdays as date
18 marks for those weeks or something else.

19 MEMBER ZIEMER: What were the
20 January dates again?

21 MR. KATZ: The January dates are,
22 right, the 28th and 29th of January. 28th and

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1 29th.

2 MEMBER ZIEMER: Thank you.

3 MR. KATZ: So is the 19th a Monday
4 or a Wednesday? Okay. So how does March 19th
5 work for people? For a teleconference, that
6 would be 11:00 a.m. Eastern Time normally.
7 Does that work for everyone, and on the line
8 too? Paul, David?

9 MEMBER ZIEMER: That's okay with
10 me, Ziemer.

11 MR. KATZ: Okay, great. Okay. So
12 the 19th it is, and then the next face to face
13 meeting, approximately the week of April 28th,
14 May 5th, May 12th. I said April 28th or May
15 5th, or as far out as May 12th, and then we're
16 getting pretty far after that.

17 Anybody have any trouble with the
18 week of April 28th, or with one part of the
19 week or the other?

20 CHAIRMAN MELIUS: What are the
21 holidays? They're not in my calendar year, so
22 Microsoft is falling down again.

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1 MR. KATZ: Yeah. Perhaps none. So
2 do you want to go the 29th and 30th?

3 MEMBER ROESSLER: Yeah.

4 CHAIRMAN MELIUS: Yeah.

5 MR. KATZ: Okay. Let's do that.
6 29th and 30th of April.

7 CHAIRMAN MELIUS: Place to be --

8 MR. KATZ: Place to be determined.
9 No, that's a Tuesday and Wednesday.

10 MEMBER ANDERSON: April 29th?

11 MR. KATZ: April 29th and 30th.

12 MEMBER ANDERSON: Oh, 29th, okay.

13 MR. KATZ: And 30th. That way,
14 people aren't traveling on Sunday.

15 MEMBER ANDERSON: Oh, that's good.
16 I just put 28th in my mind.

17 MR. KATZ: Week of, yeah.

18 CHAIRMAN MELIUS: And let's keep
19 in mind, I guess we have Sandia, Pinellas and
20 Livermore as possible locations. For those.
21 So let's do, start with Work Groups and
22 Subcommittees, and recently, Dave Kotelchuck

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1 took over as chair of the Dose Reconstruction
2 Subcommittee, and you're on.

3 Dose Reconstruction Subcommittee

4 MEMBER KOTELCHUCK: We have a
5 conference call meeting, actually what do they
6 call it Live Performance on August 7th, and
7 we're basically going through the Sets 10
8 through 13. We have LANL, we have SRS and I
9 forget, one more, and then we're going to be
10 selecting for, selecting cases for a new set,
11 which will be either 17 or 18.

12 There's some question. I think
13 17, something else coming up that we're going
14 to call 17, yes.

15 MR. KATZ: It's just the blind
16 reviews for 17, so we've moved to 18.

17 MEMBER KOTELCHUCK: That's right,
18 that's right.

19 MR. KATZ: To accommodate that.

20 MEMBER KOTELCHUCK: So it will be
21 18. Okay. That's it. Moving right along.

22 CHAIRMAN MELIUS: Okay. Any

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1 questions, comments? Okay. So where are we
2 with the blind reviews, in terms of --

3 MR. HINNEFELD: It's been a bit of
4 a struggle. The blind reviews intend to use
5 the existing ORAU dose reconstruction tools,
6 which allow the dose, you know, the dose
7 reconstruction makes a certain number of
8 choices when they use those tools, and provide
9 those tools to the SC&A reviewer to do the
10 cases essentially so the arithmetic all comes
11 out. Its choices are consistent.

12 CHAIRMAN MELIUS: Yeah.

13 MR. HINNEFELD: And getting that
14 going has been a bit of an ordeal, but the
15 last I saw is they are not accessible to Doug,
16 the reviewer, and the data input files, you
17 know, the pre, the already coded, you know,
18 spreadsheets essentially of a person's dose
19 record have been now found, and should have
20 been made available to Doug, will be made
21 available this week.

22 We've notified Doug. I think we

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1 have those files now. What folder, where you
2 want us to put them, so you can get them and
3 use them on the tools. This has been a little
4 bit of a complicated computer security issue
5 from our point.

6 That was the complication, getting
7 the tools in a place where Doug can get to
8 them through our system, because normally they
9 run on the ORAU system, and getting them to
10 where they would run in what believe it or not
11 is called the demilitarized zone, in IT tech
12 speak, and I don't know exactly what that
13 means.

14 So that's the last report. The
15 last message I saw on this was Grady sent a
16 message to Doug that says I have those data
17 input files, so Doug doesn't have to key in
18 the data, and where would you like them, and
19 that's the last message I saw. But once he
20 has those, I think things should relatively
21 quick.

22 CHAIRMAN MELIUS: So we've

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1 demilitarized the -- will we allow an
2 incursion into the -- there's got to be some
3 jargon there.

4 MR. HINNEFELD: It is a virtual
5 area between our servers and ORAU's server,
6 and I can't do any better than that.

7 CHAIRMAN MELIUS: Anybody have
8 questions on that? If you do, too bad. Okay.
9 Procedures, Work Group, or excuse me,
10 Procedures Subcommittee, which is going to
11 have some presentations tomorrow. But in
12 addition to those.

13 Procedures Subcommittee

14 MEMBER MUNN: Yeah. We met in
15 April, April 25th, one of the first Live
16 Meeting calls, which I know the order finds to
17 be very useful, and this particular
18 Subcommittee chair finds to be disastrous. But
19 we are making a few adjustments to the Board
20 Review System, which when I say "we," actually
21 NIOSH and the folks who actually do the hard
22 work with it, are tweaking it a little bit,

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1 making it we hope a little bit more user
2 friendly than it already is.

3 It's working very well for the
4 Subcommittee. We had a large number of items
5 on our agenda, especially now that we are
6 really into the PERs. We have probably seven
7 or eight of them actively involved right now,
8 either being resolved in NIOSH or with SC&A.

9 We had reports on PER-11, 30, 14,
10 17, 44. I don't know that the numbers mean
11 anything to you. I have to go back and look
12 at each one of them to identify where they
13 are. But they've covered the wide range of
14 sites and a wide range of issues.

15 We have been adding, for the first
16 time talking about how best to handle the
17 overarching issues, which we've opted to track
18 through the Subcommittee. But they're going
19 to have to be handled, because of their
20 nature, and not being site-specific, they're
21 going to be handled differently than most of
22 our findings.

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1 We had quite a bit of a discussion
2 about that, and I think we've come to some
3 resolution on some of the simple, basic
4 elementary things. But we'll be working on
5 that a great deal, I think, from time to time.

6 We had some responses from OTIB-
7 55. We had two PERs, I believe, from the
8 Hanford site, and those I believe have been
9 transferred to the Work Group for resolution.
10 Status reports on several of the PERs, and we
11 had a status report on the revisions to OTIB-
12 54.

13 I believe our next meeting is
14 going to occur day after tomorrow, if we're
15 still present and functioning there, and
16 that's, I believe, yep. Unless someone has
17 some questions.

18 CHAIRMAN MELIUS: So this will be
19 live Live Meeting.

20 MEMBER MUNN: This will be a real
21 live meeting, not a digital live meeting.

22 CHAIRMAN MELIUS: A virtual.

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1 MEMBER MUNN: I much prefer real
2 live meetings to virtual live meetings.

3 CHAIRMAN MELIUS: Yeah, in a
4 demilitarized zone.

5 MEMBER MUNN: Yes, uh-huh, with
6 both computers that are necessary to
7 accomplish this, yeah.

8 CHAIRMAN MELIUS: Any questions
9 for Wanda? Okay. Now we'll turn to the Work
10 Groups. Anybody want to volunteer? Yeah, go
11 ahead. Now we'll just start going through
12 alphabetically, but I figure, yeah.

13 MEMBER ROESSLER: Have a little
14 variety.

15 CHAIRMAN MELIUS: Variety, yeah.
16 We've been doing the alphabet for how many
17 years, right?

18 ORNL Work Group

19 MEMBER ROESSLER: Right. Okay.
20 I'll report on ORNL Work Group, and I do have
21 progress to report. Tim Taulbee, who's the
22 DCAS lead on this site, is in Alaska right

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1 now. But he sent me an update this week. I
2 tried to send it out to the rest of the Work
3 Group Members, and I didn't get your email
4 address right, but I'll give you a copy of it.

5 But as you may recall, Tim
6 presented the DCAS Petition Evaluation Report
7 to us at a meeting in Denver last September.
8 You might also recall that this is a complex
9 site. The petition covers the period from
10 June 17th, 1943 to July 31st, 1955. So
11 there's a lot of historical information
12 involved.

13 This is the X-10, site which
14 involved the historic graphite reactors, some
15 other very unique reactors, and many research
16 labs. In September, DCAS reserved the exotic
17 radionuclide portion for further follow-up,
18 and Tim reports that since then they have made
19 significant progress, but it is slower than
20 anticipated due to difficulty in obtaining and
21 assessing data from DOE.

22 He says they now have a good

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1 handle on the radionuclide production, that
2 ORNL. They've identified 254 radionuclides
3 that were produced there over the years. I
4 think just that number itself should tell
5 people that that's a pretty interesting site
6 to evaluate.

7 He said they will do a triage on
8 these radionuclides. I'm not sure if that's
9 quite the right word, but to assess their
10 exposure potential. Some of them were very
11 small in quantity. Some had very short half -
12 lives. Some were encapsulated when they were
13 used, and some have low dose conversion
14 factors.

15 However, some have significant
16 exposure in internal dose potential. So
17 they're looking at that. They're also doing
18 validation and verification of the bioassay
19 database that they reported on in September.
20 So they're targeting the October Board meeting
21 for an Evaluation Report addendum, but are not
22 100 percent sure they can do that. So stay

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1 tuned. Any questions?

2 CHAIRMAN MELIUS: Questions for
3 Gen? Okay. Okay, very good. Any other
4 volunteers? Then I'll start calling on
5 people. Yeah. We'll see who's been slacking
6 and who's been into that. Brookhaven is
7 reporting, Fernald is reporting.

8 Hanford, Hanford has been working
9 but has not been meeting. Arjun, correct me
10 if I'm wrong here, but we're actually updating
11 the matrix, catching up on -- there have been
12 some more recent interviews and so forth,
13 pulling information together into the matrix
14 on where we need to go from here.

15 So we hopefully will have a Work
16 Group meeting between now and the next
17 meeting, and see where we would need to focus
18 in in terms of further SEC evaluation at that
19 site.

20 DR. MAKHIJANI: Yeah, that's more
21 or less right. Dr. Melius, we sent you a
22 report with a number of findings in April, and

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1 at that time, there were some loose threads
2 regarding neptunium especially that needed
3 interviews, and we have been struggling to get
4 them organized.

5 Finally, I think, they will be
6 done in the week of July 29th, and we will
7 have completed our work. So we may issue a
8 supplement to the report. So we're very, very
9 close to done.

10 CHAIRMAN MELIUS: So any questions
11 on Hanford? Okay. Idaho?

12 Idaho Work Group

13 MEMBER SCHOFIELD: Idaho. There
14 are some revisions to be done to the TBD and
15 the recent White Papers.

16 CHAIRMAN MELIUS: Mic, mic. Use
17 your microphone.

18 MEMBER SCHOFIELD: Sorry. There's
19 some revisions to be looked at in the TBD,
20 both by SC&A and NIOSH. There's also some
21 White Papers hopefully will be out supposedly
22 the latter part of October. So without a

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1 current SEC qualified petition, we're still
2 kind of setting in the water, not moving much.

3 CHAIRMAN MELIUS: Dr. Ziemer, if
4 you're on the line, Lawrence Berkeley.

5 Lawrence Berkeley Work Group

6 MEMBER ZIEMER: Yes, I'm here.
7 Lawrence Berkeley?

8 CHAIRMAN MELIUS: Yes.

9 MEMBER ZIEMER: Right. Lawrence
10 Berkeley, currently NIOSH is reviewing four
11 White Papers from SC&A that were generated
12 following the initial meeting of that Work
13 Group, which goes back a little over a year,
14 and those responses are still under
15 preparation. We have received in late May, I
16 think May 31st actually, one White Paper from
17 NIOSH on thorium.

18 So the Work Group has that in
19 hand. We're awaiting the responses for the
20 other four White Papers. Most of those are in
21 draft status. I understand from Dr. Lara
22 Hughes that pending resolution of some of the

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1 questions raised on their internal review, and
2 some additional data captures, they will be
3 passing this information on to the Work Group,
4 at which point we can schedule a meeting. But
5 we're still awaiting those. So that's our
6 current status.

7 CHAIRMAN MELIUS: Thank you, Paul.
8 NIOSH, any --

9 MEMBER ZIEMER: Incidentally, if
10 we're talking about possibly a meeting in the
11 Lawrence Livermore area in April, hopefully we
12 would have something more substantial on
13 Lawrence Berkeley at that time as well.

14 CHAIRMAN MELIUS: That makes
15 sense. Stu or -- I guess I'm reading your
16 report here on Lawrence Berkeley and do you
17 have some --

18 DR. NETON: I'm the hold up on
19 Lawrence Berkeley, so I guess I should take
20 responsibility. The internal review process,
21 I looked at some of the comments that were
22 made, and it's my opinion Lawrence Berkeley

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1 has similar issues to what other cyclotron-
2 type facilities have, that is a slew of
3 exotic-type radionuclides that were handled in
4 various degrees and quantities.

5 So I just wanted to make sure that
6 we button up those issues before we proceed.
7 That's where we are, and that's where the idea
8 of possibly additional data captures are
9 necessary. I'm not sure. I raised the
10 question, and people are looking at the data
11 that we currently have.

12 We have a lot of data we captured
13 there, and I just asked folks to go back and
14 look through what we have, and make sure that
15 we can put some brackets around some of these
16 exotics. I'd feel a little better moving
17 forward then.

18 CHAIRMAN MELIUS: Good. Thanks,
19 Jim on that, and Paul. Kansas City, I think we
20 -- Josie, do you want to add anything to what
21 has been said?

22 MEMBER BEACH: No, I don't have

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1 anything to add at this time.

2 CHAIRMAN MELIUS: LANL, Mark.

3 LANL Work Group

4 MEMBER GRIFFON: Yeah, I'm going
5 to -- it's sort of like Hanford. We've been -
6 - there's work going on. We haven't had a
7 meeting in a while. But I'm going to ask if
8 Joe, if you have anything significant to add.
9 I mean we need to at some point schedule a
10 meeting. But there's been, the Work Group
11 hasn't met in quite some time, and nothing on
12 the horizon as far as I know.

13 MR. RUTHERFORD: Well, I can a
14 little bit to that. We've provided a
15 questionnaire to the site on some, trying to
16 get a better feel for the end date of the
17 existing SEC from the end date in 1994, up
18 beyond when, you know, does the site have a
19 good handle on the program. Do we know that
20 they were looking at the exotic radionuclides,
21 if they had good methods.

22 We provided a questionnaire to the

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1 site some time back, to answer some questions.
2 They responded generally to those questions
3 back to us, but it just brought on additional
4 questions or additional clarification that we
5 needed.

6 We sent that back to the site. The
7 sequestration kind of held that up a little
8 bit. I think we expect that response back
9 from them very soon though, within the next
10 week or two.

11 CHAIRMAN MELIUS: According to
12 your schedule, you were expecting it back last
13 week.

14 MR. RUTHERFORD: Yeah.

15 CHAIRMAN MELIUS: Yeah. So we're
16 close enough for that. Okay. Mound.

17 Mound Work Group

18 MEMBER BEACH: So far Mound, we're
19 complete. We have completed all of our SEC
20 issues. We're currently awaiting some
21 response from NIOSH on some Site Profile
22 issues, and just heard from Jim earlier today.

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1 Don't really have a time frame on those, but
2 they're aware that they're due.

3 CHAIRMAN MELIUS: Questions for
4 Josie? I will add somebody, some Board
5 Members asked me at the break about the Mound
6 emails and where they're found. If you go to
7 the ANWAG block, A-N-W-A-G. If you Google
8 that, you will find on that blog a series of
9 postings on Mound, from what, about two months
10 ago, something like that.

11 MEMBER BEACH: Yeah. I can also
12 send a link to anybody that wants it, because
13 there's actually two spots that they're
14 available.

15 CHAIRMAN MELIUS: Yeah, you can do
16 that. So they're there, if you're interested
17 in reading those. Okay. Nevada Test Site,
18 Brad.

19 Nevada Test Site Work Group

20 MEMBER CLAWSON: We haven't met
21 right yet. We've got, we've got -- SC&A has
22 gone through and reevaluated the Site Matrix

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1 and we're just in the process. We should be
2 setting up a Work Group to be able to go
3 through those in the next little while.

4 MR. HINNEFELD: I'm trying to get
5 my computer going.

6 CHAIRMAN MELIUS: Yeah. You have
7 something revealing to say to us, but Pantex
8 we're going to hear about tomorrow. Pinellas.
9 Pinellas Work Group

10 MEMBER SCHOFIELD: The main
11 outstanding issue of Pinellas is still dealing
12 with the tritium issue, and if we get all
13 those settled with Mound on how to deal with
14 that, that will probably help us close out
15 Pinellas.

16 DR. NETON: Just a slight
17 correction. It's really a tritide issue at
18 Pinellas that's holding it up, and we are
19 interviewing or have recently interviewed, I
20 hope, a health physicist at Pinellas that can
21 inform us, maybe in some more detail, how they
22 actually monitor for tritides, because there

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1 were some there, and there were spills.

2 There's references to a
3 Bremsstrahlung counter, which I know what
4 Bremsstrahlung is, but I've never seen a field
5 instrument called a Bremsstrahlung counter. So
6 we want to see what's going on there. We
7 approached it. We had listed in the Site
8 Profile had some flaws in it, because they had
9 filtered the tritium solutions prior to
10 counting them. So clearly the tritides
11 weren't in the solution.

12 So we're trying to shore that up a
13 bit more, and Phil's right. That's the only
14 outstanding issue that I'm aware of at
15 Pinellas.

16 CHAIRMAN MELIUS: Thanks for the
17 update, Jim. You're on, Portsmouth-Paducah-
18 K25, Phil.

19 Portsmouth-Paducah-K25 Work Group

20 MEMBER SCHOFIELD: Okay.
21 Basically, Paducah is closed on the -- they
22 are looking at currently the neutron/photon

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1 ratios, because all three facilities had
2 cylinders where they stored highly enriched
3 uranium. So they're trying to get a handle on
4 those ratios, so that we can close out that
5 issue, and then we're just -- I think that
6 will pretty much close us out on the gaseous
7 diffusion plant.

8 CHAIRMAN MELIUS: Rocky. We've
9 done Sandia. Dr. Lemen isn't here. I don't
10 believe there's been -- I think there's
11 ongoing activity in the NIOSH end on this one.
12 LaVon, you want to --

13 MR. RUTHERFORD: You want
14 Albuquerque or do you want Livermore?

15 CHAIRMAN MELIUS: Both.

16 MR. RUTHERFORD: Okay, Livermore -
17 -

18 CHAIRMAN MELIUS: I said Sandia.
19 Albuquerque and Livermore Work Groups

20 MR. RUTHERFORD: There you go.
21 Livermore, as I mentioned, that we are working
22 on an 83.14 for Livermore. It's the same

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1 issues that were at Albuquerque. Livermore,
2 the radiological control program kind of
3 mirrored Albuquerque's, and so ultimately
4 we'll be adding Class, very similar to what
5 was -- or recommending a Class very similar to
6 what was done at Albuquerque.

7 That is on schedule for a
8 presentation at the October Board meeting. We
9 also have some additional, it's still -- the
10 open period at Albuquerque and Livermore will
11 be the post-'94 period. We had some onsite
12 visits scheduled at this time for August, to
13 do some additional interviews, to see if we
14 can close out some of the questions.

15 Similar questions that we have at
16 LANL that we'll have at Albuquerque-Livermore,
17 basically updating, understanding their
18 program at that time. Also understanding
19 their availability of records. Sandia is also
20 dealing with at this time a backlog of claims.

21 So we can't, we've been kind of
22 pushed off our going to the site to work on

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1 these issues, and so they can use their
2 resources to get these backlog of claims taken
3 care of. So that's pretty much where we stand
4 at this time with this.

5 CHAIRMAN MELIUS: Okay, thank you.
6 Questions for LaVon? Yeah, okay. Okay. Santa
7 Susana.

8 Santa Susana Work Group

9 MEMBER SCHOFIELD: I'll have to
10 give DCAS a compliment here. They've been
11 doing a tremendous amount of work on revisions
12 of the TBD, and also they've received, I don't
13 remember what it was, a boatload of documents,
14 mostly exposure records and stuff. They've
15 been having it entered by hand.

16 Presently, there's a coworker
17 study, hopefully will be done on the internal.
18 That's not due out until the middle of
19 February next year, and the coworker study
20 will be due out end of November, quote-
21 unquote.

22 CHAIRMAN MELIUS: Good. Thank

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1 you, Phil. Questions? Okay, you're on.

2 Savannah River Work Group

3 MEMBER GRIFFON: Savannah River
4 is, there's some significant progress that's
5 gone on. SC&A, I just talked to Arjun earlier
6 today. They've completed a review of the
7 neptunium model, and have several findings
8 ready to bring that back to the Work Group.

9 Also making quite a bit of
10 progress on the thorium issue, and we're just
11 trying to figure out the timing, best timing
12 for a Work Group meeting. But if we have
13 those two significant issues, it's probably,
14 it will probably good to schedule something in
15 the near future on those. So that's sort of
16 an update.

17 CHAIRMAN MELIUS: Any questions on
18 that? Just going back to the issue with the
19 DOE and the site and so forth, is that holding
20 up the Work Group at this point?

21 MEMBER GRIFFON: Arjun, you want
22 to speak to the site access issues?

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1 DR. MAKHIJANI: Well you know, as
2 Greg Lewis explained in the morning, we've had
3 some difficulties, and DOE has been working
4 hard with us to make some progress. Joe is
5 going to get access to review the documents
6 from his government computer, without going to
7 Savannah River.

8 So we did some interviews. Joe
9 did some interviews recommended by CPWR,
10 Center for Protection of Worker Rights, and we
11 have a number of other interviews scheduled.
12 The schedule for review, we hope the
13 classified document searches will be done
14 soon. But it's difficult, you know. There's
15 a fair amount of sorting out.

16 However, since NIOSH already has
17 put a very amount of analytical information,
18 coworker models, data, compiled a lot of data,
19 we're able to do quite a lot of work, as you
20 know. Besides the neptunium and thorium, and
21 the thorium is done, the trivalent actinides
22 will also be largely done. So you'll be able

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1 to review those at the same time.

2 CHAIRMAN MELIUS: Thanks. I do
3 want to bring up the issue, since the sort of
4 site and data access issue is ongoing, and may
5 be getting resolved, may not. But should it
6 be necessary or helpful for the Board to write
7 a letter to appropriate parties involved at
8 DOE in this, that we not have to wait until a
9 Board meeting.

10 So what I would plan on doing
11 would be to draft up a letter and I will
12 circulate it to the Board for comment or
13 input, obviously work with the Work Group. But
14 it would be something I'd rather not have to
15 wait until the next Board call or Board
16 meeting to do that. If no one objects to
17 that, I think that would be the procedure.
18 Yes, Wanda.

19 MEMBER MUNN: Have we in fact
20 decided that we're going to send such a
21 letter?

22 CHAIRMAN MELIUS: No, we have not

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1 decided that we will send, should it be
2 necessary if things are not making significant

3 --

4 MEMBER MUNN: Oh. I missed the
5 "should it be necessary" phrase. Thank you.

6 CHAIRMAN MELIUS: Yeah. Science
7 Issues, David, are you on the line? David
8 Richardson? David Richardson are you on line
9 and off mute? Okay. I have been informed
10 that Jim Neton is the controller of what's
11 happening on the Science Issues Work Group.

12 Science Issues Work Group

13 DR. NETON: Yes, Dr. Melius. I
14 did send a report to Dr. Richardson. If he's
15 on, I'd be more than happy to have him present
16 it. But it's very short. The dose rate,
17 effectiveness factor, so-called DDREF tome,
18 the document written by us, by Senes a while
19 back, has been sent out for external and
20 internal review.

21 We solicited reviews from five
22 external experts and two experts from within

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1 NIOSH. As of this morning, we have all six
2 reviews back. We were missing one review for
3 the complete package. Once we get that final
4 review, we will pass that on to Senes for
5 their consideration and response to the
6 comments we've received.

7 But it's been a while. But it's a
8 large document and we had to cajole some
9 people to get it to us in a timely manner. But
10 they're there, and I think the one remaining
11 review will surface fairly soon.

12 CHAIRMAN MELIUS: Maybe the Board
13 chair needs to write a letter to the
14 recalcitrant party.

15 DR. NETON: They do this not for
16 much money. We can only offer a very meager
17 honorarium. So but I'm happy with the reviews
18 that we got and the panel that we selected,
19 and that's public knowledge. It should be
20 public knowledge. We're going to de-identify
21 the actual reviews themselves, but we will
22 publish the qualifications of the individual

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1 reviewers.

2 CHAIRMAN MELIUS: Yeah, I found
3 that those of us redoing journal reviews get,
4 especially some of the electronic ones, where
5 you get varying levels of email reminders and
6 then threats, you know. Then I think at some
7 level it's a public shaming or something that
8 goes on if your review isn't in, and how you
9 personally are holding up the progress of
10 science and failing to save the world and so
11 forth.

12 MR. HINNEFELD: That's just my
13 life at a Board meeting, Jim.

14 MEMBER ROESSLER: Jim, can you
15 tell us who the reviewers are?

16 DR. NETON: Yes, I can.

17 CHAIRMAN MELIUS: Just say the
18 name of the recalcitrant reviewer really
19 slowly.

20 DR. NETON: I'll just mention the
21 reviewers. Dale Preston from Hirosoft; Rick
22 Hornung, University of Cincinnati; Bill

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1 Morgan, PNNL; John Boice, representing NCRP in
2 this particular instance; and the fifth one,
3 this is terrible. I'll think of it in a
4 second. Oh yeah, Jerry Puskin from the
5 Environmental Protection Agency.

6 Yeah. I thought it was a fairly
7 good list, and to get all of them to respond
8 was great. Internally, Doug Daniels and Mary
9 Schubauer-Berigan of the DSHEFS Division are
10 also reviewing, because they're fairly well
11 familiar and interested in this area.

12 CHAIRMAN MELIUS: Just let us
13 know. We'll write the letter. Paul Ziemer,
14 if you're on the line, for TBD-6000.

15 TBD-6000 Work Group

16 MEMBER ZIEMER: Right. Can you
17 hear me?

18 CHAIRMAN MELIUS: Yes, we can.

19 MEMBER ZIEMER: Okay, yeah. We're
20 dealing with actually four different sites, so
21 let me report briefly on each of those.
22 General Steel Industries first.

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1 NIOSH is preparing the final
2 details on how dose is demodified for all the
3 source components. So it's both the
4 operational and the residual periods, and then
5 following that, SC&A will have a chance for
6 final review prior to the next Work Group
7 meeting. We haven't scheduled that meeting
8 yet. But that should occur fairly soon.

9 Also, we have yet also the
10 complete closure of all the findings matrix
11 and that is the other item on the agenda for
12 General Steel.

13 For Joslyn Manufacturing, I'll
14 just remind you. Currently, there is an SEC
15 through 1947, and we're reviewing the
16 remainder of the operational years. DCAS
17 responses to the SC&A are expected I believe
18 by the end of July. At least that was the
19 last date I heard, and then will be reviewed
20 by the Work Group at its next meeting.

21 Simonds Saw and Steel, and a
22 reminder again. There is an SC&A, not an

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1 SC&A, an SEC for Simonds Saw and Steel
2 already. I'm trying to remember. I think it
3 was '48 to '55 or something like that. I
4 don't have that right before me.

5 But in any event, we're focusing
6 on the TBD itself and the response to some of
7 the SC&A findings. NIOSH has agreed to some
8 revisions in the TBD, and those are currently
9 underway. Then NIOSH is also reevaluating the
10 urinalysis data for internal doses, and also
11 the methods for dose reconstruction in the
12 residual period. So that is going on to
13 supplement what we already have for the
14 existing SEC.

15 Then Baker Brothers, the Work
16 Group has voted to recommend that the SEC
17 Class not be granted for the residual period,
18 and we'll be reporting on that in detail
19 tomorrow. So those are our four areas that
20 we're looking at.

21 CHAIRMAN MELIUS: Thank you, and
22 Paul, you put all the other Work Groups to

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1 shame with your productivity, going through
2 all these sites. But no, it's been a lot of
3 work and it is appreciated by that Work Group
4 for that.

5 MEMBER ZIEMER: Thank you.

6 CHAIRMAN MELIUS: Questions for
7 Paul? If not, Henry.

8 DuPont Deepwater Work Group

9 MEMBER ANDERSON: We got the SC&A
10 response to the NIOSH commentary findings on
11 DuPont Deepwater the first part of June. So
12 the committee's going to be looking at that,
13 and then we'll hopefully have a call to close
14 out or at least discuss DuPont again, and
15 hopefully we'll have something by the October
16 meeting.

17 CHAIRMAN MELIUS: Questions on --
18 okay. Weldon Springs. Dick Lemen is -- yes,
19 John.

20 MR. STIVER: Yes. This is John
21 Stiver. I just wanted to kind of expand on
22 what Andy said. We do have a couple of sites.

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1 I think there's about three of them where we
2 have recent work products that would fall
3 under the URAWE Work Group. Whether it be
4 NUMAC or General Atomics. So we might want to
5 consider bringing those in.

6 CHAIRMAN MELIUS: We'll take that
7 --

8 MEMBER ANDERSON: If they're
9 assigned to us, we'll take it on. If they're
10 assigned to us, we'll take it on. Yeah,
11 right. Yeah, I know. We could add that to
12 our teleconference. I don't think the DuPont
13 will take too long.

14 CHAIRMAN MELIUS: Weldon Springs?
15 I don't think there's much. Dr. Lemen isn't
16 here. Okay, and last but not least, Worker
17 Outreach.

18 Worker Outreach Work Group

19 MEMBER BEACH: Okay. Not too much
20 new to report. SC&A did deliver the
21 evaluation for LANL to NIOSH, and we did make
22 DCAS' work list, but there's no date

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1 associated when they are going to have that
2 review completed at this time.

3 MR. HINNEFELD: Yeah. I will say
4 here that that is a bit of a victim of
5 sequestration and the resources available. So
6 it's going to take us some while to get some
7 people free to do work on that.

8 MEMBER BEACH: Yeah. I kind of
9 expected that. Once we do get that back from
10 NIOSH, then SC&A will go back and finish up
11 the report and send out the finished version.
12 So to be continued.

13 CHAIRMAN MELIUS: Thank you, and I
14 again, I think it is fair to remind that
15 sequestration has taken some toll on what we
16 do overall in this program. So we will have
17 to decide, and it's also one of the reasons
18 we've hesitated. I know we've talked about
19 some other Work Groups and we have some
20 products and so forth out there that could be
21 reviewed.

22 But at the same time, we have to

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1 keep in mind some of the resource limitations,
2 in terms of making these assignments as we go
3 along here, and we need to consult with NIOSH
4 about making sure that those resources are
5 appropriate.

6 Okay. So that completes our Work
7 Group update, and unless I'm mistaken, we have
8 one more quick thing to do, and I just have to
9 find the right file here.

10 Yeah. Okay. All of you have
11 received, and you've probably all memorized
12 the comments from the -- the file that had the
13 comments from the last Board meeting.

14 There's two files. One's a
15 spreadsheet that summarizes the comments and
16 the response, and has that categorization code
17 that none of us can ever remember. But
18 usually someone brings it to mind if it's
19 important.

20 Then there's a second, much longer
21 file that actually has the transcripts
22 pertinent to those comments, should we have

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1 questions or recollections of -- what went on
2 is a little different from what's being
3 reported here.

4 So I will go through these
5 briefly. I will try to group them as we go
6 through. There's only a small number, I
7 believe, what is it, 17 from the last comment.
8 So if you want to sort of read along with me
9 and so forth.

10 Most of the first set are from
11 [Identifying information redacted], who is
12 commenting on the Savannah River Site, and had
13 a number of questions and comments on some of
14 the methods that were being used by NIOSH and
15 addressing those and so forth.

16 I think everything looks like it's
17 referred properly and so forth in this
18 comments. Yeah, there's two from him. Dr.
19 Ringen also made a number of comments relative
20 to the SRS petition, and again, I think these
21 are all, for the most part referred to the
22 Work Group or the Board, addressing things

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1 that are in progress in terms of the
2 evaluation of that site.

3 There's a comment from another
4 person there, Comments 9, 10 and 11, again
5 related to the Savannah River Site and SEC.
6 Again, I think these are all straightforward
7 in terms of how they were handled and so forth
8 and who responded.

9 Comment No. 12 is basically just
10 someone indicating they supported the
11 petition. There's a comment from [Identifying
12 information redacted] regarding General Steel
13 Industries, and had some issues about the
14 process for his, how the petition was being
15 communicated to the -- results of the petition
16 review is being communicated by the NIOSH
17 Director and the Secretary.

18 I think those have all been
19 clarified in the response. I'm aware of at
20 least one direct response from Ted on that,
21 and others within NIOSH, and set of questions
22 from Terrie Barrie, comments from Terrie

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1 Barrie pertinent to the set of -- these relate
2 to Hooker Electrochemical in Rocky Flats. Some
3 of them were related to another set of emails
4 and the FOI process.

5 Again, I think pretty
6 straightforward, in terms of their responses.
7 Finally, there were comments from [Identifying
8 information redacted], both some general
9 comments about individual dose reconstruction
10 and then raising several issues about the
11 Pinellas SEC petition and dose reconstruction
12 at Pinellas.

13 Again, I think these were for the
14 most part fairly general and addressed pretty
15 directly. So anybody have comments or
16 questions on those, or the nature of those
17 responses?

18 (No response.)

19 CHAIRMAN MELIUS: If you haven't
20 had a chance to go through in detail, or wish
21 to, we can also talk about this tomorrow
22 briefly, if you want to raise issues then. If

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1 not, if everyone feels ready, I think we need
2 a motion to accept these as an order. Is that
3 how we do this? No, we don't do anything.
4 Okay.

5 MEMBER ANDERSON: Just consider it
6 done.

7 CHAIRMAN MELIUS: Consider it
8 done, good.

9 MEMBER ANDERSON: No. It's a
10 useful process and good exercise, and the
11 summary is nice, so we can go through it
12 quickly.

13 CHAIRMAN MELIUS: Yeah, yeah, and
14 I will compliment -- I'm not sure who does all
15 this work. Yeah, but it's --

16 MEMBER ANDERSON: It's a lot of
17 work.

18 MR. HINNEFELD: It's generally
19 done by our Outreach contractor, ATL, and then
20 we -- they collect them, and then we provide
21 responses.

22 CHAIRMAN MELIUS: Yeah, good.

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1 MEMBER MUNN: Well that's really
2 reassuring them check them over. One forgets
3 from one meeting to the next, and then just
4 being able to look at them. That's what we
5 asked for, to be reassured that they were
6 being addressed. It's very well done.

7 CHAIRMAN MELIUS: Yeah, I agree.
8 Good, okay. I think that completes our, any
9 Board Work Session business. Is there
10 anything else? Ted?

11 MR. KATZ: I don't think so, I
12 don't think so. I don't have any
13 correspondence.

14 CHAIRMAN MELIUS: Right. So it is
15 3:15. If we can reconvene at 4:30, and we'll
16 start with an update on INL, and then we'll go
17 into the public comment period. So we'll
18 stand adjourned or we're on break until 4:30.

19 (Whereupon, the above-entitled
20 matter went off the record at 3:18 p.m. and
21 resumed at 4:54 p.m.)

22 CHAIRMAN MELIUS: We'll reconvene

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1 the meeting. Welcome back, LaVon.

2 MR. RUTHERFORD: Thank you.

3 CHAIRMAN MELIUS: Glad you're
4 still here, and LaVon will give an update on
5 the -- I know.

6 INL Site Profile Revision Update

7 MR. RUTHERFORD: Alright. I'm
8 going to give a little update on the INL
9 status and Site Profile, what issues we're
10 working on, and when we expect to be complete.
11 For background, SC&A conducted a Site Profile
12 Review, and identified roughly 38 issues from
13 the initial Site Profile.

14 Since that review, some of the
15 documents have been updated. Because they
16 were updated, NIOSH and SC&A both wanted to go
17 back to review the existing or review the
18 issues, to determine if all the issues were
19 still applicable. Of the 38 issues, ten are
20 closed. NIOSH is working on 11 issues. SC&A
21 is reviewing 22 issues, six in conjunction
22 with NIOSH.

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1 Last year, we actually went out to
2 -- out here, and went did a data capture, data
3 review, April, May and June of last year, and
4 identified a number of documents for
5 capturing. We received the last of those
6 documents in April of this year, and ORAU
7 completed loading those documents into the
8 Site Research Database in June.

9 Working on a number, a couple of
10 White Papers to address these issues, or some
11 of the issues that were identified. Working
12 on a White Paper investigation of the NTA film
13 dosimeter limits of detection being used for
14 INL dose reconstruction. We expect that
15 delivery to the Work Group later on this
16 month.

17 In fact, it's under review right
18 now. It's on Tim Taulbee's desk, as soon as
19 he gets back from Alaska, to finish that
20 review. Working on a White Paper on INL
21 Environmental Monitoring. We expect a
22 delivery to the Work Group scheduled for

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1 October of this year.

2 Hot Particle issue, delivery will
3 be late, late this year, and an issue
4 associated with the aircraft nuclear
5 propulsion, and we expect that delivery to the
6 Work Group in late this year. We've also been
7 working on a coworker model. We started
8 working on that in June of last year.

9 It was a large amount of data that
10 was actually -- it was loaded, and we went
11 back to review that data, did some QA work on
12 that data, and in addition, we've been adding
13 data from the April 2013 data capture as well,
14 and we expect to have the QA analysis done on
15 the data in late 2013, late this year.

16 Again as I said, we did some
17 additional data entry as well. The schedule
18 for completing the model will be actually
19 lined out after the data entry and the QA
20 efforts are complete. Once we've done the
21 coworker model, we've completed the coworker
22 model. We've addressed SC&A issues.

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1 The Site Profile will be up --
2 Site Profiles will be updated, and then the
3 Program Evaluation Report will be completed,
4 as necessary. If the Program Evaluation
5 Report identifies that, you know, from the
6 Program Evaluation Report it may identify that
7 claims need to be returned back to us for
8 rework, and we'll contact DOL about that.

9 If issues come up or if issues
10 cannot be resolved, obviously those issues
11 would move, we would move forward with either
12 an 83.14 or something with the SEC process, if
13 issues can't be resolved with some of the
14 issues that were previously identified from
15 SC&A. And that's about it.

16 CHAIRMAN MELIUS: Okay. Questions
17 for LaVon?

18 (No response.)

19 CHAIRMAN MELIUS: So can you go
20 back a slide?

21 MR. RUTHERFORD: Yes.

22 CHAIRMAN MELIUS: Because this is

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1 sort of the speculative part of it. Okay. So
2 the key issue is the development of the
3 coworker model?

4 MR. RUTHERFORD: That is one of
5 the key issues. There are issues that --
6 there are a number of issues that were
7 identified previously from the Site Profile
8 Review. The coworker model is being worked as
9 we go through, but there are other issues that
10 are being resolved as well, and plus SC&A is
11 reviewing previously defined or previously
12 identified issues, to see if they're still
13 applicable as well.

14 CHAIRMAN MELIUS: Okay. What is
15 the internal model cover intended?

16 MR. RUTHERFORD: What do you mean?

17 CHAIRMAN MELIUS: What exposures?

18 MR. RUTHERFORD: Well, it would be
19 exposures from internal releases for the
20 reactors and all the differences.

21 CHAIRMAN MELIUS: Okay. I'm just
22 trying to get a handle on what the Work Group

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1 should be doing. I get concerned that this
2 site is sort of lagging behind, and we're not
3 --

4 MR. RUTHERFORD: I know we have
5 one paper we're close to delivering later this
6 month, and then a few other papers. So I
7 think I don't want to speak for SC&A, but I
8 know they're reviewing issues right now, and
9 would come back with probably a follow-up
10 review of what's still applicable.

11 CHAIRMAN MELIUS: Because if -- I
12 guess what I'm getting at is if we have stuff
13 ready, I think we should start Work Group
14 reviewing and trying to resolve some of these
15 issues if that's appropriate, given what's not
16 completed.

17 MR. STIVER: This is John Stiver.
18 I may be able to fill in a little bit here. I
19 don't know if Steve's on the phone. He had
20 been, he's our lead for INL.

21 We had gotten started on doing
22 this background review of the existing issues,

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1 and we decided to go ahead and just kind of
2 put that on hold until the new information
3 comes out, to avoid having to go back and redo
4 all over again at a slightly later date.

5 That said, I mean if the Work
6 Group would like us to resume that, we could
7 certainly may get started on it.

8 CHAIRMAN MELIUS: Well, I guess my
9 question is, are there issues that are
10 appropriate to review, essentially independent
11 enough of what work has to be completed?

12 MR. STIVER: I guess the reason we
13 didn't want to spend a lot of effort on that
14 was because if things are changed
15 dramatically, then we would have just kind of
16 wasted that effort, and looked at pre-existing
17 information.

18 CHAIRMAN MELIUS: No, I understand
19 that. But I guess I'm hearing that some stuff
20 that NIOSH has completed.

21 MR. RUTHERFORD: Yeah, we're about
22 to complete.

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1 CHAIRMAN MELIUS: About to
2 complete.

3 MR. RUTHERFORD: But we haven't
4 completed yet.

5 CHAIRMAN MELIUS: Okay. So when
6 they complete --

7 MR. STIVER: As soon as LaVon
8 delivers the goods --

9 (Laughter.)

10 CHAIRMAN MELIUS: Okay.

11 MEMBER BEACH: Isn't there like
12 three items? One's getting close and the
13 other two are at the end of the year? Is that
14 what I heard?

15 MR. RUTHERFORD: Yes, yes.

16 CHAIRMAN MELIUS: Yes. What
17 struck me was this coworker model. If we wait
18 until that's completed, it's well a year from
19 now, and I think that's -- and since we're
20 continuing to evaluate some of these coworker
21 issues, I won't say we'll shortcut that, but I
22 think we'll have some better criteria going

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1 forward. Maybe we'll understand what needs to
2 be done there.

3 But I just hate to put off -- I
4 don't think we should be putting off
5 everything until the coworker model is done,
6 because that's, as I said, a full year. If we
7 have stuff done before then. Uh-huh. I mean,
8 yeah.

9 MR. STIVER: We'll go ahead and
10 start doing as the products are ready?

11 CHAIRMAN MELIUS: Yeah.

12 MEMBER GRIFFON: The question I
13 have was with the coworker models, it seems
14 like it's only for the reactor exposures. Are
15 there any considerations of coworkers for CPP,
16 and that's the --

17 MR. RUTHERFORD: Yeah. I think
18 we're still evaluating that.

19 MEMBER GRIFFON: Okay, okay,
20 alright.

21 MEMBER BEACH: Jim, I don't have a
22 Site Profile question, and I'm not sure if

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1 this is totally appropriate, but I'm going to
2 ask it anyway, since LaVon's standing at the
3 mic. Can you give us a little bit of history
4 or background on the site, on the petitions?

5 I know there's been three, and all
6 three of them have not qualified.

7 MR. RUTHERFORD: Right, well and
8 I'll go by memory on those three petitions.
9 One of the petitions was a very broad petition
10 over a large time period, identifying a lack
11 of monitoring data. That petition did not
12 qualify because they could not narrow it down
13 because we had monitoring data and we didn't
14 see it.

15 At that time, we did not see the
16 gaps or anything that would have supported
17 qualification. We had another petition that
18 was -- that did not qualify, because it -- I
19 don't know if they, and I'm trying to remember
20 the exact part of it.

21 But it was, they had
22 administrative problems. I remember what it

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1 was. They weren't an eligible person to even
2 petition for it. They were an outside entity
3 trying to petition. I can't remember what the
4 third one. I know there was a third one, but
5 I can't remember what one was for.

6 I guess we have not had, you know,
7 and you know, when we work through these
8 issues, there definitely could be situations
9 that will come up that we identify in
10 feasibilities when we move forward with an
11 83.14.

12 CHAIRMAN MELIUS: Phil, maybe we
13 could -- I thought at one point we had talked
14 about doing a scheduling Work Group call, and
15 then we sort of dropped it, because I think
16 the schedule wasn't certain and so forth?

17 MEMBER SCHOFIELD: Yeah. I mean I
18 would be more than happy if you think there
19 would be some stuff, maybe to have a Work
20 Group in early November.

21 CHAIRMAN MELIUS: Yeah. But what
22 I think first is maybe a Work Group call, just

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1 a short one, just to make sure we're all
2 understanding where we are and what the plan
3 is for -- well, as best we can. I mean you
4 know, things change and there's contingencies
5 and so forth.

6 But I think it would be helpful,
7 so that we're not -- it seems to me that we
8 start falling into a trap. Every time we're
9 saying well, it's going to take waiting for
10 the Site Profile to be complete, and it's just
11 taking a long time. I think we should be
12 making, trying to make some progress --

13 MEMBER SCHOFIELD: I agree with
14 you.

15 CHAIRMAN MELIUS: Yeah, yeah. To
16 do that, good.

17 MR. HINNEFELD: If I could just
18 offer something here, something I think for
19 all the Work Groups to keep in mind is if we
20 meet on Live Meeting, you know, rather than
21 meeting in person, there's no need to have
22 eight hours' worth of things to discuss. You

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1 know, we could have a Live Meeting for one
2 topic. You get one paper, you could have
3 that.

4 CHAIRMAN MELIUS: Yeah.

5 MR. HINNEFELD: So if you could
6 have more frequent shorter meetings online,
7 then you don't feel obliged to meet for a full
8 day when people travel.

9 CHAIRMAN MELIUS: Yeah.

10 MEMBER SCHOFIELD: This is a
11 question for Ted on those Live Meetings. If
12 we try and schedule those, do you guys have to
13 go on the *Federal Register* notice?

14 MR. KATZ: Work Group meetings
15 don't go in the *Federal Register* anyway.

16 MEMBER SCHOFIELD: Okay.

17 CHAIRMAN MELIUS: Yeah, I mean --
18 yeah. So and certainly with Hanford and
19 others, we've done even short of live
20 meetings, you know. Phone conversations of
21 one or two hours can cover a lot of territory
22 and are easier to do, and I mean I'm a Member

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1 of the Work Group with you, Phil, so it's --

2 MEMBER SCHOFIELD: Well, it's also

3 --

4 CHAIRMAN MELIUS: Up until this
5 point, I was waiting also, and then I see the
6 schedule and I think we're, you know.

7 MEMBER SCHOFIELD: No.

8 Unfortunately, I mean you're correct. We
9 haven't done much on Idaho in a long time, and
10 then we've got some others like Pinellas and
11 stuff. We might be able to just finish that
12 one up. But that actually happened to have
13 face to face. I mean it's just some of these,
14 that's not that much work left.

15 CHAIRMAN MELIUS: Any other
16 questions for LaVon? Again, a reminder for
17 people on the phone, please mute your phones,
18 *6. Yeah, yeah. I think so too, they can do
19 that.

20 Public Comment

21 CHAIRMAN MELIUS: Okay. We will
22 now open for a public comment period, and we

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1 have a number of people signed up, some here
2 in person, and some on the phone. I'm going
3 to sort of go in a little order, in terms of
4 people that are here. I will start with
5 those, and then go on the phone and go from
6 there and do that.

7 The first person I have signed up
8 who's here is Joan Stewart. I knew I saw you
9 here some place.

10 MS. STEWART: My name is Joan
11 Stewart.

12 CHAIRMAN MELIUS: Do you need to
13 do your intro?

14 MS. STEWART: Good evening.

15 CHAIRMAN MELIUS: Hang on a
16 second. Ted has --

17 MR. KATZ: Just a quick note I
18 should have said before we started this. But
19 you probably realize it, because I think
20 you've been here before. But public
21 commenters, everything that you say gets
22 transcribed, ends up in the transcript for the

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1 public. If you say anything personal, that
2 too will be there.

3 But if you speak about personal
4 matters of other individuals, those things,
5 their privacy will be protected. So their
6 information will be redacted sufficiently to
7 protect their identity. So if you talk about
8 other people.

9 MS. STEWART: Okay, because I do
10 have one name to mention.

11 MR. KATZ: Yeah. I'm not
12 preventing you from mentioning the name. I'm
13 just saying that when we publish the
14 transcript for this, their name will be
15 redacted, for example.

16 So just to be aware of that, and
17 that's to protect their privacy. Even though
18 you may, they may tell you it's fine to talk
19 about me, so it's still required. So I mean
20 that's the short of the whole policy.

21 There's lots of details to it, and
22 it should be on the back table there for

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1 people that are here in the room, and it's
2 also on -- for people who are listening by
3 phone, it's also on the website under the
4 Board section at the top part. It talks about
5 a Redaction Policy, and that's what I'm
6 speaking to here. Okay, thank you.

7 CHAIRMAN MELIUS: Okay. Sorry for
8 the interruption. Go ahead.

9 MS. STEWART: No problem. Hi,
10 good evening. My name's Joan Stewart. Prior
11 to being the senior-most radiological control
12 technologist, technical supervisor at Rocky
13 Flats, I was a union steward. I was the union
14 steward that filed the 1987 grievance and
15 safety concern over dosimetry at Rocky Flats,
16 changing doses that were high into "no data
17 available."

18 The aggrieved was, may I say it,
19 [Identifying information redacted]. We went
20 through three steps in our grievance process.
21 During those three steps, it was noted by
22 dosimetry that they had been doing this for

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1 years, changing doses to "no data available."
2 Generally, these were high doses. They were
3 written down in pencil, and they were
4 adjusted.

5 This came to the union's attention
6 when [Identifying information redacted] had
7 injured her knee at Rocky Flats, and was
8 assigned up to dosimetry for a period of time,
9 because she couldn't work the metallurgical
10 operator. She was willing and able to provide
11 us with proof that this was going on.

12 During the third step, second and
13 third step, they admitted to not only doing
14 this for years, but they said if they changed
15 it, they would have to start pulling people
16 out of the area. Hence the creation of the
17 100 Millirem Club.

18 DOE should have copies of, I don't
19 know who the DOE person would be here. DOE
20 should have copies of all safety concerns and
21 grievances that were filed and their adjunct
22 answers. As far as I know, all data was

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1 turned over to them. The union did destroy
2 their copies. I have a copy at home some
3 place I can possibly come by.

4 Now we have another question that
5 has arisen on the laboratories, to include
6 dosimetry. In the 90's, there was a DOE
7 accreditation program called laboratory
8 accreditation program. I don't know if you're
9 -- it was through DOE. Rocky Flats did not
10 qualify.

11 It caused quite the uproar at
12 Rocky Flats. They had to readjust a lot of
13 their procedures, because they were so far out
14 of qualification. They couldn't even be
15 certified. So you might want to look that up.
16 That was, I believe, a Tiger Team, part of the
17 Tiger Team report. So are there any
18 questions?

19 CHAIRMAN MELIUS: Any questions
20 for Joan? Yes, Dave. Dave, please use your
21 microphone.

22 MS. STEWART: I apologize.

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1 MEMBER KOTELCHUCK: What do you
2 mean by 100 Millirem Club?

3 MS. STEWART: There was a thing
4 called an 100 Millirem Club. It was whether
5 or not you were pulled out. They pulled the
6 people out of the area if they had achieved
7 100 millirem in any given quarter.

8 That was started slightly about
9 1989, I would say. It took a little while to
10 resolve the grievance and the safety concern.
11 Now I have heard that there's some talk on
12 tritium in '76. We had a gettering system in
13 '76. We had tritium bubblers in '76, and
14 there were times when monitors would change --
15 of course monitors or RCTs, as you well know,
16 would change out the tritium bubblers.

17 Sometimes you would have bubblers
18 that were dry, and they were not sampling
19 anything. So you may have times in your data
20 that you will find that they couldn't get a
21 reading on anything, because it wasn't
22 pertinent, because they didn't have any

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1 distilled water into the sampler. So if you
2 come by that.

3 But overall, on the dosimetry
4 practices, it appears as if you're working
5 with some very skewed statistics on this,
6 because your data set is off. Thank you.

7 CHAIRMAN MELIUS: Okay, thank you.
8 The next person I have signed up is Mark
9 Nelson.

10 MR. NELSON: Hi. I'm Mark Nelson.
11 I spent my career at the INL here in Idaho,
12 and I don't have all the details that Joan
13 had. However, I do have some questions and an
14 observation. I'll give you the observation
15 first so I don't forget it, is it looks to me
16 like this whole mess is just going to stall
17 until all of us die and it's no, never mind.

18 I started at the INL in November
19 of 1977 with a subcontractor called Chem
20 Nuclear. I did my orientation the Monday
21 before Thanksgiving. By the 15th of December,
22 I was exceeding 2,800 mR. So I couldn't enter

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1 an area until the 1st of the year. Then I
2 hired on with -- I'm getting all -- anyway,
3 with the contractor.

4 I worked at the ICPP, and every
5 year for the next five years working for them,
6 by October I couldn't enter any hot areas
7 because of the amount of radiation factor I
8 got. Now I really didn't pay a whole lot of
9 attention to it, because I'm not that kind of
10 guy.

11 But I got to thinking about it
12 after I heard about this meeting just
13 yesterday. I got to thinking about it, and my
14 lifetime dose at the INL shows up at 10,000.
15 I'm kind of wondering where the extra, because
16 I was right at three for six years, 3,000 a
17 year. I'm kind of wondering where the others
18 went, kind of like Joan.

19 I'm here not primarily for myself,
20 but for those who really ended up being in
21 poor health because of their dedication to
22 their country and their job, and I'm kind of

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1 concerned that in my application I had
2 prostate cancer, and the reason that I was
3 turned down is because cadmium, exposure to
4 cadmium is not carcinogenic.

5 Yet every safety training I've
6 ever been to says stay of cadmium because it's
7 carcinogenic. I'm a little concerned about
8 the discrepancy there. I didn't quite catch
9 everything about that 100 mR Club. But when I
10 was not old at the site, we didn't consider it
11 worth our time to go in a hot area if we
12 didn't pick up 100.

13 Since I'm one who doesn't really
14 know what to do if it's not really hot. I am
15 not the only one who exceeded 2,500 to 3,000
16 every year for six to seven years, and yet it
17 does not show up on any of our records gross.
18 That's pretty much it.

19 MEMBER SCHOFIELD: Can I ask you
20 one question?

21 MR. NELSON: Yes.

22 MEMBER SCHOFIELD: As you

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1 approached the administrative limit, which I
2 assume was 5R for the year.

3 MR. NELSON: Yeah.

4 MEMBER SCHOFIELD: Did they pull
5 you out of the area, and when they pulled you
6 out of the area, was it documented, or was
7 that just you were moved to another area?

8 MR. NELSON: Actually, they didn't
9 pull me out of an area. I just couldn't go
10 into hot areas. I could still go in and
11 operate in the operating corridor at 601 at
12 ICPP, but I couldn't go in the corridor and
13 pull samples, because the samples run 50 to
14 60R.

15 So I couldn't get those because I
16 would get more. I couldn't go in and decon
17 the cells. So I was not really pulled out of
18 my area. I was still able to operate, but I
19 was not able to do any decon or sampling or
20 those types of activities. So there was no
21 need for documentation. I was still working.

22 MEMBER SCHOFIELD: Okay, thanks.

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1 CHAIRMAN MELIUS: Thank you.

2 MR. NELSON: You bet.

3 CHAIRMAN MELIUS: I'm going to go
4 to the phone now, and the first person I have
5 signed up on the phone is Chris Barker. Is
6 Chris Barker on the phone?

7 (No response.)

8 CHAIRMAN MELIUS: Okay.
9 [Identifying information redacted]?

10 MR. KATZ: You have to remind them
11 to press *6.

12 CHAIRMAN MELIUS: If you may have
13 it muted. Is [Identifying information
14 redacted] or Chris Barker on the phone? If
15 you have your line muted, hit *6 to unmute.

16 (No response.)

17 CHAIRMAN MELIUS: How about
18 Stephanie Carroll. Yeah. They have you
19 signed down as phone. I couldn't figure out
20 --

21 (Off mic comments.)

22 CHAIRMAN MELIUS: Again, Chris

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1 Barker, [Identifying information redacted] on
2 the phone?

3 (No response.)

4 CHAIRMAN MELIUS: Okay. We'll
5 come back in a few minutes then. Stephanie
6 Carroll can go.

7 MS. CARROLL: Okay. First, I'd
8 like to thank the Board for allowing me to
9 speak on some issues and concerns that I have
10 on the ability of NIOSH to reconstruct dose.
11 I'm an advocate for Rocky Flats workers
12 regarding application for compensation under
13 EEOICPA.

14 I therefore have access to many
15 DOE documents from the site and from personal
16 archives of the Rocky Flats workers. First, I
17 would like to address the destruction and
18 falsification of records. A document being
19 presented by the petitioner, Terrie, refers to
20 a DOE memo dated April 25th, 1996, issuing a
21 moratorium on the destruction of records at
22 the site, and including the Denver Federal

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1 Center.

2 This memo reinforces a sworn
3 affidavit presented at the last meeting in
4 Denver by a worker that admitted to being
5 ordered to destroy records herself. She
6 doesn't have a SEC claim and I believe that
7 this memo should solidify her sworn affidavit.

8 [Identifying information
9 redacted], a well-respected operations manager
10 at Rocky Flats, Building 771, swore in an
11 affidavit that he changed, my words
12 "falsified," an incident report at the
13 direction of his supervisor, to ensure that
14 the cost was set to a level that would not
15 have to be reported to DOE. If you'd like,
16 you should maybe review that affidavit that
17 [Identifying information redacted] swore to.

18 He's also used by NIOSH as
19 somewhat of a site expert. He does have an
20 SEC claim either, so he has no financial gain
21 from his passing.

22 OPERATOR: The conference is now

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1 in talk mode.

2 MS. CARROLL: Next, I would also
3 like to address the thorium issue. I spoke to
4 a former RCT this week that relayed
5 information to me concerning thorium. He said
6 that he surveyed the upstairs area of 444 by
7 keeping down the center aisle while thorium
8 ingots were displayed on what he referred to
9 as "wine racks."

10 I spoke to another RCT today
11 actually, who said that they remembered the
12 term "wine racks" being used in 444. I also
13 have a question about thorium. After the
14 thorium was removed from U-233 during thorium
15 strikes, what happened to it? Was it
16 processed and reclaimed? Was it treated as
17 waste? Where did it go?

18 Another question. Rocky Flats did
19 not record dose to the lens of the eye until
20 the mid-90's. How is NIOSH assigning dose to
21 the lens of the eye now for claimants with
22 brain tumors?

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1 Another question I have or concern
2 is about radon, and I've brought this up
3 before. But why was radon considered in
4 Mound's petition and not ours? Buildings that
5 were underground were located underground at
6 Rocky Flats as a requirement of the processes
7 performed on the site.

8 I do not believe that this is a
9 natural environmental exposure. Workers were
10 required to work underground. After
11 interviewing many workers, I learned that all
12 short-lived isotopes were assumed to be radon
13 and discounted. In my research, I learned
14 that the most harmful effects to uranium
15 workers are the effects of the short-lived
16 isotopes, which were ignored on site.

17 I have documentation on short-
18 lived, on an incident where a short-lived
19 isotope was found on the worker's hands and a
20 broom in Room 996, Building 991, and not found
21 on the walls or the floor, mind you.

22 It was ignored, and put into the

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1 category of radon. This incident was not
2 taken into account in the dose reconstruction,
3 because it was assumed to be radon. So this
4 man never got any incidence recorded in his
5 dose reconstruction.

6 This assumption is not backed up
7 by scientific evidence. Were all short-lived
8 isotopes ignored because PU and uranium were
9 the elements of concern? Background in all
10 the documents I've seen, background
11 continuously changes, depending on what room
12 you're in, and it seems to always be slightly
13 higher than the actual count taken on the
14 worker.

15 What is the definition of
16 background, and I also wanted to ask about if
17 the workers were not paying attention to
18 short-lived isotopes and actually any other
19 isotopes besides uranium and plutonium, what
20 about the exotic radionuclides? Who was
21 paying attention to those? That's what I need
22 to know.

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1 And well, that's all I have. But
2 I would like to thank Terrie Barrie, who has
3 tirelessly dedicated herself to the Rocky
4 Flats workers, to their families, to truth and
5 justice, and I just want to say she is our
6 hero. So thank you very much.

7 CHAIRMAN MELIUS: Well, thank you.
8 I think we have the phone issue taken care of,
9 sorted out. So Chris Barker, are you on the
10 line?

11 MR. BARKER: Yeah. Are you asking
12 for me? This is Chris Barker. Can you hear
13 me?

14 CHAIRMAN MELIUS: Yes, we can now.
15 Thanks, good, and we apologize. It does get
16 confusing with these phone systems, so but go
17 ahead. We can hear you now.

18 MR. BARKER: Great, thank you.
19 Chairman Melius and ladies and gentlemen of
20 the Committee, thank you for the opportunity
21 to speak today. Just so you know, I have a
22 little chest cold, so I may pause briefly and

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1 go on mute, because I have to cough. So my
2 apologies.

3 I'm Chris Barker. I have a Ph.D.
4 in biostatistics from the Graduate School of
5 Public Health. I am a consultant and I have
6 an appointment as an adjunct associate
7 professor of biostatistics. I am providing
8 comments today on behalf of an individual, who
9 I will refer to as the claimant.

10 The claimant was denied
11 compensation for multiple cancers caused by
12 exposure to plutonium after working at Rocky
13 Flats. The claimant requested that I review
14 the decision and the methodology for the
15 determination of Probability of Causation.

16 At the claimant's request, I
17 reviewed over 1,000 pages of NIOSH
18 documentation for dose reconstruction and
19 assigned share. I documented and assembled
20 106 pages of material errors, questions,
21 concerns, objections, false statements,
22 admissions gaps, factual mistakes, circular

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1 logic, calculation errors, inconsistency and
2 false and misleading claims in the NIOSH
3 documentation, and the use of the NIOSH
4 assigned share, the NIOSH models and processes
5 and procedures, based on the documentation
6 that was publicly available.

7 Furthermore, I requested that
8 NIOSH provide several additional pieces of
9 information about the claimant's dose
10 reconstruction and other details about the
11 calculation. I stated in the 106 page
12 document that upon receipt of the requested
13 materials, I may have additional comments
14 about their processes and procedures and
15 software.

16 The clamant forwarded 106 pages of
17 my document with the 1,000 pages of document
18 that I had reviewed to the appropriate NIOSH
19 office. Recognizing my time is limited, I
20 will highlight only a few of the errors from
21 the 106 pages of errors and calculation errors
22 and misstatements and false claims that I

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1 found.

2 When I discovered, for example, in
3 NIOSH documentation that they're talking about
4 Probability of Causation, I'll discuss that in
5 a little bit. The full, as I say, full 106-
6 page document and the 1,000 pages of
7 additional materials have been forwarded to
8 NIOSH earlier for review, and I have a
9 colleague at the meeting there who has, can
10 make additional copies available to the
11 Committee as needed.

12 The issues underlying the
13 calculations used by the NIOSH models involve
14 matters of life and death. I am an expert in
15 the statistical methods that are appropriate
16 for the correct cross-analysis of data arising
17 in these circumstances.

18 What remains inexplicable is
19 although we submitted these documents, this
20 106 pages plus the 1,000 pages of
21 documentation months ago to NIOSH, we have
22 never received any reply about the comments

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1 and questions and concerns that I had raised.

2 So because of the errors in the
3 documentation, I have not been able to
4 replicate the calculations of the assigned
5 share or the dose reconstruction. As we're
6 all aware, a replication of a result,
7 particularly a calculation, is a fundamental
8 principle of science, because part of my
9 consulting work involves pharmaceutical drug
10 development for life-threatening illnesses, I
11 prepare work that is forwarded to the Food and
12 Drug Administration and other regulatory
13 agencies, and I can assure you that no part of
14 the documentation of procedures would ever be
15 accepted by a regulatory agency anywhere in
16 the world.

17 So I want to refer you to the 106-
18 page detailed document, which can be provided,
19 and I'm only going to highlight a few of the
20 errors that I found. The first is that the
21 NIOSH IREP model, which does not incorporate
22 all the uncertainties in the dose

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1 reconstruction process, nor the uncertainties
2 in relating dose reconstruction to so-called
3 probabilities of cancer.

4 I enumerated those uncertainties
5 that are not incorporated in the 106-page
6 document. Just to give you a sense, those
7 uncertainties relate to handling of missing
8 dose information, statistical distributions
9 used and uncertainties about parameters, means
10 and standard deviations that were assumed in
11 the IREP.

12 The IREP performance were
13 statistical Type 1 and Type 2 errors. In
14 other words, falsely detecting a relationship
15 of the radiation and cancer or erroneously
16 ignoring the relation of radiation dose and
17 cancer when it exists are unknown. These are
18 things that would easily be obtained from an
19 appropriate statistical analysis.

20 The NIOSH IREP claim of 90 percent
21 uncertainty integrals is misleading because
22 all the uncertainties are not included. Many

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1 NIOSH documents and letters to the claimant
2 refer to Probability of Causation.

3 The calculation performed by the
4 program IREP of assigned share is not a
5 probability of any kind whatsoever. It has no
6 probabilistic interpretation. Any use of the
7 term "Probability of Causation" is a false and
8 misleading term.

9 The NIOSH assigned share is not a
10 probability. They do not indicate causality
11 of any kind. The numerous statistical methods
12 that address causality, I worked with methods
13 for establishing causality for relations such
14 as this every day.

15 These methods have been available
16 in statistical and other literature since R.A.
17 Fisher considered the father of statistics,
18 developed these procedures in the 1930's, and
19 since Reverend Bayes developed methodologies
20 back in the 1700's for establishing causality.

21 I documented specific errors in
22 Excel and comma separated files that the

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1 claimant was told were used as inputs to the
2 IREP software.

3 (Interruption.)

4 CHAIRMAN MELIUS: Chris Barker,
5 are you on the line?

6 (No response.)

7 After we got interrupted.
8 [Identifying information redacted], are you on
9 the line? Okay. Terrie? I know. That's what
10 I'm going to do. So Terrie, do you want to
11 read [Identifying information redacted]
12 comments, [Identifying information redacted],
13 yeah.

14 MS. BARRIE: And I do have Chris'
15 comments. He was almost through, and I'd be
16 happy to make copies of whole presentation.

17 CHAIRMAN MELIUS: That would be --
18 that would be, yeah.

19 MS. BARRIE: Okay, and this was
20 from --

21 CHAIRMAN MELIUS: And we'll make
22 copies for you.

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1 MS. BARRIE: Okay. This is public
2 comments from [Identifying information
3 redacted] from EECAP. She's been involved
4 with the Mound SEC petition, and she says, and
5 this is her quotes, "First, I'd like to thank
6 Dr. Melius and the Board for allowing me at
7 this time to speak. I wasn't able to attend
8 this meeting, but I have tried to listen into
9 it, which given the sound quality has been a
10 real chore at times.

11 "I appreciate that Stu Hinnefeld
12 discussed some of the problems that turned up
13 in the FOIA request from 2001, which I
14 received a few months ago.

15 "I couldn't hear clearly, but it
16 sounded like he and Dr. Melius discussed that
17 NIOSH was looking at problems with the
18 conflict of interest policies, problems with
19 undermining the Mound Class Definition for the
20 1959 to 1980 SEC, and problems with NIOSH
21 employees withholding information from the
22 Board, as well as disparaging remarks made

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1 among NIOSH employees about Board Members who
2 deigned to ask them questions.

3 "After waiting over two years,
4 NIOSH finally provided me with their emails
5 from their employees on the Mound SEC radon
6 issue. I want to point out that this FOIA was
7 not sent to me until after the Mound SEC was
8 already closed. But whether this was done
9 purposely or not, I do not know.

10 "I was frankly shocked by these
11 emails that showed NIOSH running roughshod
12 over the Board; rather than being led by the
13 Board; NIOSH employees writing dismissive and
14 disrespectful emails about the Board Members,
15 SC&A and DOL; NIOSH withholding evidence from
16 the Board and DOL for almost a year; NIOSH
17 employees' bias directing the Class
18 Definition, rather than the Board defining the
19 Class; NIOSH employees making assumptions on
20 how things were done at Mound, rather than
21 doing the research in the DOE documents to see
22 what was actually done, and then ignoring the

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1 research and documentation after EECAP sent it
2 to them.

3 "NIOSH defining the SEC Class
4 base; the ignoring of the exposures to thoron
5 and actinon and the incorrect assumption that
6 no workers without bioassay had been exposed
7 to radon; blatant disregard to conflict of
8 interest laws; and in many instances the lead
9 NIOSH employee soliciting information from a
10 conflicted NIOSH employee.

11 "If you wish to see the documents
12 for these claims, you can find it at the EECAP
13 website. These actions raise serious
14 questions that I think need to be investigated
15 for all sites, not just Mound. What allowed
16 this kind of behavior to occur and go on for
17 years? Is part of the problem the culture at
18 NIOSH?

19 "What allowed NIOSH to blatantly
20 abuse the conflict of interest laws? Why is
21 NIOSH running the Board rather than the Board
22 monitoring NIOSH? The 1959 to 1980 Mound SEC

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1 needs to be reopened, and all employees need
2 to be included. In fact, this is what NIOSH
3 said that would be done on February 11th,
4 2011.

5 "The process was begun, because
6 they realized that they had made an incorrect
7 assumption that all workers in the R and SW
8 Buildings had been bioassayed. The NIOSH
9 employee who caused this mess then said he had
10 'forgotten,'" that's in quotes, "about the
11 cold side of the building, where no one had
12 been monitored.

13 "A week later, NIOSH reversed its
14 decision after talking to Ted and the OGC. I'd
15 like to tell you more about this discussion,
16 but that email was not provided to me. What
17 did Ted and the OGC say that overrode the
18 science that is supposed to drive the SEC
19 process? I don't know, but I hope the Mound
20 Work Group will find out.

21 "After seeing how damaging the
22 pages were that were released to me, I am very

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1 curious to know what was withheld from the
2 FOIA release. A total of 641 pages were
3 withheld, 393 under Exemption 5 and 248 under
4 Exemption 6.

5 "I would encourage the Board Mound
6 Work Group or SC&A to examine these pages, to
7 make sure they contain no additional illegal
8 or unethical behavior. I have no power to do
9 this, but you do. [Identifying information
10 redacted] sent ANWAG a quote from the law, 18
11 U.S.C. 1001(a)(1), (2), (3), that indicates
12 NIOSH's actions, as documented by these
13 emails, could lead to criminal charges being
14 filed.

15 "That statute states 'Except as
16 otherwise provided in this section, whoever in
17 any matter within the jurisdiction of the
18 executive, legislative or judicial branch of
19 the government of the United States knowingly
20 and willfully (1) falsifies, conceals or
21 covers up by any trick, scheme or device, a
22 material fact; (2) makes any materially false,

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1 fictitious or fraudulent statement or
2 representation; or (3) makes the use of false
3 writing or document, knowing the same to
4 contain any materially false, fictitious or
5 fraudulent statement or entry, shall be fined
6 under this title and imprisoned to not more
7 than five years.'

8 "While the workers were not the
9 only ones harmed by NIOSH employees'
10 misbehavior, they were the ones who paid the
11 cost of loss of benefits and medical care
12 because of it. The damage done to the workers
13 is the reason for this program. They were
14 already betrayed once by their government. A
15 second governmental betrayal is really beyond
16 the pale.

17 "I thank the Board for their
18 attention to this serious matter, and would
19 appreciate if I could be informed, as
20 appropriate, on what is being done. Please
21 let me know if I can help in any way. Thank
22 you," from [Identifying information redacted].

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1 CHAIRMAN MELIUS: And we've
2 already -- but Terrie, did you have public
3 comments to make separately? You signed up. I
4 didn't --

5 MS. BARRIE: Yes, I did, and it's
6 just really a minor one.

7 CHAIRMAN MELIUS: Go ahead.

8 MS. BARRIE: I would like to ask
9 the Board's reconsideration of the time limit
10 for SEC petitioners' presentations. I fully
11 agree with the time limit. I have been at
12 meetings where, you know, people tend to go on
13 and on.

14 But having a ten minute limit for
15 petitioners, especially ones who are preparing
16 PowerPoint presentations, it's really tough to
17 convey the information we want to convey to
18 the Board. So I was thinking that perhaps we,
19 the Board could go on an individual basis, to
20 see, check with the petitioner, how much time
21 do you think you need?

22 That's too much, try to, you know,

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1 cut it down to X amount, and that way we can
2 prepare, in a timely, you know, within the
3 time line and still get the information
4 across. Thank you.

5 CHAIRMAN MELIUS: Thank you. Does
6 anybody else on the line or in the audience
7 wish to make public comments?

8 (No response.)

9 CHAIRMAN MELIUS: If not, we're
10 adjourned. Thank you everybody. We'll see
11 you, everybody, the Board here tomorrow
12 morning.

13 (Whereupon, at 5:44 p.m., the
14 meeting was recessed, to reconvene on
15 Wednesday, July 17, 2013 at 8:15 a.m.)

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