

UNITED STATES OF AMERICA
CENTERS FOR DISEASE CONTROL

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NATIONAL INSTITUTE FOR OCCUPATIONAL
SAFETY AND HEALTH

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ADVISORY BOARD ON RADIATION AND
WORKER HEALTH

+ + + + +

79th MEETING

+ + + + +

WEDNESDAY
AUGUST 24, 2011

+ + + + +

The meeting convened at 8:30 a.m., Pacific Daylight Time, in the Courtyard Marriott, 480 Columbia Point, Richland, Washington, James M. Melius, Chairman, presiding.

PRESENT:

JAMES M. MELIUS, Chairman
HENRY ANDERSON, Member
JOSIE BEACH, Member
BRADLEY P. CLAWSON, Member
R. WILLIAM FIELD, Member
MARK GRIFFON, Member
RICHARD LEMEN, Member
WANDA I. MUNN, Member
JOHN W. POSTON, SR., Member

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PRESENT: (continued)

DAVID B. RICHARDSON, Member
GENEVIEVE S. ROESSLER, Member
PHILLIP SCHOFIELD, 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 8:30 a.m.

3 CHAIRMAN MELIUS: Good morning,
4 everybody. Welcome to the second day of our
5 meeting. And, Ted, you want to?

6 MR. KATZ: Sure. Welcome,
7 everybody here and on the line. Let me first
8 check on the line and see if we have either of
9 two absent Board Members. Mr. Presley, Bob,
10 or Mike Gibson? Are any of you on the line
11 with us yet? Okay.

12 They're both on the East Coast,
13 which makes it earlier there.

14 MEMBER ZIEMER: Later.

15 (Laughter.)

16 MR. KATZ: Obviously they're on
17 the East Coast. All right from there, from
18 that blunder. So yesterday morning we had
19 some difficulty with the equipment here and
20 had to change it out and folks on the phone we
21 apologize to you. I think many of you know
22 that we had equipment problems that you

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1 couldn't hear and then you probably know that
2 we got it fixed yesterday afternoon for the
3 afternoon. But in any event I just wanted to
4 let you all know that all the presentations
5 that were given yesterday should be up on the
6 website, on the NIOSH website so you can read
7 what was presented at least. And you know, in
8 45 days or so we'll have transcripts for that
9 and you can read it if you missed yesterday
10 morning.

11 There's a public comment session
12 this afternoon starting at 5:00 immediately
13 following the Hanford Work Group update. So
14 we welcome you all to come to that and
15 participate. Also, let's see. Oh, for Board
16 Members, I've emailed all of you. We have
17 presentation material for the Pantex petition.

18 We sent it in yesterday and I've distributed
19 it to all of you by email. I also have some
20 hard copies so let me know if you want a hard
21 copy instead of reading it on your computer.
22 But you'll have that before tomorrow. And

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1 just last I would just ask everyone on the
2 line please mute your phones while you're
3 listening except when you address the group.
4 If you don't have a mute button, then *6 and
5 then pressing *6 again will take you off of
6 mute. And it's your turn.

7 MEMBER ANDERSON: Is the Hooker
8 petitioner on?

9 MS. GIRARDO: Yes.

10 CHAIRMAN MELIUS: Okay and our
11 first presentation this morning will be on
12 Hooker Electrochemical SEC petition. And
13 Henry?

14 MEMBER ANDERSON: You all should
15 have received on the flash drive and earlier
16 as well all the documents that we reviewed as
17 well as the process that we used. So I'm
18 going to quickly go through to update some of
19 you on the site and the activities that we
20 performed. Hooker Electrochemical was an AWE
21 facility from approximately 1943 to 1948 with
22 a residual -- with a residual period through

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1 1976. And they primarily produced non-
2 radioactive chemicals at the plant, WMED, and
3 the issue that we're addressing is a
4 concentrated uranium-contaminated magnesium
5 fluoride slag using hydrochloric acid that
6 they had that was a waste from the P-45
7 process. So it was an efficient way to
8 utilize the existing materials and a limited-
9 activity processing, the slag material.

10 A special building was constructed
11 to perform the concentrating operation and the
12 building was completed on July 11th, 1944.
13 And most of the slag handling was conducted
14 outdoors. The P-45 operations ended January
15 15th, 1946. The concentration of incoming
16 materials was about 0.2 percent uranium by
17 mass. Material was concentrated when it was
18 returned or moved into the processing
19 facilities elsewhere with a concentration of 1
20 to 2 percent. I think it was about, what was
21 it, 500 tons a week, something like that that
22 they were processing, so a fair amount of

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1 material did come in and pass through the
2 processing.

3 The petition overview. A petition
4 was first submitted on March 6th focusing on
5 the furnace room. That was not qualified for
6 evaluation. The petitioner then was worked
7 with and revised their proposed Class, sent
8 that back in on September 26th. That Class
9 was qualified for evaluation October 16th,
10 2009, and then an Evaluation Report that will
11 be referred to as an ER but it's always hard
12 to remember what all these terms stand for so
13 ER is an Evaluation Report. It was issued on
14 May 3rd. It was then discussed and sent to
15 SC&A, the ER for review in January. The
16 Hooker TBD from April 2011 was revised again
17 in June and then there were several papers
18 that were developed by David Allen looking at
19 the review document that -- or responding to
20 the SC&A review document. Our Work Group also
21 you may recall during this period of time
22 there was the 6001 was disbanded or the

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1 documentation for that and each of the
2 appendices were then moved to be their own
3 TBD. And so that's partly what the revision
4 was and that cleared up a number of issues
5 that our committee raised when that change was
6 made and the proposal parts of 6001 were no
7 longer applicable.

8 We specifically asked that a White
9 Paper be developed by NIOSH relating to
10 surrogate data following our -- the criteria
11 that we use. And I would say we have two
12 really critical documents that we relied upon.

13 The first is the paper there on the surrogate
14 data evaluation going through the Board's set
15 of criteria. And then we asked SC&A to review
16 that and comment on that document and tighten
17 it up. And I think it probably represents a
18 nice summary, those two documents, of the use
19 of surrogate data and the justification for it
20 for this particular site.

21 The basis for the petition and
22 concerns was unmonitored workers. The

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1 outdoors that carried the slag to the digest
2 tanks and then the waste HCL was added to that
3 and diluted to a pH of 4. Tanks were then
4 agitated to dissolve the fluoride and then the
5 liquid was decanted off and the slurry was
6 then neutralized and then, not put into a
7 filter, but a filter press. And then that
8 material was re-barreled. At the front end of
9 the operation, when the barrels were dumped,
10 it went onto a conveyor that was sorted by
11 size and so the larger pieces that came out of
12 the barrels were then re-barreled right away
13 and sent on. So it was only the finer
14 materials that were put through the process to
15 be dissolved and then filtered.

16 The internal exposure monitoring
17 was based on air samples at three facilities
18 that handled C-2 slag identical to the process
19 and the slag that came into Hooker. That was
20 the three facilities used was Electromet,
21 Fernald and Mallinckrodt. And again this was
22 just looking specifically in those facilities

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1 for the data related to the emptying or
2 loading of barrels, the same type of labor,
3 mostly shuttling materials though the
4 processes were very similar. Then in the
5 process the proposal was to use the 95th
6 percentile of air sampling results and then
7 more than 70 percent of air samples are BZ.
8 And the residual period
9 deposition/resuspension model used -- you can
10 see the suspension factor there and then no
11 source-term decay.

12 One of the issues that we looked
13 at is of course mentioned here on the top that
14 we chose Electromet, Fernald and Mallinckrodt.

15 There were a number of, or I would say a
16 larger set of samples that were available from
17 there but NIOSH and subsequently SC&A went
18 through those to pick out those that were most
19 relevant to this type of operation. That
20 meant that the total number of samples
21 decreased and so the 95 percent result value
22 there is based upon using 18 samples from

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1 those facilities. And SC&A looked through the
2 same data set, selected a somewhat different
3 set of samples and came out with very similar
4 percentile distribution results, somewhat
5 lower than what NIOSH used.

6 So, exposure to workers handling
7 slag and wooden barrels was then based on the
8 MCNPX calculations, a modeling exercise.
9 Exposure to workers from surface contamination
10 based on the MCNP calculations of the dust
11 settling and the 95 percentile air
12 concentrations. And then external dose rates
13 for the residual period were the same as for
14 the operating period.

15 So the initial review followed our
16 process that we had of putting together a
17 matrix looking at what SC&A comments and
18 suggestions that they had. We had 10 findings
19 and three observations. We went through those
20 in two meetings and came to a satisfactory
21 resolution of those. Many of those just
22 involved the revision of the Hooker TBD and

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1 switching over from an Appendix AA format and
2 process to a stand-alone TBD. In reviewing
3 the ER, then we developed seven findings and
4 one observation and we used the same process.

5 We went through those and there's a whole --
6 to everyone's satisfaction the process there,
7 you have those documents and NIOSH's comments,
8 the SC&A comments and then our decision on
9 those. As that was going on -- that we felt
10 that clearly this was going to be because
11 there was no data, a surrogate issue was
12 really what would hinge on a decision process.

13 So we asked NIOSH to specifically put
14 together a White Paper evaluating using the
15 Board's set of criteria and surrogate data.
16 We then discussed that, had a number of
17 suggestions. You see in the revised updated
18 White Paper that we asked for an appendix that
19 actually listed the data used so you didn't
20 have to go back to the original documents and
21 try to sort this all out.

22 So now it's all summarized in a

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1 fairly concise, we believe a fairly concise
2 document. And then we sent that to SC&A for
3 review and SC&A reviewed that and that was
4 last week or 10 days ago when we had our last
5 committee meeting. We all agreed that the two
6 documents were compatible with each other and
7 that in fact the use of selected surrogate
8 data would result in plausible bounding
9 estimates for the internal exposure set at
10 Hooker and therefore our Work Group believes
11 that doses can be plausibly reconstructed
12 using the information in the Hooker Revised
13 TBD. And we recommended that the petition
14 SEC-0014 be rejected, that in fact during that
15 period of time at this facility, dose
16 reconstructions could be plausibly generated.

17 Any questions?

18 CHAIRMAN MELIUS: Any Board
19 Members have any questions for Henry? Go
20 ahead, Brad.

21 MEMBER CLAWSON: My question is on
22 using Fernald's air sampling data.

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1 CHAIRMAN MELIUS: Speak directly
2 into the mic if you can. I know it's hard. I
3 know you're trying to face Henry to ask your
4 question, but.

5 (Laughter.)

6 MEMBER CLAWSON: Okay. The thing
7 is --

8 MEMBER ANDERSON: I can't hear
9 you, Brad.

10 CHAIRMAN MELIUS: Look at me,
11 Brad. Brad, ask me the question.

12 (Laughter.)

13 MEMBER CLAWSON: Using the Fernald
14 data there was a question, with that being on
15 the Fernald Work Group these air samples were
16 in question from the very beginning. On the
17 Fernald Work Group we can't use the air
18 sampling data. It's been questioned and
19 falsified and everything else but we are now
20 using it as surrogate data to do another
21 facility.

22 MR. ROLFES: Hi, this is Mark

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1 Rolfes with NIOSH. Brad, to address what you
2 had mentioned about the specific allegation of
3 a Fernald employee falsifying some of the air
4 sampling data, we did look into that issue.
5 We believe that that was a limited issue
6 associated with one particular individual. We
7 had no indication that was a widespread
8 occurrence at the Fernald site.

9 MEMBER CLAWSON: It was an issue
10 and you had a signed affidavit stating of how
11 these air samples were being done. And now we
12 want to take questionable information and use
13 it to do another facility. Basically the
14 bottom line is it gets down to Hooker has its
15 own data and we're going to use another site's
16 -- in my eyes that were questionable from the
17 beginning. It just doesn't make common sense.

18 CHAIRMAN MELIUS: Any other
19 questions for Henry? Dick.

20 MEMBER LEMEN: I again have
21 trouble with the use of surrogate data from
22 other facilities for a compensation program.

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1 I'm not -- I don't have that much concern of
2 surrogate data if used in an epidemiological
3 study, one that's justified. And the caveats
4 are all spelled out. But it seems to me
5 totally inappropriate in a compensation
6 program such as we are here to represent, to
7 take data from other plants and use that data
8 to determine what the compensation eligibility
9 is for individuals within a plant that is
10 geographically and physically not in the same
11 location and work practices are not taken into
12 account between these two facilities which is
13 something that should be taken into account.
14 I just, I'm going to have to disagree with the
15 committee's recommendation solely based upon I
16 have still, as I've expressed in previous
17 meetings, this serious problem with surrogate
18 data.

19 MEMBER ANDERSON: Yes, I think --
20 I mean we discussed that considerably and I
21 think what we looked at in this case is that
22 it's a -- the surrogate data where we're using

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1 and the issues related to it as far as
2 comparability was really focused on a specific
3 activity, not, you know, the whole plant. And
4 therefore when you're opening drums and
5 emptying them and doing so by hand the
6 processes and the -- we thought it was very
7 comparable. And therefore rather than using
8 the data, saying for the whole plant that
9 workers doing different activities, this
10 narrowed it down to very focused. We looked
11 at the data and the range of values and the
12 description of it being dusty -- every time
13 you emptied it you got a dust cloud and that
14 was done outside at the same, at these other
15 facilities. So we viewed it almost as you
16 were doing, physically doing the operation at
17 a different place but doing it, at least the
18 data we had and what NIOSH confirmed to us was
19 doing it very similar. And you'll see in the
20 little appendix, they -- there were some other
21 activities at the other plants like chipping
22 and grinding using equipment that was not done

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1 in the processing here so those data which had
2 higher values were not used in the process.
3 So I think we felt that if there was a place
4 where surrogate data could effectively be
5 used, this would be a good example of that
6 simply because it was a very kind of low-tech
7 processing outdoors doing that. Now, the
8 other data, the filtering and the indoor
9 activities there is where there's a more
10 robust database that's been published and
11 validated through that way. So you know, we
12 share your concern simply because there was no
13 measurements made here and no limitation of
14 access to the building and things like that.

15 But that's -- what we tried to do
16 is focus in on being -- looking at the
17 description that went with the samples at the
18 other site to make it as close to it as
19 possible. And again, there the -- because
20 that was the approach used here rather than
21 why don't we just put all the data together
22 and go with an upper value and say, that ought

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1 to do it. This did get us down to a
2 relatively small number of samples, so a
3 sample size of measurements becomes somewhat
4 of a concerning issue for us. But we felt it
5 was over-weighed in the review by SC&A and
6 they were comfortable with it as well. So you
7 know, I understand your issues and we did
8 discuss them and this -- we wouldn't want to
9 use this as a precedent for how data ought --
10 or we would like to use it actually to say
11 that this is a good example of how you can use
12 specific activity surrogate data. Other? Oh
13 yes.

14 CHAIRMAN MELIUS: Josie, I thought
15 you?

16 MEMBER BEACH: He kind of jumped
17 around my question.

18 (Laughter.)

19 MEMBER BEACH: On the inside
20 versus outside. I know some of the operations
21 were on the inside versus the outside and it
22 varied depending on who, based on the reports

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1 I read, who you were talking to also. So.

2 CHAIRMAN MELIUS: Okay, thank you.

3 David, then Paul.

4 MEMBER RICHARDSON: I wanted to
5 follow up because, Dr. Lemen, I sort of in
6 principle agree with your position that, you
7 know, using surrogate data or imputing values
8 when there's not a direct observation for a
9 worker, you know, I feel comfortable doing in
10 epidemiological studies. I feel much less
11 comfortable doing when you're having to make
12 compensation decisions for an individual. And
13 so that was my starting position. And I've
14 been struggling for a while to think what are
15 the principles that would allow us to draw the
16 line which was the question that somebody
17 asked on the phone yesterday. How in these
18 situations where you're making SECs and
19 there's not direct observations available for
20 people, what is the principle?

21 I sort of feel like this is a case
22 though where I'm on the side of saying I think

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1 that there is -- that this may be a scenario.

2 And so I was trying to think about what the
3 principles are. And if we're starting with a
4 facility where there's large numbers of
5 workers and the complete absence of monitoring
6 information, and at that facility, there's one
7 work location where there was radiological
8 material and then a large other part of the
9 work area where there was not. So a large
10 number of workers within the proposed Class
11 would have zero or near zero exposure. And
12 then there's a group within it who are working
13 with a source material where if I'm
14 understanding it correctly there's a large
15 volume of material that comes in and a
16 fraction of it, like 10 percent, has natural
17 uranium in it.

18 MEMBER ANDERSON: But what percent
19 is it by mass?

20 MEMBER RICHARDSON: And so they're
21 -- and then they're undergoing a process in
22 which there's, if I understood it under these

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1 work conditions of being an open air
2 environment, there's less potential for there
3 being large variation in the magnitudes of
4 exposures than in situations where there may
5 be the possibility of some other types of
6 activities where there could be greater
7 variation between workers. So, anyway, then
8 kind of to lead this along the principle sort
9 of that I've been thinking is in a situation
10 where the, say the absolute magnitudes of
11 exposures tend to be very low and the
12 variation within the population is not large,
13 that's where I would start to be more
14 comfortable saying we can bound that. We
15 don't think that there are some workers who
16 we're being unfair to by imputing a value.

17 And we've had other scenarios
18 where we talked about surrogate data where I
19 thought I was really not comfortable with
20 that. Because we could imagine that there
21 were some workers standing in some locations
22 where there could be extreme levels of

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1 exposure. I'm not getting that sense in this
2 scenario here. So we've laid out one sort of
3 principle for surrogate data related to data
4 quality and comparability and I think all of
5 those are extremely important, but for me at
6 least the other principle is, when we're using
7 surrogate data, is it in situations where the
8 magnitudes of exposure are low and the
9 variation between workers at the facility is
10 low. So we're being in a sense -- we're not
11 penalizing anybody who's in the tail too much.

12 And the reason I would want to use surrogate
13 data in that situation is because we have
14 other situations where we deny compensation to
15 workers and they're working with materials
16 that have much higher kind of levels of
17 activity and much greater between-worker
18 variation. And we don't want to be in a
19 situation where we're denying some people
20 compensation because we're missing information
21 but they really had a potential for high
22 exposures whereas here due to ignorance we

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1 have to bound this with some information and I
2 think we can do a reasonable job of bounding
3 it.

4 MEMBER ANDERSON: I mean, the one
5 thing, we found the material or the protocol
6 that the Board adopted to be very helpful to
7 go through so we felt we had met that. Now
8 the question is - is that protocol now that
9 we're trying to begin to formally apply it and
10 describe and defend the various decisions, is
11 it adequate. Should we add some other things,
12 you know, that would certainly be a
13 discussion. But again we went through and
14 partly why we're bringing it with this
15 recommendation is both SC&A and the committee
16 and of course NIOSH as well felt that it met
17 these criteria. And if, I guess what we're
18 looking for is if you don't think it did
19 somewhere then we can go back to NIOSH and ask
20 them to fill in. We can certainly do that.
21 We did that several times again giving --
22 asking them to list what data they had taken

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1 out and things like that.

2 MEMBER RICHARDSON: So can I ask
3 you, was my impression correct about this,
4 that there's -- that the view of the Working
5 Group is that the potential for exposure of
6 any worker at the facility is relatively low
7 in magnitude and relatively kind of uniform?
8 Is there, I mean --

9 MEMBER ANDERSON: Well, it's
10 relative --

11 MEMBER RICHARDSON: I mean, not
12 relatively uniform. The variance in an
13 absolute sense is not large.

14 MEMBER ANDERSON: If you look at
15 the data that we used the variance wasn't you
16 know exceedingly large but -- and because of
17 the, mostly that's because of the low
18 concentration in the dust.

19 MEMBER RICHARDSON: Right.

20 MEMBER ANDERSON: That you can
21 only create such a, the dust cloud only gets
22 so maximally large. Yes.

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1 MEMBER BEACH: Well, wasn't it
2 true that they were working with this on an
3 all-day basis between inside and outside? I
4 mean, there were parts of this process that
5 were inside of a building and parts that were
6 outside and there was indication that there
7 was a potential based on the wind direction.
8 So I mean, there may be a low risk but there
9 was also, they were working in it for hours
10 and hours.

11 MEMBER ANDERSON: Again, I would
12 rely on more the other folks, but my
13 understanding was once it got inside the
14 building it was really mostly a wet process.
15 So you know, then it was going through the
16 filter presses to push the liquid out and then
17 you have this kind of cake that was then put
18 back in. So those processes had lower dust
19 generation issues where it was really the dry
20 material coming in, dump the 500-gallon
21 barrels you know by hand basically and then
22 onto the conveyor belt. Where you got the

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1 bulk of the exposure was the outdoors. But
2 yes, there were different processes and the
3 dose reconstruction assumption is that it's
4 high. Yes, go ahead.

5 DR. NETON: Yes, I'd just point
6 out they processed about 10 tons per month
7 which is the equivalent of 40 500-pound
8 barrels. So 40 barrels were processed a month
9 as our estimate and based on reviewing the
10 data that they would engage in dumping drums
11 about 5 percent of the time. That's clearly
12 the most dusty operation there is. The other
13 95 percent of the time was involved with wet
14 processes, the digestion and the acids and the
15 filtering of the material. So that's a much
16 lower route of exposure, potential for
17 exposure. I would say that the material as it
18 came in was 0.2 percent uranium by weight so
19 99.8 percent of the material they were dumping
20 was not uranium, it was an inert magnesium
21 fluoride slag material. So it was very low
22 specific activity material to begin with and

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1 it was eventually concentrated by about a
2 factor of 10 up to 2 percent uranium when they
3 dumped back into the drums. But 95 percent of
4 the time it was in a wet process.

5 CHAIRMAN MELIUS: Thank you.
6 Paul, then Wanda.

7 MEMBER ZIEMER: My question
8 concerns the data integrity issue that Brad
9 raised. Can we confirm, perhaps Mark, can you
10 confirm that the samples used by -- as
11 surrogate samples for this particular case did
12 not involve or did involve those that were in
13 question as far as that alleged fudging or
14 whatever?

15 MR. ROLFES: This is Mark Rolfes
16 from NIOSH. To go back to what the individual
17 at the Fernald site had said, he was basically
18 requested to re-sample an area where he had
19 basically collected an air sample, had it
20 analyzed by the lab and they came back with a
21 higher, elevated above the maximum allowable
22 concentration of uranium in air. His

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1 supervisor at the time had asked him to go
2 back and re-sample the same process, the same
3 area to determine whether the first reading
4 was an accurate reading. And you know, it can
5 be viewed as a perception issue on that
6 individual's part. So we don't necessarily
7 know for sure that this information was
8 falsified, it's just something that we did
9 receive, provided to us.

10 If you take a look at the numbers
11 with the surrogate data from the Fernald site,
12 if you were to remove that information from
13 the current approach for the Hooker site the
14 95th percentile would decrease by a factor of
15 about 25 percent. So the use of the surrogate
16 data for this site is actually very claimant-
17 favorable in that it elevates the intakes we
18 would assign.

19 CHAIRMAN MELIUS: Wanda?

20 MEMBER MUNN: I don't think any
21 one of us is ever completely comfortable when
22 we talk about surrogate data because we can

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1 always bring an issue but what about X factor.
2 We all use surrogate data in our daily lives
3 we just don't call it surrogate data.
4 Everything from my grocery shopping to
5 Schrödinger's cat requires the use of
6 surrogate data in some way. I can't use my
7 information about my knowledge of zucchini to
8 verify the quality of the cheese that I'm
9 going to get. But I have considerable faith
10 in the activities that this Board has gone
11 through in determining our criteria for
12 acceptable surrogate data used in this
13 program.

14 The Work Group that Dr. Melius
15 chaired was very concerned about these issues
16 and went to great extent to try to prioritize
17 them in a way that made sense. I think we've
18 done that. It appears that the Work Group
19 here for Hooker has applied those
20 appropriately and I thank the Work Group for
21 its efforts.

22 CHAIRMAN MELIUS: Thank you. I'd

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1 like to pause if I could. I would like to
2 hear from the petitioner who I believe is on
3 the line.

4 MEMBER ANDERSON: First are either
5 of my co-members got any comments?

6 MS. GIRARDO: Hello?

7 CHAIRMAN MELIUS: Yes, let's do
8 the petitioner.

9 MEMBER ANDERSON: Okay.

10 CHAIRMAN MELIUS: She waited.
11 Then we'll -- we can continue discussion.

12 MEMBER ANDERSON: Okay.

13 CHAIRMAN MELIUS: But I think it's
14 fair to her we. Go ahead.

15 MS. GIRARDO: This is Mary Girardo
16 in Niagara Falls, New York, and I have a 10-
17 point statement to read.

18 CHAIRMAN MELIUS: Okay.

19 MS. GIRARDO: Which is titled
20 Response to Work Group Denial of SEC Petition
21 for All Workers in All Locations of Hooker
22 Chemical. Number one, we the petitioners do

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1 not accept NIOSH's presentation which claims
2 that there was not enough exposure to uranium
3 to cause illness or death. Two, we the
4 petitioners do not accept SC&A's participation
5 in this presentation and verdict. We are
6 convinced by the manner in which this was
7 handled that none of those tasked had their
8 hearts in what they were doing. This is no
9 way to do an independent study. True research
10 would demand that any new research being done
11 would start from scratch and turn a blind eye
12 and a deaf ear to all that NIOSH, Allen, had
13 done in favor of their own study. Once
14 accomplished then the two would be compared
15 showing differences and similarities. This
16 was not done. Instead, SC&A kept saying that
17 they were not told to do this or that. This
18 shows that they simply went through the
19 motions and the Work Group fell in line.

20 Three, we the petitioners state
21 that the use of surrogate data has become an
22 untouchable in the handling of these

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1 companies. NIOSH, SC&A and the Work Group
2 were so mesmerized by the Advisory Board's
3 regulations pertaining to surrogate data that
4 they were all going to make some other company
5 or companies suddenly become Hooker Chemical
6 irregardless of those companies' past history.

7 For example, the use of Mallinckrodt which
8 has the honor of being the first company
9 against which a petitioner was granted an SEC
10 and an award.

11 Four, we the petitioners do not
12 now, never have and never will accept dose
13 reconstruction as a fair and truly
14 understandable method of handling the
15 qualitative data collected by NIOSH. We the
16 petitioners were told by NIOSH that the
17 Department of Labor uses dose reconstruction
18 in other things to determine payment or denial
19 of the award. However, in the initial phase
20 here in western New York the handlers' claim
21 that it was really only the dose
22 reconstruction that determines the outcome.

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1 No one really and truly understands this
2 method, it's just a number game.

3 Five, we the petitioners claim
4 that the law, Act, executive order signed by
5 President Clinton has been so frustrated that
6 it has not truly been used as originally
7 designed. Things were to be done in a timely
8 manner. Eleven years into this is not timely.

9 The petitioners were not to be frustrated.
10 This has not been realized. This law came as
11 an executive order to override the Department
12 of Energy's unfairness to the claimants.
13 However, the Department of Energy is still
14 such a force in all of this collection of data
15 that NIOSH does. For example, there is a 180-
16 day time limit for NIOSH to respond with their
17 evaluation but they went over the limit
18 because the Department of Energy had not
19 responded with needed data in the Hooker
20 claim. When questioned, a NIOSH employee said
21 that the 180-day time limit was not written in
22 stone. This should have forfeited NIOSH and

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1 the claim paid. If the petitioner failed
2 under the timely rules the case would have
3 been closed. The Advisory Board may want to
4 seriously consider the late Supreme Court
5 Chief Justice Rehnquist's analysis of such a
6 situation as this. If you don't want a law,
7 repeal it, but don't try at one and the same
8 time to live according to the law and to
9 frustrate the law.

10 Six, we the petitioners question
11 the latest figures published on the internet
12 giving the Hooker statistics of claims paid
13 and denied. If NIOSH's findings causes this
14 SEC petition to be denied then how can the 15
15 cases paid be legal? This petition deals with
16 all locations. Weren't these 15 in one or
17 more of Hooker's locations? Would dose
18 reconstruction or surrogate data mean
19 anything? If NIOSH claims that the 0.2
20 percent was insufficient to cause illness or
21 death how did the 15 cases get paid?

22 Seven, we the petitioners

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1 seriously wonder why the response to NIOSH's
2 evaluation was never acknowledged by the Work
3 Group and was glossed over by SC&A. We have
4 noticed that afterwards TBD was made a stand-
5 alone and was boxed in. NIOSH even used it to
6 respond to SC&A's review, observation tree
7 matrix, TBD-6001, Appendix AA, page 1, as
8 follows, quote, "Since TBD-6001 is no longer
9 used the observation is not relevant." We the
10 petitioners wonder about this because after
11 our response to NIOSH's evaluation TBD ceased
12 to exist. It was boxed in and Battelle
13 disappeared. A coincidence? There are those
14 who say there is no such thing as a
15 coincidence.

16 Eight, we the petitioners are very
17 disturbed with the treatment received by NIOSH
18 since May 16, 2011 Work Group meeting. The
19 minutes of this meeting were not made public
20 until the morning of the Work Group's August
21 16, 2011, meeting. And NIOSH has still not
22 notified the petitioners that they are

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1 available. So there was no way for the
2 petitioners to respond to what was covered.
3 Granted, there were illegal concerns but to
4 the petitioners it appears as a stalling
5 tactic. To further cause concern was all of
6 the data that was supposed to be dealt with at
7 the August 16 meeting to which the petitioners
8 were not privileged. This resulted in M.
9 Girardo exiting the teleconference after
10 expressing her displeasure. Then Members of
11 the Board, what do you think happened? Yes,
12 NIOSH hurriedly put together all of the
13 material and Fed Ex'd it to the petitioners.
14 Now, is this timely?

15 Nine, we as the petitioners can
16 only further state that the whole handling of
17 Hooker Chemical reeks with suspicion and
18 underhandedness with no true consideration for
19 the petitioners. Case in point, the use of a
20 NIOSH employee as the federal appointee who
21 runs the Work Group meetings is an example of
22 conflict of interest since the Advisory Board

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1 and the Work Group are supposed to be neutral.

2 Where are the checks and balances? It can
3 only be asked what is really behind all of
4 this? What are NIOSH, SC&A and the Work Group
5 afraid of?

6 Ten, we the petitioners maintain
7 that Hooker Chemical is the exception to all
8 these rules and procedures, and since there
9 are no official records available from Hooker
10 itself then there is no individual monitoring
11 data and no workplace data and using other
12 companies such as Mallinckrodt just adds
13 insult to injury and is not scientifically
14 believable when the question remains if the
15 data from Mallinckrodt was not sufficient to
16 reconstruct dose how can it be sufficient to
17 reconstruct dose for Hooker? Thank you for
18 your time.

19 CHAIRMAN MELIUS: Thank you.
20 We'll continue our deliberations. Mark?

21 MEMBER GRIFFON: Yes, I am a
22 Member of the Work Group. However, I did miss

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1 the last meeting of the Work Group so perhaps
2 these are some of the questions I may have
3 asked in that -- in that process. I think, I
4 mean I tend to agree with a lot of David
5 Richardson said at least in theory. I think
6 this kind of -- you have a situation where you
7 have a sort of discrete task and it seems
8 pretty clear that it was the highest exposure
9 potential for employees so to be able to bound
10 that task is a lot easier than a complicated
11 site where you have no measures and they're
12 doing many different activities with possibly
13 equal or varying risk.

14 However, I do have -- I worry that
15 some of this may be a bit of a house of cards
16 and I just want to go down into the data a
17 little bit to ask some questions and make sure
18 that we're being at least thorough in
19 reviewing the surrogate data that was used. I
20 mean, one thing I'd like to say is that on the
21 Fernald question I think that I do support
22 Brad's comment that while the Work Group may

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1 end up concluding that this air data was valid
2 I don't think we're there yet. I mean, I
3 think that's still an open issue with the Work
4 Group so from a process standpoint I'm a
5 little concerned for the Board's work that we
6 don't rely on data that we are actually still
7 deliberating on in another Work Group. I know
8 in a lot of what we're doing, in the Fernald
9 Work Group and a lot of NIOSH's proposals
10 especially for the uranium exposures rely on
11 urinalysis data so that the air sampling stuff
12 is moot, but I don't think that we've, and I
13 may be wrong, but I don't think that we've
14 closed out on that issue as a Work Group. I
15 know that NIOSH may have and SC&A may have
16 concurred with NIOSH but I don't think we've
17 closed that out.

18 And then just to step back, and
19 then I do want to also speak to Mallinckrodt
20 because that's come up a couple of times. The
21 Mallinckrodt data I think on the other hand we
22 did conclude that the uranium Mallinckrodt air

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1 sampling data was useful and in fact NIOSH
2 does dose reconstructions for the uranium
3 component of the exposures of Mallinckrodt.
4 Again, someone correct me if I'm wrong. The
5 SEC was based on thorium, actinium,
6 protactinium I believe, right? So it's a
7 different. We did, at least I think we looked
8 at the uranium issue and we concluded that you
9 can reconstruct doses for uranium and the air
10 sampling was the basis for that. So in that
11 case I agree with but the Fernald I think is
12 still questionable.

13 And then this brings me back to
14 the main point which is Table 6-1, -2, and -3.

15 I just wanted to ask, Henry or NIOSH may have
16 to help you out here, but the, you know, how
17 many samples overall, and I apologize because
18 I should have had this on the Work Group but
19 how many samples overall are in this coworker
20 model and are they BZA samples or are they
21 general area samples? Is it a mixture of BZA
22 and general area? Can you just give me a

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1 breakdown of those three tables kind of? It
2 might be useful.

3 DR. NETON: Yes. These are only
4 approximate but they're going to be very
5 close. I think there's 18 air samples that
6 were identified between the three sites, two
7 at Electromet, four or five at Mallinckrodt
8 and the remainder at Fernald. The majority of
9 the samples were BZ samples. I think maybe
10 11, I can't remember exactly, but the majority
11 of those 18 were breathing zone air samples
12 that were collected and we took a log-normal
13 distribution of them and chose the 95th
14 percentile of those breathing zone, of those
15 samples as a bounding exposure. They were all
16 very similar operations involving the, you
17 know, working with the slag material, the C-2,
18 so-called C-2 slag material.

19 MEMBER GRIFFON: It looks to me
20 that, from looking at the tables anyway that
21 all the Fernald data are breathing zone. I
22 wasn't sure, the other ones don't look like

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1 breathing zone but I could be wrong.

2 DR. NETON: I don't think they
3 are. It would be clearly identified if it was
4 breathing zone.

5 MEMBER GRIFFON: Okay. So then
6 this gets into my house of cards questions
7 because if we're still concerned about using
8 Fernald then you're down to these other two
9 sites and you're down to about six samples.
10 And you know, statistically I just wonder if -
11 - yes.

12 MR. ROLFES: One additional thing
13 -- this is Mark Rolfes with NIOSH. One
14 additional thing about the Fernald data
15 regarding the individual who had alleged that
16 he had falsified some air sampling data. From
17 my recollection, I'd have to double-check this
18 to look back at the affidavit that was
19 provided to us, he was referring to a separate
20 green salt operation which was not associated
21 with a magnesium fluoride process, so.

22 MEMBER GRIFFON: But I'm asking

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1 more of a process question on that, Mark. I
2 understand the position, but I just, I think
3 one the Work Group it is still an open issue
4 if I'm not wrong. I mean, and I'm troubled a
5 little bit that we don't let the Work Group
6 finish that, you know, and close out on that
7 before we rule on something like this that
8 relies on that data. I'm not -- at the end of
9 the day we may end up where NIOSH is, that it
10 is, we may verify it and say it's fine, it was
11 -- I mean this, we've pulled this thread in
12 sites like Rocky Flats and it took quite
13 awhile but we ended up where NIOSH was on a
14 lot of the data use, not the --
15 notwithstanding the neutron issues. But I
16 just think from a process standpoint of a
17 working Board I'm concerned that, you know,
18 one Work Group gets ahead of the other. So.
19 Anyway.

20 CHAIRMAN MELIUS: Where is the
21 Fernald Work Group with that issue?

22 MEMBER GRIFFON: I don't know.

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1 I'm not sure.

2 CHAIRMAN MELIUS: I've heard of
3 that as being a significant issue with Fernald
4 and I just don't --

5 MEMBER GRIFFON: I'm not sure.

6 MR. STIVER: This is John Stiver
7 with SC&A. I might be able to help out with
8 that. The one issue that we, I guess the sub-
9 issue regarding the breathing zone and general
10 air data that went in to create the DWES which
11 are then used -- which NIOSH had proposed to
12 use for a thorium-232 intake assessment for
13 '53 I believe up to '67 there was one
14 outstanding issue that related to the
15 uncertainty analysis paper that was used with
16 this data set to provide an upper bound value
17 that SC&A and NIOSH concurred was probably
18 acceptable, and that is this issue of what the
19 ISO terms "blunders." These are mathematical
20 errors, transcription errors and things of
21 that sort. And I believe if I'm not mistaken,
22 Mark, NIOSH is coming back with a White Paper

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1 on that particular issue where they look at
2 those blunders as they would apply to the
3 Fernald data. And that was really our main
4 concern because you could have underestimated
5 I believe if my memory serves up to about a
6 factor of 10 based on that Davis and Strom
7 paper that forms the underlying --

8 MEMBER GRIFFON: And that is all
9 for the thorium air data?

10 MR. STIVER: That's for the
11 thorium air data.

12 MEMBER GRIFFON: And I think we
13 don't -- we're not relying on the uranium air
14 data as much so we've kind of put that issue
15 aside I think.

16 MR. STIVER: Yes, for Fernald
17 we're really relying on uranium bioassay data.

18 MEMBER GRIFFON: Right.

19 MR. STIVER: But this sub-issue of
20 just how credible is the air sampling data
21 really kind of gets to that in more of a
22 general sense.

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1 MEMBER GRIFFON: So I don't know.

2 I just think, you know, from a process
3 standpoint we should keep that in mind.

4 CHAIRMAN MELIUS: Bill?

5 MEMBER FIELD: When looking at it
6 I believe that SC&A, maybe I can verify it.
7 They had close to 70 breathing zone samples.
8 And I have to go back and look, I'm not sure
9 what the breakdown is by site. Do you recall
10 that by chance?

11 MR. STIVER: Excuse me, you're
12 speaking with regard to Hooker?

13 MEMBER FIELD: Yes.

14 MR. STIVER: I wasn't involved in
15 that particular development. John Mauro, are
16 you on the phone?

17 DR. MAURO: Yes, I am, and I don't
18 have an answer to that question. I do not
19 have an answer to the number of samples. I'd
20 have to go back through our work.

21 MR. STIVER: We could go back and
22 get that for you.

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1 MEMBER FIELD: I believe it was
2 like 69 or so and they came up with a lower
3 estimate.

4 MEMBER GRIFFON: Right and I was
5 wondering where did they -- how did they get
6 that bigger population. That was another
7 question I have too is how did they have a
8 bigger set of samples and you know, I would
9 think NIOSH would have used that larger
10 population of samples if that was
11 representative. I don't know.

12 CHAIRMAN MELIUS: Yes, according
13 to the NIOSH report I believe that both of
14 them sort of made some -- used some selection
15 criteria for the samples that was different.
16 And so neither -- was sort of using the whole
17 set and yet excluded --

18 MEMBER GRIFFON: Some excluded
19 more, right.

20 CHAIRMAN MELIUS: And at least the
21 summary I saw looked as if the exclusions
22 were, you know, reasonable. But that's just

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1 from reading the summary report, not the.
2 Yes.

3 MEMBER LEMEN: Can I just ask a
4 point of clarification? When Mr. Clawson
5 spoke earlier he said that the data from
6 Fernald was not acceptable for use in Fernald
7 but it's acceptable for use here. My
8 clarification question is with the exception
9 of one sample that you had talked about when
10 is the rest of the data at Fernald be used or
11 is it not being used?

12 MEMBER CLAWSON: Actually one of
13 the things that's interesting about Fernald is
14 they have good urinalysis. So we're basically
15 using urinalysis -- now, are we getting the
16 other part when we have really --

17 MEMBER LEMEN: I can't hear you,
18 you need to turn your mic on.

19 MEMBER CLAWSON: Oh, that would
20 probably help. Sorry about that. At Fernald
21 we're using the urinalysis because they did
22 have, they had some like 200,000 that we're

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1 going for. Because the air sampling data was
2 in question. So we've gone to the urinalysis
3 that we're using that. Now, when it gets into
4 the other parts of it, the daily weighted
5 averages and stuff like that, then they're
6 having to -- this is where we've got several
7 open questions at this time that we're going
8 through right now mainly pertaining to the
9 thorium part of Fernald. To my understanding
10 and Mark, correct me if I'm wrong, but we're
11 not using air sampling data with Fernald as
12 far as the doses. We're using the urinalysis.

13 MR. ROLFES: This is Mark and I'll
14 clarify what Brad has stated here. We haven't
15 needed to use the air sampling data because of
16 the large magnitude. We have nearly 400,000
17 bioassay samples, uranium urinalyses that were
18 collected over the operational history of the
19 site. We are using air sampling data for the
20 earlier years as John Stiver had indicated.
21 We basically extracted thorium air sampling
22 data and used those daily weighted averages to

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1 assign essentially the worst case scenario,
2 95th percentile kind of intakes to unmonitored
3 thorium workers for the earlier operational
4 years prior to the operation of the mobile in
5 vivo monitoring lab onsite at the Fernald
6 facility.

7 MEMBER CLAWSON: So to answer your
8 question we're not using it. We're using the
9 urinalysis.

10 MEMBER ANDERSON: I mean if you
11 follow the hierarchy of data use you would use
12 the biomonitoring data first before you would
13 even look at the air data.

14 CHAIRMAN MELIUS: We have a
15 recommendation from the Work Group which
16 essentially serves as a motion to us for
17 accepting the NIOSH Evaluation Report. So do
18 we have a second for that?

19 MEMBER MUNN: I'll second that.

20 CHAIRMAN MELIUS: Okay. Second
21 from Wanda. Do we have further discussion?
22 People need more -- I guess the question is do

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1 people feel that they need more information.
2 I think that that's -- before dealing with
3 that in which case we could postpone this.

4 MEMBER GRIFFON: I would actually
5 prefer to postpone this at least till our
6 phone call meeting. I'd like to clarify the
7 Fernald question and a couple more questions
8 about the samples that SC&A used. I mean, I
9 agree with you, Jim, that they used a
10 different exclusion but it all looked pretty
11 reasonable. But I'm particularly troubled
12 process-wise by using Fernald's when we -- I
13 don't think we've closed out on that and I'm
14 just troubled that we move ahead on that. But
15 I don't think this has to extend much further.
16 I think we can handle it soon.

17 CHAIRMAN MELIUS: Yes, I mean I
18 think -- well, it's not clear to me when the
19 Fernald Work Group would be getting to this
20 issue and not the fault of the Work Group,
21 just other issues that they have that we'll
22 hear about in a few minutes that are dealing

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1 with the SEC petition that they're evaluating.

2 So do that. David, you had a comment?

3 MEMBER RICHARDSON: Well, I was
4 going to suggest, I feel like that is kind of
5 some sort of process question, the issue that
6 Mark's bringing up. The other thing that
7 might be useful is to see some sort of -- a
8 little bit of an evaluation of the sensitivity
9 of the kind of -- the values to inclusion
10 versus exclusion of Fernald and just some of
11 the other issues. I think that could be
12 something that could quickly be.

13 CHAIRMAN MELIUS: Yes. I think in
14 essence the way it was presented in the report
15 from SC&A was essentially redoing that and
16 they came out to be close for 95th percentile
17 but it could be done. There might be some
18 other detail that might be useful to that.
19 I'm not sure there's enough detail in the
20 report to understand. I don't believe what I
21 saw included the criteria for excluding doses
22 so it's a little hard to tell what it is

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1 without being you know familiar with the --
2 you know, with the information and the data
3 that was used. So I can understand that. Any
4 other? People feel differently on not -- on
5 postponing? Wanda.

6 MEMBER MUNN: Yes, as a matter of
7 fact I do. It seems to me that the Work Group
8 spent a great deal of time on this and has
9 presented us with a reasonable approach to a
10 site where we have minimal information. There
11 is never going to be a time, at least there
12 has not been up to now, I can't imagine that
13 there will be a time when all of us have
14 perfect information about each one of the
15 sites that we come to. But if we don't rely
16 on our Work Group's recommendations then it
17 puts an additional burden on all of us not to
18 mention the petitioners with respect to living
19 in this dreadful limbo where the decision is
20 half-made but not entirely made. I personally
21 would prefer to move the question today.

22 CHAIRMAN MELIUS: Paul?

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1 MEMBER ZIEMER: I really have two
2 questions. One is if we did postpone exactly
3 what is -- who's going to do what. What will
4 happen? The other question was I thought I
5 heard the petitioners say that they were not
6 given time to evaluate those most recent White
7 Papers and that would be my concern I think on
8 these kinds of things. I didn't fully
9 understand all of the issues raised by the
10 petitioner but I thought I heard her say that
11 they were not given the White Papers in a
12 timely fashion and that's always of some
13 concern. So I just would like to ask and
14 maybe Dr. Anderson can clarify that. Do you -
15 - or maybe the petitioner, what was the issue
16 there?

17 MEMBER ANDERSON: The issue was we
18 had our meeting on the 16th of August which is
19 not long ago and there were the SC&A's White
20 Paper response reviewed to the NIOSH paper.
21 That had not -- neither of those had been
22 cleared by the -- for the Privacy Act issue by

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1 the 16th. So when we had our teleconference
2 meeting on the 16th they didn't have those
3 documents so they couldn't comment and we of
4 course did so we were discussing materials
5 they hadn't seen. So that was roughly 10 days
6 ago. Then they were cleared on the material
7 but they haven't had a lot of time. I mean,
8 I'm comfortable with delaying as long as we
9 have what are going to be the next steps. I
10 mean, the decision to not accept the SEC
11 really keeps the status quo as it is now so
12 it's not as though at this point and I have to
13 admit on our group the issue of the
14 reliability of the data was never brought to
15 our attention that this was potentially
16 suspect data that was being used in this.
17 Now, again we can certainly ask SC&A to -- and
18 NIOSH to actually list the samples that they
19 included in their analysis. I mean, they used
20 -- SC&A used 69 samples based on the job
21 descriptions and NIOSH made it even smaller,
22 down to 18 that were all specific to shoveling

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1 and dumping barrels. And what was nice is
2 even though the numbers are relatively small
3 in both of those they came very close on the
4 95th percentile. So you know, we could ask
5 for that so everyone would be comfortable
6 exactly what samples from where they were.
7 Because all we have is the summary documents
8 that we presented to you.

9 MEMBER ZIEMER: Mr. Chairman,
10 could I follow up?

11 CHAIRMAN MELIUS: Yes.

12 MEMBER ZIEMER: First, let me say
13 that from my own personal point of view I feel
14 much as Wanda does. I'm comfortable with the
15 report. But I think it's always important for
16 us to be sensitive to issues raised by the
17 petitioners. We don't always agree with each
18 other and that's fine, but if the petitioners
19 do not have an opportunity to comment we don't
20 know the -- whether or not their comments
21 would have impacted on the Work Group's
22 report. Perhaps they would and perhaps they

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1 wouldn't. So if we delayed it seems to me we
2 need a way for the Work Group to react to
3 those issues and take them into consideration
4 as to whether or not it affects your
5 recommendation. That would be my point with
6 respect to the petitioners.

7 My other issue is though if we
8 delay I certainly would want to know what, you
9 know, delaying is basically tabling and we
10 can't debate doing that if it's a true motion
11 to table, but as a point of information I
12 think the Chair could instruct us as to what
13 it is that's going to happen before we do.

14 CHAIRMAN MELIUS: Well, we could
15 also entertain a motion to postpone which --
16 essentially it's the same effect.

17 MEMBER ZIEMER: But we need to
18 know what's going to happen.

19 CHAIRMAN MELIUS: No, I agree. I
20 would just add to your comments I agree with
21 you on the petitioners so that sometimes gets
22 hard to determine given that there's an

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1 ongoing process with these. But secondly, I
2 think it's also important that we allow
3 Members of the Board to you know at least get
4 what they feel to be adequate information for
5 them to make a decision. And since this is
6 the first time this is being presented from
7 the Work Group and after review I think
8 normally it's been our practice to give --
9 allow the other Board Members to get adequate
10 information so that they feel comfortable in
11 reaching a decision. And so that's more of an
12 observation than a recommendation. So I think
13 we could.

14 And I would just make one more
15 sort of procedural point that we, given the
16 number of Board Members that are absent I'm a
17 little concerned that if we try to do a vote
18 on the motion which would -- is a
19 recommendation to the Secretary we would have
20 to wait until we heard from the absent Members
21 and that would further delay going forward on
22 this and which I think is not a good thing.

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1 So I think you know, I would certainly,
2 hearing from who -- person that made the
3 original, the Work Group Chair has said that
4 he's comfortable waiting. Again, subject to
5 the conditions I think that similar to what
6 you said, Paul, stated. So I guess if we hear
7 a motion -- I'd entertain a motion to
8 postpone. Bill?

9 MEMBER FIELD: Yes, I'd like to
10 make a motion to postpone.

11 CHAIRMAN MELIUS: Okay.

12 MEMBER SCHOFIELD: I'll second it.

13 CHAIRMAN MELIUS: Okay. Any
14 further discussion on that?

15 MEMBER MUNN: Exactly what happens
16 now?

17 CHAIRMAN MELIUS: Well that's --
18 yes. Okay. And what I heard was that we
19 wanted at least two things. One was further
20 information on the review of the data sets and
21 particularly what were the exclusion criteria,
22 how were those data sets selected. And I

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1 think that information should be readily
2 available from both NIOSH and SC&A so I don't
3 think that's a large task but I think it's
4 something they need to bring back to the Work
5 Group and for the Work Group would report back
6 to us at an appropriate time.

7 Secondly, I think there needs --
8 they were looking, and this may be a little
9 bit more complicated is at least additional
10 information on the Fernald situation. And I'm
11 not familiar enough with that to know. Mark,
12 maybe you could help? Or Brad?

13 MEMBER GRIFFON: Yes, I mean I'm
14 also concerned like you are, Jim, that you
15 know I don't know how timely we can be in
16 coming to a conclusion on that issue on the
17 Fernald Work Group. So that's -- but my
18 understanding is, and John Stiver maybe can --
19 I think you already said that when you spoke.
20 My understanding is that it's still an open
21 issue on our matrix of issues for the.

22 CHAIRMAN MELIUS: But are we

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1 asking -- I mean, I'm trying to get us into a
2 procedural step would be for the Hooker Work
3 Group wants to be briefed on and understand
4 what the Fernald Work Group is doing and SC&A
5 and NIOSH relative to these, you know, this
6 data, these data from Fernald and whether that
7 ongoing review will affect their decision.
8 And I think then they can decide based on
9 that.

10 MR. STIVER: Dr. Melius, as you'll
11 see in the Fernald presentation that's coming
12 up there are issues that still need to be
13 resolved and this being one of them.

14 CHAIRMAN MELIUS: Okay.

15 MR. STIVER: So we'll need at
16 least one more Work Group meeting before the
17 next full Board meeting to discuss that. And
18 I think that we could probably make some
19 progress on resolving that. And also, the
20 NIOSH response is due the beginning of
21 September related to the -- that aspect of the
22 data quality of the breathing zone air

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1 samples. So we might be able to -- I can't
2 speak for the rest of the Work Group really
3 but I would envision maybe sometime in October
4 we could have a Work Group meeting and have
5 these issues at least if not resolved scoped
6 out to a point that they can be applicable to
7 Hooker.

8 CHAIRMAN MELIUS: Okay. Thanks.
9 Yes, Paul.

10 MEMBER ZIEMER: But John, isn't
11 the issue at Fernald more on whether or not we
12 can use those air samples to reconstruct
13 thorium doses?

14 MR. STIVER: Well, it really is
15 kind of a more focused issue. It's not the
16 overall quality.

17 MEMBER ZIEMER: Yes, that's a
18 different question in a sense.

19 MR. STIVER: It is.

20 MEMBER ZIEMER: Because it's an
21 issue of can you take the uranium issue which
22 we know quite well and use that to reconstruct

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1 thorium. That's not the question that we have
2 here so it seems to me that if you were -- if
3 SC&A were to brief this Work Group on what the
4 Fernald issue is and then they can make a
5 decision as to whether it impacts on them.

6 MEMBER ANDERSON: The other thing
7 I think we could do especially since SC&A used
8 a larger data set, we could look at the impact
9 or NIOSH, the two of them could come back and
10 say if we don't use the Fernald air data what
11 would be the impact and is that a consistent.

12 That way we avoid the, you know, the taint of
13 the potentially uncertain Fernald air data.
14 But if Fernald is you know, we really need the
15 in order to have a sufficient robust database
16 to do surrogate data then we really have to
17 make that decision on the Fernald data.

18 MEMBER GRIFFON: Paul raises a
19 good point on the air sampling. The issue
20 that we're wrestling is the thorium issue and
21 it was actually thorium test-based sampling.
22 But the other issue which came up earlier in

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1 our matrix was uranium air sampling, questions
2 on the validity of that. It got deprioritized
3 on the Fernald Work Group because we're
4 totally relying on urinalysis so it was a moot
5 point. We could reprioritize it, we could
6 bring it back up and make sure we get it on
7 the next Work Group and maybe come to closure
8 on that. See, we didn't pursue it much
9 further because the uranium air data was not
10 being used in any of the approaches. I
11 believe I'm speaking -- Mark, isn't that
12 correct? Yes, Mark Rolfes is nodding in
13 agreement. On that issue.

14 CHAIRMAN MELIUS: I think it would
15 -- it seems to me a better way to proceed is
16 for SC&A to brief the Hooker Work Group and
17 then -- because I'm also, I don't want to hold
18 up the Fernald Work Group unnecessarily
19 because I think they're, they've got other
20 important issues to deal with relative to
21 that. So is there anything else for the Board
22 in terms of going forward? Any further

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1 comments on this issue? If not I think we.
2 Brad, oh, I'm sorry.

3 MEMBER CLAWSON: I just want to
4 make sure that the petitioners are involved.
5 They're the ones that were there that were
6 actually involved with this, most of them.
7 I'm very blessed to be able to have people
8 that actually work at Pantex and Fernald that
9 are raising these questions because as us as
10 Board Members it's very hard for us to come in
11 and look at their site and say yes, I've read
12 about this, I've read about this. But they
13 were the ones that were actually there and I
14 want to make sure that they understand how
15 we're doing it and help answer their questions
16 too.

17 CHAIRMAN MELIUS: Well, I think by
18 holding a Work Group meeting and getting the
19 information to them that I think can we
20 address that.

21 MEMBER CLAWSON: Right and I am
22 just reiterating.

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1 CHAIRMAN MELIUS: Okay. So can we
2 first do a voice vote on postponing? All in
3 favor say aye?

4 (Chorus of ayes.)

5 CHAIRMAN MELIUS: Opposed?

6 (No response.)

7 CHAIRMAN MELIUS: Okay.

8 MEMBER MUNN: I'll abstain.

9 CHAIRMAN MELIUS: Note that Wanda
10 abstained. Thank you. The next item on our
11 agenda is Fernald. Brad.

12 MEMBER CLAWSON: Okay, today --
13 did we lose half of everybody? Great. I
14 guess I upset Henry. Okay, well I'm going to
15 start with Fernald Work Group. I want
16 everybody to understand what we've basically
17 to come to is come to the end of Fernald Work
18 Group. There's several outstanding issues and
19 I want to make sure that the Board is apprised
20 of where we're at, what our difficulties are
21 with this and I want to make sure if we can
22 have some of the questions that the Board, the

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1 other Board Members have so that as we go into
2 our Work Groups we'll be able to answer those
3 for you, be able to bring back questions.
4 Because as has been said earlier we just get a
5 brief moment on this one. The Work Groups
6 come and we need to -- we have questions on
7 this. So this is one of the reasons why we're
8 bringing it to you.

9 Like I said, my name's Brad
10 Clawson, I'm the Work Group Chair. April
11 19th, 2006, SEC petition qualified all
12 employees who worked in all facilities at Feed
13 Materials Production Center in Fernald, Ohio,
14 January 1st, 1951 through December 31st, 1989.

15 November 3rd, 2006, NIOSH Evaluation Report
16 was issued. NIOSH found no part of the Class
17 under evaluation for which it cannot estimate
18 radiation doses with significant accuracy.
19 November 10th, 2006, SC&A Site Profile Review.

20 July 2nd, 2007, SC&A SEC PER Review. August
21 2007 through August 2011, eleven Work Group
22 meetings. May 24, 2011 Advisory Board

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1 meeting, SC&A presented a detailed summary of
2 the SEC issues as of April 2011.

3 Coworker model, this is part of
4 the SEC issues that we have open to the group
5 right now. The coworker model for uranium
6 internal exposure is open. Validation of the
7 HIS-20 database is closed. We've reviewed
8 that, we've looked at it, we feel it's closed.

9 Recycled uranium is open. Use of radon
10 breath data for reconstructing doses from
11 inhalation of radon-226 and thorium-230 is
12 closed. Review of radon emissions from the K-
13 65 silos and associated exposures, that was
14 moved to a Site Profile discussion.
15 Reconstruction of internal exposure for
16 inhalation of thorium-232 daily weighted
17 averages from 1953 to 1967 is closed. The
18 chest count 1968 to 1989 is open. When I say
19 these are open and closed these are
20 recommendations by SC&A. Some of the Work
21 Group Members don't agree with them but as far
22 as SC&A feels that they can go they're

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1 somewhat closed.

2 Issue 1, the coworker model for
3 uranium internal exposures. Description of
4 the issue: concerns regarding the completeness
5 and adequacy of the uranium bioassay data
6 available for dose reconstruction and
7 supporting the Fernald internal dosimetry
8 coworker model, OTIB-78. The status of the
9 issue is resolved except for matters related
10 to applicability of the coworker model to
11 Fernald construction workers. And I should
12 point out that, well, NIOSH performed an
13 analysis of construction workers, construction
14 workers versus non-construction workers,
15 uranium bioassay data for TIB-78 and delivered
16 a report August 11th, 2011, to the Work Group.
17 NIOSH indicated analysis complete and the
18 report is in internal review. The Work Group
19 hasn't been able to see that yet. SC&A as
20 soon as it gets through the internal part is
21 supposed to review this.

22 Issue 3, recycled uranium.

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1 Description of the issue: concern that the
2 default concentration of Pu-239 and neptunium-
3 237 and other isotopes associated with
4 recycled uranium at Fernald may not be
5 bounding for some Classes of the worker
6 activities, buildings and times periods.
7 Status of the issue -- numerous White Papers
8 have been exchanged where NIOSH provided its
9 technical basis in support of its default
10 values and SC&A provided reasons it believed
11 that the default values may not be bounding
12 for all workers and time periods. August 2011
13 Work Group meeting: SC&A responded to NIOSH's
14 review of the second SC&A White Paper (March
15 31st, 2011) and a NIOSH position paper on
16 recycled uranium defaults (August 5th, 2011).

17 NIOSH review of the second SC&A RU
18 White Paper. NIOSH acknowledged processes
19 that resulted in a concentration of RU
20 constituents above levels in feed materials.
21 The dolomite problem, the magnesium fluoride
22 issues. NIOSH acknowledged limitations and

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1 uncertainties in the data from the DOE mass
2 balance reports -- the basis for NIOSH's
3 default values. Arithmetic mean
4 concentrations for the 19 subgroup processes
5 in DOE Ohio Field Office Report (DOE 2000) are
6 not bounding. Data is highly variable and
7 uncertain. Proposed upper 95th percentile of
8 log-normal distributions for all but highest
9 process subgroups, 1973 to 1989.

10 Issue 3, recycled uranium
11 continued. August 5, 2011, Work Group
12 meeting. New NIOSH position on default values
13 (August 5, 2011). They proposed 1953-1960
14 proposed no RU uptakes. 1961-1972, proposed
15 original defaults which you can read there is
16 100 ppb, plutonium 3500 ppb, neptunium 9000
17 ppb, technetium. 1973-1989, proposed increase
18 default values, factor of 4 for plutonium up
19 to 400 ppb. For plutonium. For neptunium,
20 11,000 ppb. A factor of 2 for technetium up
21 to 20,000 ppb (Subgroup 6B). And based
22 particularly on the magnesium fluoride

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1 concentrations in the metal reduction (Plant
2 5) highest continuous worker exposures.

3 Recycled uranium, continued. SC&A
4 observations -- NIOSH position on RU defaults.
5 NIOSH correlates increased worker exposure
6 potential with receipts of plutonium out of
7 spec which we call POOS feed materials
8 beginning 1973. Worst was in 1980, Paducah
9 tower ash. Prior to 1973 NIOSH proposed
10 original (lower) defaults. However, the POOS
11 feeds down-blended (Plants 1, 4 and 8) before
12 being sent to the refinery (Plants 2 and 3)
13 and subsequent processing steps. Therefore,
14 concentrated constituents in magnesium
15 fluoride (metal production step) were mostly
16 from down-blended material. Because MgF2 data
17 in DOE 2000 report were from 1982 to 1987;
18 cannot assess extent of the MgF2 concentration
19 prior to POOS receipts. If the MgF2
20 constituent concentrations are not correlated
21 with POOS receipts higher defaults could be
22 applicable prior to 1973 (bounding one-size-

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1 fits-all approach).

2 Recycled uranium, continued.
3 Position on the new proposed NIOSH default,
4 1953 to 1960. This period can be bounded --
5 could be a Site Profile. However, SC&A
6 believes that a default of zero is neither
7 appropriate nor claimant-favorable. 1961 to
8 1972, this period can be bounded -- could be a
9 Site Profile. Questions remain to what the
10 default should be, original versus new or
11 higher value. Impact of the MgF2
12 concentration with low feed levels. 1973 to
13 1989, proposed high default probably bounding
14 for the highest continuously exposure subgroup
15 of workers. (Plant 5 metal workers and
16 associated millwrights). Initial POOS feed
17 concentration subgroup 10A could have impacted
18 handlers and down-blenders, also indirect
19 exposures. Bystanders effect. SEC issue
20 1973-1985, 1986 to 1989 group HP, Health
21 Physics program. Small subset but cannot
22 identify based on work records. Likely

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1 intermittent exposure but not yet quantified.

2 NIOSH action is to qualify down-blending
3 intervals and assess impact. SC&A action
4 items: review NIOSH's assessment.

5 Reconstruction of internal
6 exposures from the inhalation of thorium-232.

7 6B, use of chest counts to reconstruct
8 thorium-232 exposures (1968 to 1989). No DWE
9 data after mobile in vivo counting introduced
10 in 1968. Therefore, completely dependent on
11 integrity of chest count data thereafter.
12 SC&A believes that the uncertainties in data
13 sets are not adequately quantified. Status of
14 issue: White Paper exchanged; issues first
15 discussed in detail at the April 19th, 2011,
16 meeting of the Work Group. April 19, 2011
17 Work Group meeting: NIOSH action item, post
18 for review newly acquired data for the in vivo
19 calibration. Document posted and new White
20 Paper provided on May 6th. SC&A action item
21 to review the new calibration document in the
22 context of the June 10th White Paper review

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1 (data adequacy). Provide a formal response to
2 NIOSH concerning the issue of whether thorium
3 workers may be under-represented in the
4 coworker model (data completeness). New
5 response provided (August 2011: data adequacy,
6 data completeness).

7 6B, the use of the chest counts to
8 reconstruct thorium-232 exposures, 1968 to
9 1969. Discussed new NIOSH White Paper and
10 SC&A response on data adequacy and
11 completeness. Data adequacy. 1968-1978,
12 reported in milligrams of thorium, period of
13 the thorium processing. Questionable
14 calibration methods, screening versus
15 quantitative. Questionable calibration source
16 used to derive the MDL contaminated with
17 radium-228. Questionable method to evaluate
18 age of source and transform actinium-228 and
19 lead-212 activity into in milligrams thorium-
20 232. No raw data, just milligrams of thorium
21 reported. Examples indicate actinium-228 was
22 used, very sensitive to age of source,

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1 reports in nanocuries thorium based on lead-
2 212 and actinium. Period stewardship. Large
3 impact of measurement variability. Nanocuries
4 of lead-212, actinium and derived result.
5 Uncertainties in resident time in the lung
6 (progeny in-growth/translocation).
7 Uncertainty in the REMAB phantom (up to a
8 factor of 3, pre-1983). MDL of 0.25
9 nanocuries greater than 84th percentile
10 uncertainties from noise in values less than
11 the MDL. Equilibrium factor of 0.42 for lead-
12 212 measurements based on a closed system (no
13 translations out of the lung). Experimental
14 data indicate the equilibrium factor could be
15 lower. Raw data are available for nanocuries,
16 thorium data may be adequate to bound the
17 intake. This is a Site Profile issue. A
18 NIOSH coworker model uses a GSD of 3 based on
19 biokinetic modeling. Does not appear to
20 address measurement uncertainties. Possibly
21 adequate when applied to a distribution of
22 results for multiple workers over a year but

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1 not quantified.

2 6B, the use of the chest counts to
3 reconstruct thorium-232 post-1968. SC&A's
4 concerns -- data completeness, assuming data
5 adequate for coworker model. SC&A's tasking -
6 - formal response (February and April of 2011
7 Work Group meetings), are thorium workers
8 adequately represented in the data set. Only
9 one reference identifies thorium workers with
10 a specific production year (1968). If not, do
11 chemical operators provide a reasonable
12 surrogate for thorium workers for use in the
13 coworker model? Is sample frequency
14 correlated with lung burden? Sample is
15 directed at the most highly exposed workers.
16 SC&A's response, finding 1, thorium worker
17 results generally higher than chemical
18 operators, at most percentiles. Thorium
19 worker 95th percentiles are higher in all but
20 four years when compared with either all
21 workers or chemical operators in 95th
22 percentiles. Non-parametric 95 percent

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1 confidence intervals for the 95th percentile.

2 Only 1971 showed significant differences
3 between the thorium subgroup, the chemical
4 operators and all workers. No evidence that
5 chemical operator groups provided definitive
6 upper bound for thorium worker exposure.

7 6A, use of the chest counts to
8 reconstruct thorium exposures, concluded.
9 Finding 2, less than 3 percent of the in vivo
10 records for milligrams thorium are at or above
11 or assumed MDL of 6mg. This combined with
12 uncertainties regarding the accuracy and the
13 veracity of the MDL, call the utility of the
14 model into question. Nonetheless, thorium
15 workers appear to be well represented among
16 the in vivo results at or above the MDL.
17 Workers comprise 7 percent of the total but 20
18 percent of those were positive results.
19 Samples comprise 13 percent of the total by
20 nearly 33 percent of the positive results.
21 Finding 3, no positive linear correlation
22 between thorium monitoring frequency and

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1 magnitude of results. Uranium monitoring
2 results showed much better linear correlation
3 between monitoring frequency and the results
4 relative magnitude of results. Suggests that
5 the in vivo program may have been targeting
6 higher risk workers based on uranium
7 activities. NIOSH's action item was a formal
8 response to the SC&A responses before the next
9 meeting. SC&A will review that.

10 In summary, the issues remain to
11 be dispositioned with NIOSH and SC&A. The
12 Work Group deferred action on recycled uranium
13 from 1973 to 1985 pending further assessment.

14 NIOSH to locate historical information
15 regarding the time required for down-blending.

16 From this it may be possible to estimate
17 periods during which the down-blending and
18 bystanders may have been exposed to subgroups
19 10A concentrations and determine whether the
20 new higher defaults are bounding. SC&A to
21 review NIOSH's quantitative analysis when it
22 becomes available. Work Group defers action

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1 on thorium chest counts data, 1968 to '78
2 pending further assessment. NIOSH to provide
3 formal responses to SC&A on the August 11th
4 data adequacy and completeness report. SC&A
5 to review this report when it becomes
6 available.

7 I know that that was a lot to take
8 in there but one of the things that comes into
9 it, and that's an understatement, but guess
10 what? You know, going through all these Work
11 Groups, here's the bottom line. Are the
12 questions being answered? Do you have
13 quantitative information to be able to do it?

14 And you know, every one of these sites that
15 we are dealing with we have to deal with the
16 information that we can get and some of it
17 comes into question sometimes. This is why
18 I'm bringing this before the Board now because
19 if there's questions out there that as we're
20 going into this we want to make sure that they
21 are answered in a manner that is going to help
22 you make your decision. So are there any

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1 questions?

2 CHAIRMAN MELIUS: Paul and then
3 John.

4 MEMBER ZIEMER: This is not really
5 a question but really a comment. I think
6 first we need to salute Brad for sharing Work
7 Group with a very complex site to evaluate.
8 And I'm on the Work Group and I have a hard
9 enough time following all the issues. Brad
10 has summarized them well here. But for those
11 on the Board who aren't on the Work Group I
12 know you realize how complex these are.
13 Whether they're open or closed these have been
14 complex issues that the Work Group has
15 struggled with.

16 So this is a good summary for you
17 to have here. There's probably more detail
18 than the non-Work Group Members can absorb all
19 at this time but you have this for future
20 reference. And I think there's been good
21 progress made over the past several years and
22 I personally thank the Chair for you know

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1 doing the strong effort that's needed to keep
2 this moving along. And I think we're -- we
3 are getting toward the end and that's why it's
4 important for people to have these issues so
5 that when the time comes for the discussion
6 you know this is not like Hooker which is a
7 simple operation. So thanks, Brad, for giving
8 us this summary, complex as it is, so that we
9 have it for our future reference.

10 CHAIRMAN MELIUS: I think John was
11 next.

12 MEMBER POSTON: I'm not a member
13 of the Work Group so I'm one of those that's
14 confused. So I'm really just wanting a
15 clarification so that I can better understand.

16 Finding 3 on slide 13 says no positive linear
17 correlation between thorium monitoring
18 frequency and magnitude of results. I'm not
19 quite sure what that means. So can somebody
20 help me?

21 MR. STIVER: Yes. This is John
22 Stiver. This issue 3 came up as a result of

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1 the Work Group discussions where it was
2 brought up that the thorium workers and the
3 uranium workers who had the highest potential
4 for intakes would have been monitored more
5 frequently. For example, somebody came in
6 with a high result they would sample more
7 frequently on that worker. And so there
8 should be some correlation between the
9 magnitude of the result and the frequency of
10 sampling. And so we took a look at that. And
11 for thorium there was just a data cloud with
12 no apparent correlation whatsoever.

13 MEMBER POSTON: But why were you
14 assuming it was a linear relationship? That
15 was what threw me off. I don't have a clue
16 what you mean by that.

17 MR. STIVER: This analysis was
18 really more qualitative just to see if there
19 was some discernible correlation between those
20 two variables. And we were able to determine
21 that there was with uranium, but not so with
22 thorium. And granted there's probably better

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1 correlation methods out there than just some
2 linear approach.

3 MEMBER POSTON: What would be the
4 solution to these findings?

5 MR. STIVER: Well, the real
6 important one was that -- you know, you've got
7 to remember that both the data completeness
8 and data adequacy studies were done in
9 parallel. And the data completeness study is
10 kind of based on the presumption that, okay,
11 let's just table the adequacy issue for now,
12 assume it's good. Let's see if they are
13 complete enough that it would be adequate for
14 a coworker model. And I believe it was a
15 couple of Work Group meetings ago NIOSH had
16 come back with this issue of are thorium
17 workers adequately represented in the data set
18 to where they wouldn't be under-represented or
19 their intakes wouldn't be under-reported in
20 the coworker model. And so that was really
21 the origin of our action item to look into
22 this. And so that was really the gist of that

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1 particular study to see if the thorium workers
2 were adequately represented in the high end of
3 the distribution.

4 And the other issue was that
5 thorium, there's only one reference that
6 really identifies thorium workers and that's
7 for one year in 1968. And so there's this
8 issue of can we even identify who they are.
9 And because of that NIOSH had indicated well,
10 we believe the chemical workers would be an
11 adequate surrogate if you couldn't identify
12 the thorium workers. And so we looked at the
13 thorium workers that are available and
14 compared them to the chemical workers and
15 that's what the statistics came out of that,
16 was that -- actually the thorium workers were
17 probably in most cases except for the 95th
18 percentile confidence interval on the 95th
19 percentile for at least four years out of that
20 period they were actually higher than the
21 chemical operators. So we concluded, or came
22 to a preliminary conclusion I guess when you

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1 look at the assumptions that went into the
2 analysis that the chemical workers really
3 don't provide a bounding intake for the
4 thorium workers.

5 MEMBER POSTON: I'm just trying to
6 resolve finding 2 with finding 3. The
7 statement says less than 3 percent of the in
8 vivo records were above the MDL for thorium.
9 And you know, are these findings or are those
10 just statements of fact?

11 MR. STIVER: They're really
12 observations.

13 MEMBER POSTON: It says findings.

14 MR. STIVER: The milligram, yes I
15 guess maybe "finding" isn't the best term to
16 use.

17 MEMBER POSTON: I think it's a bad
18 term.

19 MR. STIVER: It's more of an
20 observation. And you know, obviously the MDA
21 issue gets back to the data adequacy so it's
22 kind of common to both analyses. I hope that

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1 helped to clarify this for you.

2 CHAIRMAN MELIUS: Mark, you had
3 something to add?

4 MR. ROLFES: Yes, this is Mark
5 Rolfes from NIOSH. We did take a look at the
6 two White Papers on thorium and help me out,
7 was there a third? There was a third White
8 Paper that SC&A had sent over. Anyway, we do
9 owe responses to the two thorium White Papers
10 that we recently received. We provided our
11 initial thoughts on the information contained
12 in the SC&A reports at the last Work Group
13 meeting. Regarding the comparison of the
14 thorium workers to the chemical operators we
15 had actually provided some comments on the
16 SC&A report tentatively. Our project
17 statistician had actually compared the lung
18 burdens of thorium workers and chemical
19 operators and our statistician concluded that
20 there was no reason to believe that they were
21 two separate populations of workers. So the
22 highest potential for exposure was typically

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1 the chemical operator Class of employees and
2 we believe that the thorium workers were in
3 that Class as well. So that was one of our
4 initial comments which we provided on the SC&A
5 report. We have not formalized our response
6 yet because we're trying to prepare more
7 detailed White Paper responses to those two
8 issues, those two White Papers.

9 Regarding the uncertainty in
10 thorium lung counting we certainly agree that
11 there are many uncertainties. However, I
12 think most of the comments that we recently
13 received from SC&A focused on theoretical
14 uncertainties and didn't really focus on the
15 uncertainties on our White Paper. Basically
16 they didn't focus on the specific uncertainty
17 in the age of thorium. We made some
18 assumptions in our White Papers about the
19 disequilibrium between thorium-232 and
20 progeny, information about translocation of
21 thorium progeny from the lung, many other
22 different things that we've discussed and

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1 assumptions that we've made. And a focused
2 review of those issues would be more helpful
3 to us in addressing the coworker intake model
4 used for Fernald.

5 Looking at it initially my opinion
6 that it wasn't an issue of whether or not the
7 thorium lung count data existed for Fernald
8 employees, it was just the uncertainties
9 involved in lung counting of thorium. And we
10 certainly acknowledge that there are a lot of
11 uncertainties. However, we do feel that we
12 can combine those uncertainties in a claimant-
13 favorable manner to give the benefit of the
14 doubt in the dose reconstruction process for
15 each dose reconstruction we complete. And we
16 will be providing information with that basis
17 in our next response.

18 CHAIRMAN MELIUS: While you're up
19 there my question was when.

20 MR. ROLFES: Sure, I understand.
21 We had just received these I believe it was a
22 little over two weeks ago. And so we're

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1 working to get responses done I believe by the
2 end of September so that we can have a Work
3 Group meeting prior to the next full Board
4 meeting.

5 CHAIRMAN MELIUS: Okay, thank you.

6 That is being responsive, thanks. Mark, I
7 think you had questions?

8 MEMBER GRIFFON: I was just going
9 to -- and Mark is correct on that description
10 that we're -- that's one of the issues that we
11 had the most discussion I think at the last
12 meeting around that issue. But I think both
13 sides had just received White Papers right
14 before the meeting as is our practice
15 sometimes. So anyway, we still have to give
16 NIOSH more time to look at that. But I think
17 the crux of the question is SC&A laid out many
18 of the uncertainties in the in vivo counting
19 for thorium and the way NIOSH is handling it
20 is in the coworker approach they believe with
21 the way they're handling the data is going to
22 encompass all those uncertainties and bound

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1 all those uncertainties. And then I think
2 there's a little bit of discussion of you know
3 to sort of prove that to us. We're not quite
4 there yet. It's a little different than some
5 of the previous uranium models and things that
6 we've looked at but I think that's where we're
7 at on the Work Group, so.

8 The only other thing I was going
9 to point out is in the third slide. I'm glad
10 Brad pointed this out, but the footnote is
11 important. I think SC&A has closed on some of
12 these but for instance that 6A I believe is
13 the thorium daily weighted average approach
14 and I think SC&A kind of agrees with NIOSH on
15 this. I for one still need to be a little
16 further convinced on that one. So I think
17 it's certainly SC&A's closed/open items, maybe
18 not the whole Work Group yet, so.

19 CHAIRMAN MELIUS: Okay, thank you.

20 Gen.

21 MEMBER ROESSLER: My question is
22 on slide 9, reconstruction of internal

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1 exposures. And talking about the chest
2 counts, the mobile in vivo counts, probably
3 it's because I don't know what DWE stands for.

4 It implies that they have to depend
5 completely on these chest counts and they
6 don't have this other data. Can somebody
7 explain what that is?

8 MR. ROLFES: This is Mark Rolfes
9 once again. The DWE data is the air
10 monitoring data, their daily weighted exposure
11 reports. Early on in the Fernald operational
12 history in the early '50s members of the
13 Health and Safety Laboratory had visited the
14 Fernald site and basically explained and
15 helped to prepare daily weighted exposures,
16 basically tracking several different
17 individuals, chemical operators, laborers,
18 many different Classes of employees that were
19 involved in doing hands-on work with
20 radioactive materials, either uranium and/or
21 thorium. Basically the Health and Safety
22 Laboratory would take an air sample result, a

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1 breathing zone air sample result, provide the
2 duration of that exposure for that employee to
3 that air concentration and track that employee
4 to the next operation, take an air monitoring
5 result. So there's a combination of breathing
6 zone air sampling data as well as general area
7 air sampling data with specific durations of
8 exposure and whether or not respiratory
9 protection was used for each operation that
10 was conducted at the Fernald site. So we have
11 that data available to us for thorium
12 operations in addition to uranium. And that
13 is the basis for our methodology to
14 reconstruct thorium intakes for the earlier
15 operational period from the 1950s up until
16 1968 when the mobile in vivo radiation
17 monitoring lab came from the Y-12 facility to
18 perform lung counts of the Fernald employees
19 that were thorium workers as well as uranium
20 workers.

21 MEMBER ROESSLER: Thank you.

22 CHAIRMAN MELIUS: Any other -- go

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1 ahead.

2 MEMBER GRIFFON: Just one more
3 point and I think Paul kind of hinted at this,
4 that you know, there were a lot of slides and
5 a lot of detail there which I think Brad did a
6 good job, you know, laying out some detail so
7 the Advisory Board is sort of ready for this.

8 But I mean, if you look at all this I don't
9 think I'm overstating this by saying that
10 we're down to probably two main items which is
11 the recycled uranium and the thorium --
12 thorium in two different time periods with in
13 vivo versus DWE. But I mean, it's -- we are
14 getting closer. So you know, there's a lot of
15 slides but I think there's primarily two big
16 issues that we're trying to close on.

17 CHAIRMAN MELIUS: Anybody else
18 have questions or comments? Yes, Brad.

19 MEMBER CLAWSON: Paul summed it up
20 earlier. When you look at Fernald, when I
21 first went into this I thought it was just
22 uranium. And this is what their basic process

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1 was. But at all these sites, like all of us
2 have found out they have their unique little
3 quirks to them. A lot of other things came in
4 because of the thorium issue. Fernald became
5 the site, it was the repository for all this
6 thorium. And when I first started going into
7 thorium I was thinking small batches and
8 stuff. We're looking at railroad cars from
9 all over the place. They brought in, they did
10 little tests to try to richen up the uranium
11 as it went in. It wasn't a real big one.
12 They had some come in from Idaho that was too
13 high. These are really, there's a lot of data
14 in there. And then to have this plant was ran
15 as a heavy metals plant until in the '80s it
16 really didn't start getting in just like all
17 these other sites, didn't start getting into a
18 real appropriate RadCon program until in the
19 late '80s.

20 CHAIRMAN MELIUS: Brad, I have a
21 question for you. When do you -- do you have
22 any estimate of when the Work Group will be

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1 able to come to the Board with a
2 recommendation?

3 MEMBER CLAWSON: After we get
4 these White Papers processed. I'll be right
5 honest, this is like at the other sites and
6 I'm not throwing stones because either side
7 wasn't. But we didn't get some of this data
8 until the day before the Work Group meeting.
9 We're shooting for the September time frame
10 but one of the stipulations that I went on the
11 record of saying is that we need to have at
12 least three weeks for either side to be able
13 to review the papers on this time.

14 CHAIRMAN MELIUS: Okay. Because
15 this petition has been around a long time and
16 we need to try to reach some conclusion on it.
17 So. I know you agree with that. Okay. Yes,
18 David.

19 MEMBER RICHARDSON: Can I just ask
20 for one point of clarification about what's
21 being proposed for coworker data? And this
22 was sort of an issue that was raised in the

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1 10-year review. Are the coworker models here,
2 are they job area time period-specific
3 coworker models, or are they plant-wide
4 coworker models? How is that being
5 envisioned?

6 MR. ROLFES: This is Mark Rolfes.

7 Basically what has been done, NIOSH had
8 proposed a thorium-232 coworker model using
9 the in vivo lung count data back in May of
10 2008. We basically looked at several thousand
11 lung counts and developed a distribution of
12 the thorium lung burdens. For any employee
13 who was a potential thorium worker we would
14 assign a thorium intake based upon the lung
15 data. But this only applies to the 1968-
16 forward period. Prior to 1968 we would be
17 relying upon the daily weighted exposure-based
18 intakes. We've actually gone through on many
19 of the questions that SC&A had on the earlier
20 intake model using daily weighted exposures
21 have been resolved because I believe we are
22 now choosing the highest daily weighted

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1 exposure intake for that facility for any
2 year. I have to go back, it's been awhile
3 since we've discussed the daily weighted
4 exposure intakes.

5 MEMBER RICHARDSON: Does the
6 calendar year applied to everybody at a
7 facility?

8 MR. ROLFES: Yes, it would be
9 specific to the year or time period that the
10 work was being done.

11 MR. STIVER: If I could kind of
12 expound on that a bit. The daily weighted
13 model looks at not just per year but per
14 plant. So for any given plant for a given
15 year that will be looking at kind of a one-
16 size-fits-all model for those workers in those
17 facilities. But it's not across the entire
18 FMPC.

19 CHAIRMAN MELIUS: I mean I would
20 just add, I would also be interested in that
21 same issue and be sure to look at that, but
22 also job title or other factors that may

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1 separate people. At least on large coworker
2 models I think can be problematic and so.

3 MR. STIVER: Dr. Melius, that was
4 one of the -- the first round of the model
5 reviews, that was proposed by NIOSH was
6 breaking it out into three different
7 categories by job type.

8 CHAIRMAN MELIUS: Okay.

9 MR. STIVER: We discerned there
10 wasn't enough granularity in the data to
11 warrant that.

12 CHAIRMAN MELIUS: Okay. Paul?

13 MEMBER ZIEMER: I think it may be
14 important to let the group know what fraction
15 of the employees would actually be using the
16 coworker model, Mark.

17 MR. ROLFES: Well, specific to the
18 1968-forward time period if the individual did
19 not have a lung count for his entire duration
20 of employment then we would assign the
21 coworker intake model. If, however, he had
22 data in his file showing that he had a lung

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1 count we would use his data. As far as the
2 specific number of people who, I don't have
3 that information available right now.

4 CHAIRMAN MELIUS: Okay.

5 MS. BALDRIDGE: This is Sandra.

6 CHAIRMAN MELIUS: I know, I'll get
7 to you in just one minute here, okay? I just
8 want to have one -- so Brad again, if I'm
9 trying to understand the schedule and so
10 forth. So do you think the Work Group will be
11 able to come back to us at the December
12 meeting? Because I really think we need an
13 update, a recommendation from the Work Group
14 which can be, you know, either sort of yes,
15 no, or we can't decide but here are the issues
16 and the specific issues that we pin down. I
17 think the Board then is going to need to
18 decide what to do.

19 MEMBER CLAWSON: Yes, I do believe
20 that we will be able to have a recommendation.
21 I just, I wanted to be able to get this to
22 the Board because at this time so that when we

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1 do come to them that they've got a better
2 understanding of the issues that we've dealt
3 with and gone forward. When we voted to bring
4 this to the Board last time it was, you know,
5 it was a split decision and Paul wanted to
6 make sure that we were aware of that. This is
7 also, I want people away from the Work Group
8 because Paul summed this up. This is very,
9 this is a very cumbersome site, there are so
10 many variables to it - it was unbelievable to
11 me. And so I wanted to make sure as we bring
12 this forward to you in this next Board meeting
13 that you have a better understanding of it.

14 CHAIRMAN MELIUS: Thank you. No,
15 we appreciate that and we appreciate the
16 complexity. I think now we'll give an
17 opportunity for the petitioner to comment.

18 MS. BALDRIDGE: Yes. I was
19 looking through my notes on thorium which is a
20 concern of mine and I have noted here that in
21 1958 they were working with thorium residues
22 that were improperly coded. They were

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1 exploding. They needed to be re-inspected,
2 re-drummed and that some of the product was
3 being oxidized. It was determined that there
4 was sufficient radium-228 in the residues to
5 contaminate the Miami River from surface
6 runoff or groundwater seepage to levels 1,000
7 times the MPC level for drinking water. And
8 during these processes they actually lost
9 product into the sewage system. So the issue
10 with thorium is a considerable one, at least
11 from my point of view.

12 I'd also like to make a statement
13 concerning the surrogate data that was being
14 presented for Hooker. The air samples were
15 exempted from consideration by Fernald in the
16 SEC because the air quality issue was
17 determined in a federal court to be valid.
18 It's more than just one affidavit by a person
19 stating that there was corruption in the air
20 data reporting. A federal judge made the
21 determination that there was significant
22 discrepancy in the reality and what was

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1 presented, that it resulted in a medical
2 monitoring program for workers at Fernald. I
3 believe that's about all I have to say at this
4 time. But it's not that they chose not to,
5 they couldn't use the air sampling for the
6 dosing for Fernald based on what the SEC
7 presented. Thank you.

8 CHAIRMAN MELIUS: Thank you,
9 Sandra. Any other Board Members have further
10 comments or questions on Fernald? Okay.

11 MEMBER CLAWSON: This is Brad
12 again. You know, I want to take this
13 opportunity. Paul told me thanks, but I
14 wanted to thank Sandra Baldrige. I wanted to
15 thank numerous people from the Fernald group
16 that have been continuously there and that
17 have dug up an awful lot of this information
18 that has helped us better understand how the
19 process went. And she's right that there was
20 a lawsuit on it but this is outside of the
21 boundaries of the site, but we still need to
22 take into consideration of what it did. It

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1 implemented an awful lot of things outside of
2 the boundaries of the site. And she is
3 correct in what was said here today. But I'd
4 like to personally thank her and Ray and all
5 those that have helped us out so much.

6 CHAIRMAN MELIUS: Okay. Thanks.
7 Anybody else? Okay. It's a little after
8 10:30. We are scheduled again at 11:15. Why
9 don't we take a break, then we'll come back at
10 11:15 for Norton Company.

11 (Whereupon, the above-entitled
12 matter went off the
13 record at 10:35 a.m. and
14 resumed at 11:18 a.m.)

15 CHAIRMAN MELIUS: Okay, the Board
16 is going to reconvene and the issue we are
17 talking about is the Norton Company SEC
18 petition. And Wanda Munn from the Procedures
19 Work Group will make a presentation. Wanda.

20 MEMBER MUNN: Thank you. You've
21 seen and heard almost everything there is to
22 know about Norton already I think. These are

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1 the Subcommittee Members. I chair this group.

2 And you may recall that Norton is something
3 you've seen at least two times already. It's
4 the AWE that was located on New Bond Street in
5 Worcester, Massachusetts. Operated from 1945
6 to 1957. During that period of time we looked
7 at the SEC petition for this period. We
8 originally received an 83.13 and in the
9 process of reviewing that NIOSH segregated and
10 expanded the period that had been covered by
11 the original petition so that it was
12 segregated into the operations period from
13 January 1st of '45 to the end of 1957. We did
14 recommend that SEC and that letter went to the
15 Secretary back in 2009. The post-operative
16 period is divided also into two different
17 areas. One period was the D&D period from '58
18 to '62. You have looked at that and have
19 recommended the SEC. That's going to the
20 Secretary early this year.

21 One should note at this time that
22 the cleanup on this particular facility was

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1 extensive. I don't know whether you recall
2 that from the presentation that you saw at the
3 time we granted the SEC for the D&D period.
4 But these folks did an awful lot of work
5 cleaning this place up. What we're looking at
6 today is limited only to the residual period.

7 At the time that we were looking at the
8 entire post-op period this Board had
9 recommended that Procedures take a look at
10 what was going on during this residual period
11 primarily because TIB-70 was being processed
12 by the Procedures group at that time.

13 We did that back in March and we
14 charged our technical contractor with focused
15 review of this particular period. They got
16 that to us on July 7th. They had two
17 findings. One is they were concerned about
18 the fact that NIOSH was basing their entire
19 dose estimates, both internal and external, on
20 a single set of samples that had been taken in
21 1958. They felt that might be inadequate.
22 Bear in mind, please, that 1958 if you recall

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1 from what I just said was early on in the D&D
2 process. The second item was that the source-
3 term depletion factor of 1 percent a day which
4 had been used from OTIB-70 in looking at this
5 was still up in the air as far as Procedures
6 was concerned and as a matter of fact today we
7 still are dealing with that in our review of
8 the procedure itself.

9 The Subcommittee met with the
10 agency and with SC&A on July 14th this year.
11 And we spent a significant amount of time
12 looking at these two issues and working
13 through exactly what NIOSH had done and
14 discussing why it was felt that their review
15 and their conclusions were acceptable. After
16 the conditions with respect to the air
17 sampling were explained carefully and those
18 air samples, remember, were taken early on in
19 the D&D process. They were taken in an area
20 which was the high activity operation area
21 near the grinding wheel where the thorium
22 activities were based and near the hood.

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1 Following those air samples the extensive D&D
2 that I mentioned earlier transpired. All of
3 the debris was cleaned up. The furnaces and
4 the kiln were literally taken apart brick by
5 brick. All of this material was cleaned up,
6 stored in barrels and over that D&D period
7 from '58 through '62 those 287 barrels
8 constituting a couple of thousand tons of
9 material was transferred offsite and buried in
10 a remote location.

11 After this discussion SC&A agreed
12 that the circumstances involved made it
13 reasonable to rely on those air samples as
14 adequate to bound the exposures because
15 anything that would have occurred following
16 that would have been lower source-term
17 markedly. So that for our residual period
18 that we were looking at certainly not only the
19 cleanup itself but the decay and activity that
20 would have occurred following that would be of
21 necessity less.

22 The second item is an interesting

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1 one. I think Dr. Neton will speak with you
2 more about that later. The default depletion
3 factor that -- of 1 percent per day which had
4 been used did not follow well with experience
5 that we've had in similar kinds of facilities
6 and with data that had been collected from a
7 wide variety of sources. This depletion
8 factor involves not only the resuspension
9 calculations that are made but also the
10 distribution of the lessening amount of
11 material over this period of time and decay
12 factors that all have to be taken into
13 consideration. That being the case, NIOSH had
14 suggested a depletion factor that was -- a
15 default depletion factor that was at least an
16 order of magnitude less than what had been
17 originally used when we were looking at this
18 period for the first time so that there --
19 they agreed they would issue a correction to
20 the original 83.14 which they had presented.
21 So that the correction factor would be 0.67
22 percent per day rather than the 1 percent

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1 which had been used in the previous
2 calculations. So NIOSH has now issued that
3 addendum and using that agreed factor. That
4 was August 4th issuance.

5 There are no remaining unresolved
6 issues applicable to the SEC Class for this
7 residual period. And that's all we're looking
8 at right now is the residual period. At our
9 July meeting when we looked at this we did not
10 have a quorum present so we can't bring you a
11 formal recommendation from the entire
12 Subcommittee. But all of the Members in
13 attendance agreed with the resolutions that
14 had been reached and we support the NIOSH
15 recommendation to not grant SEC status for
16 this residual period. It's fairly obvious to
17 those of us who were there that bounding doses
18 can be estimated with sufficient accuracy and
19 certainly both our contractor and the agency
20 have looked at these issues very carefully.
21 We're comfortable with them and agree that the
22 calculations that are necessary to bound doses

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1 for this residual period only can be made.
2 Any questions?

3 CHAIRMAN MELIUS: Why don't we
4 hold questions, let Jim Neton present the --
5 his presentation. Because I think it would be
6 easier because we ask questions about the 1
7 percent, the correction for that. You're
8 going to refer to him, correct?

9 MEMBER MUNN: I believe that would
10 be very nice especially in view of the fact
11 that he can answer all your questions and I
12 can sit down.

13 CHAIRMAN MELIUS: Well, no, we're
14 not letting you off without questions.

15 (Laughter.)

16 CHAIRMAN MELIUS: I just thought
17 rather than --

18 MEMBER MUNN: That's fine. Dr.
19 Neton?

20 DR. NETON: I'll see what I can do
21 here. Well, thank you. Wanda did an
22 excellent job outlining the issues at hand

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1 here and so I won't go over and repeat what
2 she said. What I'd like to do is just make a
3 few comments on the issue of the depletion
4 rate that was used. We had a conundrum at
5 Norton because as Wanda said the facility had
6 been fairly well cleaned up but at the same
7 time we had no survey data to demonstrate how
8 clean it was. I mean, it sounded good, they
9 took all the bricks out, they buried them,
10 they used solvents to clean the equipment and
11 everything but we just had nothing to prove,
12 you know, how clean was clean. So we didn't
13 have a starting point. But we thought we
14 needed to have some way to assign some dose so
15 we did as Wanda suggested use as a starting
16 point for the residual period air samples that
17 were taken just around the beginning of the
18 cleanup period feeling that would be bounding.
19 But secondly now we didn't have an anchor
20 point to say, well, how much contamination was
21 there at the end of the period which I think
22 goes out to 2009. The issue with that is

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1 because Norton continued, after they cleaned
2 up the thorium they continued to make
3 commercial thorium product unrelated to AEC
4 operations. So any measurements that were
5 taken later on which I think we had some were
6 potentially biased because of all the
7 commercial production that went on. So we had
8 to have some sort of an anchor point at the
9 other end and TIB-70 as we all know has
10 several alternatives and one of the
11 alternatives is when you have no anchor point
12 at the more contemporary period we could start
13 with the anchor point at the end of production
14 and use a 1 percent per day depletion to come
15 up with some sort of an estimate of the
16 exposure. The problem with that is that we
17 developed that some time ago, it was based on
18 some published literature that we had reviewed
19 and since then, as Wanda said, we've done
20 empirical evaluations at a number of sites and
21 it's certainly, that 1 percent per day is not
22 consistent with what we've seen at several

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1 sites.

2 And here's what I mean. If you
3 look at this slide this is right out of the
4 addendum. There were -- we went back and
5 looked at any site that we actually had a
6 beginning point and an ending point and
7 calculated -- and what we used in the -- well,
8 the ERs or Site Profiles, wherever we ended up
9 using the information. And these were the
10 depletion rates that were observed at these
11 four facilities. There is some variation but
12 the average value comes out to be 0.0067 per
13 day or 0.067 percent. That's about a factor
14 of 15 slower clearance than TIB-70 would allow
15 for. So we believe that based on the
16 empirical data that we have for these four
17 sites we are proposing to use that value to
18 reconstruct the doses during residual period
19 at Norton, keeping in mind that we believed at
20 the beginning of the day that things were
21 pretty well cleaned up to begin with.

22 I just present this last slide

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1 here to sort of give you a graphic
2 representation of the differences. You can
3 see the 1 percent per day clears out pretty
4 quickly, that's pretty intuitive that you
5 know, with that fast of a clearance rate
6 you're not going to have much left at the end
7 of the year and I think we had some prescribed
8 -- it never went to zero. It was some flat
9 line value that was prescribed in TIB-70. But
10 the red line you see here is the new value
11 that we're going to end up -- we're proposing
12 that would be used for Norton.

13 I guess the next question would be
14 well what about TIB-70. We haven't revised
15 TIB-70 yet but we certainly will take that
16 into consideration and probably end up
17 incorporating this conceptually into either
18 TIB-70 and/or TBD-6000. Because really if you
19 think about it this sort of ends up being a
20 TBD-6000 issue, what do you do for clearance
21 at uranium type facilities and thorium
22 facilities. So that's the end of my formal

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1 comments but I'd be happy to answer any
2 questions or refer them to Wanda if I can.

3 CHAIRMAN MELIUS: Any questions
4 for Wanda or Jim? Oh Bill, sorry.

5 MEMBER FIELD: Jim, I'm just
6 curious with the variation that you see in the
7 depletion rates what processes may be causing
8 that variation. I mean it's not huge but it
9 does differ. Is it just sampling differences
10 or?

11 DR. NETON: Oh no, I think it's
12 just process, differences in facilities. I
13 mean, you're talking about four different
14 facilities that did somewhat different things.
15 These facilities were actually still in
16 production mode where see you're going to have
17 a faster -- in my opinion there would be a
18 faster depletion rate if you have ongoing
19 operations rather than a facility that's shut
20 down and you know is closed up you wouldn't
21 have as much potential for clearance. But
22 these are just different facilities and I was

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1 actually surprised how close they were given
2 that there are differences.

3 MEMBER GRIFFON: Just to follow up
4 on that, Jim. I'm looking at these and I'm
5 thinking you've used this approach in many
6 more sites I believe. I'm wondering does this
7 sort of show your full range of what you've
8 identified? For instance, I see W.R. Grace is
9 one we just went over yesterday. That
10 proposes I think a similar approach to go from
11 operational to --

12 DR. NETON: W.R. Grace --

13 MEMBER GRIFFON: FUSRAP data.

14 DR. NETON: Right. W.R. Grace is
15 a new one that we just did and that wasn't
16 available when I did this one. I think we've
17 captured all of them.

18 MEMBER GRIFFON: These are all of
19 them? Okay.

20 DR. NETON: There are only four
21 sites where we're able to do this approach and
22 I think there are several sites -- I went back

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1 and looked -- where we use the 1 percent per
2 day that if we adopt this we're going to have
3 to go back and re, you know, do a PER
4 essentially to reevaluate the residual
5 contamination period at those sites. But I
6 think this is the gamut of all the sites.

7 CHAIRMAN MELIUS: Henry?

8 MEMBER ANDERSON: Yes. Are any of
9 these -- how similar are they to the Norton
10 site? As far as what went on during the
11 residual period. You know, you can average
12 them as you have. On the other hand you could
13 say well, really Blockson is quite a different
14 circumstance or Dow Madison is you know more
15 difficult.

16 DR. NETON: Yes. Well, what we
17 are talking about here is resuspension of
18 material and not about the actual processes
19 that are occurring so much. You know, there's
20 activities, people milling around, sweeping,
21 vacuuming, you know, those type of things that
22 occur in a general environment. I'm not so

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1 sure the actual process that occurred is
2 relevant. It may have some bearing.

3 MEMBER ANDERSON: What was going
4 on in the building.

5 DR. NETON: These were all active
6 sites, I mean they weren't closed up
7 facilities where you know there's just nothing
8 going on. They were actively doing something,
9 some commercial operations.

10 MEMBER ANDERSON: Nothing was
11 going on?

12 DR. NETON: Oh Norton was
13 producing thorium the whole time. Well, not
14 the whole time, but during the residual period
15 Norton was doing commercial activities much
16 like these were producing commercial products
17 of some sort. Not necessarily radiologic,
18 radioactive products, but.

19 MEMBER ANDERSON: And Wanda I'm
20 just curious, early on there was a question
21 that you just have one sample or one set of
22 samples. How was that resolved?

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1 MEMBER MUNN: That was resolved as
2 I pointed out. Correct me if I'm wrong, Jim.
3 As I pointed out the old samples were very
4 good samples. They were taken early on in the
5 D&D process so that what -- and they were
6 taken in an area where the highest
7 contamination would have been, where the real
8 action was going on. So because those samples
9 were taken where they were and when they were,
10 that is, early on in the D&D process before
11 all of the things were cleaned up it follows
12 that as things were cleaned up and taken away
13 you were not going to have at the end of the
14 cleanup period a higher rate of activity than
15 you would have had at that moment. So those
16 samples were taken during the D&D period for
17 which we have already granted an SEC and sent
18 that recommendation to the Secretary. So
19 those samples were taken early on in that
20 period. Anything that transpired in the
21 residual period after all of the cleanup had
22 been completed could not possibly be higher

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1 from our AWE source than it was at the time
2 those samples were made.

3 MEMBER ANDERSON: Yes, I
4 understand that. The question is yes, that's
5 -- they couldn't have been any higher but is
6 that a realistic starting point for applying
7 then this depletion. It would seem to me your
8 estimated exposures are going to have been
9 much higher than they ever could have been so
10 it's a bound but it might be a very
11 unreasonable high bound.

12 DR. NETON: I'm sorry.

13 MEMBER ANDERSON: Yes.

14 DR. NETON: That's the conundrum.

15 I mean, you have a facility that's been
16 cleaned up but you have no data to say how
17 much it was cleaned up and so to bound it
18 you're going to use something that was in,
19 that was more than likely more contaminated in
20 the cleaned-up facility but you're taking a
21 general area air sample, not a process sample
22 where they're machining the material, just a

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1 general area sample of what were the
2 concentrations of thorium in the general
3 environment of that facility in 1958 I think
4 it was, '59. And that will bound your
5 starting point for the residual period.
6 Otherwise I don't know what you do. It's --
7 our first guess actually, my first pass at
8 this was to say it was cleaned up, there was
9 no residual contamination. But you know, you
10 just can't say that with any confidence. So
11 this in our opinion is a bounding value to
12 apply to something that was more than likely
13 much lower.

14 CHAIRMAN MELIUS: Along those
15 lines and the original SC&A comments actually
16 weren't about the -- sort of the
17 representativeness for that year as much about
18 the -- I think it's a limited number of
19 restricted air sampling time and then some
20 technical issues about how the samples were.

21 DR. NETON: Right. But I think
22 what -- their argument was that they were not

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1 necessarily representative of the activity and
2 I pointed out during the meeting that we have
3 agreed awhile ago that general area -- you
4 don't necessarily need representative air
5 samples of some process if you're just trying
6 to characterize what's being resuspended from
7 the ground. A general area air sample about
8 the building is going to be representative of
9 what's being kicked up from the deposited
10 activity, not you know, we don't really care
11 how much activity is being generated by
12 grinding, cutting, that's just, it's not
13 happening. And SC&A agreed with that.

14 CHAIRMAN MELIUS: Okay. I just
15 wanted to get on the record how we addressed
16 that.

17 DR. NETON: You're absolutely
18 right.

19 MEMBER ANDERSON: What were the
20 values?

21 DR. NETON: Of the?

22 MEMBER ANDERSON: I mean how --

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1 how high are they I guess. I mean are they so
2 high that --

3 DR. NETON: I'll try to keep my
4 significant figures down here, but 4.6 dpm per
5 cubic meter. It's fairly low, not very high.

6 MEMBER ANDERSON: That's what I
7 wanted to know.

8 DR. NETON: About five, less than
9 five.

10 MEMBER ANDERSON: Yes.

11 CHAIRMAN MELIUS: Thank you.
12 Mark?

13 MEMBER GRIFFON: I know I've made
14 these comments before but it's really
15 regarding TIB-70 in general and my concerns of
16 this approach. I mean, I wonder if it gets
17 into the we-can-solve-this-problem mode. But
18 you know, you said in this residual period and
19 I think we've all thought about it this way,
20 in a lot of the discussions, that you know the
21 depletion rate is sort of people are milling
22 around or sweeping or things like that. My

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1 concern and from firsthand experience is in
2 those 20 or 30 or so years a lot of what --
3 now this is a little different because you had
4 commercial operations come in afterwards so
5 it's complicated in that way, but in a lot of
6 the other facilities I've worked in a question
7 is raised that in those middle years workers
8 went up and tore out ventilation systems and
9 tore out old process equipment the footprints
10 of which ended up being highly contaminated.
11 So these general FUSRAP samples which are
12 actually -- I mean, they're -- we all know
13 that that sampling effort, in most of these
14 cases I think the sampling effort was scoping,
15 you know, do we need to do cleanup on this
16 site. So they would just do some general area
17 samples and if you had a couple that were over
18 limits you didn't need to go much further.
19 They weren't necessarily designed to sort of
20 characterize exposures to employees. So my
21 concern is not the general activities that
22 would have went on but the sort of maintenance

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1 activities and you know I guess you get into
2 the discussion of whether this would bound
3 those conditions or that kind of thing.

4 DR. NETON: Well, I'd remind you
5 this site's a little different because it was
6 cleaned up. I mean they took the kiln brick
7 by brick apart and buried 18 to 20 tons of
8 material that by their estimate contained
9 about I think 15 pounds of thorium total
10 included in that 18 tons of residue that they
11 pulled out of that building. So I think this
12 is a little different than that.

13 MEMBER GRIFFON: I don't know the
14 specific case but you know I did quite a bit
15 of consulting cleaning up sites that were
16 cleaned up.

17 DR. NETON: I understand.

18 MEMBER GRIFFON: I mean sites that
19 were cleaned up in the '70s --

20 DR. NETON: Right.

21 MEMBER GRIFFON: -- and ended up
22 being, you know, big projects in the '90s, so.

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1 Anyway.

2 CHAIRMAN MELIUS: It's also our
3 conversation yesterday, just a comment is that
4 you know, people will get individual dose
5 reconstruction if we follow through with this
6 recommendation. So if someone applies and
7 find out that there was, you know, a task that
8 went on for a significant period of time what
9 would have been much higher exposures or
10 something you know I think and I would hope
11 that NIOSH would recognize that situation and
12 say maybe we don't have adequate data to do
13 the, or this approach isn't adequate to
14 address that. I mean I think that's --

15 MEMBER GRIFFON: I mean, I'm not
16 arguing that the exposures would have been,
17 and even at the start of that D&D it seemed,
18 you know, obviously they were at very small
19 levels. I'm just, you know, so that's why
20 it's a troubling area because in one way you
21 know the exposures were low but the question
22 is can you really -- do you really have enough

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1 information to characterize the exposures.
2 That's my dilemma. And this depletion rate
3 just assumes, you know, general sort of being
4 in the area, not these sort of intrusive
5 activities. Because I don't think any of
6 these FUSRAP samples would have represented
7 those kind of areas where you know within
8 ventilation systems or under process
9 equipment. I'm pretty sure, they might have
10 done a few sub-surface samples but usually
11 it's surface.

12 DR. NETON: Right. I'd like to
13 focus on this issue here though for this
14 facility, not the general issues. This is
15 applicable to this facility I think is what
16 I'm suggesting, not is it applicable across
17 the board. We haven't modified TIB-70 to do
18 this but I think for this particular
19 application I think it's appropriate. Given
20 what we know about the cleanup activities and
21 the removal of the kiln itself.

22 MEMBER GRIFFON: You're deriving

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1 depletion rates based on other sites where my
2 characterization might have been applicable,
3 right? I mean, I think.

4 DR. NETON: Well, I don't know. I
5 mean because these are surface contamination
6 levels that were observed on the accessible
7 surfaces. And we're talking about accessible
8 surfaces that were here in this building
9 because the kiln and the materials where they
10 produced it are gone now.

11 MEMBER GRIFFON: Are gone. That's
12 a good argument, you're right. And that's --
13 because that -- and was that true in these
14 other cases? I guess that would be a
15 question.

16 DR. NETON: Well, what I'm arguing
17 though is they measured the depletion rate of
18 accessible surfaces and we're trying to model
19 what the depletion rate for accessible
20 surfaces would be at this facility. Because
21 the kiln and everything is gone. So whatever
22 holed-up material there might have been in the

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1 ductwork and stuff is really not relevant for
2 this particular situation. I grant you that
3 maybe for another facility where there is a
4 footprint of contamination, you've got a
5 point.

6 MEMBER GRIFFON: Yes. It's
7 definitely a stronger argument when you --

8 DR. NETON: And so each facility
9 needs to be taken --

10 MEMBER GRIFFON: -- say this stuff
11 was removed.

12 DR. NETON: And I totally agree
13 that each facility needs to be taken on its
14 own merits. You know, this is not sort of
15 going to be universally applicable I don't
16 think. That's why we didn't rush to make this
17 a TIB-70, you know, modification yet, at least
18 in some other form.

19 CHAIRMAN MELIUS: Any other
20 questions?

21 DR. NETON: David I think has
22 something.

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1 MEMBER RICHARDSON: I had one
2 question. I was wondering, the picture you
3 had of comparing the first model, the prior
4 model to the current model, it looked like
5 after 100 days basically there was nothing
6 left under this 1 percent per day model. And
7 so I was wondering if I understood what that
8 meant about 1 percent per day. Is it -- I was
9 imagining like a compartmental model where
10 there's some mass and then you're moving over
11 a fraction of it out of the compartment to a
12 second --

13 DR. NETON: A clearance rate.

14 MEMBER RICHARDSON: A clearance
15 rate. And so you calculate kind of like
16 compound interest.

17 DR. NETON: Exactly.

18 MEMBER RICHARDSON: And so this is
19 an exponential decay model.

20 DR. NETON: Exactly. So you have
21 a 15 times longer half-life -- a lambda value.

22 A clearance rate. And so your total intake

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1 in terms of dpm per cubic meter days, if you
2 integrate that curve it's 15 times more
3 effectively dose because milligram per cubic
4 meter days is dose, your intake. So you're
5 allowing for -- if the material is there a lot
6 longer it's available for resuspension
7 inhalation for quite a much longer period of
8 time.

9 MEMBER RICHARDSON: So the picture
10 just -- the picture was giving me the
11 impression that this was a linear decay model.

12 DR. NETON: Yes, and that's an
13 issue with the scale because it's not linear,
14 it's an exponential, it's just compressed on
15 that scale so much it looks like a straight
16 line.

17 MEMBER RICHARDSON: Because these
18 are years and you're getting out to --

19 DR. NETON: Exactly. Yes, so it's
20 --

21 MEMBER RICHARDSON: Thousands of
22 days. That's what's going --

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1 DR. NETON: That's the problem,
2 yes. So it's a very fast -- 1 percent per day
3 is too fast. I mean, I totally agree with
4 that, it just doesn't -- in retrospect what we
5 know about these sites and -- just not a good
6 number to use.

7 MEMBER RICHARDSON: Okay.

8 CHAIRMAN MELIUS: Any other
9 questions? If not I believe the Work Group
10 did not have a specific recommendation, I
11 think you lacked a quorum if I understood you
12 but so do you wish to make a motion?

13 MEMBER MUNN: Mr. Chair, I am
14 delighted to move that this SEC petition not
15 be accepted and that NIOSH address the
16 residual period in the manner that's been
17 described here today.

18 CHAIRMAN MELIUS: Do I hear a
19 second to the motion?

20 MEMBER FIELD: I'll second the
21 motion.

22 CHAIRMAN MELIUS: Okay. Thank

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1 you, Bill. Any further discussion? Not --
2 Ted, do the roll call.

3 MR. KATZ: I don't know whether we
4 have had any Board Members join us on the
5 phone so I'll run through their names for the
6 two that might as well.

7 MEMBER FIELD: Jim, could you
8 restate the motion?

9 CHAIRMAN MELIUS: The motion is to
10 accept the NIOSH recommendation that for this
11 residual period that it not be added to the
12 SEC essentially. So it is to not grant the
13 Special Exposure Cohort for this time period
14 at Norton which is the residual time period.
15 I don't have the -- all the elements doesn't
16 change what happened before, no.

17 MEMBER MUNN: The others are
18 already gone. This is the only one that's
19 left and the position that we have is that
20 NIOSH is able to bound these exposures in such
21 a way that for this residual period only they
22 can provide dose reconstruction that's

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1 adequate.

2 CHAIRMAN MELIUS: Ready?

3 MEMBER BEACH: I'm sorry, can you
4 just -- the dates are a little confusing. So
5 1958 --

6 CHAIRMAN MELIUS: No.

7 MEMBER BEACH: Sorry, '62 through
8 2009, correct?

9 CHAIRMAN MELIUS: Correct.

10 MEMBER BEACH: Okay, because you
11 look at the ER and there's a lot of dates
12 going on.

13 CHAIRMAN MELIUS: No, I know, I
14 was actually, I had it up on my screen earlier
15 and I've been scrambling to find it again.

16 MEMBER MUNN: This is specifically
17 from October the 11th, 1962, through October
18 the 31st, 2009.

19 MR. KATZ: Ready? So, Dr.
20 Anderson?

21 MEMBER ANDERSON: Yes.

22 MR. KATZ: Ms. Beach.

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1 MEMBER BEACH: Yes.

2 MR. KATZ: Mr. Clawson.

3 MEMBER CLAWSON: Yes.

4 MR. KATZ: Dr. Field.

5 MEMBER FIELD: Yes.

6 MR. KATZ: Mike Gibson are you on
7 the line? Mr. Griffon.

8 MEMBER GRIFFON: Yes.

9 MR. KATZ: Dr. Lemen.

10 MEMBER LEMEN: Yes.

11 MR. KATZ: Dr. Melius.

12 CHAIRMAN MELIUS: Yes.

13 MR. KATZ: Ms. Munn.

14

15 MEMBER MUNN: Yes.

16 MR. KATZ: Dr. Poston.

17 MEMBER POSTON: Yes.

18 MR. KATZ: Bob Presley, are you on
19 the line? Dr. Richardson.

20 MEMBER RICHARDSON: Yes.

21 MR. KATZ: Dr. Roessler.

22 MEMBER ROESSLER: Yes.

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1 MR. KATZ: Mr. Schofield.

2 MEMBER SCHOFIELD: Yes.

3 MR. KATZ: And Dr. Ziemer.

4 MEMBER ZIEMER: Yes.

5 MR. KATZ: So the motion passes
6 unanimately and we have some votes to collect.

7 CHAIRMAN MELIUS: Okay, thank you.

8 We'll be breaking for lunch here shortly. I
9 remind the Board Members that we have a Board
10 work session this afternoon. Come back, we'll
11 do Savannah River and after that we'll have a
12 Board work session. And at least two of the
13 issues that will come up, one as I mentioned
14 yesterday is the timing for some dates for
15 some upcoming meetings for April and June, at
16 least that's what's proposed by Ted. We also
17 have a public comment session comments to
18 review which is a document that Ted sent to
19 you in the last few weeks and also -- you
20 should have it on the material that was handed
21 out today. And I think we have some Board
22 correspondence. Hopefully we'll have some

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1 additional SEC letters ready for review also.

2 But the one I wanted to really mention was I
3 wanted to make sure on the dates that Ted has
4 proposed, potential dates and also the public
5 comment session comments. That's a long
6 document and may take some time to look at.

7 MR. KATZ: Another heads up for
8 Board Members. We have a letter we just
9 received from Savannah River site petitioner.

10 So I've tried to forward it to everyone. I
11 keep getting a failure for some reason but
12 we'll print them out in hard copy so you can
13 see that letter. Or did some of you receive
14 that from me? I sent it just during this
15 session. Okay, so anyway, we'll print that
16 letter out for everybody.

17 CHAIRMAN MELIUS: And we also,
18 another issue that'll come up in addition to
19 the dates for our June meeting, there's also
20 site issues. And we have some congressional
21 correspondence regarding a request that we
22 hold the meeting in the Los Alamos area, so.

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1 Something else to think about and consider.
2 But we'll discuss those in detail this
3 afternoon. We'll break and we reconvene, talk
4 about Savannah River at 1:30 this afternoon.

5 (Whereupon, the above-entitled
6 matter went off the record at 11:56 a.m. and
7 resumed at 1:35 p.m.)

8 CHAIRMAN MELIUS: Okay, we'll
9 reconvene now the Board meeting. Ted?

10 MR. KATZ: Yes. So we have a
11 Savannah River Site presentation, but before
12 we start that, let me just check on the lines
13 and see if we have either of two Board
14 Members, Bob Presley or Mike Gibson. Are you
15 on the line, either of you?

16 (No response.)

17 Okay.

18 CHAIRMAN MELIUS: Then let's start.
19 Tim Taulbee.

20 DR. TAULBEE: Thank you, Dr.
21 Melius. Before I get started here, let me
22 first apologize to the Board for the lateness

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1 in getting this report to you all, as well as
2 to the petitioners. This is one of those
3 scenarios where we've got a definite lessons
4 learned of allowing a little more lead time
5 for discussions between us and other agencies
6 regarding SEC petitions. The other thing I'd
7 like to say is I'd like to thank my colleagues
8 from ORAU who participated and prepared this
9 particular report. In particular, Mike
10 Mahathy, he led the team with the help of Bob
11 Morris, Bryce Rich, Leo Faust, Sam Chew, Mel
12 Chew, and Jason Davis. I just have the
13 privilege of presenting it to you all today.

14 So to give a little bit of an
15 overview of this presentation, the petition
16 itself was received November of 2007. In
17 December of 2008, we presented it here to the
18 Advisory Board. This was in Augusta, where we
19 presented it. At that time we reserved
20 thorium exposures from that particular
21 petition because we needed to do more
22 research. Over the next year and a half, we

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1 continued that research and we issued an
2 Evaluation Report Addendum and this was
3 regarding thorium. We presented this to the
4 Savannah River Site Work Group of the Advisory
5 Board in Cincinnati in May of 2010 and then in
6 January 2011 the Work Group and SC&A provided
7 comments back to us on this Evaluation Report.

8 And one of the most significant findings of
9 their comments that we received was the
10 potential for thorium work in other areas not
11 discussed in the Evaluation Report Addendum.

12 So in February, during the
13 Advisory Board meeting, I gave you an update
14 of where we were. This was again done in
15 Augusta. And I indicated to you then that we
16 needed to do some more work on thorium and
17 other areas. And so we've been continuing to
18 do that since February. In May of this year,
19 we gave an update on our priority issues and
20 particularly discussed thorium, but the main
21 focus of that whole talk was to discuss how
22 isotope production or development and

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1 production process worked at Savannah River,
2 to explain the different areas across the
3 sites. And we talked about laboratory
4 research, semi-works areas, fuel target
5 fabrication, reactor irradiation and then the
6 chemical separations. At that time of that
7 presentation I indicated to you by the August
8 Board meeting, this meeting, that NIOSH should
9 be in a position to make a recommendation to
10 the Advisory Board, and that's what we're here
11 to do today.

12 And so what we're going to be
13 recommending throughout this presentation is
14 that a Class be added to the Special Exposure
15 Cohort based on internal thorium exposures in
16 the 773A and the TNX facilities that we don't
17 feel we can bound. The Class Definition is
18 actually based on external monitoring and I'll
19 get into more details about this as I give
20 this talk. And we really can kind of separate
21 Savannah River workers, based on their
22 external monitoring, into workers who were

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1 likely exposed to thorium, workers who may
2 have been exposed to thorium, and then workers
3 who were not exposed to thorium. So I hope by
4 the end of this presentation you'll be able to
5 follow along with my logic as to how we've
6 been able to determine this.

7 So the thorium research and
8 development, just to recap in one slide where
9 I spent a lot of time in the last presentation
10 in May doing. At Savannah River when they
11 were developing a new isotope, in this case
12 uranium-233 was the product, and they used
13 thorium to do so. It started with lab work in
14 the 700 area which is there in the upper
15 northwest quadrant of the site. And once they
16 got some of the processes down from there they
17 scaled up into a semi-works plant or a pilot
18 plant, if you will, and that was down in the
19 CMX/TNX area which is in the lower, the
20 southwest quadrant of the site. Once those
21 processes were all set, they went into full-
22 scale production. Now at Savannah River there

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1 were three main divisions of workers. There
2 was the technical division which did the lab
3 work and the semi-works, the production
4 division which did fuel fabrication, reactor
5 irradiation, chemical separations and heavy
6 water production, and the third one was a
7 construction division that basically built
8 facilities as well as remodeling facilities
9 throughout the plant site.

10 So, once it was turned over to
11 production, the thorium would be sent to the
12 fuel and target fabrication. And I talked
13 last time a little bit about most of the
14 thorium was canned offsite at Sylvania and it
15 came onsite for finishing, and this was
16 identical to the work that they were doing
17 with uranium prior to 1965. And then those
18 canned fuel elements -- so now the thorium is
19 encapsulated in an aluminum sleeve basically.

20 Those of you who went on the tour the other
21 day in the B reactor area, you could see some
22 of the encapsulated fuel slugs of uranium that

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1 were sitting there. It was the same thing
2 with thorium. It was completely encapsulated
3 with aluminum before putting it into the
4 reactor.

5 At the reactors, then, all the
6 fuel was encapsulated. When it came out of
7 the reactor to go to separations prior to
8 1964, all of that fuel was sent to Oak Ridge
9 National Laboratory. There wasn't any
10 chemical separations here onsite in the 200
11 areas prior to 1964. So the chemical
12 separations is that final step to extract the
13 uranium-233. And then, just to complete the
14 production cycle, you do have heavy water
15 production for a moderator for the reactors.

16 So thorium work at Savannah River:
17 our dose reconstruction methods we developed
18 and discussed in Addendum 1 and then Report 46
19 described how we felt we could reconstruct the
20 thorium doses in the 300 area. There was a
21 potential for internal exposure there, but we
22 do feel we have a bounding method from that

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1 standpoint. I showed you some slides the last
2 time of the dip method of canning, as well as
3 the hot press bonded and then the glove box
4 for the latter years where they were working
5 with thorium oxide. The other areas that we
6 wanted to look at was: did they handle
7 encapsulated thorium or unencapsulated or
8 both? And so when it's encapsulated there's
9 really no potential for internal exposure.
10 When it's unencapsulated, clearly there's a
11 potential.

12 This is a repeat slide of what I
13 presented to you at the May Board meeting, but
14 I just want to quickly re-emphasize here that
15 in the reactor areas we're dealing with
16 encapsulated thorium. For the 235F it was a
17 support facility where they also did some
18 canning operations, kind of overflow from the
19 300 area, during a few select years. And so
20 we feel that the 300 method, 300 area method
21 of bounding should apply to that particular
22 facility. The 200H canyon is where most of

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1 the separations occurred. Prior to 1964,
2 there was no thorium in the 200H area. They
3 didn't do any separations there until that
4 time period. 300 area I already discussed,
5 heavy water area, no thorium exposure. The
6 700A Savannah River Laboratory. This is where
7 they were doing all the research associated
8 with it. This is one of the areas that
9 surprised us when we looked at thorium
10 inventory reports. And so I'll talk about the
11 difference between the red and the orange
12 there of a high potential for exposure and a
13 medium potential when I get into that
14 particular laboratory.

15 CMX was the reactor semi-works
16 plant, again mostly dealing with encapsulated
17 thorium. TNX, that was separations pilot
18 plant where they did dissolve down natural
19 thorium in some of their tests. 777M was the
20 physics lab and I've got this as
21 unencapsulated, low potential for exposure.
22 And this is because they were doing just

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1 reactivity measurements in that area so they
2 would -- most of the fuels were actually
3 encapsulated but they did have a few bare
4 slugs that they did work with, but they didn't
5 do any grinding, cutting, welding, anything
6 with them, they were just handling, put them
7 in the reactors, taking reactivity
8 measurements, taking them back out, changing
9 configuration. So I really feel the 300 area,
10 where they were cutting, grinding, doing some
11 of that work would bound those potential
12 exposures. The central shops area, thorium
13 was not present. However, construction trades
14 workers could have worked anywhere onsite.
15 And you'll see that with our Class Definition
16 on our recommendation to you all. B area, the
17 heavy water components test reactor, handled
18 some encapsulated thorium in just 1964.

19 So since I talked to you all in
20 February of this year, we've reviewed the
21 inventory reports or monthly accountability
22 reports. These detail where thorium was

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1 located onsite. We did this in March of 2011
2 this year. We also looked at monthly
3 technical reports as another source to find
4 out whether there was thorium work going on
5 and where. In June of this year, we reviewed
6 the Health Physics log books for the 773A in
7 the CMX/TNX area. We've conducted additional
8 interviews with workers asking specific
9 questions about what they did in 773A as well
10 as TNX. And so what I want to focus on for
11 this presentation here again is the other
12 areas that the finding represented, and that
13 would be Savannah River Laboratory, the semi-
14 works plant, burial grounds and the
15 separations area.

16 So let me start with Savannah
17 River Laboratory. And part of why this wasn't
18 included in the original addendum was our
19 interviews with workers that we had conducted
20 prior to this year had all indicated generally
21 small quantities of thorium was worked with in
22 that laboratory. So when we embarked on

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1 checking the inventory reports, I was fully
2 expecting to see that the inventory in the
3 773A would be quite low. And we found that it
4 wasn't, it was on the order of a few tons.
5 And so we conducted more interviews to find
6 out what's the discrepancy that we have here.

7 And because the discrepancy that we're seeing
8 here, you know, we have a report indicating
9 that sinter sections were cut from 12
10 irradiated slugs. These slugs are 8 inches
11 long, they were cutting 1-inch sections out of
12 them and then dissolving them down using an
13 underwater saw in the cave area. And then
14 they would analyze eight milliliter samples.
15 Well, these are all small quantities that they
16 were working with in these laboratories.

17 The picture that I show there is a
18 dry box for the electrolysis of thorium and
19 here you can again see the lab was just doing
20 that particular work. It's small, it didn't
21 really match with what we saw in those monthly
22 accountability reports. So what was the

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1 discrepancy?

2 Well, the discrepancy was the
3 metal fabrication lab, and this was the back
4 area of 773A. And when we talked to workers
5 about this, people who had thorium bioassay,
6 we contacted several of them to find out, you
7 know, what were you doing with thorium. They
8 were all talking about low-level quantities.
9 And so we brought up this metal fabrication
10 lab and many of them would go, oh yes, okay,
11 back there they had the ability to build a
12 full-length assembly from scratch. So that's
13 where the bulk of the thorium material was,
14 was back in this metal fabrications lab, and
15 I'll show you a picture of that here in a
16 minute. So that accounts for the tons that we
17 are seeing.

18 But in these labs there was some
19 low-level quantities of thorium. I say low-
20 level, I shouldn't say that because they did
21 have some irradiated slugs that did result in
22 some contamination. And so, although they

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1 were small in quantity, there was a high
2 potential for exposure in these other labs.
3 There was intense research activities from
4 1953 into 1957 on the production of U-233,
5 that was their whole goal at that time. But
6 then they stopped, and the main reason they
7 stopped was there's a high content of U-232
8 associated with the U-233 and it was causing a
9 gamma problem. And so it was making the U-233
10 undesirable, effectively. So the research
11 just basically stopped.

12 However, in 1959 they started
13 doing research with neptunium and what we
14 found from the monthly reports was they would
15 use thorium as a surrogate or a stand-in
16 chemically for neptunium because it was less
17 radioactive, I presume, and had the same
18 chemical properties. They started using that
19 for their neptunium research. So although the
20 main research for uranium-233 appeared to
21 stop, they were still using thorium there on
22 the site, which accounts for why the

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1 inventories kind of continued along that time
2 period. The research picked up again in the
3 early to mid-1960s and continued until about
4 1971 in the lab.

5 This is a diagram of the 773A lab.

6 This front part, what you see here is what's
7 called A wing. There to the left is B wing,
8 to the right is C wing. The back gray area,
9 that's the metal fabrication laboratory and
10 then off to the left, the grayed out area
11 there is the high-level caves. When we went
12 through the Health Physics log books, we
13 started noting every time they would discuss
14 thorium in a lab, a contamination survey,
15 people working with it. We would write down
16 that lab room. The grayed out boxes that you
17 see throughout the diagram there are the rooms
18 where we know thorium was worked with. And
19 this would be prior to about 1958. So what
20 you can see is: it's not the whole building,
21 obviously it wouldn't be, but there were a
22 significant number of rooms where thorium was

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1 worked with within the laboratory. The yellow
2 boxes indicate change rooms and health physics
3 offices. And so to gain access to that back
4 area, you had to go through a change room, put
5 on smocks, shoe covers, pick up your dosimeter
6 badge, to go back into that area and all the
7 way back into the metal fabrication where the
8 bulk of the thorium was.

9 One of the things we found with
10 the Health Physics log books is, clearly
11 Savannah River had an active radiological
12 protection program. There were routine
13 surveys of the corridors, most indicating no
14 contamination detected, but there were
15 documented spills. Within these log books
16 there's discussion of when things went wrong
17 and even low-level ones. When you consider
18 one spill indicated 37 counts per minute
19 smearable was the highest, that's about 150
20 dpm per 100 square centimeter. So it's not
21 much activity there that they were actually
22 calling a spill at that time. Other spills

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1 were in the several thousand counts per minute
2 so you had kind of the whole range across
3 this. There were routine surveys of special
4 work as well as materials leaving the
5 building.

6 One of the things that was
7 interesting from the Health Physics log books
8 was the general researchers or technical
9 division personnel's conduct of operations.
10 And I say here that it was sometimes less than
11 formal. There were times when the radiation
12 control technicians would catch the scientists
13 doing things they weren't allowed to do or
14 supposed to do, they were violating
15 procedures, and they were written up in these
16 log books. There's clear documentation of
17 this person did this on this day and I
18 reported it to my supervision. So this is why
19 I say there was an active radiological
20 protection program. They were trying to keep
21 everything contained.

22 Now, when you have a less than

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1 formal conduct of operations, it doesn't
2 necessarily mean you can't do dose
3 reconstruction; it just means it can be harder
4 and you have to rely on other data. Bioassay,
5 for example, if somebody's doing something
6 they're not supposed to be doing, if they're
7 getting intakes, you'll see it in the bioassay
8 that it's pretty clear these people were doing
9 things that they shouldn't have been.

10 For Savannah River, for thorium we
11 only have bioassay data in 1956. We have 225
12 samples for 175 workers. So some of the
13 samples were repeated because they came up
14 high the first time. They showed positive,
15 and so they re-sampled, again illustrating an
16 active radiological protection program. One
17 of the indications in a Health Physics log
18 book was that they began to compile a list of
19 workers who ever worked with thorium. They
20 indicated this in early 1955, that they
21 started writing down this list of who to
22 sample when the projects ended. So the

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1 problem with the 175 workers, that could have
2 been everybody who was potentially exposed in
3 773A but we have no way of verifying that. So
4 I can't tell you that that's the only people
5 who were ever exposed. So we've had to make
6 the net bigger in order to designate this
7 particular Class.

8 Air sampling. When you have
9 really good air sampling of breathing zone or
10 in the workplace, you can still estimate the
11 dose. But in this case none of the air
12 samples were breathing zone samples, and we
13 confirmed this through discussions with the
14 workers, interviews with the scientists. They
15 talked about that the air samplers were on the
16 walls and on the ceiling. So these were
17 checked by the radiation control technicians,
18 but they were not in the routine breathing
19 zone for the workers.

20 One of the other difficulties with
21 this is: we've not been able to locate a
22 significant number of air sample data.

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1 There's some in the log books, but not like
2 the 300 area or 100 or 200 areas, where
3 there's log books that are individual sheets,
4 kind of like 3-ring binders that are numbered
5 pages. And there's literally about a thousand
6 boxes of these where you can just open up the
7 book and just page, you know, day after day
8 after day, same location, different locations,
9 where you have all this data. We've not been
10 able to find that for 773A. I'm presuming
11 that that is because it was the technical
12 division and not the production division. We
13 can find all this for production. We haven't
14 been able to find it for the technical
15 division.

16 I believe that it has been filed
17 effectively under each radiation control
18 technician, because that's how the log books
19 appear to be filed. Within these log books
20 there is smear data. However, it would take a
21 tremendous effort to try and locate all of
22 these individual log books and code the data

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1 to develop an exposure model. And let me give
2 you an example of this. With the log books,
3 they're filed by individual radiation control
4 technicians. So first you would have to
5 develop a list of all the radiation control
6 technicians that worked in the area during
7 this time period of interest. Next, you'd
8 have to try and pull all of those back from
9 Federal Records Centers, which would be a
10 tremendous effort. For looking at the 30, I
11 think it was about 33 log books that we pulled
12 back for June, these came in about 30 boxes.
13 There was only one notebook in each box, and
14 they pulled these back from the Federal
15 Records Center.

16 Then you'd have to go through and
17 try and code all of that data, but the problem
18 is that many of the routine samples that were
19 taken in the labs, some of them will indicate
20 where the sample was taken on the edge of a
21 hood, others, they don't have any indication
22 of where it was taken. So within the lab,

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1 were they just smearing the floor, were they
2 smearing the counters? We don't know.

3 So most of the data though in
4 these log books do indicate no contamination
5 detected. Again, there are spills that are
6 discussed but we don't have any further
7 information about where these samples were
8 taken within the lab. So after all this
9 analysis, if we went through it, and we're
10 really looking at a couple of years' effort to
11 try and do this, I still don't know that we
12 could come up with a reasonable exposure
13 model. So this is why we're not using the
14 smear data that is out there.

15 The final term, whenever you don't
16 have any of the above that you could possibly
17 do dose reconstruction with, would be source-
18 term modeling. At Savannah River in these
19 labs, there was different chemical physical
20 forms in every laboratory and within
21 laboratory. It's not like you were handling a
22 single piece of uranium and doing one thing

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1 with it, you know, moving it over here or
2 modifying it slightly. It's not like you're
3 actually handling one particular chemical or
4 physical form. The physical form changed
5 within the lab, as well as the chemical form.

6 They were trying to learn how to dissolve
7 this. So it's not something that you can
8 really model. There was also constant
9 movement of material between laboratories.
10 And finally, we can place people within
11 buildings based upon the external dosimetry
12 that I'll show you here shortly, but within
13 the laboratory I don't have any way of placing
14 who was in lab LB131 versus LB111. I don't
15 have any method of doing that. So, as a
16 result, we're recommending that the 773A area,
17 those back areas in the regulated part where
18 people would be badged, would be added to the
19 exposure Class.

20 So now let me shift gears to semi-
21 works. And this is a picture of the CMX/TNX
22 area. And what you'll see here is that CMX

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1 and TNX were two buildings side by side. The
2 entry into this area that required badging was
3 effectively the same for both areas. So we
4 really can't distinguish who was in CMX, who
5 was in TNX, they're too close together. CMX,
6 again, had encapsulated thorium. They were
7 doing pilot studies for the reactors, they
8 were doing thermodynamics, heat transfer
9 studies, you know, how fast the fuel would
10 heat up, how it propagated and boiled the
11 water. The 678G TNX building was chemical
12 separations. They were doing the pilot
13 studies for the canyons. So they'd take a --
14 scale up from a beaker working in the
15 laboratory up to a 100-gallon tank effectively
16 and then work through the dissolving of the
17 slugs and how this worked, unirradiated slugs.
18 At this point, everything was done with
19 natural thorium for this particular scale-up
20 process to get it down.

21 So the inventories, the monthly
22 inventories we reviewed in March indicated

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1 intermittent work with thorium in the TNX area
2 from August of '54 through December '56, and
3 then it picked up again in September of '64
4 through December of '69. The inventories
5 indicated significant quantities of thorium, a
6 few tons, and some of the inventories got even
7 more detailed as to how many tons were located
8 in the dissolvers that they had built down
9 there, which was a few tons.

10 The internal radiation monitoring
11 program, there was no bioassay that we've been
12 able to find for this area, although some of
13 the workers, when we looked them up in the
14 bioassay log books, looked up their individual
15 files, we will see some designation for TNX in
16 addition to 773A. So we know some workers
17 moved between those two areas. We don't have
18 any air sample data for TNX. The Health
19 Physics log books are similar to 773A. There
20 are surveys that note levels of contamination
21 or no contamination, but not exact locations
22 where they were taken.

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1 From a source-term data, similar
2 issues to 773A but less complex. By the time
3 it got up to the pilot scale, they kind of
4 knew which process they were going to go for
5 to produce the uranium-233, so it's not as bad
6 as all the individual laboratories. But
7 again, it's still a source-term configuration
8 without -- with processes changing chemical
9 physical forms. So for that reason we also
10 recommend including the TNX.

11 Now the burial grounds is the next
12 area I'd like to discuss, and this is where
13 material was going from different areas to the
14 burial grounds. This was waste disposal. In
15 the 300 area radiation survey log sheets, we
16 have indications of surveys being conducted on
17 the thorium that's leaving that area and going
18 to the burial grounds that's surveyed, made
19 sure it's free of external -- or of removable
20 contamination. 773A Health Physics log books
21 indicate the same thing where materials
22 leaving the area would be swiped and tagged in

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1 order to go to the burial grounds, TNX the
2 same thing. The thorium from the high-level
3 cave waste, this was highly radioactive and
4 decontaminating or getting down to a level of
5 no removable was not really feasible and so
6 they encased it in concrete, much like what we
7 heard out on the Hanford site, out here with
8 the PFP, where they would take a large glove
9 box or something like that and grout it,
10 completely fill it with concrete and then bury
11 it. And so Savannah River was doing the same
12 thing. They'd encase it in concrete and then
13 send it to the burial grounds. So for this
14 reason, we don't think the burial ground
15 exposure is significant from an internal
16 exposure standpoint, and we're not
17 recommending that this be included in the
18 Class.

19 The 200H separations. And let me
20 again emphasize that prior to 1964, there
21 wasn't any thorium in the 200H separations
22 area. The product here was uranium-233 and so

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1 when you think of making plutonium, you're
2 irradiating uranium-238 and then you're going
3 through the canyons from one end, starting
4 with the slugs, dissolving them down and you
5 end up with plutonium nitrate on the final
6 product. Same thing happened with thorium.
7 You dissolve it down, you're going out and the
8 final product would be uranium, not thorium,
9 from this particular process. So the uranium
10 went into the B lines, that would be the
11 equivalent of the plutonium finishing plant
12 out here. That was where the uranium-233
13 went. Thorium for the first cycle was
14 considered waste. It was pumped directly out
15 to the waste tank for that first cycle. After
16 that first cycle, they felt that the thorium
17 was important to recover and so they went
18 through a recovery process. So that first
19 front end part of the canyon step, those
20 irradiated slugs are very radioactive. We are
21 looking at dose rates that are in R per hour
22 type of range. You are not going to be

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1 getting that close to them. In fact, they
2 came in in casks. A crane would pick up the
3 cask and dump them into a dissolver for the
4 canyon operations, just like out here.

5 So throughout this process, the
6 thorium at that point became a wet process,
7 because they were dissolving the thorium to
8 get to the uranium-233. For those later
9 cycles past the first one, the thorium was
10 transferred to a holdup tank and it was kept
11 there until they got to a certain level and
12 they would pump from the holdup tank into
13 railroad cars. The railroad cars were then
14 sent to Fernald for further processing. So
15 the thorium at that point left Savannah River
16 in the form of the thorium nitrate.

17 The transfer to the cars, we
18 looked at that. There is a nice report about
19 the transfer that these rail cars were
20 equipped with filters, ventilation filters on
21 them, to prevent particulate contamination
22 during filling and thermal expansion. We're

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1 in South Carolina, it can be hot in the
2 summertime, so you will get some heat-up, some
3 pressurization, so these vents were there and
4 the whole purpose of the filters were to
5 prevent any contamination getting on the
6 outside. These railroad cars were actually
7 quite radioactive, not in the R per hour
8 range, but down above 10 millirem per hour but
9 less than 100 millirem per hour. We have some
10 dose rate measurements on these from three
11 feet away. As a result of that high dose
12 rate, up next to the railroad cars they roped
13 them off. These became regulated areas. They
14 controlled them as regulated areas. And this
15 particular report even indicates that the
16 railroad cars were inspected from a distance
17 using binoculars to make sure that workers
18 weren't getting too close to it and getting a
19 dose that was not appropriate. It was kind of
20 ALARA practices, if you will, to try and
21 minimize their exposures.

22 So for this reason, we don't feel

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1 that the 200H separations area should be
2 included in the Class. Now I do believe this
3 was a topic of discussion during our last Work
4 Group meeting, and I think Mark is going to
5 talk a little bit about this, and he might
6 want us to go and look a little closer at this
7 particular operation in this detail, but I'll
8 let him do that and I'll wait for the report.

9 So as a result of these other
10 areas, what we've come up with is this Class
11 Definition for the Savannah River Site. So
12 let me walk you through this. What we are
13 proposing to you is that all externally
14 monitored employees at the Department of
15 Energy, its predecessor agencies and their
16 contractors and subcontractors, who worked at
17 the Savannah River Site from January 1st,
18 1953, through December 31st, 1957, whose
19 dosimetry records have codes A, G, CMX, or TNX
20 be included in the SEC Class.

21 Now, if you notice there's a break
22 there. Why did we stop at 1957 for that first

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1 part? The reason is the dosimetry codes
2 changed. On October 1st of 1958, they
3 switched to an IBM system and so, while the
4 exposures didn't change, the dosimetry codes
5 changed. So we've broken the Class into two
6 parts here.

7 We pick it up the very next day of
8 January 1st, 1958, through September 30th of
9 1972, and this second definition here we have:
10 "whose records have dosimetry codes 5A, 5C, 6B
11 through 6Z, 12D through 12H, or 12J through
12 12Z for a number of work days aggregating at
13 least 250."

14 So let me go into a little more
15 detail of how these dosimetry codes work
16 within this area. This is a similar chart to
17 what you saw before with the separations area.

18 So this is covering that first time period,
19 1953 to 1957, and again this is because of
20 dosimeter code changes. This isn't a change
21 in exposure potential, this is dosimeter code
22 changes and identifying the Class. So for the

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1 200F area, the dosimeter code was actually
2 just F. For H area it was H. And there I've
3 got a table of unencapsulated thorium, yes/no,
4 encapsulated thorium, yes/no, and then whether
5 we recommend including in the Class. What
6 you'll see for the manufacturing area, the
7 300M, is that they had unencapsulated thorium
8 and they had encapsulated thorium, but we're
9 not recommending including them because of
10 Addendum 1 and Report 46. We feel we can
11 estimate the doses in those areas. We get
12 down to 773A and the semi-works plant, we
13 don't feel we can include or we can estimate
14 those doses and so dosimeter codes A and the
15 semi-works, it can be A, G, CMX or TNX. And
16 so all of those are included there with that
17 one. The reactors where only encapsulated
18 thorium was handled, we've got dosimeter codes
19 R, P, L, K and C but we're not recommending
20 including those people in the Class because
21 there is no potential for internal thorium
22 exposure.

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1 The central shops is again an area
2 where people could have worked anywhere.
3 These are construction trades workers and so
4 people with a G dosimeter code could have been
5 issued a badge out of the central shops, gone
6 up to 773A and do remodeling, work there for a
7 number of months and come back to the central
8 shops. And so over their time period, they
9 easily could have accumulated 250 days.

10 So looking at the next set of
11 codes, one of the things that you'll see when
12 you look at Savannah River codes, dosimetry
13 codes, is they got more complex as time
14 progressed. So in this previous one you're
15 really just looking at the different areas, A,
16 F, H, M. From '58 to '72, they started
17 breaking down within area where people were
18 issued dosimeters, and when you get post-1972,
19 it gets even more complex as to the different
20 areas and where the badges were being issued
21 from and where people worked. So you've got a
22 scale-up here. So for the '58 to '72 time

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1 period, you can see here the dosimeter codes.
2 The HP area code is what I'm looking at here.
3 Follows through the same thing. And you can
4 see them all numbered there, 1A was the
5 separations area, 2A was 200H separations
6 area, 3A, 4A, 5A was Savannah River
7 Laboratory, 773A. 5B, technical division, was
8 777M. So before, all we had was A area and M
9 area and now we have within the technical
10 division you've got the same designator, 5,
11 but which part of the technical division they
12 were working in. 5C was the CMX/TNX area, A
13 area support was -- this actually goes 6A
14 through -- or 6B through 6Z. 6A was excluded
15 for this particular set, and let me explain
16 why. It's in our report in a little detail
17 but, 6A was the 703A building. This was the
18 main administrative building there at the main
19 entrance to Savannah River. This is where the
20 site manager sat, where all of his program
21 directors sat. They were all issued badges
22 there out of their facility. Now, for me, the

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1 workers are the ones who are handling the
2 thorium. These were managers, this was their
3 job, to run the overall site. It was more of
4 a convenience as to why their dosimetry was
5 issued there, not that they were actually
6 working necessarily in A area or being exposed
7 to radioactive materials. But they would
8 certainly have access to everywhere. So we
9 excluded them from the Class Definition.

10 Reactor area, 7A all the way down
11 through 11A, and then the central shops. And
12 these codes also go 12A through 12Z. 12A, B
13 and C were excluded because 12A was the
14 locomotive shop, 12B was the traffic and
15 transportation shop, so that would be the
16 garage where all the vehicles onsite were
17 serviced. 12C was the traffic and
18 transportation offices. So we excluded those.

19 When you get into the 12D through the others,
20 you start picking up the carpenter's shop, the
21 pipefitter's shop, the electrician's shop. So
22 these codes, that's why it's more inclusive

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1 for these other people. We looked at who
2 might have a potential for exposure to do
3 extended work in 773A or TNX.

4 So kind of summarizing here, let
5 me first -- the first bullet there. All
6 workers who had to wear a dosimeter to enter
7 these regulated areas, this was in procedures,
8 clearly in procedures. We've interviewed
9 workers who indicated that this was the case.

10 There's entries in the log books indicating
11 that when they caught people doing things that
12 they weren't supposed to be doing, they were
13 written up, they were notified. And we have
14 seen entries where people entered an area
15 without a dosimeter, and the rad control
16 technicians caught them and reported them to
17 their supervisors, made them go and get a
18 visitor badge. So it's consistent with what
19 we've heard from some of the workers in that,
20 you know, I didn't always wear my badge in
21 this area. You were supposed to have worn
22 your badge in that area from all the

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1 procedures, and there was people checking to
2 try and make sure that everybody had a
3 dosimeter in that area.

4 We've defined the Class into three
5 groups: workers likely exposed to thorium.
6 And that's 1953 to 1957. These are people who
7 worked in 773A and in CMX/TNX area. And we
8 can identify these people worked in these
9 areas. In the latter time periods, that's
10 dosimeter codes 5A and 5C.

11 For workers who may have been
12 exposed, here we expand out and I'll focus on
13 the '58 to '72 to give the example. 6B
14 through 6Z were all the A area support
15 facilities. These were other radiological
16 facilities in the A area, that general area,
17 where people could have picked up their
18 dosimeter that morning and gone and worked in
19 773A because they could walk there,
20 effectively, and do their work in 773A and go
21 back to their main office in maybe 736 or
22 something like that. So we've expanded the

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1 Class to people who had work in the general
2 proximity or were issued badges in the general
3 proximity of 773A building. We've included
4 them. We've also included the construction
5 trades workers, who also could have worked for
6 extended periods of time in either of these
7 buildings. So we've cast the net larger here
8 than just the people who worked in those
9 buildings.

10 And then there's the workers who
11 were not exposed. The reason I say they were
12 not exposed is that they were issued
13 dosimeters out of the reactors. This is a
14 310-square mile site, so if you're issued a
15 dosimeter out there in the 100 area, that was
16 where you were working. You would not on day
17 in, day out go out to the 100 area, pick up
18 your badge, go work in 773A, go back to the
19 reactor area, drop off your badge every day,
20 it just wouldn't happen. The site's too big
21 for that. So these are people that we feel
22 should not be included in the Class because

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1 there's no evidence that they were exposed to
2 thorium.

3 Another example would be when you
4 look at a person's dosimeter code and it says
5 they worked in the 4A area, 400D. You talk to
6 them through a CATI and they indicate that
7 they worked in the D area, doing tritium or
8 heavy water production. You look at their
9 bioassay and their bioassay says they worked
10 in the D area. Clearly, this person was not
11 exposed to thorium. And so this is all part
12 of that Class, of why we've defined it the way
13 we have to try and break apart the site and
14 identify people who had the potential, who
15 were likely exposed to thorium, who may have
16 been exposed to thorium from the people who we
17 have pretty clear evidence were not exposed to
18 thorium.

19 So the SEC end-date: September
20 1972. Why that date in particular? Why did
21 we stop right there? Well, there was a major
22 drop -- the main thorium campaigns ended.

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1 They had already ended by 1971. And so then
2 there was some cleanup that began in the 300
3 area to remove the thorium oxide room. This
4 really signified the end of effective research
5 in the area of U-233 production. The
6 inventory in 773A at that point dropped to
7 less than 225 kilograms, and there was no
8 inventory in the TNX facility. Also, we've
9 got some whole body count information, it's
10 more readily available through NOCTS. So let
11 me give you some quick slides here.

12 So this is the thorium inventory
13 by year across the site, and here you can see
14 the two main production campaigns, the first
15 one in 1955-56 time period and the second one
16 from '65 through 1971. After this time
17 period, though, there was some additional
18 thorium work that we've identified here
19 onsite. We need to do some more research
20 post-September of 1972. We do have a data
21 capture or a data review trip planned. I've
22 talked with Kathy DeMers from SC&A about

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1 joining us on that particular effort,
2 hopefully later next month. And what we're
3 looking at is where these small quantities of
4 thorium were worked with at that time. And
5 the reason I say small is if you look at the
6 full scale here, this is thorium in production
7 or received. It goes from zero to 4,000
8 kilograms, and let me go back up to the
9 thorium inventory. This is the quantity in
10 that very first tick at that bottom level. So
11 you're looking at much smaller scale of
12 thorium operations that's going on.

13 And we know that some of the
14 thorium work continued on. Earlier this week
15 I was searching their database at Savannah
16 River, and ran into that some thorium work was
17 going on into the 1990s, as they were looking
18 to vitrify the waste tank information, or the
19 waste -- the first thorium cycle that went out
20 to the waste tanks. So they were looking at
21 pulling some of those samples, doing chemical
22 analysis to vitrify it. So this work has

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1 continued all the way out. So we need to look
2 at this closer and come up with a, I guess a
3 better end-date, if you will, of thorium
4 operations where we feel we can and can't
5 bound doses. But we know through September of
6 1972, we don't feel we can bound them and we
7 didn't want to hold this whole thing up until
8 that time period. So we're going to continue
9 to look at this.

10 Whole body count data also begins
11 to play a role here. If you notice from the
12 1960s, 1961 is when Savannah River started.
13 These are the number of whole body counts that
14 we have in NOCTS, that we have available right
15 now, and once you get past 1972 they increase
16 up fairly rapidly to around 1975 where we have
17 80 to 100 whole body counts in NOCTS that is
18 readily available for us to analyze and look
19 at the different regions of interest and
20 whether we can estimate thorium doses for the
21 few people that might have been doing some of
22 the work.

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1 So the -- from a feasibility
2 summary, all that I've got here is the
3 thorium. From 1953 through 1957, people with
4 dosimeter codes A, G, TNX, CMX, we do not
5 think it's feasible to reconstruct their
6 internal doses due to thorium. From 1958
7 through September 1972, with dosimeter codes
8 5A, 5C, 6B through Z, 12C -- actually that is
9 a typo, that should be 12D, I apologize -- 12D
10 through 12H and 12J through 12Z, we don't feel
11 it's feasible to reconstruct those doses.
12 External dose we do feel that we can
13 reconstruct through the whole time period.

14 Health endangerment. The evidence
15 that we reviewed in this evaluation indicates
16 that some workers in the Class may have
17 accumulated chronic radiation exposures
18 through intakes of thorium. Consequently,
19 NIOSH is specifying that health may have been
20 endangered for these workers covered by this
21 evaluation who were employed at the site --
22 who were employed for a number of work days

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1 aggregating at least 250 work days within the
2 parameters established for this Class or in
3 combination with work days within the
4 parameters established for one or more other
5 Classes of employees in the SEC. Our
6 recommendation to you, the Board, is: "for the
7 period of January 1st, 1953, through September
8 30th, 1972, NIOSH finds the radiation dose
9 from exposure to thorium in 773A and the TNX
10 facilities as identified by those dosimeter
11 codes cannot be reconstructed for compensation
12 purposes." And with that, I'll be happy to
13 answer any questions.

14 CHAIRMAN MELIUS: Board Members
15 with questions? Bill, then Brad.

16 MEMBER FIELD: I had a question.
17 What was the exchange rate for dosimetry? Was
18 there a pretty standard exchange rate?

19 DR. TAULBEE: Yes. In the early
20 time periods up through 1957 -- or yes, 1957,
21 not all the way through '57, it changed, it
22 was weekly. And about mid-1957 it became

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1 biweekly, every two weeks. That continued
2 through 1962. 1962 it changed again to
3 monthly and then in post-1972 time period it
4 went to quarterly.

5 MEMBER FIELD: Okay. So to meet
6 the hurdle for the 250 days, would they need
7 to have one of the dosimetry codes for that --
8 for a 250-day period or work at the facility
9 and have that code for some period of time?

10 DR. TAULBEE: This, I guess it
11 kind of boils down to how DOL administers the
12 Class. My opinion of this, and this is
13 something we can work with, is they would only
14 have to have one dosimeter through that time
15 period. The reason I say that is: in that
16 early time period those dosimeter cards,
17 though there was monitoring, each individual
18 badge, you can go back and get each one, but
19 at the bottom of the card has an area
20 designated as to where they were issued their
21 dosimeter. So I would go by that letter,
22 letter A, G, CMX, TNX, to designate the entire

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1 year. So it would be one of those cards with
2 that designation on there. When you get into
3 1958, where they're biweekly, we do have each
4 dosimeter code where that dosimeter was
5 issued. So I guess technically you could go
6 through and do an aggregate 250 days if you
7 wanted to. I think for simplicity and to
8 administer the Class more effectively, it
9 would be easier to just take one. Once you
10 get into the monthly time periods, the
11 dosimetry reports that we have are quarterly,
12 so there's only four per year. So again, I
13 think one within that time period should be
14 sufficient.

15 MEMBER FIELD: I guess the
16 question would be, say you had 200 days at a
17 certain specification, a certain dosimetry
18 specification, I guess the assumption would be
19 that you could bound that if you had less than
20 200 days, which sounds like it would be
21 problematic to do.

22 DR. TAULBEE: It could be

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1 problematic to do at times.

2 CHAIRMAN MELIUS: Brad?

3 MEMBER CLAWSON: Tim, I've got to
4 compliment you on the work that you did.
5 You've gone into great detail on this.

6 Me and you have discussed numerous
7 times, though, the complexity of Savannah
8 River and I'm looking mainly at the
9 construction workers. I've had opportunity to
10 be able to interview many of them, and when
11 we're getting to this badge data, many of them
12 worked outside the facility where they deemed
13 they didn't need badging because they weren't
14 in the facilities, but they were digging up
15 drain lines to the tanks that you were talking
16 about. They had left, come back, all the area
17 they had excavated was now contaminated and
18 things. Then they were re-badged, but I'm
19 wondering if they would be re-badged with
20 those codes that you were just talking about.

21 Savannah River is complex, from
22 the standpoint of -- the construction trades

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1 at Savannah River did more work than probably
2 at any other site, more operational work and
3 so forth and we've talked about that. And I'm
4 just, I'm worried about this badging part
5 because outside of the facility they probably
6 didn't have that badge or there's the question
7 of: did they even have a badge?

8 DR. TAULBEE: One of the things
9 with Savannah River that I'd like for you all
10 to keep in mind is that, of the claimants that
11 have filed within NOCTS, within our program
12 that we've done dose reconstruction for, 80
13 percent of them we have dosimetry badges for.

14 So this is a site that has a high percentage
15 of actual badging. So for the cases that
16 you're talking about there, Brad, where people
17 might have been working in outside areas, in
18 some cases they didn't need a dosimeter badge
19 to do construction or something else. The one
20 that you just described, though, would be one
21 where I can see they would have needed a
22 badge. The one that you're particularly

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1 talking about of the drainage lines and so
2 forth in outside areas, this is where -- with
3 the thorium exposures we're looking at inside
4 the buildings. So, while these might be waste
5 contamination lines, and I don't know if the
6 particular case is a transfer line between F
7 canyons and the tank farms, or H canyons and
8 the tank farms, or what time period this
9 particularly covers, as to whether there would
10 be a potential for exposure for those
11 particular individuals. But in general, the
12 people who were the construction trades
13 workers out at central shops where they would
14 be badged to go work in one of these other
15 areas that contained thorium, we've included
16 them in this particular Class.

17 MEMBER CLAWSON: Well, my next
18 question is probably for Labor, because we got
19 into this before. I'm really questioning if
20 Labor is going to be able to instigate or if
21 they're going to be able to implement this
22 classification.

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1 MS. LEITON: It's a good question.

2 It's something that we've been working back
3 and forth with NIOSH on when they were coming
4 up with this Definition. We do not think we
5 could place them in areas without the
6 dosimeter codes, but it is our understanding
7 that we can -- that since the dosimeter codes
8 are there, DOE can give us those codes. Most
9 of these people were badged. We will be able
10 to do it that way. With the caveat that I
11 can't guarantee you that, you know, people
12 aren't going to come out to us and say, "But I
13 was there," or --they can come and say they
14 weren't there. If they don't have -- they
15 might say, "But I wasn't badged and I was
16 there." That's something we're going to have
17 to deal with on a case-by-case basis. But
18 it's our understanding that the majority of
19 these -- that these people were badged.

20 And so, if they were badged and we
21 can get that information from DOE, which is
22 what our understanding is, that's why we would

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1 be able to administer this Class. Again, I do
2 foresee some complications, I can't say that
3 claimants aren't going to come and say one
4 thing and we're just going to have to rely on
5 DOE and we'll have to deny them if we can't
6 show that they had these dosimeter badges.

7 CHAIRMAN MELIUS: I just think
8 that it's also a question not of were they
9 badged or not but are those badges going to be
10 -- the information contained with those badges
11 going to be accurate and valid for placing
12 them within these codes? I mean, I think
13 that's the further complication. And when you
14 were talking about some of the practices and
15 changes in practices over time, I get even
16 more worried about those, you know, changes.
17 So my question I guess for -- I don't think
18 Department of Labor has had a chance to look
19 at this in detail, but for Tim would be is the
20 -- have you looked at this issue?

21 DR. TAULBEE: Yes, we have. When
22 you look at the dosimetry reports from --

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1 let's use the 1958-1962 example where we have
2 for each individual badge the dosimeter code,
3 if you will, for every individual badge in the
4 quarterly reports. When a person changed from
5 one area to the other there was a code 67, and
6 code 67 designated badge location change and
7 they recorded it. And you would see a whole
8 series of like 1A, 1A, 1A for badges and then
9 it would switch to 2A, 2A, 2A. And right at
10 that switch, there would be a 67, indicating
11 that there was a change in their dosimeter
12 card. So this is why I'm indicating to you
13 that, when you look at the whole dosimetry for
14 a quarterly basis, if you see one of these
15 codes for any quarter in that time period,
16 then I would recommend including them then in
17 that Class. But yes, they stayed on top of
18 it, there was dosimeter change codes, change
19 paperwork that was filled out when they
20 changed these locations.

21 CHAIRMAN MELIUS: Paul? Then
22 David, then Mark.

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1 MEMBER ZIEMER: Clearly you've
2 uncovered some areas that you didn't know
3 previously had thorium. Is there some level
4 of confidence that we now have identified all
5 the thorium areas or might there be others yet
6 to be found?

7 DR. TAULBEE: I'm quite confident
8 that we've identified all the areas, because
9 of the material accountability reports. These
10 are actually classified reports that we found
11 in the vault and went through, and they
12 identify which locations the thorium was
13 worked with and they kept an inventory down to
14 the pound of thorium. So, and there was write
15 offs, there was losses, and they would
16 indicate which department had losses. And so
17 because of that tracking of thorium at such a
18 low detail, I feel pretty confident that we've
19 identified all the areas that might have had
20 thorium.

21 CHAIRMAN MELIUS: Yes.

22 MEMBER ZIEMER: And I suppose if

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1 in fact that were not true, if another area
2 turns up, and if this were an approved SEC or
3 not, but let's say it's an approved SEC, then
4 another area could be added. But, whichever
5 way, it could be dealt with at the time then.

6 DR. TAULBEE: That's correct, sir.

7 CHAIRMAN MELIUS: David.

8 MEMBER RICHARDSON: I think, I
9 mean, if I were going to go about this for
10 research purposes the way I would do it. I
11 mean, I like kind of the basic approach.
12 You're making use of the available
13 information. And we did actually a lot of
14 work with these health physics area and health
15 physics department codes also. And kind of
16 ended up with the same organization that
17 you've had. Now, the -- kind of the
18 outstanding concern that I always had using it
19 is that unlike the statement -- actually, the
20 presentation you're very careful, I hope, to
21 communicate to people that the badge is not a
22 GPS, it's not tracking someone's work

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1 location. The badge was -- that piece of
2 information is an administrative piece of
3 information, and as I understand it, it's
4 identifying in a sense where you picked up
5 your badge, but maybe even in a broader sense
6 which health physicist was administratively
7 responsible for a group of workers, and that
8 has some spatial sense to it, but not
9 entirely. And you pointed out there are
10 workers who move around the site. And so
11 we've got questions about, if you're concerned
12 about exposures that occur in a building
13 you're right, I don't believe at Savannah
14 River, we actually, we had some workers who
15 didn't have badges. We dug into it and we
16 actually found that they also had information
17 that hadn't been computerized but we were able
18 to dig that out. It looks essentially like
19 everybody's wearing a badge when they're going
20 into these areas, at least for the prime
21 contractor employees, but that doesn't mean
22 that people who are badged in one area

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1 couldn't enter into those areas.

2 So you've pointed out the
3 situation where if they catch somebody who
4 wasn't wearing a badge, that's a problem. The
5 concern I would still have is that people,
6 that this is a subset, potentially, of a
7 larger group of people who could be going in
8 and out of those buildings. And I think
9 you've done a great job of identifying the
10 most plausible sets but I'd sort of be
11 interested in kind of the workers'
12 perspectives on whether people who were under
13 the control of health physicists outside of
14 being coded 5A or 5C may be going in and out
15 of those buildings.

16 DR. TAULBEE: I believe that there
17 are people who are outside of those codes who
18 could have entered. I do not believe that
19 this was routine; this was not their main
20 workplace. They could have gone in for a
21 meeting or to discuss something with somebody
22 and then they would leave. They wouldn't be

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1 working there day after day. Two hundred
2 fifty days means a full work year. And so for
3 somebody to have worked in there an entire
4 year and never had one of those codes, and we
5 do have visitor badge information as well, and
6 to have never had one, I just don't find that
7 to be really credible.

8 MEMBER RICHARDSON: Yes, and I
9 wouldn't be thinking about visitor scenarios
10 so much I guess, but --

11 DR. TAULBEE: And we do have a lot
12 of visitor badges that would indicate it.

13 CHAIRMAN MELIUS: Mark, I don't
14 know if you have a question, but I'd also like
15 you to comment as the Chair of the Work Group.
16 You meant to review this.

17 MEMBER GRIFFON: Several things
18 that I was going to bring up as my report have
19 already come out, so I won't be redundant but
20 I think, you know one, question that I was
21 going to raise was the -- and this came up in
22 one of your earlier questions, was the -- you

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1 identify central shops and I think in your
2 presentation you said that this included the
3 construction trades workers. And I think, by
4 adding central shops you're making that
5 assumption. I just wonder do you have any
6 idea of what the percentage is of the
7 construction workers that would have went
8 through central shops for their badging?

9 DR. TAULBEE: I don't. I don't
10 have an indication of how many. I know each
11 of those 12 series dosimeter codes designated
12 a different shop from pipefitters,
13 electricians, carpenter shop, boilermakers, et
14 cetera. That's what each of those different
15 letter designation on that 12 series
16 indicates. Within, as you know from Savannah
17 River, a good deal of the maintenance was done
18 locally in-house by non-construction trades --
19 they called them mechanics -- for the most
20 part, and these would be doing kind of low-
21 level type of maintenance type of work there
22 in the facility. They were badged with those

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1 dosimeter codes 5A, 5C if they were in 773 or
2 TNX. That's where those mechanics all show up
3 under that role 2. And so when you look at
4 the role 4 folks, construction trades workers
5 with Savannah River, that's where you see the
6 majority of those 12 code designations. Does
7 that answer your question?

8 MEMBER GRIFFON: Yes, yes, I think
9 so.

10 DR. TAULBEE: Okay.

11 MEMBER GRIFFON: It still doesn't
12 give me a percentage, but you know. I think
13 at the -- you know, and several of the
14 questions that were raised sort of -- this is
15 a little bit of my Work Group report, but
16 things that we raised during the conference
17 call, some concerns were, not only the
18 unbadged, but just like David said the
19 migration of people from other areas into
20 these areas that might not have had those
21 badge codes and the frequency of that. So
22 it's both issues on being able to, you know,

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1 establish the people that are in the Class.
2 And I think, you know, to some extent I feel
3 like we've been down this path before and a
4 lot of times we end up, after a lot of
5 heartburn, we end up back to an all workers
6 sort of definition but that's just commentary.

7 The other thing that we discussed
8 as a Work Group was the different areas. And
9 we do believe, and Tim mentioned this in his
10 presentation, and I won't go into all the
11 areas but there's certainly some other areas
12 that are still open for discussion at the Work
13 Group, that SC&A actually has raised questions
14 about NIOSH's ability to bound or to do dose
15 reconstruction for those other thorium areas.

16 300M is certainly one of them that's been
17 raised, but there's several others. So it's
18 sort of, you know, I don't want to lose that
19 piece of the whole thorium issue.

20 Let's see, the other thing, and
21 Tim mentioned this in his presentation but I
22 will reiterate that we have some questions

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1 about the time frame ending at '72 and I think
2 you said that you also, even though there's
3 smaller quantities, there's still some more
4 work to be done beyond '72 into the late '70s
5 and maybe later. Go ahead.

6 DR. TAULBEE: Yes, if I could.
7 The September 1972 was actually a very
8 specific date, mostly because of the
9 additional work going on but also the
10 dosimeter codes changed again October 1st,
11 1972. So just like we'd have another break
12 from that '57 to '58 time period, there will
13 be another break between October 1st of '72
14 forward.

15 MEMBER GRIFFON: Right. Okay.
16 And then I guess just, you know, off of the
17 thorium topic, I think Tim didn't give sort of
18 a summary of the entire progress of the Work
19 Group but just there's -- I just wanted to
20 mention that we have several other issues that
21 still remain outstanding on the Work Group,
22 including other radionuclide models, coworker

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1 models that NIOSH is still in various stages
2 of completion on. A couple of them, I
3 believe, are completed and in final review but
4 haven't been delivered to the Work Group or
5 SC&A to look at yet. These include: polonium-
6 210, neptunium, americium, curium, tritides,
7 other exotics, neutron exposures. So there's
8 a lot of coworker models that we just haven't
9 even looked at yet on the Work Group. I just
10 want to be clear, for those on the phone or in
11 the audience, that thorium is not like our
12 last issue here with Savannah River and so
13 that's certainly a concern and a concern on
14 the time as this stretches out. And also
15 other remaining issues, I won't go into the
16 details, but we also have a remaining issue on
17 bioassay completeness and an issue on
18 construction worker versus non-construction
19 worker models. In fact, the coworker models
20 tend to rely on all the coworker data together
21 and there's been some question as to whether
22 that was a claimant-favorable approach for the

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1 construction workers.

2 So all these issues remain on the
3 table and I think you know -- and I do
4 appreciate, because I raised this thorium, I
5 think it was two Board meetings ago, that we
6 really thought this was a critical issue to be
7 resolved. And I was ready to make a motion at
8 that point, so I appreciate that NIOSH
9 prioritized this. But also we have a lot more
10 to do on this site. So that's sort of my Work
11 Group report along with a few questions.

12 CHAIRMAN MELIUS: Okay, Phil.

13 MEMBER SCHOFIELD: I've got a few
14 things. First, did they have a centralized
15 contract who handled all the badging?

16 DR. TAULBEE: Yes. The prime
17 contractor through 1989 was DuPont. It was
18 the only contractor onsite, as opposed to
19 other facilities where they changed
20 contractors and would branch things out. Up
21 through 1989 it was all DuPont.

22 MEMBER SCHOFIELD: Okay. The

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1 second thing I'd like to know is when they
2 assigned a person a badge depending on the
3 designation they put on, did that
4 automatically put in motion what type of
5 bioassay program they were going to be under?

6
7 DR. TAULBEE: No, it did not. The
8 badges were issued by general work location.
9 And so you would pick up your badge in the
10 morning and you would drop it off in the
11 evening at each individual work location. And
12 these dosimeter codes are effectively
13 identifying the location. The additional
14 bioassay was treated by a case-by-case basis.

15 So if a carpenter picked up his badge and it
16 was 12I, let's say, or not 12I but one of the
17 12 series and he went to the reactor areas and
18 he did work he would have to leave a tritium
19 bioassay. That was part of their procedures.

20 If he left there and he came back to central
21 shops, next day he went to 773A, if he was
22 working with uranium, plutonium or americium,

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1 curium, californium he would be required to
2 leave that dosimetry if he was exposed to that
3 area. So there was an individual assessment,
4 especially for construction trades workers,
5 based upon where they were doing their work at
6 that particular time period.

7 CHAIRMAN MELIUS: Okay, go ahead.

8 MEMBER GRIFFON: Just Paul asked a
9 good question on the side here, is the Work
10 Group coming forward with a motion to
11 recommend NIOSH's position on this. We had a
12 phone Work Group meeting. We had the report
13 one night before so I think we all agreed that
14 it was best to come to this meeting and
15 present some of our concerns about being able
16 to identify who was in the Class and concerns
17 over other thorium areas and let the entire
18 Board deliberate rather than try to develop.
19 We weren't comfortable enough to actually
20 support it at that point so we don't have a
21 motion to bring to the Board.

22 CHAIRMAN MELIUS: Brad, Josie,

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1 then David.

2 MEMBER CLAWSON: I just wanted to
3 clarify. You said at the Work Group I believe
4 this was granulated thorium that was coming in
5 from Fernald?

6 DR. TAULBEE: No. Let me clarify,
7 there's two time periods for which different
8 types of material are coming in. In the prior
9 to 1965, the thorium coming in to the site, to
10 say the 300 area was all metal and it was
11 partially encapsulated at that time through
12 canning processes at Sylvania. In the 773A
13 and TNX area they had all forms of thorium.
14 So they might have started with metal and they
15 might have turned it into a powder. They
16 might have turned it into a liquid. They were
17 doing research and experimentation with it.
18 So it was all chemical forms when you got to
19 the Savannah River Laboratory as well as TNX.
20 Does that clarify?

21 MEMBER CLAWSON: Yes, it does to a
22 point, but where did -- where did it come

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1 from? Did it -- I know that the thorium went
2 back to Fernald in the railroad cars but
3 didn't some of it come from Fernald?

4 DR. TAULBEE: The thorium oxide in
5 the latter years, I don't know whether it came
6 from Fernald or not. I just don't know the
7 answer to that, I'm sorry.

8 CHAIRMAN MELIUS: Josie?

9 MEMBER BEACH: Tim, at first
10 glance this, the way you've identified how you
11 will identify the people in the different
12 areas looks good. My question is what form of
13 documentation will you be giving to DOL to
14 identify those different areas with the badge
15 numbers.

16 DR. TAULBEE: When we do dose
17 reconstruction, when we request records from
18 the Savannah River Site, they send us their
19 dosimetry reports. And so we get these
20 individual cards prior to 1957 for each
21 worker. From 1957 or 1958 through latter
22 years, I guess up to about 1976 time frame we

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1 get a large printout and they will print out
2 each page that has that worker's name on it.
3 And so these are large PDF files, if you will,
4 that have about 500 pages and maybe 30 to 40
5 workers on each page. And they'll go through
6 and they'll highlight each individual worker.

7 Beside that worker's name it has his payroll
8 ID number as well as his dosimeter location.
9 And so we get that for dose reconstruction,
10 this is how we determine whether this person
11 should have been monitored for plutonium and
12 we check to see if there's plutonium
13 monitoring. So it would be those same records
14 that we receive is what I would anticipate DOL
15 would be looking at to find those dosimeter
16 codes. So it would be every cycle and every
17 quarter that we get that has to be searched
18 for one of these particular codes.

19 MEMBER BEACH: Okay and have you
20 done any sampling to assure that there won't
21 be any mistakes? Because DOL just informed us
22 that they wouldn't, if they weren't on that

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1 list or on that PDF they would have to deny
2 them. Have you done any form of sampling just
3 to?

4 DR. TAULBEE: What kind of
5 sampling are you talking about? Like taking a
6 hundred people or?

7 MEMBER BEACH: I only ask this
8 because of experience with the radon SEC that
9 we passed for Mound and we're finding a lot of
10 problems with it because of the log books that
11 were given to DOL to determine who had the
12 tritium samples. So not to get into that. So
13 I guess sampling to make sure that a person
14 that did work in any of these areas will be
15 covered in the event that they need to be
16 included in this Class. I don't know if I'm
17 explaining that well enough. Just like a
18 check and balance.

19 DR. TAULBEE: I understand I think
20 what it is you're asking. I mean, I think we
21 could do some sampling. The problem is
22 finding out who were all the construction

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1 trades workers in 1958. Who were they? And
2 so we almost rely on when a person files a
3 claim. We get their dosimetry and look at it
4 from that standpoint. Because we don't know
5 what the total N is for a particular one of
6 these dosimeter codes, how many badges came
7 out of that department.

8 We do have some information to
9 where we could possibly do something along
10 those lines. By each area there are dosimetry
11 summary reports which indicate the number of
12 badges that were issued out of a particular
13 area. So we might be able to do something
14 from the standpoint of looking at the
15 quarterly reports, comparing it to that number
16 that were issued out of that area. But I'm
17 not sure that we could actually, other than a
18 worker-by-worker basis go through and do that.

19 CHAIRMAN MELIUS: Go ahead.

20 MS. LEITON: Just for
21 clarification, it's my understanding we're not
22 necessarily going to get a list from NIOSH on

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1 this so it's not going to be the same as Mound
2 in that they already obtained these records
3 from DOE that provide them with the dose
4 reconstruction or the dosimeter information
5 for dose reconstruction cases. Not all the
6 cases are obviously going to go to dose
7 reconstruction so you know, we will be able to
8 obtain the same kind of information directly
9 from DOE which is a lot different from Mound
10 which we rely on a particular list and if
11 they're not on the list then we have problems.

12 In this case I think it might be delayed a
13 little bit by that.

14 CHAIRMAN MELIUS: But Rachel,
15 would you get information in a way that if a
16 person somehow identified as having worked in
17 one of these areas but not being badged in one
18 of these areas, would you identify that?
19 Would you be able to include them in the
20 Class?

21 MS. LEITON: If they've indicated
22 they were badged but we have no evidence they

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1 were badged that's where we would run into
2 problems.

3 CHAIRMAN MELIUS: That's what I
4 thought. Okay. Thank you. David, you had a
5 question?

6 MEMBER RICHARDSON: I think your
7 question was different than her answer. I
8 think if they said I worked in that building
9 but I was badged over here, they would say
10 well, the way the SEC is written, if your
11 badge doesn't have these codes you're not --

12 CHAIRMAN MELIUS: That's what I'm
13 saying, that's what I thought she answered but
14 maybe. Okay. Now I've confused you on your
15 question.

16 MEMBER RICHARDSON: Oh, there were
17 two things. Maybe the first thing is -- I'm
18 trying to remember. I know that, you've got
19 written here that if the work location or the
20 Health Physics area is blank then NIOSH should
21 assume that the worker was potentially exposed
22 and be in the SEC. I didn't see that made

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1 explicit maybe in the definition.

2 DR. TAULBEE: I think that that's
3 something that we would need to talk with DOL
4 about more in greater detail. There are time
5 periods where I wouldn't say -- it's not
6 common, but you will see a 000 indicating they
7 didn't know the location of that badge or it
8 was their first badge issued. So I actually
9 see it more common for first badge being
10 issued than any other time. But it's I would
11 say the vast majority of the records there's a
12 dosimetry code there.

13 CHAIRMAN MELIUS: Phil?

14 MEMBER RICHARDSON: No, I'm sorry,
15 I had two things. I was trying to look
16 because I mean, we worked with these quite a
17 bit and I know that we ended up imputing, I
18 mean, again for epidemiology it's different.
19 We imputed work areas, you know, by using
20 subsequent information or whether -- but this
21 is a different idea so I'm trying to make some
22 recollection. I remember also that it's

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1 largely complete but there are codes either
2 that are illegible, they don't correspond to
3 anything that's meaningful or they're missing.

4 And those would all be options in which it
5 would seem like if we were going to start
6 defining an SEC based on numeric codes then
7 you have to actually be, you'd have to kind of
8 perhaps be exhaustive about it.

9 The other thing that's related on
10 a similar note to that, some of the codes that
11 are in the definition, the one that's most
12 concerning to me is 12J, which my recollection
13 is was promptly re-coded as 11A which puts
14 them into the 100 area. So that would be one
15 I would look at. It's not used very often.
16 The other one is 12Z, I think is almost --
17 almost never used and if you follow that
18 person out they're actually in 12G later on.
19 That has less implications for you, it just,
20 it would fall back in the same group. The 12J
21 one to me was a curiosity at the time.

22 CHAIRMAN MELIUS: Rachel, you had

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1 further comment?

2 MS. LEITON: No, I was just saying
3 that I was -- I was just going to agree with
4 Tim on that issue, those issues that he just
5 mentioned. If there's blanks or there's
6 nothing in there then that's something we
7 haven't contemplated yet so we'll definitely
8 have to coordinate on that issue.

9 MEMBER RICHARDSON: If you look
10 at, you know, imagine the number of values
11 that are recorded in the database, you end up
12 encountering everything, right? I mean.

13 MS. LEITON: Usually our claims
14 examiners are going to look at whether or not
15 they were badged and they have that particular
16 code and that's going to be as far as they're
17 going to be able to look because they're not
18 scientists. You know, they're going to be
19 given a very specific definition and say this
20 is the code they had and this is where we'll
21 place them and that's pretty much as far as
22 they're probably going to be able to go. But

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1 again, we'll talk further about it with NIOSH.

2 DR. TAULBEE: And just to re-
3 emphasize, many of these 000 codes is the
4 first badge. The very next one will be 1A or
5 something along those lines and so you can
6 clearly see where they worked in subsequent.

7 CHAIRMAN MELIUS: Phil had a
8 question.

9 MEMBER SCHOFIELD: Yes, I've got a
10 question. Not being familiar with the way
11 security operates at Savannah River I was
12 wondering if a person who is badged for one
13 particular area, if they go into another area
14 and their badge does not have that
15 nomenclature on it, does security log these
16 people in in a notebook? Were they separate
17 zones, say for security?

18 DR. TAULBEE: I don't believe that
19 they were. I don't have any basis for that, I
20 don't have documentation, hard documentation.

21 I have heard through interviews with workers
22 that until recent years in late '80s, early

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1 '90s there were no signs onsite. So getting
2 to say the C reactor, if you didn't have a
3 reason to be there you were never told where
4 it was, what roads to get there. So, but I've
5 never heard any formal type of aspect as far
6 as whether security checked individual badges
7 from that standpoint.

8 CHAIRMAN MELIUS: I'm not sure if
9 petitioners are on the line and would like to
10 speak. We do have a letter from the
11 representative of one of the petitioners which
12 has been handed out. It came in today and
13 this representative somehow had been left off
14 the distribution list and I believe only got
15 the report yesterday. I don't even think the
16 petitioners actually got the report until
17 Monday or something if that. And so I just
18 draw your attention. In a short period of
19 time looking through the records of this
20 representative I think found a number of
21 potential discrepancies with, or problems with
22 the use of these codes and relying on badging

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1 as a way of identifying people that worked in
2 those areas. Now, while it's not been
3 confirmed I think it is information that
4 raises questions about how complete and how
5 valid this process would be in terms of
6 identifying all people that worked in those
7 areas. Because I think that's really what
8 we're trying to get at. This is in a sense a
9 surrogate, the badging is a surrogate for
10 having a way of locating people that worked
11 near. I think you pointed that out earlier
12 and I think we, as has been stated we've had,
13 certainly had problems in the past. I also
14 frankly worry that we're sort of rushing into
15 this. The Work Group had very little time to
16 review the report, Department of Labor has had
17 very little time. I realize there's a good
18 faith attempt to get this done and it's a lot
19 of work but you know, whether we're really
20 ready to answer -- is it fair to even answer,
21 ask some of these questions and expect to
22 answer them. But first let's -- are any of

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1 the petitioners on the line that would like to
2 speak? Okay, thank you.

3 MR. ANDERSON: Excuse me, I'm
4 sorry. Can you hear me?

5 CHAIRMAN MELIUS: Now I can.
6 Could you identify yourself?

7 MR. ANDERSON: My name is David
8 Anderson and I'm with the Law Offices of Bob
9 Warren and I believe you've been talking about
10 the letter that we emailed to the Board
11 earlier this afternoon. And we are sorry and
12 apologize for it getting to you so late.

13 CHAIRMAN MELIUS: Well, no, that
14 is the letter we're talking about and I said I
15 think there's valid reasons for it being sent
16 in late.

17 MR. ANDERSON: Right.

18 CHAIRMAN MELIUS: So no need to
19 apologize.

20 MR. ANDERSON: Okay. And as
21 you've already mentioned the coding is of
22 major concern to us.

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1 CHAIRMAN MELIUS: Yes.

2 MR. ANDERSON: Okay, thank you
3 very much.

4 CHAIRMAN MELIUS: Thank you. So,
5 how do the Board Members feel about this? We
6 have no recommendation from the Work Group, we
7 have no motion.

8 MEMBER BEACH: I think we should
9 turn it over to the Work Group to look at in
10 further detail.

11 MEMBER SCHOFIELD: I have to agree
12 with Josie. I think this should be looked at
13 more in-depth. We'll see if we can narrow it
14 down.

15 CHAIRMAN MELIUS: Yes, I mean I --
16 my tendency coming into the meeting having
17 read the report was hoping that it would be a
18 way of stepping forward, but I'm afraid we
19 would be -- could be starting a process that's
20 going to be unfair to -- and Bob, a lot of
21 work and some possibly changes or
22 clarifications. And I would like to have a

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1 little bit more, I'm not saying it's
2 infeasible but I'd like certainly to have a
3 lot more certainty, information on how this
4 could work and also some thought to
5 alternative proposals. So I think as we found
6 the alternative approach usually comes back to
7 including the whole site and I think that's,
8 that raises other issues about other areas on
9 the site and so forth which are still under
10 evaluation. Mark, do you have any comments?

11 MEMBER GRIFFON: I was just going
12 to say, I mean, I do tend to agree. I was
13 hoping that we could move something today also
14 but I think what I would offer is that we'll
15 schedule, even if it's another phone Work
16 Group I think we should schedule one fairly
17 soon to at least scope out what we want to do
18 now, what are the issues we need to look into
19 and is it SC&A's task to look into it or
20 NIOSH's task to look further.

21 For instance, I think there could
22 be some value in following up on some of the

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1 people we interviewed. There may even be some
2 information gleaned from the CATI reports.
3 I'm interested if NIOSH could look at all the
4 CATIs. You've got a lot of CATI interviews on
5 this site, sort them by area and pull out the
6 files for 773A and see how many of those
7 people were actually badged for that, you
8 know, fall under your badge settings.

9 So, I think there's some possible
10 paths forward but I think I would arrange a
11 Work Group meeting fairly soon, within the
12 next couple of weeks, just do a phone call
13 meeting and scope this out. Because I think
14 we really need to move on at least part of
15 this overall petition.

16 CHAIRMAN MELIUS: And whether, you
17 know, like Mr. Warren was offering some
18 information that might be helpful and I would
19 ask more. I certainly think that the
20 construction trades might also in terms of,
21 because those are some of the groups we're
22 trying to, we get concerned about in terms of

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1 badging practices and designations and do
2 that. Phil, you had a --

3 MEMBER SCHOFIELD: I've got
4 almost, it's more a question than a comment
5 and that's, I don't really know how feasible
6 it would be for them to take a sample and how
7 big a job that would be for them to sample
8 some of these. Just take random employees,
9 look at their badge, look at their history of
10 their badging and which areas they were badged
11 in versus their CATI report.

12 CHAIRMAN MELIUS: Yes. I would
13 just add that I think some sort of sampling
14 information-gathering, the problem that you
15 might run into would be trying to -- how do
16 you do a large enough sample as to be a lot of
17 effort to identify who's missing. And yet if
18 it were 10 percent or whatever and maybe
19 certain years and so forth. I think as we
20 found in other situations it's not always a
21 straightforward effort. But I think let's let
22 the Work Group, I think you're a Member,

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1 right?

2 MEMBER SCHOFIELD: Yes.

3 CHAIRMAN MELIUS: Make an effort
4 to do that. Okay. Any other comments on
5 this? Okay. I think we're -- I lost my
6 agenda here, but I believe we're due for a
7 break till 3:15. Why don't we be kind and
8 give ourselves till 3:20 or so.

9 (Whereupon, the above-entitled
10 matter went off the
11 record at 3:00 p.m. and
12 resumed at 3:29 p.m.)

13 CHAIRMAN MELIUS: These are the
14 two letters on Piqua and Don, Norton that we
15 reviewed earlier. I'll read. The standard
16 procedure for the Board that if I don't hear
17 back within 30 days that we notify the Board
18 and so forth.

19 The first letter on Piqua.
20 Advisory Board on Radiation and Worker Health,
21 parentheses, the Board, has evaluated Special
22 Exposure Cohort Petition 00126 concerning

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1 employees who worked at the Piqua Organic
2 Moderated Reactor in Piqua, Ohio, under the
3 statutory requirements established by the
4 Energy Employees Occupational Illness
5 Compensation Program Act of 2000, EEOICPA, and
6 incorporated into 42 CFR 83.13. National
7 Institute for Occupational Safety and Health,
8 NIOSH, has recommended that individual dose
9 reconstructions are feasible for all employees
10 of the Department of Energy, its predecessor
11 agencies and their contractors and
12 subcontractors who worked in any location at
13 the Piqua Organic Moderated Reactor during the
14 operational period from January 1st, 1963,
15 through May 1st, 1966. NIOSH found that it
16 has access to adequate exposure monitoring and
17 other information necessary to do individual
18 dose reconstructions with sufficient accuracy
19 for members of this group and therefore a
20 Class covering this group should not be added
21 to the SEC. The Board concurs with this
22 determination. Enclosed is supporting

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1 documentation from the August 23rd through
2 25th, 2011 Board meeting held in Richland,
3 Washington, and earlier meetings where this
4 potential Class for the SEC was discussed. If
5 any of these items are unavailable at this
6 time they will follow shortly. Anyone have
7 corrections or additions to that?

8 (No response.)

9 Okay. I'd like to thank Dr.
10 Poston for pointing out correctly in your
11 slides. The dates were a little confusing
12 from the report so thank you for that.

13 Second letter. This is on the
14 Norton. The Advisory Board on Radiation
15 Worker Health, the Board, has evaluated
16 Special Exposure Cohort, SEC, Petition 00173
17 concerning workers at the Norton Company in
18 Worcester, Massachusetts, under the statutory
19 requirements established by the Energy
20 Employees Occupational Illness Compensation
21 Program Act of 2000, EEOICPA, incorporated
22 into 42 CFR 83.13. The National Institute for

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1 Occupational Safety and Health, parentheses,
2 NIOSH, has recommended that individual dose
3 reconstructions are feasible for all atomic
4 weapons employees worked in any building or
5 area at the facility owned by Norton Company
6 or a subsequent owner in Worcester,
7 Massachusetts from October 11th, 1962, through
8 October 31st, 2009. NIOSH found that it has
9 access to adequate exposure monitoring and
10 other information necessary to do individual
11 dose reconstructions with sufficient accuracy
12 for members of this group and therefore a
13 Class covering this group should not be added
14 to the SEC. The Board concurs with this
15 determination. Enclosed is supporting
16 documentation from the August 23rd through
17 25th, 2011 Board meeting held in Richland,
18 Washington, and earlier meetings where this
19 potential Class for the SEC was discussed. If
20 any of these items are unavailable at this
21 time they will follow shortly. Any comments
22 or changes to that?

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1 (No response.)

2 Okay. Good. We'll -- we have
3 some sharp eyes on here. Paul already picked
4 up one error yesterday, grammatical, so. Have
5 faith, right?

6 Why don't we move on to the public
7 comment session comments which is a 60- or so
8 page document. It's on your information that
9 was passed around under Board Work Session.
10 No? But I thought I found it also on here.

11 MR. KATZ: The public comments
12 from February with responses that we
13 distributed a couple of weeks ago. I emailed
14 them to everybody, that's certain, but let me
15 see. I don't have it here because I didn't
16 even copy everything off the flash drives.

17 CHAIRMAN MELIUS: We did receive
18 it. Well, I shouldn't say that. I received
19 it as part of the Board correspondence from
20 Ted. I can't -- because I actually printed it
21 out, that's why I have it with me. I have a
22 copy here.

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1 MR. KATZ: We can make copies.

2 CHAIRMAN MELIUS: But it's long
3 and double-sided and given the state of the
4 copier --

5 MR. KATZ: Well, we can -- how
6 many people are lacking it?

7 CHAIRMAN MELIUS: A lot of the
8 size is including the transcripts and
9 information.

10 MR. KATZ: I can't re-send it
11 because I'm not on the internet right now. Is
12 anyone on the internet right now who can send
13 it? Wanda or Paul? Can you send it? Well, I
14 mean a lot of people have it but Bill needs
15 it.

16 CHAIRMAN MELIUS: Okay, why don't
17 we move on and if everyone can take a look for
18 tomorrow's work session, we'll do it. It's
19 sort of -- no, I found it also but it's a
20 tedious document to look through, though most
21 of the information is just sort of the
22 spreadsheet part of it. Then there's the long

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1 transcript parts that follow and so there
2 really aren't that many comments. And again,
3 I looked through it and I didn't have any
4 problems with the way they were, the
5 disposition of the comments which is really
6 what we're talking about: are they being
7 properly assigned for follow-up. So.

8 MEMBER ANDERSON: It wouldn't go
9 to Richard Lemen, it wouldn't go to Mike
10 Gibson, it didn't go to Mark Griffon.

11 MEMBER LEMEN: I got it.

12 MEMBER ANDERSON: Oh, you did? It
13 says undeliverable.

14 CHAIRMAN MELIUS: My understanding
15 is certain people have not yet passed -- done
16 their security updates or whatever, and some
17 of us have. Some people will have to stay
18 after school. That's right. Okay.
19 Scheduling meetings.

20 MR. KATZ: Okay, we have a few
21 things to do with respect to scheduling.
22 Jenny? Okay. On scheduling, the first item

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1 is -- which it's not indicated here but we
2 have a February meeting, February 28th through
3 March 1st. We did not settle on a place for
4 that and it's probably about ripe time now to
5 do that given some of the places can be
6 difficult for finding a hotel. So I have a
7 number of possibilities for you to think about
8 and I think we talked about some of these at
9 the last meeting, too. We also, we have, you
10 know, we have some letters that have some
11 bearing too at some point that we'll be
12 talking about, congressional letters. So here
13 are some thoughts I have. One, I don't know
14 at what point -- where we will be on Savannah
15 River Site come the end of February but that's
16 one possibility. And I'm giving you locations
17 where we could travel at that time of year
18 fairly reliably. And then we have Santa
19 Susana you'll be getting more information from
20 DCAS this fall, later this fall, so that's
21 probably pretty safe for Santa Susana which
22 would be Los Angeles area.

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1 Northern California, there are a
2 number of sites where we have things ongoing.
3 For example, we have Stanford Linear
4 Accelerator. SC&A will have finished work on
5 that. And then there is Lawrence Berkeley, we
6 have a Work Group there, we have -- there's
7 work to do. The Work Group hasn't worked yet
8 on that matter but this is a ways out. I
9 don't know if that's a possibility. And what
10 else? There's some element of Sandia at
11 Livermore, too, and I don't know what progress
12 will be on Sandia but apparently those two are
13 sort of hitched. So there's, anyway, there's
14 some activity in the northern California area
15 so that might be, and we haven't been there in
16 quite a long time.

17 And then there's the Albuquerque
18 area. I'm thinking that Santa Fe itself,
19 traveling to Santa Fe is not that safe that
20 time of year but Albuquerque is probably
21 pretty easy to get in and out of and we have
22 Sandia again and we also have, we also have

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1 the operations office in Albuquerque and --

2 MEMBER SCHOFIELD: And it's really
3 not that big a drive from Los Alamos, so.

4 MR. KATZ: Right and so they could
5 get there. That was part of the thought, they
6 would be able to get to Albuquerque more
7 easily than the Board could get to Santa Fe.

8 MEMBER SCHOFIELD: Yes.

9 MR. KATZ: So anyway, those are
10 three options I thought about. And then
11 there's skiing in Idaho.

12 CHAIRMAN MELIUS: What time was
13 the snow melt this year?

14 MEMBER CLAWSON: July 27th.

15 MR. KATZ: So do people have
16 thoughts about these three locations? Because
17 it would be nice to pin that down and work on
18 hotels.

19 CHAIRMAN MELIUS: We do have a
20 letter from, as I may have mentioned earlier,
21 from Senators Udall and a letter from Senator
22 Bingaman requesting that we schedule a meeting

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1 in New Mexico so as to allow claimants to
2 offer direct testimony before we make a final
3 decision on that SEC. I don't know if we're
4 going to be ready. It would certainly be
5 before, but it will -- how much before. I was
6 thinking that the following meeting might be
7 more appropriate for that but I don't know.

8 MEMBER GRIFFON: I was looking
9 for, I don't think Joe Fitzgerald's here but
10 to be honest with you I'd have to check and
11 see where we're at with action items for NIOSH
12 and SC&A on that Work Group. Yes. Arjun
13 might be checking now so maybe we can come
14 back to that. But I'm not sure if we'd be
15 ready to have anything for the Board to vote
16 on at that point. It doesn't mean we can't go
17 there and get input from them but, you know,
18 I'm not sure we'd be ready for a final
19 decision.

20 CHAIRMAN MELIUS: Northern
21 California then? I'm thinking if we haven't
22 been someplace.

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1 MR. KATZ: It's the very end of
2 February and the first day of March. Twenty-
3 eighth and 29th, it's a leap year, and March
4 1st.

5 MEMBER BEACH: So Mark, are you
6 talking LANL?

7 MEMBER GRIFFON: Yes, I'm sorry.

8 MEMBER BEACH: What about Savannah
9 River? Is that going to be anywhere close?

10 MEMBER GRIFFON: Well, I mean, I'm
11 just trying to think. Several of these other
12 coworker models that we have are just going to
13 be delivered to the Work Group in late end of
14 this year. Now the thorium issue, hopefully
15 I'm hoping we can move something before that
16 time frame, but for the other issues I'm not
17 sure the timing will be that great. I don't
18 know, Tim, if you have any thoughts on that?
19 On Savannah River, the timing to have a Board
20 meeting end of February, early March?

21 CHAIRMAN MELIUS: We were just
22 there.

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1 MEMBER GRIFFON: Yes, we were just
2 there.

3 DR. TAULBEE: Yes, we were just
4 there in February. By the February, by the
5 time you'd be having that meeting we would
6 have at least one coworker model done but the
7 other ones would not be done yet.

8 MEMBER GRIFFON: So I think, you
9 know, yes, I don't think it would make sense.

10 MEMBER MUNN: I would like to be
11 enthusiastic about Los Angeles but the Santa
12 Susana Work Group has not made any progress.

13 MR. KATZ: Well, we're talking
14 about the end of February here, beginning of
15 March.

16 MEMBER MUNN: I know.

17 MR. KATZ: And Santa Susana I
18 believe DCAS has deliverables to the Work
19 Group which is what they're waiting on that
20 are coming I believe in, I thought, in the end
21 of September maybe. So there's time for the
22 Work Group to make progress.

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1 MEMBER MUNN: Yes, we just don't
2 have anything scheduled and that makes me
3 nervous.

4 MR. KATZ: Right, but this is,
5 again, we're going six months out here.

6 MEMBER MUNN: Right.

7 CHAIRMAN MELIUS: How long has it
8 been since we've been to northern California?

9 MR. KATZ: Oh no, very long.

10 CHAIRMAN MELIUS: A very long time
11 and that's --

12 MR. KATZ: Okay, so let's -- is
13 that good for everyone?

14 MEMBER ROESSLER: Ted, when you
15 say northern California, are you talking about
16 Livermore?

17 MR. KATZ: Yes, the Livermore
18 area, right. Berkeley, Livermore, I mean
19 those are the -- that's where we have sites.

20 MEMBER ROESSLER: Is it feasible
21 to meet like in Oakland or something, or is
22 that too far from? It's kind of -- I thought

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1 it was kind of a challenge to get all the way
2 out to Livermore.

3 MR. KATZ: Well, we've done it
4 before.

5 MEMBER ROESSLER: We have done it.

6 MR. KATZ: There is Livermore.
7 Berkeley of course is by -- would be near
8 Oakland.

9 MEMBER ROESSLER: I would think
10 Oakland would be a good place.

11 MEMBER ZIEMER: Let me comment.
12 We've met out in Livermore and I'm not sure
13 more than one Livermore person came to that
14 meeting. And it seems to me that it doesn't
15 make sense for us to sort of kill ourselves
16 getting out there.

17 MEMBER ROESSLER: That was what I
18 was afraid of when I was going out there is
19 getting killed.

20 MEMBER ZIEMER: Well, I know we
21 have to be as available as we can but we were
22 right there in town and people didn't come.

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1 CHAIRMAN MELIUS: We don't have an
2 SEC there, right? I mean, under evaluation.

3 MEMBER FIELD: How about San Jose?

4 MEMBER ROESSLER: You can fly into
5 San Jose.

6 MEMBER FIELD: It would be
7 Stanford.

8 MR. KATZ: So we have SC&A work
9 being delivered before then on Stanford. So
10 is that a good compromise, San Jose for
11 Stanford and there's Lawrence Berkeley? I
12 don't know where we'll be. Is that a good,
13 San Jose? So that would be first choice at
14 least in that area. Okay, we'll look into it
15 and we can continue the conversation by email
16 if we have issues. Tim, is that?

17 CHAIRMAN MELIUS: Yes, good.

18 MR. KATZ: So then timing. We
19 need to schedule a teleconference for this
20 spring and I've identified sort of the date
21 frame for that for April 16th through the
22 20th, that ballpark, the 23rd, 26th and 27th

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1 are open. So the 16th through the 20th,
2 that's a full week and the middle would be.
3 We want to do Wednesday. This is April of
4 next year we're talking about. Sixteenth
5 through 20th.

6 MEMBER ANDERSON: The 16th through
7 the 20th is the EIS conference.

8 MR. KATZ: I wouldn't know. I
9 trust you.

10 CHAIRMAN MELIUS: Our taxes are
11 also due.

12 MR. KATZ: Taxes are due on Monday
13 though, so.

14 CHAIRMAN MELIUS: Seventeenth up
15 in New England. We have Patriots Day.

16 MEMBER ANDERSON: Twenty-three,
17 26, 27 is fine.

18 MR. KATZ: Right. So how are
19 those days? Twenty-third, 26th or 27th. I
20 think the 27th is a Friday. Twenty-sixth?
21 How is the 26th of April?

22 CHAIRMAN MELIUS: Twenty-sixth.

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1 MR. KATZ: Okay, very good. And
2 then face to face, the right date frame is
3 June 4th through 8th, 11th through 15th if
4 either of those works.

5 CHAIRMAN MELIUS: I have
6 commitments the following week. And I haven't
7 been invited to the state epidemiologists.
8 June. Okay, I can't so I will not.

9 MR. KATZ: That week's out for Dr.
10 Melius.

11 MEMBER SCHOFIELD: We should try
12 to get around to the Oak Ridge area at some
13 point.

14 MEMBER MUNN: Can't it be the week
15 before? The first week of June.

16 MEMBER ANDERSON: Well, it's the
17 last week of -- the week of the 28th. June
18 4th.

19 MR. KATZ: I thought that's what
20 you were saying, Andy, that 4th through 8th.

21 MEMBER ANDERSON: No, the 4th
22 through the 7th. The 8th is --

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1 MR. KATZ: We need -- yes.

2 MEMBER MUNN: So you can't do the
3 first week.

4 MEMBER ZIEMER: When is Memorial
5 Day?

6 CHAIRMAN MELIUS: The 28th.

7 MR. KATZ: Yes, exactly.

8 MEMBER ANDERSON: Then the week of
9 the 18th is fine.

10 MR. KATZ: So the week of June
11 18th? How's that week? It's a stretch but we
12 can -- does that work for everyone?

13 CHAIRMAN MELIUS: Yes.

14 MR. KATZ: Yes, 19th, 20th, 21st if
15 that works for everyone. That's the middle of
16 the week. Sorry?

17 MEMBER RICHARDSON: The 19th would
18 probably be better for me but.

19 MR. KATZ: Right, the 19th, 20th,
20 and 21st.

21 MEMBER RICHARDSON: Earlier.

22 CHAIRMAN MELIUS: It's an in-

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1 person meeting, three days.

2 MEMBER RICHARDSON: Three days.

3 MEMBER BEACH: Ted, what are the
4 dates for February again?

5 MR. KATZ: So February is the
6 28th, 29th and March 1st.

7 CHAIRMAN MELIUS: And what is the
8 date for the call?

9 MR. KATZ: The call that we just
10 agreed to?

11 MEMBER BEACH: April 26th.

12 MR. KATZ: No, the prior one is --
13 the prior call is January 25th. January 25th.

14 Okay, so we're settled, right?

15 MEMBER ZIEMER: Do we have a
16 tentative site for June?

17 MR. KATZ: No, no, no site.

18 CHAIRMAN MELIUS: Well, LANL.

19 MR. KATZ: Oh yes, LANL. That
20 makes sense because by then. What's that?

21 CHAIRMAN MELIUS: Henry wants to
22 go fishing.

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1 MR. KATZ: Okay, so and that's
2 LANL right? So LANL. Well, LANL it could be
3 -- I mean at that time of year we could be in
4 Santa Fe and close. It'll just be heat.

5 MEMBER SCHOFIELD: What day? Do
6 we want to do Albuquerque?

7 MR. KATZ: We're not doing
8 Albuquerque. We're doing northern California.

9 MEMBER SCHOFIELD: Right. I was
10 just going to say --

11 CHAIRMAN MELIUS: No, talking
12 about June.

13 MR. KATZ: Oh, so June, in June,
14 LANL. So that's the 18th -- wait.
15 Nineteenth, 20th, 21st.

16 MEMBER SCHOFIELD: And where is
17 that located?

18 MR. KATZ: That'll be probably in
19 Santa Fe.

20 MEMBER LEMEN: Not Albuquerque.

21 MR. KATZ: No because we can be
22 close to the site and that would be better for

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1 the LANL folks.

2 MEMBER LEMEN: So a June meeting
3 in Santa Fe.

4 MR. KATZ: Exactly. Yes.

5 MEMBER SCHOFIELD: It might be a
6 stretch trying to make it in there.

7 CHAIRMAN MELIUS: We'll come pick
8 you up, Phil. And Brad can get in a
9 snowmobile and come down from the snow
10 country. Okay. And I think that also answers
11 our Board letters. Yes.

12 MEMBER ZIEMER: Do we owe them a
13 response?

14 CHAIRMAN MELIUS: We owe them a
15 response and I'm just going to--

16 MEMBER ZIEMER: Just tell them
17 that we are going to meet there.

18 CHAIRMAN MELIUS: Yes. We got --
19 the letter from -- the letter came from the
20 office of Senator Udall and then that was the
21 one that was emailed around to everybody and
22 the Board. And then I received via DCAS a

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1 similar letter, not exactly, but same request
2 from Senator Bingaman's office. So I will
3 just respond politely and accordingly.

4 Sandia Work Group, got a number of
5 requests. I've asked Dr. Lemen to Chair with
6 other Members being Josie, Gen Roessler and
7 Henry. Sandia.

8 That really takes care of our
9 Board work session. We'll have some letters
10 tomorrow possibly depending on our actions on
11 some sites. And we'll have the public
12 comments to address. Do you have anything
13 else, Ted?

14 MR. KATZ: I do not.

15 CHAIRMAN MELIUS: Okay. My
16 preference would be to do the Hanford Work
17 Group update closer to the public comment
18 period without a break. We have it scheduled
19 now 4:30 to 4:45 and we have a short
20 presentation prepared that would fit into that
21 time period, but my suggestion is we wait
22 until around 4:45 or so to start that or 4:30.

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1 I can't tell if people are signed up. And it
2 appears to be a few people. Can you actually
3 check to see where we are in terms of signing
4 up? I don't want people to have to wait
5 around longer than necessary at the same time
6 if other people are planning to come in around
7 5:00 or before I'd like to get it, try to
8 accommodate them.

9 MEMBER ZIEMER: Mr. Chairman?

10 CHAIRMAN MELIUS: Yes.

11 MEMBER ZIEMER: I'm wondering if
12 we couldn't go ahead with the public comment
13 matrix this afternoon. I know the Chair has
14 to leave a little bit early tomorrow and -- do
15 enough of us have copies of that now that we
16 could go ahead and do that?

17 CHAIRMAN MELIUS: The other
18 thought I had is that, since we have time, is
19 Mr. Rutherford. We have an SEC update.

20 MEMBER ZIEMER: Or an SEC update.

21 CHAIRMAN MELIUS: Yes.

22 MR. RUTHERFORD: Is it on? All

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1 right. I'm going to give a status of our
2 upcoming SEC petitions. Our format has
3 changed somewhat just to do something
4 different. We normally do this update at
5 every Board Meeting, give the Advisory Board
6 an idea of upcoming SEC petition evaluations
7 for planning purposes.

8 The SEC summary table, as you can
9 see we're up to 190. That was as of August
10 1st. Actually 191 now with the Rocky Flats
11 petition that just came in. We have five
12 petitions that were in the qualification
13 process and 113 petitions, evaluations that
14 have qualified for evaluation. And you can
15 see that we have 112 where we've completed
16 those and we have one evaluation in progress.

17 Clinton Engineering Works. This
18 has been under evaluation for some time. We
19 have really completed our evaluation.
20 However, there was a designation question that
21 we had for the Department of Labor. We're
22 still waiting for a response from the

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1 Department of Labor from that. We do expect
2 that soon. We have been talking to Jeff Coach
3 and Rachel about that. I do expect to get a
4 response from them very soon. Hopefully we'll
5 be able to present this at the next Board
6 Meeting.

7 The following sites have
8 evaluations that were partially completed and
9 we had committed at the time to continue our
10 evaluation. Grand Junction Operations Office.

11 This was for the period of February 1, 1975
12 through July 31st. We do expect our
13 completion in October and we would be ready
14 for the next Board Meeting. Sandia National
15 Lab, we are looking at the post-1960 period.
16 We continue this evaluation -- it continues.
17 We believe we'll have enough information, and
18 complete our evaluation in time for March of
19 2012 and I guess that would push us to the
20 June meeting of next year.

21 The following sites have petitions
22 undergoing qualification. Actually, the

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1 Pinellas Plant petition did not qualify and so
2 it is not in the qualification phase. At the
3 time it was still under qualification.
4 Hanford, we have a Hanford petition that's in
5 the qualification. Sandia. Oak Ridge
6 National Lab, the ORNL, I will tell you will
7 qualify and we are working towards moving that
8 evaluation forward. And then Titanium Alloys
9 Manufacturing is another one that we're in the
10 qualification phase. And that's about it.

11 CHAIRMAN MELIUS: Okay. Questions
12 for LaVon? Okay. Don't sit down. Ames.

13 MR. RUTHERFORD: All right. Let's
14 get them over with.

15 CHAIRMAN MELIUS: And I would just
16 add for the record, the petitioner did not
17 wish to participate in this, they indicated.
18 So that's why we're doing it out of schedule.

19 Normally when the petitioner is either going
20 to listen in or participate then we would do
21 it at the appointed time. But that's not the
22 case here so I think we're comfortable doing

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1 it at this time.

2 MR. RUTHERFORD: Okay. I'm going
3 to provide actually an update on the Ames
4 Laboratory SEC Petition Evaluation Report. We
5 actually presented this during a Board
6 conference call. I'll give you a little
7 summary of how we got to where we are. In
8 November if the Board will remember, we
9 completed a review of the existing SEC Class
10 Definitions and presented the findings of that
11 review to the Advisory Board. The findings of
12 that review indicated that we wanted to move
13 forward with an 83.14 to change the Class
14 Definition for Ames. So in March of this
15 year, we informed an Ames Laboratory claimant
16 that we were unable to reconstruct the
17 radiation dose for that claim and then we
18 received an 83.14 SEC petition in April. In
19 April we qualified that petition and we issued
20 our Evaluation Report in June of this year.

21 In July we presented the
22 Evaluation Report to the Advisory Board and

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1 during the Board's conference call. Prior to
2 taking action on the recommended Class, the
3 Advisory Board wanted a better understanding
4 of how DOL determines eligibility of claims
5 under EEOICPA for the Ames Laboratory. So we
6 also issued a revision to our Evaluation
7 Report. We changed the Class recommended
8 start date from January 1 to August 13 to be
9 consistent with the Manhattan Engineering
10 District. And here's our proposed Class that
11 we presented at the conference call. I'm not
12 going to read it all, but basically it's all
13 Department of Energy employees from August
14 13th, 1942 through December 31st, 1970. I
15 think I have the old presentation on here if
16 you want any additional information.

17 CHAIRMAN MELIUS: Do people have
18 questions like additional information? This
19 was a consolidation of a number of previous
20 petitions and I think was -- that we had
21 approved. It was to clarify the Class
22 Definition.

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1 MR. RUTHERFORD: That's correct.

2 CHAIRMAN MELIUS: And correct, I
3 think there was an error in terms of -- not an
4 error, but there was some clarification in
5 terms of time period also.

6 MR. RUTHERFORD: Right.

7 CHAIRMAN MELIUS: And our question
8 I think was I think both, if I recall right,
9 David Richardson and Paul Ziemer had questions
10 about the -- who would be covered during that
11 time period, how extensive was it in terms of
12 the employees of the university there at Ames.
13 Grad students. And while we don't have, you
14 know, full detail on that, I thought that
15 Rachel's slide yesterday clarifying the
16 Definition, how they administer that and who
17 they consider to be a qualified employee I
18 thought clarified that and essentially
19 narrowed it down sufficiently, but that's my
20 opinion.

21 MR. RUTHERFORD: This actually
22 consolidates the Classes from the sheet metal

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1 workers that was previously a maintenance and
2 sheet metal workers as well as it pulls in the
3 Class Definition, the previous Class
4 Definition earlier years with -- tied to
5 thorium exposures.

6 CHAIRMAN MELIUS: Anybody have any
7 -- yes, Paul.

8 MEMBER ZIEMER: Could you remind
9 us of how many claimants are already in the
10 system from Ames?

11 MR. RUTHERFORD: No, I can't. I
12 don't recall. I'm not sure if we have any of
13 those numbers available to us. I know this is
14 not a large change in numbers.

15 DR. NETON: I can look it up in
16 just a second.

17 CHAIRMAN MELIUS: Okay.

18 MR. RUTHERFORD: We have 187
19 claims through all years and it is still a
20 covered facility at this time.

21 CHAIRMAN MELIUS: Any other
22 questions, comments? If not, do I hear a

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1 motion?

2 MEMBER BEACH: I would like to
3 make a motion that we accept NIOSH's Class
4 Definition for Ames.

5 CHAIRMAN MELIUS: Okay. So
6 essentially accept their --

7 MEMBER BEACH: Recommendation.

8 CHAIRMAN MELIUS: Their
9 recommendation, this report, right. Do I have
10 a second to that?

11 MEMBER FIELD: Second.

12 CHAIRMAN MELIUS: Any further
13 questions? If not, Ted, do you want to call
14 the roll?

15 MR. KATZ: Dr. Anderson.

16 MEMBER ANDERSON: Yes.

17 MR. KATZ: Ms. Beach.

18 MEMBER BEACH: Yes.

19 MR. KATZ: Mr. Clawson.

20 MEMBER CLAWSON: Yes.

21 MR. KATZ: Dr. Field.

22 MEMBER FIELD: Yes.

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1 MR. KATZ: Mr. Griffon.
2 MEMBER GRIFFON: Yes.
3 MR. KATZ: Dr. Lemen.
4 MEMBER LEMEN: Yes.
5 MR. KATZ: Dr. Melius.
6 CHAIR MELIUS: Yes.
7 MR. KATZ: Ms. Munn.
8 MEMBER MUNN: Yes.
9 MR. KATZ: Dr. Poston.
10 MEMBER POSTON: Yes.
11 MR. KATZ: Dr. Richardson.
12 MEMBER RICHARDSON: Yes.
13 MR. KATZ: Dr. Roessler.
14 MEMBER ROESSLER: Yes.
15 MR. KATZ: Mr. Schofield.
16 MEMBER SCHOFIELD: Yes.
17 MR. KATZ: Dr. Ziemer.
18 MEMBER ZIEMER: Yes.
19 MR. KATZ: It is unanimous with
20 some absent Members. I'll collect their votes
21 afterwards. Motion passes.
22 CHAIRMAN MELIUS: And we just so

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1 happen to have a letter prepared. Again with
2 the usual proviso that this is passed down
3 within 30 days or the Chairman will notify the
4 Board. The Advisory Board on Radiation and
5 Worker Health, the Board, has evaluated a
6 Special Exposure -- SEC Petition 00185
7 concerning workers at the Ames Laboratory at
8 Iowa State University under the statutory
9 requirements established by the Energy
10 Employees Occupational Illness Compensation
11 Program Act of 2000, EEOICPA, and incorporated
12 in at 42 CFR 83.13. I believe the 83.14 will
13 be dropped. The Board respectfully recommends
14 that SEC status be accorded to all employees
15 of the Department of Energy, its predecessor
16 agencies and its contractors and
17 subcontractors who worked in any area at the
18 Ames Laboratory at Iowa State University
19 during the period from August 13th, 1940,
20 through December 31st, 1970, for a number of
21 work days aggregating at least 250 work days
22 occurring either solely under this employment

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1 or in combination with work days within the
2 parameters established for one or more other
3 Classes of employees included in the SEC.

4 This recommendation is based on
5 the following factors. One, individuals
6 working at Ames Laboratory during the time
7 period in question worked on the production of
8 materials for nuclear weapons. Two, the
9 National Institute for Occupational Safety and
10 Health, NIOSH, review of available monitoring
11 data as well as available process and source
12 term information, various production activity
13 at Ames Laboratory found that NIOSH lacked
14 adequate information necessary to complete
15 individual dose reconstructions with
16 sufficient accuracy for internal radiological
17 exposures due to thorium, plutonium and
18 thoron, and for most external exposures during
19 the time period in question. The Board
20 concurs with this determination. NIOSH
21 determined that health may have been in danger
22 for these Ames Laboratory employees during the

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1 time period in question. The Board also
2 concurs with this determination.

3 Based on these considerations and
4 the discussion at the August 23rd through
5 25th, 2011 Board Meeting the Board recommends
6 that this Class be added to the SEC. Enclosed
7 is the documentation from the Board Meeting
8 where this SEC Class was discussed. The
9 documentation includes transcripts of the
10 deliberations, copies of the petition, the
11 NIOSH review thereof and related materials.
12 If any of these items are unavailable at this
13 time, they will follow shortly.

14 Any comments or changes? Yes.

15 MEMBER ANDERSON: The second
16 bullet I think, the last -- second to the last
17 line, questions should be just question.

18 CHAIRMAN MELIUS: Yes. Yes,
19 David?

20 MEMBER RICHARDSON: I recently
21 learned that CFR Section 83.13 supersedes
22 Section 83.14 and so 83.14 could be struck.

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1 CHAIRMAN MELIUS: That's what I --
2 I did strike it. If you had been listening.

3 (Laughter.)

4 CHAIRMAN MELIUS: Yes, Jen.

5 MS. LIN: I think I actually have
6 the version that hasn't been reviewed by OGC
7 and OGC has a different version that should
8 report to you. But I'm just going to read the
9 changes here, what I have, and I'll share with
10 you the electronic copy.

11 CHAIRMAN MELIUS: Okay. I mean it
12 was shared with you over a week ago.

13 MS. LIN: Right, but I think the
14 OGC shared a different version with us and
15 then we sent it back to Nancy. But anyway,
16 there's just -- we can just do this right now.

17 CHAIRMAN MELIUS: Okay.

18 MS. LIN: For the second bullet
19 point in the middle of the sentence where it
20 says that NIOSH lacked adequate information
21 necessary to complete individual dose
22 reconstruction with sufficient accuracy for

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1 most external exposure and internal
2 radiological exposures due to thorium,
3 plutonium, thoron and mixed fission products
4 during the time period in question. And other
5 ones are just editorial changes so I'll email
6 them to you.

7 CHAIRMAN MELIUS: Okay. Addition
8 of and mixed fission. Yes, Paul.

9 MEMBER ZIEMER: Could I ask one of
10 the NIOSH people was the work at Ames actually
11 considered production in the sense that it's
12 used for nuclear weapons as opposed to
13 research or -- I mean, we've used in this
14 document that they worked on the production,
15 both the first and second bullets talked about
16 the production of materials for nuclear
17 weapons. I don't know if there may be --

18 CHAIRMAN MELIUS: I actually took
19 that from the Evaluation Report. I had the
20 same question. Like it caught -- no, I agree.

21 MR. HINNEFELD: If I get this
22 wrong, I think somebody will correct me. If

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1 I'm not mistaken, Ames did in fact -- that's
2 the site that developed the uranium bomb
3 reduction process which was uranium produced
4 for the uranium metal for the early program,
5 the early uranium produced for the MED. I
6 believe that was Ames.

7 MEMBER ZIEMER: They actually
8 produced the material used in the weapon.

9 MR. HINNEFELD: There was material
10 produced there. I assume they also did
11 research but there was material produced
12 there.

13 MEMBER ZIEMER: Okay, just wanted
14 to clarify.

15 MR. HINNEFELD: Some of this is
16 based on thorium work. I think it was the
17 same kind of thing. They developed the
18 process and produced some thorium. I think
19 they did production at Ames. Now, they may
20 have also done research.

21 MEMBER ZIEMER: The development of
22 the process I'm very clear on. My question

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1 was --

2 MR. HINNEFELD: I know they --

3 MEMBER ZIEMER: They produced it
4 for one weapon. That's enough.

5 MR. HINNEFELD: But it was for the
6 reactors.

7 MEMBER ZIEMER: Thank you.

8 CHAIRMAN MELIUS: Okay. Why don't
9 we move on to the -- I'll just ask Jen, can
10 you make sure the Vitro letter? Because I
11 have a similar version up here that we were
12 given that was printed out. I want to make
13 sure -- that's for potential discussion
14 tomorrow. We haven't discussed it. To make
15 sure it's the right one that's a little.
16 What?

17 MS. LIN: I also just sent you the
18 --

19 CHAIRMAN MELIUS: Okay, thank you.
20 Thank you. Okay. I'll compare what you sent
21 me. Public comment session comments. I guess
22 the easiest thing is, it may be a little bit

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1 tedious to go through them one at a time
2 unless people have picked out ones that they
3 have concerns about. Why don't we do that
4 first? Anybody have any that they have
5 concerns about? The first one is Dr. McKeel.
6 The disposition of that. Second one is the
7 letter from the Alliance of Nuclear Worker
8 Advocacy Groups. Third is --

9 MEMBER ANDERSON: So have these
10 responses been sent?

11 CHAIRMAN MELIUS: These have been
12 directed to. We don't do a complete follow-up
13 because these are where they're directed and I
14 think the purpose of this review as we set it
15 up was to make sure that everything did get
16 directed that was appropriate to direct. Some
17 of this, you know, some are just comments and
18 they don't.

19 MEMBER ANDERSON: But when it says
20 response date, that means there was a --

21 CHAIRMAN MELIUS: Yes, this will
22 be tracked going forward but our, I think our

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1 review at this point is really the initial,
2 you know, an assignment for follow-up and that
3 things that everything -- anything that was
4 not followed up on that people think should be
5 followed up on.

6 MEMBER ANDERSON: Fair enough.

7 CHAIRMAN MELIUS: This used to be
8 a compact spreadsheet and then we said no, we
9 need more information. We added the -- so we
10 made it. I will add one thing I think that
11 might be helpful in the future is if we could
12 number these. Yes. Identity numbers so at
13 least we would have -- it would be a little
14 easier to talk about.

15 So I'm on page 27. There's a
16 comment regarding the Savannah River Site
17 which is, for example, directed to Tim Taulbee
18 and Mark. Again, some general comments from
19 Terrie Barrie that were directed. Faye
20 Vlieger. The category coding is from the
21 Outreach Work Group.

22 MR. KATZ: And the condensing them

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1 can be quite a deal. There were like 23 --

2 CHAIRMAN MELIUS: Yes, yes.

3 MEMBER ANDERSON: The numbers
4 don't go up as high as this.

5 MR. KATZ: The numbers only matter
6 if you wanted to do some sort of analysis of
7 them down the road.

8 CHAIRMAN MELIUS: The comments on
9 behalf of Senators Gillibrand and Schumer,
10 straightforward. Public participant had a
11 question. Next. It's on page 43. Fernald
12 petitioner had a series of questions, some of
13 which were answered, some of which were
14 referred. A Linde petitioner had some
15 comments and questions. Again, this goes back
16 to February. The Norton petitioner had
17 questions. Savannah River is page 68.
18 Question.

19 MEMBER BEACH: My question on page
20 73.

21 CHAIRMAN MELIUS: And we'll skip
22 on to page 80.

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1 (Laughter.)

2 MEMBER BEACH: Of course I took on
3 Mound which is page 73 and Mr. Hinnefeld had a
4 response. In the date, the 7/26/11, is that
5 the due date or is that what that's for?

6 CHAIRMAN MELIUS: She's on page
7 73.

8 MEMBER BEACH: It was just on the
9 Mound, the tritium stuff is due.

10 MR. HINNEFELD: I didn't print out
11 the 63 pages. I don't have it in front of me.
12 What's the comment address?

13 MEMBER BEACH: It addresses the
14 tritium and then it has your name as the
15 responsible and then a date, 7/26/11, so.

16 MR. HINNEFELD: For the tritium
17 report?

18 MEMBER BEACH: Yes. He just has
19 three points on that tritium and how it's
20 being used for --

21 MR. HINNEFELD: Okay, well I think
22 at the time it was assembled that was probably

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1 our planned delivery date on tritium which is
2 like now in internal review so we're a little
3 late on that date.

4 MEMBER BEACH: Okay.

5 CHAIRMAN MELIUS: Unless I missed
6 one the final one is on -- that's it. Yes.
7 So we have no further. I don't think we need
8 to vote or anything. No, okay. Good.

9 MEMBER ANDERSON: It is helpful
10 having the transcript.

11 CHAIRMAN MELIUS: No, because if
12 you have questions, it's right there. You
13 don't have to go looking for the transcript.
14 Yes. And it's also something that's very
15 difficult to do on a Board call which is why
16 it tends to be delayed.

17 So I have around 4:20. Why don't
18 we take a short break, come back. We'll do
19 the Hanford presentation and then go right
20 into public comment period? So why don't we
21 take a 15-minute break and plan on coming back
22 about 35 of or so? 4:35, 25 of.

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1 (Whereupon, the above-entitled
2 matter went off the
3 record at 4:23 p.m. and
4 resumed at 4:52 p.m.)

5 CHAIRMAN MELIUS: Okay, we will
6 reconvene now. I don't think we're missing
7 anybody right now. So I apologize for people
8 in the audience, it's the way we're set up
9 here. I have a brief update on where we stand
10 with the Hanford site. And I'm going to first
11 do a brief update on the review of the SECs
12 that are underway and then Sam Glover is going
13 to give a sort of complimentary update on
14 other -- those and other NIOSH activities
15 related to Hanford. The Hanford Work Group
16 has been actively reviewing these early SECs.
17 Again, working with NIOSH, we've added a
18 fairly large Class already to the Special
19 Exposure Cohort but there continue to be
20 ongoing issues. The petitioner has actually
21 brought some new ones to us recently based on
22 some more recent information that was made

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1 available. And there's a fair amount of
2 activity. I'm not going to spend a lot of
3 time going through each of these issues but --
4 and the Board Members, we have it in your
5 information guide. Unfortunately some of
6 these got cut off when they went into a PDF so
7 they look a little bit confusing. But I don't
8 think it's real critical information with
9 that. But there's a number of ongoing
10 activities related to evaluation of thorium.
11 I have about three or four slides of these.
12 So there's internal exposure issues related to
13 questions of data adequacy. There's other
14 data dose reconstruction issues there, Super S
15 plutonium, which we've dealt with before and
16 others, tritium and possible tritide exposures
17 that need to be followed up on in terms of
18 dose reconstruction. And then there's -- some
19 of these are some newer issues that have come
20 up, sort of ongoing issues, both the sort of
21 data quality over the years, some issues about
22 records that were destroyed and trying to make

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1 sure that the destroyed records don't
2 interfere with the dose reconstruction. We
3 believe that a lot of them are duplicates but
4 -- or are not essential to dose reconstruction
5 but some may be and so that needs to be
6 clarified. And recently the petitioner
7 brought to our attention some problems with
8 Building 324 and cell B and related to that
9 and whether that will affect data adequacy for
10 dose reconstruction.

11 So all of these are under active
12 evaluation and continue to be. And we've been
13 working very closely with NIOSH. We had a
14 Work Group call last week briefly trying to
15 get everything prioritized for moving forward.

16 One of the activities on that, we tasked on
17 the Work Group call we did -- there's a newer
18 petition, at least 155 that we had talked
19 about at our last meeting as presented. It
20 had to do with some falsified testing, whether
21 that would affect dose reconstruction. So we
22 have now tasked and in the process of tasking

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1 our contractor SC&A to do follow-up on that
2 and to produce a report which will take some
3 period of time but we're making progress on
4 that. And let me turn it over to Sam Glover
5 from NIOSH who will now update you on sort of
6 the NIOSH activities that sort of complement
7 what the Board Work Group is doing in
8 connection with SC&A. Sam?

9 DR. GLOVER: Thank you, Dr.
10 Melius. This will be a very brief
11 presentation, probably about as long as it
12 took me to find it. So I'm just going to very
13 briefly provide you an update. We had a Work
14 Group call last week at the end of the week.
15 SC&A provided an extensive report and matrix
16 update so they reviewed the SEC issues, where
17 did our TBD updates, how did those -- where
18 did that kind of leave us, what TBD issues
19 might be closed. So an extensive set of
20 information.

21 And so let me just first start out
22 where do we stand. We have one current SEC

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1 petition before the Board. As Dr. Melius
2 said, this addresses the U.S. Testing data for
3 the plutonium. They specifically said
4 plutonium finishing plant. That really was
5 the highest plutonium activity out here and
6 they were very specific about people who had
7 bioassay and fecal measurements. From the
8 time frame, very narrow, 1987 through '89.
9 And so as Dr. Melius said, you've tasked them
10 to provide additional reports on that. Now
11 there are three current SEC Classes and
12 actually number 3 subsumed the previous two.
13 So the first one, so the very earliest years
14 where many forms of bioassay were not in
15 place, 46 through 68 were for sort of we'll
16 call them exotic radionuclides, highly
17 enriched uranium, thorium, promethium, and
18 then we've also realized that we couldn't put
19 people in places and that the time frame
20 really was better covered by June 30th, 1972.
21 And so that's all areas of Hanford through,
22 and that went into effect January 2010.

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1 So just to give you a flavor for
2 Hanford, it is one of the big sites. There
3 are 4,156 claims, 160 of those are active, 742
4 have been pulled for various reasons, often
5 SEC, either Hanford or a combination of other
6 facilities. Thirty-two hundred and fifty-four
7 are done, have been completed with 1,058 with
8 a greater than 50 percent PoC.

9 DOL maintains a running series of
10 these, probably for some of the big sites, but
11 this is an interesting graph that I'm sure you
12 have it in your packet. I thought it was
13 interesting just from the aspect as, how does
14 it change compensation and claims as a
15 function of the SECs. And so they actually
16 show as a function of dates what happens with
17 compensation, what is the slope. Some of
18 those are going to be claims probably that
19 after H you probably see just claims that are
20 old and being impacted by the SEC. But you
21 still see a fairly significant slope after
22 that initial slug, so you see more cases. I

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1 know DOE here saw a large increase in cases
2 and being new cases. So I thought that was an
3 interesting, you know, what is the effect at
4 Hanford of these different SECs. I think
5 we're around \$450 million so far in total
6 compensation.

7 So what have we been doing? Since
8 2009, since we initiated that report, we have
9 continued to have an extensive set of research
10 activities here. We realize that some of the
11 -- there were some shortcomings in where we
12 left things but understanding the source terms
13 and the size, where things are. We really had
14 to go do additional research. We've continued
15 to have the Board Members as well as SC&A
16 participate in these as much as they feel, and
17 actually I believe at every one of these,
18 we've had presence. We will include the
19 reports, the extensive reports by SC&A that we
20 just received as we develop our plans. We
21 still are working on this and now that DOE
22 just provided a path forward on writing

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1 classified documents here, they have a stand-
2 alone system so we'll be able to prepare a
3 series of classified White Papers to support
4 this activity. That's how we plan on
5 approaching this.

6 So just to give you a feel of the
7 amount of effort that we've put in here and
8 how much Gail Splett and her staff and folks
9 have accommodated, we have 53 official
10 requests where we have asked Hanford for data,
11 often for Hanford but other sites as well.
12 For Hanford, we've reviewed over 424 boxes of
13 data including what we're doing right now.
14 We're actually reviewing data this week.
15 We've visited Hanford 41 times including times
16 when we've come here just to scan documents,
17 but a significant presence onsite over the
18 last four years. We have almost 9,000
19 documents received from Hanford. And they
20 have accommodated many, many classified and
21 unclassified interviews. And so we've had an
22 extensive presence here.

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1 Our path forward is to address the
2 source terms and the coverage, how does the
3 bioassay compare, you know, what do we really
4 have. So we will update the White Papers that
5 we produced as part of the Technical Basis
6 Documents and then we will provide those
7 updates to my boss and we will develop a path
8 forward in connection with the Board. So, Dr.
9 Melius?

10 CHAIRMAN MELIUS: Okay. Any Board
11 Members with questions before we go? Okay.
12 We'll now open the public comment period.
13 Ted, do you want to do the instructions?

14 MR. KATZ: Yes, thanks. Well
15 welcome for those of you from Hanford who've
16 come for this public comment session and also
17 welcome for anyone who may have joined us by
18 the telephone. Just to alert you to sort of
19 the ground rules in terms of recording your
20 comments. All of these Board Meetings are
21 fully transcribed so everything that everybody
22 says is captured in a transcript which ends up

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1 on the NIOSH website which is available to the
2 whole public. So when you make comments
3 everything you say will be available to the
4 whole public. Anything private you say about
5 yourself will be. And the only exception to
6 that is that if you talk about private matters
7 of other persons, their privacy will be
8 protected. So we will redact information as
9 we may need to, to protect other people if you
10 tell stories about other people, give private
11 information about them, what have you. But
12 those are the basic rules and if you want to
13 see them, you know, in explicit detail they
14 should be available out on the table outside
15 of here and they're also, for people on the
16 phone and so on, they're available on the
17 NIOSH website under the Board section of the
18 website in the Meeting section. Thank you,
19 that's it.

20 CHAIRMAN MELIUS: We also ask that
21 you keep your public comments to 10 minutes or
22 less time and that we will -- we also have

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1 people on the phone that do have comments and
2 we will entertain them. We usually try to
3 start with the people in the room first. If
4 we can give you a quick and direct answer to
5 your comments we will do so here but that's
6 not always possible. And we will try when you
7 have a question or something but again, do the
8 best we can. Now there will be -- there is
9 follow-up. All the comments are followed up
10 and if you were here a little earlier today,
11 you would have seen us going through comments
12 from an earlier Board Meeting, public comments
13 trying to make sure, reviewing to make sure
14 that those were all being followed up. Again,
15 sometimes that takes some time to do but that
16 is something we track and we try to make sure
17 that everybody comments if they have a
18 question or information that it is -- someone
19 does get back to them on that.

20 So the first person I have signed
21 up: Theresa Howe. She didn't? Okay. She
22 signed up yesterday, wasn't -- decided not to

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1 and didn't come back. I now have Faye
2 Vlieger. I'm getting better. Took me about
3 five tries, right?

4 MS. VLIEGER: It's a name that can
5 get lost in the phone book.

6 CHAIRMAN MELIUS: Well, Melius
7 isn't always easy either.

8 MS. VLIEGER: Thank you again for
9 letting me speak. I slid right in here and I
10 apologize for my dress. It in no means
11 reflects on the Board. I wanted to reiterate
12 the ANWAG's policy. I'm here representing
13 ANWAG and Cold War Patriots. ANWAG's policy
14 on surrogate data has not changed. We do not
15 believe it should be used because it's
16 inaccurate and faulty.

17 Also we would like to let you
18 know, let the Board know that we will be
19 sending a letter concerning the conflict of
20 interest for the Dade Moeller and the EE&G and
21 contracts that we had brought up yesterday.
22 As I stated yesterday, I have a real issue

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1 with people that sit on both sides of the
2 fence, one side opposing the workers in labor
3 and industry cases and then hopping on the
4 other side and saying that they can, with no
5 bias at all, do a dose reconstruction. I
6 haven't seen anybody that's successful about
7 talking out of both sides of their mouth at
8 the same time, I really -- just doesn't work.

9 So that was it for tonight, just that ANWAG
10 does not support surrogate data. It's proven
11 to be faulty, and that we will be providing
12 you a letter on the conflict of interest
13 issues for Dade Moeller and EE&G. And thank
14 you very much for the meeting.

15 I was trying to listen on the
16 drive in and we had a lot of dead air starting
17 about 3:30 so I don't know -- not when you
18 were on break because you said you were going
19 to be coming back. So just so you know, there
20 were some technical issues tonight.

21 CHAIRMAN MELIUS: Okay. Thank you
22 for letting us know that, though, because we

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1 try to -- I believe it's Mary Ann Carrico is
2 it? I may have.

3 MS. CARRICO: I'm going to pass,
4 thank you.

5 CHAIRMAN MELIUS: Oh, okay.
6 Anybody else here in the audience that would
7 like to make a public comment? Yes? If you
8 could come up to the mic and identify
9 yourself. Either mic. Doesn't make --
10 whichever you prefer.

11 PUBLIC PARTICIPANT: When I got
12 the letter, I wanted to come say thank you,
13 how cooperative everybody has been. I can
14 just see on the phone they're smiling and
15 wanting to really help me with my claim. I
16 just wanted to come and say thank you very
17 much, I appreciate it.

18 CHAIRMAN MELIUS: Okay, thank you
19 for that. Yes, sir.

20 MR. GEER: I just got in here so I
21 hope I do this right. As a nuclear process or
22 nuclear chemical operator --

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1 CHAIRMAN MELIUS: Could you please
2 identify yourself?

3 MR. GEER: Yes. My name is Dale
4 Geer. I was out at Hanford for a little over
5 30 years, the majority of that, 28 years at
6 tank farms, both east and west area. This
7 ordeal with going through EEOICPA started
8 actually in 2004 and that was me trying to
9 investigate some health problems that I had.
10 And so unfortunately there's no guidebook on
11 which doctor is going to look at the claim
12 properly or what might be wrong with you
13 properly. And so I found out after a lot of
14 trial and error that I needed to deal with
15 environmental medicine or toxicology. So
16 that's what I did.

17 And I ended up getting a urine
18 toxic heavy metal test and the doctor that
19 administered the test, it was sent back east
20 to Doctor's Data. It came back to where my
21 lead level for exposure was off the chart.
22 And I also showed very elevated for cadmium

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1 and nickel. Nothing for mercury. That test
2 was done August of 2004. I ended up trying to
3 get some treatment and follow up with some
4 further tests. I had the same three tests
5 done. The second test was in January of 2007
6 and my lead level dropped down to about one-
7 third of what it originally measured which,
8 like I say, was off the charts to start with.

9 Cadmium stayed quite elevated and so did
10 nickel but, surprise to me, mercury showed up.

11 Mercury.

12 And in another test that I had
13 which was seven months later, I was checking
14 my progress because of chelation therapy that
15 I was going through and it dropped way down to
16 where the lead was within the reference range
17 but the mercury was persistently staying high.

18 In other words, it's probably one of the
19 harder ones to get out of your system. So I
20 offer this paperwork for you to look at. You
21 won't -- you couldn't possibly imagine how
22 many times I was admonished that it was the

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1 wrong test, the doctor doesn't know what
2 they're doing and all of this through
3 AdvanceMed. And when the AdvanceMed first
4 came to Hanford, I presented this toxicology
5 paperwork to them. I says, how in the heck is
6 this happening. And I never really got a good
7 answer from it. It was always fighting what
8 was shown as the test results. And I told
9 them right from the start, I says, if you show
10 me a better test let me know and I'll go take
11 it. And all of a sudden it got very silent
12 every time I happened to mention that with --
13 on several occasions, okay?

14 I have an employee concern which
15 they call a PER. Problem Evaluation Report I
16 believe is what it is. I don't know if you've
17 heard that or not. It requires an official
18 response and the response came from the safety
19 group out there. And I finally got a response
20 after a lot of ho-humming and they admitted to
21 2,200 kilograms of mercury in the tanks. Now,
22 all of our tanks out there, I believe, are

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1 higher than 77 degrees, some of them are next
2 to boiling or less, a little less than that.
3 But mercury goes to vapor at 77 degrees and we
4 were not allowed any protection there because
5 we were never told of the danger on that. So
6 I have that paperwork to submit to you, if you
7 like.

8 Also I had to battle with
9 Washington, D.C. Curtis Johnson came out, a
10 very knowledgeable, very good attorney. He
11 took my court-recorded deposition for which I
12 have a copy. I ended up doing that twice.
13 The second deposition was done probably about
14 a year and a half ago. I can get an exact
15 date. But in that time I presented a lot of
16 different evidence to him and it mysteriously
17 got misplaced with a lot of it. And the
18 second deposition that I had, like I say,
19 about a year and a half ago brought that out.

20 Because I had evidence that it was submitted.

21 And one of the things that I had
22 to do with Department of Labor to try to get

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1 them on the same page as Department of Energy
2 is Curtis Johnson said there was 50 chemicals
3 that were identified in the tanks. And if you
4 get on the DOL website, I have it right here,
5 there are 2,229 chemicals that are mixed up
6 and used at Hanford and flushed down to the
7 tanks when they're through using it. That's a
8 horrible number to throw at people and expect
9 them not to do anything about it. I also have
10 a letter from Shirley Olinger when she was
11 head of ORP and what I had asked is that they
12 respect the findings of the Hanford Concerns
13 Council for which I ended up going for about a
14 year and three quarters, and here is my
15 exposure history that they did. There's
16 several pages that need to be laid out in a
17 graph and they're very self-explanatory, but
18 it showed the different chemicals and toxins
19 that I was exposed to and the Hanford Concerns
20 Council is sanctioned by DOE, the state of
21 Washington and -- I'm sorry, I can't remember
22 the third one right now. But it was set up as

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1 a legal authority to go ahead and move ahead
2 with proving exposures. Okay, so I have that
3 for you, also, if you would like a copy.

4 But this letter from Shirley
5 Olinger, I would not have gotten that. What I
6 did was I asked them to go ahead and respect
7 the findings of the Hanford Concerns Council
8 and so Shirley Olinger wrote to Jonathan Brock
9 who is the head of the Council and asked for
10 verification on that. So I ended up, got a
11 letter of that. Also on the DOL website,
12 you've got toxic substances listed and what it
13 does is -- shows that they were used at
14 Hanford. It puts my job category in the
15 exposure area and then it speaks for the
16 different substances that we were exposed to,
17 including mercury, lead, cadmium, nickel.
18 There's some other ones. Okay, but the main
19 thing is that even with all this proof and two
20 recorded depositions from Washington, D.C., I
21 still have been fighting my case even with
22 doctor's letters and all of this stuff as

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1 proof. I didn't know that you had to have the
2 ICD-9 codes which ended up hanging up my case.
3 Now, my case, I proved to Gail Splett and I
4 can't remember the -- the other fellow, Bill
5 Taylor. But I would not have gotten a letter
6 generated on my behalf from the ORP level
7 unless I would have proven it to them. And I
8 couldn't expect them to write anything that I
9 could not prove. So that's what I ended up
10 doing. And it took a few days but we ended up
11 getting that letter and DOL has pigeonholed
12 every piece of evidence that I know of either
13 by losing it, misplacing it, oh, we never saw
14 that. But I have proof in my court deposition
15 that was done that yes, they did have it. And
16 I'm still hung up right now even though I have
17 40 percent loss of my lung capacity and I do
18 have toxic metal poisoning that, thank God, at
19 least to a certain extent I help myself and
20 out of my own pocket to try to save my life
21 because I went through chelation therapy for
22 about two and a half years.

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1 CHAIRMAN MELIUS: Thank you. We
2 understand the frustration. This Board deals
3 with the cancer side of the program, the
4 claims that come in. There is somebody here
5 from the Department of Labor that usually
6 attends our meetings. I don't know if, Jeff,
7 directly involved with that side of the
8 program as much but maybe you can direct him?

9 MR. GEER: Well, I'm not trying to
10 insult you but at the same time we didn't
11 separate cancer or chemical exposure out at
12 Hanford.

13 CHAIRMAN MELIUS: No, I understand
14 perfectly well that but again --

15 MR. GEER: It's all-inclusive.

16 CHAIRMAN MELIUS: Yes, I just want
17 you to understand that our -- what our Board
18 is charged to do has to do with the cancer
19 side of the program, not with the DOL claims
20 that you're talking about, the Subpart E and
21 that. But so there are people here from the
22 Department of Labor, if you'd like to talk to

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1 them about that. That's who I was trying to
2 direct you to, okay?

3 MR. GEER: They've heard from me
4 once or twice.

5 CHAIRMAN MELIUS: Okay. Thank
6 you.

7 MR. GEER: Thank you.

8 CHAIRMAN MELIUS: Anybody else
9 wishes to make public comments? Is anybody on
10 the phone that wishes to make public comments?

11 (No response.)

12 Okay then. We're done. Okay.
13 Adjourned. Do we? Oh, I'm sorry. I'm sorry,
14 sir, I didn't see you behind the podium.
15 Could you please identify yourself?

16 MR. FRASON: My name is Jerry
17 Frason. I used to be safety chairman for tank
18 farms for between 10 to 15 years. I worked in
19 a research lab, chemical engineering lab. I'm
20 the one that built the truck that did all the
21 sampling characterization. I know my
22 challenges are mainly chemicals but with -- I

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1 have helped several people that had cancer,
2 one of which was a relation. And every year
3 when he went in for a physical, he was told to
4 go see his doctor and take his medical reports
5 with him. And for 10 years he did this. One
6 year he went to see his doctor and his doctor
7 was on vacation. He was referred to another
8 doctor. He went in, he seen the doctor and
9 the doctor talked with him for a little while
10 and he says you need to go down to the
11 hospital and have X-rays because you have
12 cancer. And anyway, he got the X-rays and,
13 sure enough, he had cancer throughout his
14 whole body. And they had him go back and get
15 his X-rays from work and for 10 years you
16 could see the X-rays -- I mean the cancer in
17 his X-rays.

18 Myself, when I went down to
19 represent -- I used to be part, in fact,
20 instigated the vapor team, I went down and I
21 talked with AdvanceMed. And they asked, what
22 can be we do for you. And I said well, in the

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1 beginning, the vapor team asked for certain
2 things. One, that you would notify the
3 medical community of radiation and chemical
4 exposure but you can't because we were
5 notified it was against the law, state law.
6 Two, that you would help diagnose us with a
7 challenge that we're having and we were
8 notified again that they cannot because it's
9 against a state law. Three, that you would
10 help our doctors, notify our doctors of what
11 is wrong with us but you can't because, again,
12 it was against the state law because of
13 Boeing. Four, that you would refer us to a
14 toxicologist or a doctor that would help us in
15 whatever our need was except, again, you
16 cannot refer us to a specialist or anyone else
17 because of Boeing, being self-employed, they
18 got it passed where the self-employed medical
19 department cannot do this. Now that's what I
20 was told. And I approached the medical board
21 at AdvanceMed and there was no reply, no
22 denial. Dale Geer was with me, he was also

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1 addressing the chemical vapor team.

2 My thought is this. We need help.

3 We need to be directed in where to go the
4 best that we can. Dale mentioned the fact of
5 his runaround of all the doctors. I went
6 three months without any wages. I had to pay
7 back because, at the last second on short-
8 term, they said we don't accept that doctor.
9 And I didn't have time for rebuttal. I had to
10 pay back almost \$69,000. I lost three months'
11 wages on top of that. I used to own my house.

12 I had to mortgage my house. I had to take
13 out \$70,000 of my 401(k) just to live and all
14 I needed was, okay, I need somebody to point
15 me in the right direction. I'm not talking
16 for me now, I'm talking for those that are
17 being affected now. I have always fought,
18 this is the first time now since I was laid
19 off in '08. I was laid off because of sleep
20 apnea. Soon as I had talked to AdvanceMed,
21 the next day I was gone.

22 Now the thing I'm saying is, there

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1 has got -- somebody's got to come out of the
2 woodwork and help those people that are
3 infected. I know I mentioned the fact of the
4 truck that did all the sampling. They also
5 came around, they showed us a suitcase. There
6 was a portable gas spectrometer would sample
7 fumes every five seconds and in 15 seconds it
8 gave you a printout. It would do all but just
9 a few chemicals. They said they couldn't take
10 it out on the farm because they would
11 contaminate it. The truck that I took that I
12 built, I built from a pencil sketch, sampled
13 all tanks, was never contaminated. And it
14 drove out, not carried out, to all the tanks.

15 And I'm saying it cost \$20,000 and I think
16 that the insurance, the way that I would feel
17 towards how my company supported me, \$20,000
18 is a drop in the hat when I would work a
19 graveyard shift and there would be 50 guys on
20 one job. Twenty thousand dollars is nothing.

21 All we ask is for your help,
22 whether it be cancer or it would be chemical

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1 exposure or anything else. I hate to say this
2 but I think the workers deserve more than
3 we're getting. We're giving our life. I'm 89
4 percent disabled. I can't work, I can't
5 preach and I'm a preacher. I can't drive.
6 But I'm still trying to help those that are in
7 need.

8 CHAIRMAN MELIUS: Thank you. Were
9 you referring, when you referred to the state
10 law is this to do with the state workers
11 compensation law about referring to doctors?

12 MR. FRASON: I was told that if
13 you were self-insured like we are and Boeing
14 is, that their doctors could not diagnose us
15 with anything. I had one doctor. He said,
16 Jerry, when he saw my blood work after being
17 exposed in S102, he said Jerry, you're in
18 trouble and you need help and you need it now.
19 I said, what do you mean. He said well,
20 you're in trouble. What do you mean? You're
21 having trouble with -- whatever it is, he
22 says, it's affecting your immune system and

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1 that's all I can say. And I said, well, I
2 can't remember things, could you write it
3 down. He said -- and also he said there isn't
4 a doctor on this side of the mountains that
5 can help you. You need to go to the other
6 side. And I said, well, I plan on going to
7 Virginia Mason but he didn't tell me what
8 doctors or anything else. I did see two of
9 them. I took as much information as I could
10 and they said, information is good but I don't
11 know anything about chemicals and then he just
12 passed it down.

13 But you're going to have to excuse
14 me, my mind floats real quick. You mentioned
15 about the state law because of -- their
16 insurance program. Their doctors would say
17 the guy was okay and go back to work and et
18 cetera. And the workers went before the state
19 and got it passed where they could not
20 diagnose anyone, my understanding, and the
21 doctors did not dispute anything that I stated
22 to them at AdvanceMed. Am I answering? My

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1 mind floats real quick.

2 CHAIRMAN MELIUS: I understand.
3 The other question is, the Department of
4 Energy does operate this former worker program
5 for people that used to work, and does the
6 medical screening here. I don't know if you
7 participate. That's another --

8 MR. FRASON: I participated in it
9 and not a single one really said you need to
10 go see this doctor, this doctor, this doctor.
11 You need this help, you need to do this.
12 They don't give you. They say this is -- they
13 got my records. In fact, I have two sets of
14 records within six months and they're
15 completely opposite. They're completely
16 opposite. And these are my medical records.
17 Like I said, I used to be big-time in safety
18 and, anyway, did I answer your question?

19 CHAIRMAN MELIUS: Yes, you did.

20 MR. FRASON: I can't remember.

21 CHAIRMAN MELIUS: You did. And
22 thank you. Yes, you had another question or

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1 comment?

2 MR. GEER: Just real quick but to
3 what Jerry's saying. I didn't find out
4 through medical records that I had to put in
5 at least three times to get for my breathing.
6 I didn't find out until 2008 that AdvanceMed
7 documented in 2003 that I had COPD. Nobody
8 said anything to me and it kept getting
9 progressively worse. So this is probably
10 shall we say, par for the course, for a lot of
11 employees that they're not told. And I could
12 have sought medical assistance during that
13 time but, because it was put off and not told
14 to me nor given me the records I didn't find
15 out till five years later, and I don't
16 appreciate that. That's not a doctor doing
17 their damn job.

18 CHAIRMAN MELIUS: I agree with
19 you. I mean it's been a problem at other
20 sites, too, but it doesn't make it right
21 obviously and it's a problem. And I know
22 there's -- I've heard of many other people out

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1 here who have similar issue. I understand it
2 a little bit better now.

3 MR. GEER: Thank you. I didn't
4 want to butt in.

5 CHAIRMAN MELIUS: No, no, that's
6 fine. Anybody else in the audience that
7 wishes to make -- yes, sir. And please
8 identify yourself.

9 MR. ROGERS: I'm Bruce Rogers. I
10 worked out at Hanford for 31 years as a
11 nuclear process operator. I started at T
12 plant, went over to -5, 234-5. I was involved
13 in an incident over there in January of 1980
14 and I took a face full of Pu-239. And they
15 recovered us, brought us out, got us cleaned
16 up and you know, took pretty good care of us,
17 RCTs.

18 At that time we weren't offered
19 DTPA shot which picks up heavy metals so they
20 kind of blew it a little bit on that one. But
21 the, here's a little something, a little
22 background. A complete NIOSH package was done

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1 on 11/2003 and the records show that I had an
2 intake of Pu-239, -240, plutonium-238,
3 americium-241, plutonium-241. In addition,
4 the following committed dose equivalents were
5 calculated for the indicated organs and
6 tissues, 170 rems to the bone surfaces, 56
7 rems to the lungs, 19 rems to the liver, 14
8 rems to the red bone marrow and 2.3 rems to
9 the gonads. 2003, guess what happens?
10 Prostate cancer. Okay. They came in, they
11 removed my prostate, okay? And that's not a
12 fun operation to go through. So I just
13 thought I'd leave a little information.

14 And my claim has been denied. And
15 denied. I've got a whole notebook full right
16 here of denials. So what happens is we went
17 through Oak Ridge and they came out and they
18 did, I think it was 2010, they sent me a
19 letter, said they wanted to do a medical on
20 me, examination and everything. So they sent
21 me through everything.

22 I went through the exams. They

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1 came back and said, hey, you know, you've got
2 some pleural plaquing on your lungs, we don't
3 know what it's from. It looks like it might
4 be, well, I was an asbestos worker too. I
5 worked with, man, I worked with everything out
6 there, everything you could think of,
7 plutonium to -- I packaged and buried and
8 retrieved and worked the core-drilling trucks.
9 I unloaded tankers of radiation waste into
10 the tank farms. And like Dale Geer was
11 saying, man, you're looking at over two
12 thousand and some chemicals that we were
13 putting into those tanks and treating. And as
14 an operator, a process operator, I was out
15 there doing all the transfers in the tank
16 farms. Of course you've got all these tanks
17 venting on you; you're smelling ammonia. The
18 mercury is boiling. You've got all kinds of
19 stuff cooking out there for you and yet we
20 can't find anybody to help us. I've got a
21 real problem with this. I'm really getting a
22 case of the whatever you want to call it, but

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1 I'm being nice. But I just wanted you to
2 understand what we're going through. I mean
3 this -- you get all this paperwork and this is
4 all you're getting. You know, this is
5 terrible. This is not a way to take care of
6 your workers. I'm an old Navy submarine
7 sailor and I don't think anybody wants to be
8 treated this way. Thank you very much.

9 CHAIRMAN MELIUS: Thank you.
10 Anybody else?

11 MR. ROGERS: Oh, I've got one
12 thing. I'm sorry.

13 CHAIRMAN MELIUS: Sure, go ahead.

14 MR. ROGERS: I did, on the pleural
15 plaquing, it was sent in to the state. It
16 came back, there was a relationship with
17 asbestos. For all those years I was out there
18 repackaging asbestos, walking through it,
19 walking through the pipe galleries and things
20 like that, pulling it off the ceilings,
21 pulling it out of the tank farms, off the vent
22 lines. We had no protection, we weren't

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1 wearing a mask. We're out there you know,
2 because they didn't, there was no rule to have
3 a mask on at that time in the 1970s. Just,
4 you know, we were involved in a lot of
5 different situations. But we were in weapons
6 production in all the buildings. It was the
7 Cold War you know, so. And we couldn't say
8 nothing. If you had a problem, you really
9 couldn't say anything to anybody. But the
10 pleural plaquing went through to the state.
11 The state looked at it and said, well, yes, it
12 does look like there may be some asbestos
13 related to it, asbestosis, excuse me, because
14 there was no cancer supposedly.

15 So they took a look at it. The
16 first stage looked pretty good; it looked like
17 it might have been asbestosis-related. They
18 got up to another stage and guess what they
19 did? They chopped off part of the claim.
20 Yes, I have pleural plaquing but they can't
21 tell me what it is and they're not going to
22 admit to the asbestos. They say, okay, Bruce,

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1 you've got to prove it. Well how in the heck
2 do you prove it other than you worked with it
3 for 31 years? So, this is where we're at.
4 You know, this is what you guys need to take a
5 look at. You know, you're -- a lot of the
6 guys that I work with, oh and this is a good
7 one here. Twenty-five guys that I worked with
8 in that production plant, 234-5, had prostate
9 cancer. Think about that. That's called a
10 cluster. But what they do is they take you on
11 individually and they fight with you. They
12 turn you over to some lawyer and he runs you
13 ragged trying to prove your case. I've got
14 all these guys calling me, I had a whole list
15 of guys that I was keeping in contact with.
16 We were just trying to get a breakthrough
17 someplace where somebody could, you know, we
18 could see something happening. Everybody got
19 the same response. Man, I'll tell you.

20 CHAIRMAN MELIUS: Thank you.

21 MR. ROGERS: May the Force be with
22 you.

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1 CHAIRMAN MELIUS: Thanks. Anybody
2 else like to make public comments?

3 (No response.)

4 Okay. If not thank you and we
5 will adjourn.

6 (Whereupon, the above-entitled
7 matter went off the
8 record at 5:39 p.m.)

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