

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

+ + + + +

ADVISORY BOARD ON RADIATION AND
WORKER HEALTH

+ + + + +

WORK GROUP ON SEC ISSUES

+ + + + +

FRIDAY
NOVEMBER 12, 2010

+ + + + +

The Work Group convened via
teleconference at 1:00 p.m., James M. Melius,
Chairman, presiding.

PRESENT:

JAMES M. MELIUS, Chairman
JOSIE BEACH, Member
PAUL L. ZIEMER, Member

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

ALSO PRESENT:

TED KATZ, Designated Federal Official
SAM GLOVER, DCAS
EMILY HOWELL, HHS
JENNY LIN, HHS
JOHN MAURO, SC&A
DAN McKEEL, Co-Petitioner
JAMES NETON, DCAS
MATT PICKETT, Office of Congressman John
Shimkus
LaVON RUTHERFORD, DCAS
WILLIAM THURBER, SC&A

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

TABLE OF CONTENTS

Welcome/participants roll call	4
Review of Dow Madison Issues	10
Revised SC&A Dow Surrogate Data Report	12
Board questions and comments	19
Questions and comments from petitioners	26
Work Group Recommendations to Board	64

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

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

2 (1:01 p.m.)

3 MR. KATZ: So let's begin with a
4 roll call, beginning with the Chair.

5 CHAIRMAN MELIUS: Yes, Jim Melius,
6 no conflicts.

7 MR. KATZ: And to be clear, we're
8 discussing Dow today, Dow Madison, so that's,
9 when people say no conflict, that's what
10 they're referring to.

11 MEMBER ZIEMER: Paul Ziemer, Board
12 Member, no conflict.

13 MEMBER BEACH: Josie Beach, Board
14 Member, no conflicts.

15 MR. KATZ: Okay. That does it for
16 -- are there any other Board Members on?
17 Okay. The NIOSH ORAU team.

18 DR. NETON: This is Jim Neton,
19 NIOSH, no conflict.

20 MR. RUTHERFORD: LaVon Rutherford,
21 NIOSH, no conflict.

22 DR. GLOVER: Sam Glover, NIOSH, no

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 conflict.

2 MR. KATZ: SC&A team.

3 DR. MAURO: John Mauro, SC&A, no
4 conflict.

5 MR. THURBER: Bill Thurber, SC&A,
6 no conflicts.

7 MR. KATZ: Is that all you're
8 expecting, John, just Bill?

9 DR. MAURO: Yes, that's it.

10 MR. KATZ: Okay, great. Federal
11 officials or contractors to the feds, HHS, or
12 other departments?

13 MS. HOWELL: Emily Howell, HHS.

14 MS. LIN: Jenny Lin, HHS.

15 MR. PICKETT: Matt Pickett, Office
16 of Congressman John Shimkus.

17 MR. KATZ: Okay. Say that again?
18 Sorry?

19 MR. PICKETT: Matt Pickett with the
20 Office of Congressman John Shimkus.

21 MR. KATZ: Thank you. Welcome.
22 Now members of the public? Do we have Dr.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 McKeel on the line? Can anybody hear me right
2 now?

3 DR. MAURO: Yes, I can.

4 MR. KATZ: Okay. I was just
5 starting to be worried that I was
6 disconnected. So Dr. McKeel is not on the
7 line? Okay, Jim. Maybe -- maybe I'll get
8 someone to try to -- is Nancy Adams on the
9 line by any chance?

10 Okay. Could one of the NIOSH, the
11 DCAS folks, while we get started, perhaps get
12 someone to give a call to Dan McKeel just
13 because I'm sure he planned to attend.

14 MR. RUTHERFORD: Yes, Ted, this is
15 LaVon. I'll shoot a couple emails out for
16 people to make contact with Dr. McKeel.

17 MR. KATZ: Thank you very much,
18 LaVon. Okay. Well, let me just say, for
19 everyone on the line, please mute your phones.

20 If you don't have a mute button, use *6 and
21 then *6 to come off of mute if you want to
22 speak to the group.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 DR. MCKEEL: Ted? Ted?

2 MR. KATZ: Yes?

3 DR. MCKEEL: This is Dan McKeel. I
4 just wanted -- I just signed on, and I'm the
5 co-petitioner for Dow.

6 MR. KATZ: Oh, okay, great.

7 CHAIRMAN MELIUS: We had sent out a
8 search party for you, Dan, but --

9 DR. MCKEEL: Okay. Sorry I was
10 late.

11 CHAIRMAN MELIUS: That's okay.
12 We're just --

13 MR. KATZ: Glad you're here.

14 DR. MCKEEL: Yes, thank you.

15 MR. KATZ: Okay, so it's your
16 agenda, Dr. Melius.

17 CHAIRMAN MELIUS: Yes. This is Jim
18 Melius. I had a conference call earlier this
19 week where they had sent out two different
20 numbers, and so half of us were on one call
21 and half on another, so I'm sensitive to
22 making sure we have communicated that to you,

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 Dan.

2 Yes, today we're going to be
3 talking in this Work Group about the Dow
4 Madison site, and just to review briefly,
5 because this has had a long history, and the
6 Advisory Board actually approved a
7 recommendation of NIOSH, a Special Exposure
8 Cohort for Dow Madison back in May of 2007 is
9 when we sent the letter to the Secretary, and
10 that basically covered the operational period,
11 and we left the so-called residual period up
12 for, you know, further evaluation during that
13 time, and then since that time there's been
14 some additional sort of operations, covered
15 operations that were found at the site and
16 lots of, I think, concern making sure that we
17 had as, you know, complete information as
18 possible about the site.

19 So that's taken up some of the
20 time, and then we were also making sure that
21 we had all the information available and
22 reviewed, and most recently that's been to

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 make sure that the use of surrogate data at
2 the site, meaning data from other operations,
3 other different DOE sites that was being used
4 in dose reconstruction for the residual period
5 at Dow, making sure that we had a review of
6 that information by our contractor, SC&A,
7 using the surrogate data review criteria that
8 the Board had recently finalized.

9 So our focus today is to talk
10 about the Dow site, the residual period site,
11 and to talk about the sort of our review and
12 go over where we stand with the dose
13 reconstruction approach proposed by NIOSH for
14 that -- for that site.

15 So what I think, to move forward
16 best, I will -- I'm going to ask SC&A to --
17 John Mauro or however you want to handle it,
18 John, to sort of review really most of which
19 is contained in the October 2010 report from
20 SC&A, which is sort of an updated review of
21 the use of various dose reconstruction methods
22 being used for Dow Madison residual period, as

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 well as the use of surrogate data at that
2 site. So, John, I'll turn it over to you.

3 DR. MAURO: Okay. Thank you. Yes,
4 as you said, we had prepared our report on the
5 subject, and I'll give you the bottom line,
6 and then the specifics will be described to
7 you by Bill Thurber, who did all the heavy
8 lifting. Our review found that favorably with
9 respect to the use of surrogate data in this
10 particular application.

11 However, we did find one what I
12 consider to be problem that I would consider
13 more of a Site Profile issue, but, of course,
14 that's something that the Work Group can judge
15 after Bill describes the results of his
16 comparison of the approach used for the
17 residual period against the various surrogate
18 data criteria. Bill, you got the -- you got
19 the mic.

20 MR. THURBER: Okay, fine. Let me
21 -- let me just go back a step. Back in
22 February, the SEC Issues Group asked us

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 basically to do two things. One was to
2 summarize the status of our findings on
3 Appendix C of TBD-6001, which is -- TBD-6000,
4 I'm sorry -- which is the Dow Appendix, and
5 that's important because one of NIOSH's
6 conclusions or their primary conclusion
7 regarding the ability to reconstruct doses
8 during the residual period relies on that
9 document.

10 So we prepared a paper back in
11 March where we discussed the extent to which
12 our findings from our review of Appendix C
13 were resolved, and basically we concluded that
14 our findings were resolved at that time, and
15 to the extent that they weren't, they
16 certainly did not constitute issues that would
17 affect the SEC.

18 So we issued a second paper in
19 March where we discussed the use of surrogate
20 data in developing the doses for the residual
21 period, and so we issued a second White Paper
22 in March which discussed that topic.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 Subsequent to that, we were asked by the Work
2 Group Chairman to look at the extent to -- the
3 extent to which the use of surrogate data met
4 the recently approved surrogate data criteria,
5 which were developed by the Board.

6 So in October, we issued what we
7 called Revision 1 to our surrogate data paper,
8 and in that we provided a separate,
9 freestanding Appendix, which described how we
10 took each of the five surrogate data criteria
11 and examined them against the manner in which
12 or the extent to which surrogate data was
13 actually used to reconstruct the doses during
14 the residual period.

15 This involved both internal and
16 external uranium doses and internal and
17 external thorium doses and thoron. So, as I
18 say, we stacked each of those possible
19 exposure pathways up against the surrogate
20 data criteria, and I should digress for a
21 second.

22 Internal thorium exposure during

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 the residual period was primarily based not on
2 surrogate data but on actual measurements that
3 were then extrapolated through the residual
4 period, and the same is true for thoron. So
5 in looking at the other components of the
6 possible exposure sources during the residual
7 period, as John indicated, we concluded that
8 the surrogate data criteria were met.

9 Now, obviously, there is a certain
10 element of subjectivity in this interpretation
11 and more so for some criteria than others, but
12 on balance we felt that the criteria were
13 satisfied, and so we felt that NIOSH could
14 bound the exposures during the residual period
15 for both uranium and thorium. I think that
16 kind of summarizes it.

17 DR. MAURO: Jim, do you want to go
18 through each one of the criteria?

19 CHAIRMAN MELIUS: I'd like to at
20 least go through them briefly and then also to
21 the Site Profile issue that you are raising so
22 that we --

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 DR. MAURO: Sure. Bill?

2 MR. THURBER: I don't know what the
3 Site Profile issue is, John.

4 DR. MAURO: Oh, this is this
5 business with the flux, I believe. Wait a
6 minute. I might --

7 MR. THURBER: No, no, no, no.

8 DR. MAURO: I got the wrong one.

9 MR. THURBER: Wrong site.

10 DR. MAURO: Wrong site.

11 MR. THURBER: Yes.

12 DR. MAURO: Sorry.

13 MR. THURBER: No issue.

14 CHAIRMAN MELIUS: Okay.

15 DR. MAURO: I retract that
16 statement. I'm working on too many sites. I
17 just crossed wires. My apologies.

18 MR. THURBER: Okay. We will go --
19 we will go through these, then. In terms of
20 external uranium exposure, well, first of all
21 -- yes. No, that's all right. In terms of
22 external uranium exposure, NIOSH took --

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 CHAIRMAN MELIUS: Can I just
2 interrupt a second, Bill?

3 MR. THURBER: Yes.

4 CHAIRMAN MELIUS: For other people
5 on the phone that have the report, I think if
6 you go to page eight of their report there's a
7 Table 2 that sort of -- it titles sort of the
8 evolution of dose reconstruction approach, and
9 these are listed there, and there's some
10 information to at least help you get oriented
11 with that.

12 MR. THURBER: Yes.

13 CHAIRMAN MELIUS: Yes. I thought
14 that was a very useful table. Go ahead, Bill.

15 MR. THURBER: Yes. So let's start
16 with the internal uranium exposure. NIOSH
17 estimated how much uranium was deposited on
18 the surface during the final year of the
19 operating period, namely 1960, and they did
20 that using data from TBD-6000.

21 In particular, they used data for
22 rod straightening of uranium. Rod

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 straightening of uranium was the unit
2 operation that was performed at Dow Madison in
3 1960, so that's an appropriate choice.

4 They assumed that based on the
5 dust levels in TBD-6000 for rod straightening
6 that that amount of uranium that was generated
7 during a seven-day period was deposited on the
8 -- on the floor, and the seven-day period was
9 based on a generous estimate of the amount of
10 time it actually -- that was actually required
11 to do the rod straightening operation, so it's
12 conservative.

13 Then they assumed that the -- that
14 the uranium was resuspended using a factor of
15 10 to the minus 6 and that that level of dust
16 remained throughout the residual period, again
17 a very conservative assumption.

18 So that's what was done, and, as I
19 say, we felt that it was based on comparable
20 operations, that the assumptions were
21 sufficiently conservative to be treated as
22 bounding, and that kind of summarizes it.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 CHAIRMAN MELIUS: Dr. Ziemer, do
2 you have any comments since this is an issue
3 that you're --

4 MEMBER ZIEMER: No, I'm --

5 CHAIRMAN MELIUS: -- TBD-6000.

6 MEMBER ZIEMER: No, the issues on
7 TBD-6000 have all been basically closed with
8 the exception of the resuspension factor
9 issue, which has moved from being a TBD-6000
10 issue to a site or a system-wide issue, so,
11 you know, there have been some debates over
12 time periods as to whether the 10 to the minus
13 6 is the right resuspension factor.

14 It's a typical one used in the
15 profession, and one can argue that there could
16 be cases where that's not the right number,
17 but in the absence of definitive information
18 to the contrary, that typically would be
19 accepted.

20 Then the other part of it is they
21 have made some additional assumptions about
22 the fact that that suspended material

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 continues throughout that period, so that adds
2 many degrees of conservatism, I think, or
3 makes it very conservative. So those would be
4 my only comments on that.

5 CHAIRMAN MELIUS: Okay.

6 MR. THURBER: I might -- this is
7 Bill Thurber again. I might also comment on
8 the resuspension factor. Indeed, this is --
9 this is a number that SC&A has questioned on
10 numerous occasions, but as we mentioned -- I
11 guess it was at the TBD-6001 Work Group
12 meeting last week -- we are comfortable with
13 the 10 to the minus 6 number in certain
14 circumstances, for example, circumstances
15 where there has been cleanup after the
16 operation.

17 And in reviewing the records,
18 specifically the purchase order for the
19 uranium rod straightening work, which was done
20 on a purchase order from Mallinckrodt, the
21 purchase order specifically spelled out
22 certain funds to be used for cleanup after

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 this brief straightening operation, so on that
2 basis we are comfortable with the use of 10 to
3 the minus 6 for this particular situation.

4 CHAIRMAN MELIUS: Any other Board
5 Members have question on that, that particular
6 issue? I guess I should have said, Josie, do
7 you have --

8 MEMBER BEACH: No, I don't.
9 Thanks.

10 CHAIRMAN MELIUS: Okay. Bill, why
11 don't you go on to the --

12 MR. THURBER: Okay, the next one
13 is external uranium, and you'll note in Table
14 2 that there was an error in the calculation,
15 and that error was sorted out with NIOSH, and
16 our discussion that appears after Table 2 in
17 the document that some of you are looking at
18 provides a discussion of that point. The
19 error, as I recall -- let me check here.

20 I'm pretty sure that the error was
21 one where the numbers in Appendix C were
22 overstated, and when they're corrected they

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 will be lower than they are now, but the
2 method for arriving at the external exposure
3 is -- we felt was appropriate.

4 And, again, what it involves is
5 taking the hair concentration, allowing that
6 dust that was generated during the rod
7 straightening operation to fall on the
8 surface, and then using micro shield
9 calculations to convert the number of dpm per
10 square meter to millirem per day.

11 We find that this -- and, in
12 addition, the further conservative assumption
13 is made that that surface contamination
14 remains constant for the whole residual
15 period, and so we felt that this approach was
16 suitably bounding for external uranium, as
17 well.

18 CHAIRMAN MELIUS: Any of the Board
19 Members have questions on that? Again, Dr.
20 Ziemer, I'll assume that's consistent with how
21 this has been handled by your Committee, your
22 Work Group.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 MEMBER ZIEMER: Yes.

2 CHAIRMAN MELIUS: Yes, okay. Good.

3 Then go on, Bill.

4 MR. THURBER: Okay. We'll talk
5 about external, external thorium -- I'm sorry
6 -- internal thorium next, and, as noted in
7 Table 2, this uses actual data rather than
8 surrogate data, but the technique here for the
9 internal thorium dose is also extended to
10 external thorium.

11 So let me explain what was done
12 first. Basically, NIOSH looked at the
13 available thorium dust concentrations that
14 were measured during the melting of some of
15 these magnesium-thorium alloys.

16 They determined the maximum
17 observed value, which was actually a less-than
18 value, but they said, "We will, rather than
19 treat it as a less-than value, we'll assume it
20 is the highest it can be," if you will, and
21 they said, "That will be the airborne
22 concentration at the beginning of the residual

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 period."

2 Then they had some information
3 that was measured -- I believe it was in 2000
4 -- where one of the cleanup surveys measured
5 airborne thorium concentrations, and so they
6 took these two points, and they fitted an
7 exponential decay function to them, which is
8 one of the procedures recommended in -- what
9 is it, TIB-0070, John?

10 DR. MAURO: Yes.

11 MR. THURBER: Okay. So they fitted
12 an exponential function to it, and they said,
13 "Okay, this is the way that the thorium
14 concentration in the air is going to decay
15 over time, and remember here that we're
16 talking about thorium that was generated
17 during the operating period.

18 So that's the way it was done,
19 and, as I say, it really doesn't use surrogate
20 data. It uses measured data, but I wanted to
21 explain that because when we go on and talk
22 about external thorium, the same exponential

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 function is used. So if you'd like, I'll go
2 on now and talk about the external thorium,
3 which does use surrogate data.

4 CHAIRMAN MELIUS: Go ahead.

5 MR. THURBER: Okay. To establish
6 the external exposure at the beginning of the
7 residual period, NIOSH selected film badge
8 data that was collected at the Bay City plant.

9 Now, Dow manufactured these magnesium-thorium
10 alloys both at Bay City and at Madison, and
11 then they did an appropriate statistical
12 analysis of the film badge measurements.

13 They determined the 95th
14 percentile, and they said that is the initial
15 exposure that workers would receive in the
16 residual period, and then that exposure will
17 decline based on the same exponential function
18 that they had developed for the internal
19 thorium exposure. So that was basically the
20 methodology.

21 Now they also had some direct
22 exposure measurements made at Madison, which

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 conceptually they could have used for
2 establishing the external exposure at the
3 beginning of the residual period, and those
4 measurements, as we describe in the Appendix,
5 are actually a little lower than the
6 measurements from the film badges. So the
7 approach taken was reasonably conservative and
8 bounding, and we felt it was a reasonable
9 approach to establishing the external thorium
10 exposure.

11 CHAIRMAN MELIUS: Does anybody have
12 questions on that procedure? I'll just -- I
13 mean, I was -- I would say before I read your
14 report, I was skeptical on -- somewhat
15 skeptical on that process, but I thought you
16 did a good job of reviewing it.

17 MR. THURBER: Thank you. Okay, the
18 final thing is thoron, but we don't have to
19 talk about that because it uses measured data
20 in the same way that the internal thorium
21 exposure was modeled. They had thoron
22 measurements.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 They determined the 95th
2 percentile value and said, "That is the thoron
3 exposure at the beginning of the residual
4 period, and we will assume that that thoron
5 exposure decays based on the same function
6 that was developed for the internal thorium
7 exposure to dust," and, again, we felt that
8 that was appropriately bounding, an
9 appropriately bounding approach.

10 CHAIRMAN MELIUS: Any questions for
11 Bill on that issue? Okay. Thanks. Thanks,
12 Bill and John. Now I'd like to see if there
13 are any comments from petitioner, Dr. McKeel.

14 DR. MCKEEL: Yes, Dr. Melius, I do
15 have some --

16 CHAIRMAN MELIUS: Thank you.

17 DR. MCKEEL: -- comments to make.
18 The first comment -- can you all hear me all
19 right?

20 DR. MAURO: Yes, I do.

21 DR. MCKEEL: Can you hear me all
22 right?

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS
1323 RHODE ISLAND AVE., N.W.
WASHINGTON, D.C. 20005-3701

1 CHAIRMAN MELIUS: Yes.

2 MEMBER ZIEMER: Very well, yes.

3 This is Ziemer. I can hear you fine.

4 DR. MCKEEL: Okay. The first
5 comment I want to make is about the
6 measurements of internal uranium. Bill
7 Thurber and SC&A seem to think this was an
8 appropriate analysis, and I don't, and the
9 reason why is that while it may be appropriate
10 for the rod straightening portion of what Dow
11 Madison did for the AEC uranium purchase order
12 contract, there was another part of the
13 contract that actually involved more work and
14 more hours that was not covered at all in his
15 analysis, and that is the extrusion work in
16 Building 6, which was actually the subject of
17 the cleanup by FUSRAP and the Army Corps of
18 Engineers in 1998 and reported in the year
19 2000 and the surveys of Building 6 only by Oak
20 Ridge National Laboratory.

21 So this goes to one of the other
22 surrogate data criteria, and that is that when

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 you're substituting data for -- surrogate data
2 for real data, you need to have it from
3 strictly comparable sites. Well, the gamma
4 phase extrusion was labeled as experimental,
5 and it was an experimental attempt to
6 determine the best way to do extrusion on
7 uranium by Mallinckrodt.

8 And I forwarded to you all the
9 relevant MCW Technical Report 1460, which lays
10 out pretty carefully what those gamma phase
11 extrusion results were, and I would like to
12 offer that since it was experimental work,
13 there was no counterpart at any site that was
14 equivalent to that.

15 So I think by concentrating on
16 purely the rod straightening, which didn't
17 take place in the surveyed area at all -- it
18 didn't take place in Building 6. It took
19 place at the rolling mill, as I understand it,
20 so I think this is an error in applying the
21 surrogate data Board criteria for internal
22 uranium.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 Next I want to turn to general
2 comments about this paper, and the first thing
3 I have is a question, I guess, for Dr. Melius.

4 The White Paper by SC&A mentions that they
5 were tasked on October 10 to review the SC&A
6 White Paper and apply the Board's surrogate
7 data criteria, and my question is to please
8 tell me what were the circumstances of that
9 tasking.

10 Usually that's done at a Work
11 Group meeting or at a Board meeting, and there
12 was a Board meeting on October 7 but none on
13 the 8th that I'm aware of. So could Dr.
14 Melius tell me how that tasking of SC&A was
15 actually carried out?

16 CHAIRMAN MELIUS: It was done by
17 the Work Group Chair, and it was done -- which
18 is myself, and it was done because the -- in
19 order to make sure that we had applied the new
20 criteria, the newly adopted surrogate data
21 criteria, and really we're updating a previous
22 report, which is why it's called Revision 1.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 I can't remember the exact timing for the
2 other, the earlier report.

3 MR. THURBER: It was the result of
4 the --

5 DR. MCKEEL: February.

6 MR. THURBER: -- February Work
7 Group meeting, I believe, Dr. Melius.

8 CHAIRMAN MELIUS: Right, yes, and
9 they had done the initial review based on the
10 February Work Group meeting. We charged them
11 there, and then between February and October
12 the Board had adopted, formally adopted the
13 surrogate data review criteria, so I thought
14 it made appropriate for them to update their
15 report.

16 DR. MCKEEL: Okay. Thank you very
17 much. The second comment is that I understand
18 that SC&A believes that all criteria were
19 fulfilled appropriately for surrogate data use
20 for internal and external uranium, internal
21 and external thorium, and for thoron, and I
22 would like to add to my comment about the

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 internal uranium that I have concerns about
2 those conclusions, actually, for all of the
3 other types of exposure to uranium and
4 thorium, and particularly today I want to
5 highlight two of those because I believe they
6 are really the glaring ones that stand out for
7 me.

8 This is the fourth time that I
9 have addressed the Work Group or the Board,
10 actually, on May the -- I mean, on November 17
11 it will have been my fourth time, and each
12 time I brought up the fact that I am not
13 certain at all that the data that's said to be
14 direct measurement data at Dow Madison was, in
15 fact, made at Dow Madison.

16 Instead, I believe there is
17 evidence that some of that data was collected
18 at other centers, and I want to give you one
19 example that includes that. Just to mention
20 that there were multiple Dow Chemical Company
21 plants that were covered by their thorium
22 license, for example, and they were at Bay

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 City and Midland, Michigan, and at Freeport,
2 Texas.

3 So the first thing I want to point
4 out comes from the SEC Addendum 1 that was
5 published by NIOSH on August 6, '07, and this
6 is an example where I believe NIOSH has mixed
7 up another site with Dow Madison. So I'm
8 quoting now from page four of six, Section
9 4.4, which is entitled "Site Locations
10 Associated with Radiological Operations."

11 It goes on to say, and I quote,
12 "Additional areas where thorium materials were
13 handled were identified in the newly provided
14 documents. Besides Building 6" -- and my
15 comment is, as an interruption, Building 6 is
16 a legitimate building that was surveyed by the
17 Army Corps of Engineers ORNL in 1998. That is
18 at Dow Madison.

19 "Besides Building 6, other
20 buildings with thorium activities included
21 thorium fluoride storage in Building 376 and
22 hardener casting in Building 152." My comment

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 is there were no such buildings as 376 and 152
2 at Dow Madison in Illinois.

3 I showed a detailed building plan
4 of Dow Madison when I presented to the Board
5 on May 4, 2007, and it showed buildings and
6 building numbers and the floor plan, et
7 cetera, and those buildings were just not
8 present at the Madison site.

9 Also, about that comment, to my
10 knowledge there was no thorium chloride stored
11 at Dow Madison, Illinois, site, and I think
12 I'm familiar with those documents as probably
13 anyone, and I've just never seen any mention
14 of thorium chloride at Dow Madison. The ORNL
15 survey of 1989 or the Pangea Group, 2003
16 through 2007, multiple cleanup reports, did
17 not mention this form of thorium being used at
18 the Dow Madison, Illinois, site.

19 My conclusion is that other Dow
20 sites, either Bay City, Midland, Michigan,
21 Freeport, Texas, or another site were being
22 mixed up with Dow Madison site by both NIOSH

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 and ORAU in that report and by SC&A and Bill
2 Thurber, who mentioned buildings -- building
3 numbers that were not present at Dow Madison.

4 When Chick Phillips conducted a
5 worker outreach meeting at East Alton with the
6 Dow workers, and those odd numbers came up
7 during a recitation by Chick Phillips from Mr.
8 Thurber's questions, and all the workers at
9 that time said there were no such building
10 numbers at Dow Madison, so that point was well
11 -- and seven, and I'm surprised that that's
12 not cleared up, actually, by now.

13 Example two is, to me, looking at
14 all the use of surrogate data, the most
15 egregious violation of the spirit and intent
16 of surrogate data criteria by the Board,
17 actually, and by NIOSH.

18 I need to comment that NIOSH's own
19 surrogate data criteria in OCAS-IG-004 have
20 not been applied to Dow Madison to my
21 knowledge in a strict form, and I think they
22 should be. Anyhow, the document I'm referring

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 to now is from Dow Chemical Company, and it's
2 their TDCC-362, and it's summarized in the
3 Addendum 1 to the Dow ER that I was just
4 mentioning.

5 This is a report dated 6/26/57 by
6 L. Silverstein, who was located at Dow Midland
7 headquarters but was supposed to be the
8 Radiation Safety Officer for Dow Madison. The
9 men who worked at Dow Madison actually never
10 heard of L. Silverstein at all, so his
11 interactions must have been very long-distance
12 and very remote from what they did on a day-
13 to-day basis.

14 Anyway, it's a letter to H. Price
15 of the AEC, and Mr. Silverstein is requesting
16 an exemption for labeling areas that contain
17 magnesium alloys that contained up to four
18 percent thorium where they were stored and
19 fabricated. Importantly, this is the
20 document, the source document that included
21 the film badge data from HK-31 casting jobs
22 that referred to the Bay City work.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 SC&A notes as their comment to
2 this document that this included personnel
3 film badge data for a 13-day period for 27
4 people, 20 specific jobs, and I'm quoting.
5 "Note. This list is from Bay City. It is the
6 same as the list in TDCC-00055."

7 So my comment is that if you agree
8 with those facts that it was for 13 days, and
9 there were 27 badge readings from 20 job
10 descriptions, then those 13 days would
11 represent only .01 percent of the days in the
12 37-year thorium residual period of 1961 to
13 2007, or those 13 days could represent about
14 .9 percent of the days in the operational
15 period of 1957 to 1960.

16 Assuming that Bay City, like Dow
17 Madison, had 3,000 workers at their peak, the
18 film badge readings from 20 of them, then only
19 .7 percent of the peak annual workforce was
20 monitored and even less when job turnover is
21 considered, so Bay City is not otherwise
22 justified by NIOSH, and, in fact, the

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 stringent criteria, stringent comparison
2 criteria, is not met on that basis, either.

3 Here is what NIOSH concluded about
4 the Bay City film badge data, and that appears
5 in the Addendum 1 from August '07 to the ER
6 report on Dow SEC-79. On page five and six,
7 NIOSH lists many of the job descriptions that
8 were described at Bay City, and they said Bay
9 City, which was another facility operated by
10 Dow.

11 The list of jobs, and I'm quoting
12 from NIOSH now, "The list of jobs is fairly
13 descriptive and specific and probably similar
14 to those which would have been performed
15 during thorium operations at the Madison site,
16 but it is not known how complete or how
17 representative of the Madison site this list
18 is, and therefore it is still not possible to
19 use job descriptions to define the proposed
20 class.

21 "Yet in spite of any justification
22 at Bay City other than that no evidence had

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 surfaced that Bay City was not similar to Dow
2 Madison, Bill Thurber and SC&A concluded that
3 the stringent justification criteria for
4 surrogate data for sites such as Dow that
5 lacked any personnel monitoring was
6 appropriate and therefore was satisfied."

7 My contention is that no
8 professional statistician would accept such
9 limited time period data, that is, less than
10 .01 percent for the operational period, .9
11 percent for the residual period, and number of
12 workers, 0.7 percent of them, such limited
13 sampling of film badge data from Dow Bay City
14 as being in any way representative of the
15 time periods or the workforce, and, therefore,
16 it couldn't satisfy the Board's stringent
17 justification criteria.

18 Anyway, I feel very strongly about
19 that. I hope that the scientists and careful
20 evaluators of data in the Board will also
21 agree with me, and I hope this just egregious
22 misuse of surrogate data is not allowed.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 Final comment is that the
2 overriding issue that is evident from the
3 wealth of Dow and successor owner worker
4 affidavits is that there was very poor
5 enforcement of safety regulations at Dow
6 Madison. This was a very unsafe workplace.

7 There were no film badge data
8 collected for all the years that Dow was in
9 operation, even though it said that
10 Spectrulite, you know, that era from 1986 to
11 the end of the residual period, 2007, that
12 badges were issued. However, no badge data
13 has ever emerged.

14 Also, I went to the Illinois EPA
15 with a representative from Congressman
16 Shimkus's office as observer and observed
17 there that Dow Madison never reported for 20
18 years that it emitted both thorium and
19 beryllium from its stacks, and we do know, for
20 instance, that in 1963 Dow Madison began
21 producing an aluminum-beryllium alloy called
22 Lockalloy that was licensed from Lockheed

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 Martin.

2 Then, on October 5 of this year,
3 2010, the current owner, Magnesium Elektron,
4 experienced a tremendous explosion and fire
5 that blew out windows of the former Dow
6 castings building. The adjacent elementary
7 school was closed, and now Illinois EPA is
8 instituting a lawsuit against Magnesium
9 Elektron as a result of the mishap.

10 There are at least five pages of
11 Google News reports of this dramatic event,
12 and I think I cite it just to show that that
13 site, the Dow Madison site in Madison and
14 Venice, Illinois, has had very unsafe
15 conditions that characterize the Madison site
16 for the past 60 years.

17 So I hope you will bear my lone
18 voice, dissenting remarks about the use of
19 surrogate data and, in fact, will decide that
20 they were not appropriate and lead to the
21 conclusion that now NIOSH's recommendation to
22 deny the SEC for the residual period should be

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 overturned, and the SEC for that period should
2 be approved. So I thank you for the chance to
3 address, and I hope that this information will
4 be helpful.

5 CHAIRMAN MELIUS: Okay. Thanks,
6 Dan. Does either Bill Thurber, John Mauro, or
7 NIOSH staff have any comments or responses?

8 MR. THURBER: I'd make a couple
9 comments. Dr. McKeel mentioned the fact that
10 the residual period was based upon rod
11 straightening rather than the extrusion data.

12 DR. MCKEEL: No, I didn't say that,
13 Bill. I said that -- I said that the
14 operational period involved both rod
15 straightening and extrusion.

16 MR. THURBER: That's true, and the
17 basis for establishing the uranium
18 concentrations at the beginning of the
19 residual period was based upon extrusion work
20 -- I'm sorry, was based upon rod straightening
21 work.

22 DR. MCKEEL: And that's what I

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 think is not appropriate.

2 MR. THURBER: Well, and I would
3 point out two things. One, the work closest
4 in time chronologically to the residual period
5 was the rod straightening work, and, secondly,
6 and I believe it's discussed in our last
7 report, the dust levels were higher for rod
8 straightening than they were for extrusion, so
9 it is bounding.

10 DR. MCKEEL: Bill, I have --

11 MR. THURBER: That is one comment I
12 would make.

13 DR. MCKEEL: I have to say this.
14 The area where rod straightening took place at
15 Dow Madison was not assayed for either uranium
16 or thorium when ORNL and the Army Corps of
17 Engineers visited there and did its cleanup in
18 1998. They only looked at Building 6, and
19 that was not where the rod straightening was
20 done.

21 Building 6 was devoted to
22 extrusion work. They had nine extrusion

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 presses, including one of the largest ones in
2 the world that they brought over from Germany,
3 and that's not where the rod straightening
4 took place.

5 So there is no -- there is no --
6 and I will assert this strongly, and somebody
7 has to cite specifics to contradict this.
8 There was no assay of dust that accumulated
9 from rod straightening at Dow Madison.

10 Now, maybe Harrison-Kingsley cited
11 it for other AWE sites, but as was noted in
12 your report but not mentioned today, much of
13 the data, in fact, almost all of the data in
14 TBD-6000, is, in fact, surrogate data, so,
15 actually, the basis for calculating doses at
16 many AWE sites is largely based on surrogate
17 data.

18 MR. THURBER: And as we --

19 DR. MCKEEL: I didn't mean to
20 interrupt.

21 MR. THURBER: As we mentioned in
22 our report, TBD-6000 has been thoroughly

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 reviewed, and, therefore, it is a good source.

2 DR. MCKEEL: Well, I would say that
3 TBD-6000 is still under review. It was
4 written in 2005. It's not been revised, and,
5 in my opinion, saying that things are resolved
6 when the resuspension issue has simply been
7 punted to another Work Group is really
8 ridiculous. That does not resolve --

9 MR. THURBER: I think that
10 misstates the position that I made earlier in
11 the conversation today where I pointed out
12 that, given the circumstances we're talking
13 about, we felt that in this particular
14 environment under these conditions, the 10^{-6}
15 was a reasonable resuspension factor.

16 That doesn't say that it's taken -
17 - that it's still not a matter for
18 consideration by one of the Work Groups, but
19 it does say that for this particular
20 application, in our technical judgment it is a
21 reasonable factor to use.

22 DR. MCKEEL: I understand what

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 you're saying.

2 MR. THURBER: Okay.

3 DR. MCKEEL: And you certainly have
4 a right to make that judgment. I'm saying
5 that as the co-petitioner I disagree with that
6 assessment, and I think we'll have to leave it
7 there until the full Board meeting.

8 MR. THURBER: A couple other things
9 I would also mention. We noted wherever we
10 could find information in all of our
11 documents, information that we believed did
12 not come from Dow Madison. That fact appears
13 in several of our documents, so, you know, to
14 suggest that that was swept under the table is
15 totally incorrect.

16 DR. MCKEEL: No, what I -- what I
17 gave you was a --

18 CHAIRMAN MELIUS: Dr. McKeel,
19 please let Bill finish his --

20 DR. MCKEEL: I'm sorry.

21 CHAIRMAN MELIUS: We're not -- this
22 isn't --

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 MR. THURBER: The other point I
2 would make is that, to the best of my
3 knowledge, you know, regardless of the fact
4 that some data might have been generated at
5 Bay City, there is no evidence that any of
6 this kind of work was done at other facilities
7 than Madison or Bay City.

8 But, to the best of my knowledge,
9 with the exception of the film badge data,
10 which we've discussed and said it comes from
11 Bay City, with the exception of that, the
12 other information that was used, to the best
13 of my knowledge, comes from Dow Madison.

14 DR. MCKEEL: Well, then I have the
15 final question to ask you, which is really the
16 big point I was trying not make. Do you and
17 SC&A consider that this minuscule sample
18 represented by the film badge data from Bay
19 City, 27 readings, 13 days out of a workforce
20 of 3,000, do you think that is in any way
21 statistically representative enough to
22 characterize and bound the entire 37-year

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 residual period at Dow Madison?

2 MR. THURBER: A couple points I
3 would make. First of all, the film badge data
4 is supported by a number of direct radiation
5 readings at Dow Madison, which show that the
6 film badge data is conservative and therefore
7 appropriate for bounding as compared to the
8 direct readings.

9 The source of the exposure will
10 have been gone by the time the residual period
11 begins. The source of the exposures is
12 essentially the large mass of magnesium-
13 thorium alloys that were being produced, and
14 so the source will have been gone.

15 DR. MCKEEL: I would like to make
16 this comment. This is Dan McKeel again, for
17 the court reporter. I do not see any mention
18 in this document and certainly not in any of
19 the NIOSH documents who seem to be -- that
20 took into consideration that the Army Corps of
21 Engineers did not clean up the thorium that
22 was in Building 6, the only place they looked

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 for it.

2 Then, in the year 2003, a private
3 environmental remediation company named the
4 Pangea Group, which operates out of St. Louis,
5 Missouri, came in and conducted a long cleanup
6 period of all the thorium at Dow Madison, and
7 they produced a number of reports, lengthy,
8 detailed, comprehensive reports, of every
9 building at Dow Madison beginning in 2003 and
10 concluding with a final report in 2007.

11 When I addressed the Board on May
12 4, 2007, I showed two tables from the 2005
13 Pangea report, and it showed masses of thorium
14 metal all over that plant, and I will assert
15 for the record that there is no way that
16 anybody alive can distinguish the AEC thorium
17 metals from the commercial military thorium
18 metals.

19 And it was clear from reading
20 those reports and listening to the men that,
21 in fact, some of that residual thorium metal
22 that was lying around in storage, on the

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 docks, in the buildings, all over the place,
2 was, in fact, left over from the operational
3 period.

4 There is a huge discrepancy at Dow
5 Madison where the workers testified, 11 of
6 them, in affidavits, that Dow Madison shipped
7 large quantities of thorium alloy magnesium
8 plates to Rocky Flats. That's never been
9 resolved.

10 Those records have never been
11 found, but on the other hand, remember that
12 the records showing that Dow Madison was an
13 AWE site for thorium were not found in 2005,
14 in 2006, in 2007, and were only revealed and
15 made DOE certify Dow Madison as a thorium AWE
16 site on January 8, 2008, in a letter from DOE
17 to the Department of Labor.

18 So, I would like to assert that
19 there is no way that anybody can say with any
20 degree of confidence that all the thorium
21 metal produced during the AEC operational
22 period was gone from that plant, and, in fact,

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 I think a complete reading of the affidavits
2 and the Pangea reports, which show that, in
3 fact, that probably isn't the case, that some
4 of that was there.

5 Then the Act itself specifies
6 that, during the residual period, if you can't
7 physically separate the waste streams due to
8 AEC operations and those due to
9 commercial/military operations, then they all
10 have to be considered together, and I'm saying
11 there is no way that anyone alive, from any
12 record I have ever seen, could separate those
13 thorium waste streams.

14 So I'm saying that, regardless of
15 what one's opinion is and regardless of what
16 one's personal intuition tells them, that
17 based on the strict interpretation of the Act
18 and on any report that I've ever seen and any
19 testimony I've ever seen from any worker, you
20 have to assume that there was a mixed waste
21 stream for thorium and that some of that
22 material that was present until 2007 might

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 still have been due to AEC operations. So I'm
2 going to stress that to the full Board, and I
3 think those facts need to be considered.

4 MR. THURBER: I might make one more
5 comment if I could. This is Bill Thurber
6 again.

7 CHAIRMAN MELIUS: Yes, go ahead,
8 Bill.

9 MR. THURBER: In point of fact,
10 when you take the thorium concentration at the
11 end of the operating period, that thorium
12 concentration reflects both magnesium-thorium
13 alloys that were produced for commercial
14 applications, and it reflects magnesium-
15 thorium alloys that were produced and sold to
16 Mallinckrodt, as was identified by DOE and
17 DOL.

18 By the same token, the thorium
19 concentration that was measured during the
20 cleanup surveys around 2000 also contains
21 thorium that was produced conceptually under
22 the commercial program during the operating

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 period.

2 It contains thorium that was
3 produced for AWE applications during the
4 operating period, and it includes thorium that
5 was produced after that fact, so I think that
6 they are not being separated out and that the
7 measurements -- that no attempt is being made
8 to say, "Well, this is AWE stuff, and this is
9 not."

10 The second point I would make is
11 this, that I know Dr. McKeel has stated on
12 numerous occasions that magnesium-thorium
13 alloys were shipped to Rocky Flats, and,
14 indeed, there is worker testimony to that
15 effect.

16 What never seems to get stated,
17 though, is the fact that there were a number
18 of interviews conducted with senior people at
19 Rocky Flats who should have known if they were
20 getting magnesium-thorium alloys, and the only
21 thing that they could come up with was that it
22 was used for some pendants in a conveyor belt.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 So, you know, there are two sides to that
2 question, and I think both sides need to be
3 kept in mind.

4 DR. MCKEEL: I agree with that.

5 CHAIRMAN MELIUS: Okay, thanks.
6 NIOSH staff, do you have anything to add?

7 MR. RUTHERFORD: This is LaVon
8 Rutherford. I don't have anything to add. I
9 think Bill has addressed the questions very
10 well.

11 CHAIRMAN MELIUS: Okay.

12 DR. MCKEEL: May I please ask LaVon
13 if he would answer the same question? Does he
14 consider that film badge data from --

15 MR. RUTHERFORD: The 13?

16 DR. MCKEEL: Yes, for 13 days, from
17 20 workers and 27 readings, is representative
18 enough?

19 MR. RUTHERFORD: I think the
20 approach, the 13 days of operation plus
21 looking at a source term model in comparison
22 and the numbers being relatively close in that

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 manner, so I think that it is a good approach.

2 DR. MCKEEL: And you think that a
3 statistician would agree with that?

4 MR. RUTHERFORD: I don't think that
5 a statistician would necessarily agree that
6 the actual number of samples compared, but
7 you're looking at from an external exposure
8 perspective, the source material, as Bill had
9 mentioned, mostly would have been gone for the
10 residual period.

11 DR. MCKEEL: Well, I respectfully
12 disagree, so I'll let it rest at that.

13 CHAIRMAN MELIUS: Thank you. Board
14 Members, Paul and Josie, do you have any other
15 comments?

16 MEMBER ZIEMER: This is Ziemer.
17 Yes, I did have -- this is more of a question.
18 I'm trying to clarify and understand fully
19 the concerns that Dr. McKeel raised, and, Dr.
20 McKeel, was your concern about the actual
21 contamination values that were used, that they
22 were apparently based on the rod straightening

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 work as opposed to the extrusion work or vice
2 versa?

3 DR. MCKEEL: Yes. Yes, I was
4 concerned about that. It seems to me that
5 saying that the extrusion work took place
6 before the rod straightening work and,
7 therefore, the rod straightening work was most
8 proximate to the beginning of the residual
9 period would be a very valid way to look at
10 things if, if we were dealing with
11 radioisotopes that had a half-life on the
12 order of a few years.

13 However, in the case of thorium,
14 you know, we have a 14.5 billion year half-
15 life, and in the case of uranium-238 we have a
16 4.5 billion year half-life, so just like the
17 age of the universe, three years is nothing
18 when you consider that.

19 There is not enough decay going on
20 in three years out of 4.5 billion or 14.5
21 billion to diminish the amount of
22 radioactivity from either the thorium or the

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 uranium, assuming that they were the only
2 radionuclides found, which they weren't, as a
3 matter of fact.

4 There was an elevation found
5 during the cleanup period in 1998 of radium-
6 226, which was explained away as indigenous to
7 that part of the country, which I think is an
8 explanation that the Department of Energy has
9 used many times, and I'm not sure that that's
10 really a true characterization, but, anyway --

11 MEMBER ZIEMER: Well, let me follow
12 up --

13 DR. MCKEEL: I don't think it makes
14 any difference.

15 MEMBER ZIEMER: Well, let me follow
16 up, then. It was my understanding that, in
17 general, that rod straightening work led to
18 higher contamination levels than extrusion and
19 were used --

20 DR. MCKEEL: Can you cite any
21 examples that would show that?

22 MEMBER ZIEMER: We don't know that,

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 in fact, or --

2 DR. MCKEEL: Well, as a matter of
3 fact, what the men, if you read their
4 testimony or look at the videos that we
5 supplied to everybody of their testimony and
6 the men talking, the people who worked on the
7 extrusion presses stressed several things.

8 One, it was a very dusty
9 operation. As I've pointed out many times,
10 there were no vacuum hoods associated with
11 those extrusion presses, and at many DOE sites
12 the extrusion presses for metals such as
13 uranium and thorium did have vacuum hoods.
14 They should have had vacuum hoods to protect
15 the workers.

16 So I understand that the bounding
17 doses are said to be consistent with an
18 extrusion press that is not covered, but,
19 again, this was a very dusty environment, and
20 the workers, not me, have pointed this out in
21 the extrusion.

22 MEMBER ZIEMER: Well, could I ask

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 SC&A or, Bill Thurber, could you clarify your
2 understanding of the relative contamination
3 levels from those operations and the values
4 that were used?

5 MR. THURBER: Yes. We quoted some
6 numbers in our write-up, Dr. Ziemer, that
7 showed that the extrusion exposures were lower
8 than the rod straightening exposures and that
9 those extrusion exposures that were selected
10 from TBD-6000 were the highest of several
11 different job descriptions that were involved
12 in the extrusion.

13 Now, to say that the environment
14 in the extrusion room was dusty, that's as
15 much a comment on the fact that you're
16 extruding magnesium alloys, and it really has
17 nothing to do -- it does not necessarily have
18 anything to do with the fact that for a few
19 weekends or 28 weekends -- I forget the number
20 -- you were extruding uranium.

21 I think -- so to say that the
22 environment -- you know, the environment in

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 most metal working shops and particularly at
2 that point in time, whether it's a steel mill
3 or whatever, would be characterized as very
4 dusty, and that's an accurate
5 characterization, but that characterization
6 has nothing to do with whether you're
7 extruding uranium or some other product, but
8 the point that you asked -- let me go back to
9 -- is indeed the extrusion exposures were
10 lower than the rod straightening exposures.

11 DR. MCKEEL: This is Dan McKeel.
12 I'd like to comment that that's data, again,
13 from other sites, and there is no
14 justification by NIOSH or by you that except
15 in a very general way that extrusion processes
16 should be similar, but that's not what the
17 surrogate data criteria that the Board finally
18 adopted say.

19 They say that in the case of a
20 place that has no personal monitoring data,
21 you know, that you should apply very stringent
22 criteria to show that those surrogate sites

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 have similar operations, and I can tell you
2 that, again, listening to the men at Dow
3 Madison on many occasions who operated those
4 extrusion presses, they said that they could
5 easily identify thorium and uranium when they
6 were run, not just by the fact that they had
7 to use special blocks and so forth to make
8 sure that the run went all right, but those
9 metals were very hard and very brittle, and
10 they often broke up and disintegrated.

11 So that was a factor that was not
12 present, for example, in extruding very soft
13 aluminum, which they also did a huge amount
14 of, and so I just think that everybody has to
15 remember there weren't any data from the
16 extrusion operations at Dow Madison, and, at
17 least from what I understand, some of their
18 extrusion presses were huge machines that were
19 not equaled in other places. They were well
20 known for that.

21 I also will comment, maybe that's
22 one reason why they got this experimental

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 gamma phase extrusion work, you know, beyond
2 the fact that they were in close proximity to
3 Weldon Spring and to the Mallinckrodt
4 Destrehan plants, so, anyway.

5 MEMBER ZIEMER: Okay.

6 DR. MCKEEL: Anyway, to answer Dr.
7 Ziemer's question, yes, I'm concerned that
8 there is no -- there is nothing except
9 surrogate data to make that point.

10 MEMBER ZIEMER: Yes. To follow up,
11 though, of course, we're talking about the
12 period here not when the extrusions were being
13 done but the later period where you have a
14 starting source term and some resuspension and
15 that sort of thing, but that was the starting
16 point.

17 Then the other part, and maybe,
18 Bill, you could clarify on the exponential
19 decay, what were we talking about here? I
20 mean, obviously decaying the thorium per se,
21 doesn't make any difference. What were we
22 talking about there?

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 MR. THURBER: I'm sorry, Paul. I
2 don't quite understand your question.

3 MEMBER ZIEMER: I think the
4 approach talked about a starting source term
5 at the beginning of the residual period, and
6 then you had an ending thing.

7 MR. THURBER: Oh.

8 MEMBER ZIEMER: I guess you just
9 made an exponential function between the two.

10 MR. THURBER: Yes.

11 MEMBER ZIEMER: It sounded like, I
12 think, Dan McKeel perhaps is understanding
13 that you were taking the decay based on half-
14 lives.

15 MR. THURBER: No, no, no.

16 MEMBER ZIEMER: I don't know if
17 that was the case at all.

18 MR. THURBER: It was an exponential
19 function.

20 MEMBER ZIEMER: Right.

21 MR. THURBER: This was -- recall
22 that for uranium that the residual

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 contamination was assumed to remain constant
2 throughout --

3 MEMBER ZIEMER: Right.

4 MR. THURBER: -- the entire
5 residual period.

6 MEMBER ZIEMER: Right.

7 MR. THURBER: A very conservative
8 bounding assumption.

9 MEMBER ZIEMER: Right.

10 MR. THURBER: In the case --

11 DR. MCKEEL: Do you consider that
12 plausible, as well, that it would remain the
13 same?

14 MR. THURBER: Obviously, as we have
15 discussed before, plausibility is subjective.

16 I felt that this was reasonably plausible,
17 since there was evidence that there was still
18 uranium around when the cleanup was done
19 toward the end of the residual period, so I
20 felt that under the circumstances that that
21 was plausible, but to finish --

22 MEMBER ZIEMER: You're saying in

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 the worst case the source term was still
2 there.

3 MR. THURBER: Yes, right, and so
4 that was the basis for the judgment. Now, to
5 finish up, to try and finish answering your
6 question, Paul, they started out with a -- for
7 the thorium they had an estimate of so many
8 picocuries per cubic meter.

9 MEMBER ZIEMER: Right.

10 MR. THURBER: And then they had an
11 estimate during the cleanup of why picocuries
12 per cubic meter, and they drew an exponential
13 function between X and Y.

14 MEMBER ZIEMER: Right. You can fit
15 a function to that.

16 MR. THURBER: Yes.

17 MEMBER ZIEMER: I got the idea from
18 what Dr. McKeel was saying that he was
19 understanding you to mean that you were
20 calculating the decay of thorium and uranium,
21 and I didn't think that was the case.

22 MR. THURBER: No, absolutely not.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 MEMBER ZIEMER: I wanted to make
2 sure that that --

3 MR. THURBER: Absolutely not.

4 MEMBER ZIEMER: That is not what is
5 being done.

6 MR. THURBER: No. No.

7 MEMBER ZIEMER: Thank you.

8 CHAIRMAN MELIUS: Any other
9 questions from Board Members? Do the Board
10 Members want to make a recommendation to the -
11 - or do the Work Group Members want to make a
12 recommendation to the Board regarding this
13 site at our meeting next week or for our
14 meeting next week?

15 MEMBER ZIEMER: Dr. Melius, are you
16 asking whether we want to recommend a motion
17 either to agree or to disagree with the NIOSH
18 recommendation, or do you believe the Board is
19 ready for the action at this point?

20 CHAIRMAN MELIUS: Right. I think,
21 yes, essentially it's the NIOSH recommendation
22 that's contained in the -- it's really

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 Appendix C of TBD-6000, I think, really. I
2 have some sort of procedural questions for
3 NIOSH to come up how we present it, but, Jim,
4 is it fair to say that that's your
5 recommendation?

6 I question that only if -- or
7 would it be one of the appendices to the
8 original Evaluation Report? Your approach has
9 sort of evolved over time, because there have
10 been some changes in what's covered for the
11 residual period. Maybe LaVon? I don't know
12 who is the right person to --

13 MR. RUTHERFORD: Well, this is
14 LaVon Rutherford. I will say that if we
15 remember that the original Dow petition was
16 actually an 8314, and we only considered the
17 residual period at the request of the Board
18 and Dr. McKeel. We only added that on as a
19 secondary part of our evaluation, so it is
20 kind of unique.

21 DR. MCKEEL: May I --

22 MEMBER BEACH: LaVon, let me ask a

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 question. This is Josie. So that is part of
2 the original 0079-8314, correct?

3 MR. RUTHERFORD: Well, it is,
4 actually, the addendums that were added on to
5 that, yes, and they do address the residual
6 period.

7 MEMBER BEACH: Right.

8 CHAIRMAN MELIUS: Then there is
9 further information in Appendix C --

10 MR. RUTHERFORD: That's correct.

11 CHAIRMAN MELIUS: -- that makes
12 this out of the ordinary, I guess, is the way
13 to put it.

14 DR. MCKEEL: Dr. Melius?

15 CHAIRMAN MELIUS: Yes?

16 DR. MCKEEL: May I please mention
17 just a correction of what was just said? Your
18 motion number two, which was unanimously
19 passed by the Board on May 4, 2007, to
20 investigate the residual period was not just
21 my suggestion.

22 If one goes back and reads that

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 transcript, they will see that there was heavy
2 input from Robert Stephan, who is the Southern
3 Illinois Representative of then-Senator Barack
4 Obama, and there was also read into a record
5 that day a letter from Senator Dick Durbin of
6 Illinois.

7 So the two Senators from Illinois
8 strongly urged that Dow be given an SEC to
9 cover the residual period on that day, on May
10 4, 2007, and I am firmly convinced that -- I
11 was there and presented to the Board, and I
12 heard the Board and saw the Board react, and I
13 am firmly convinced that the one thing that
14 was missing was that we could not prove -- we
15 made the assertion that Dow should be an AWE
16 site for thorium based on the Rocky Flats
17 worker testimony.

18 We did not know about the
19 Livermore documents that were later used by
20 DOE to declare it an AWE site for thorium, and
21 I would comment that those Livermore
22 documents, which were partly classified, have

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 never been released.

2 So, you know, that was the
3 background to it. It certainly was not just
4 me, and it was the current President of the
5 United States and the number two Senator from
6 Illinois, who has also been the second
7 highest-ranking Democrat in the Congress of
8 the United States.

9 So that was the weight of who was
10 behind all that. We've had letters from
11 Congressman John Shimkus and his terrific
12 staff that worked on this SEC for six years
13 and noted to the Board on the -- in May of
14 2007, that they had workers who came to the
15 Board and addressed the Board and talked to
16 the Board who had dose reconstructions pending
17 from 2001.

18 So this is a very long period, and
19 if this Work Group should vote to support
20 NIOSH's recommendation, I will be extremely
21 disappointed, and it will encourage me to
22 argue even harder before the full Board that

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 this has been a misuse of surrogate data, and
2 it's been a misuse of the scientific method
3 and the provisions for the Board, for NIOSH,
4 for SC&A, for everybody to combine forces to
5 make a speedy judgment on this matter, which
6 should have been decided back in May of 2007.
7 So, with that I'll stop commenting.

8 CHAIRMAN MELIUS: Thank you, though
9 I would hardly call it speedy, but that's
10 okay. It depends on your definition. So,
11 back to my original question, does the Work
12 Group want to make a recommendation
13 essentially in support of or against the NIOSH
14 recommendation?

15 MEMBER ZIEMER: Are there three of
16 us on the Work Group?

17 CHAIRMAN MELIUS: There are three
18 of us on the line now, yes. There's two
19 people missing.

20 MEMBER BEACH: There's five on the
21 Work Group.

22 MEMBER ZIEMER: Well, who is

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 missing?

2 CHAIRMAN MELIUS: Gen and Mark
3 Griffon.

4 MEMBER ZIEMER: Well, I think to
5 some extent that causes a little bit of
6 concern in terms of making a recommendation at
7 this point. I think -- I mean, I'll express
8 my personal position on it. I come down
9 alongside of what our contractor has
10 presented.

11 I think I understand -- I do
12 understand Dr. McKeel's concerns, and I fully
13 agree that they should be raised to the full
14 Board. I think one of the issues that we sort
15 of are developing as we go is how we use the
16 surrogate data criteria, and there are
17 different views amongst the Board Members on
18 that particular issue.

19 I think it needs a full hearing by
20 the Board, and I'm not sure that just the
21 three of us are in a position to make a
22 recommendation, since two of our members are

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 not with us today. But I guess in a sense all
2 three of us would have to agree to go in a
3 particular direction, anyway, for that to
4 occur, but I'm quite comfortable if we're not
5 ready to do that but to fully air the issues
6 and let the Board hear the concerns both ways.

7 CHAIRMAN MELIUS: Which I think
8 would take place regardless.

9 MEMBER ZIEMER: In any event, yes.

10 CHAIRMAN MELIUS: I agree with you,
11 Dr. Ziemer, that with two Members absent it
12 does make some difference, and it's as much, I
13 guess, the third alternative, agree to
14 disagree, or is there further analysis that
15 either of you believe is necessary before next
16 week, or should we delay and not present next
17 week, you know, something to that effect? I
18 guess I'm --

19 MEMBER ZIEMER: Well, even if we're
20 not ready to take final action, I think -- I
21 think we need to air the issues. It would
22 seem to me it would be worth doing at this

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 point. I mean, I don't see anything further
2 that we need the contractor to do.

3 A lot of this, I think, does
4 revolve around our understanding of sort of
5 what I would call the appropriate use of
6 surrogate data and whether or not one believes
7 that the information that has been used fairly
8 or appropriately represents the situation at
9 Dow Madison, and, as I say, I think there will
10 be differing opinions on that.

11 But part of the reason for
12 proceeding, even though we haven't agreed on -
13 - we have agreed on criteria, but when the
14 rubber hits the road, it's actually the issue
15 of applying that and our understandings of
16 what is the fair use. I understand we
17 wouldn't necessarily all agree on that.

18 CHAIRMAN MELIUS: I mean, I would
19 chime in there that I think it's also -- some
20 of it is the difference between evaluating the
21 use of surrogate data or any other dose
22 reconstruction method for the residual period,

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 as opposed to an operational period, and I
2 think that we've already made a finding -- I
3 believe it was unanimous, I don't remember --
4 for the operational period that this was a
5 Special Exposure Cohort. We agreed with NIOSH
6 on the 8314.

7 MEMBER ZIEMER: Right.

8 CHAIRMAN MELIUS: We're talking
9 about a residual period, which I think has
10 some different --

11 MEMBER ZIEMER: Different --

12 CHAIRMAN MELIUS: It's a different
13 situation in terms of dose reconstruction in
14 terms of developing, you know, bounding doses
15 and so forth, because in some ways it's less
16 complicated. There are fewer factors involved,
17 I guess, and I think that, you know, many of
18 the points that were raised in the original
19 report, as well as Dr. McKeel has raised
20 today, are much more critical or relevant for
21 dealing or would be evaluated differently
22 during an operational period than during a

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 residual period.

2 MEMBER ZIEMER: Right.

3 CHAIRMAN MELIUS: Yes. Josie, do
4 you have any comments?

5 MEMBER BEACH: No. I do agree that
6 we probably should go ahead and move forward
7 with a full Board discussion.

8 CHAIRMAN MELIUS: Okay. Good. Why
9 don't -- I guess my next question would be for
10 that discussion. My first question is to
11 NIOSH. For that presentation next week,
12 would, LaVon, would you or Jim Neton be making
13 a presentation?

14 MR. RUTHERFORD: Well, we hadn't
15 planned a presentation. I'm sure that we
16 could probably put something together. Would
17 we be expecting -- I mean, would your -- will
18 Bill with SC&A be putting a presentation based
19 on their review of the surrogate data?

20 MR. THURBER: Yes. I just think
21 it's more appropriate that they follow you.

22 MR. RUTHERFORD: Okay.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 MR. THURBER: And I, you know,
2 confess that I hadn't thought about this until
3 I was going through all the reports in detail
4 and going back to the beginning and realizing,
5 you know, sort of the history of this, and
6 it's a little, as I said, a little out of the
7 ordinary in terms of how we approached it, and
8 so --

9 MEMBER ZIEMER: Well, this is
10 Ziemer again. I also want to point out, and
11 this will be particularly true for the newer
12 Board Members who don't have the benefit of
13 the history of all of this, that it may be
14 somewhat presumptuous to ask them to come to a
15 position on this in this brief period of time
16 if we hit them with this even with the full
17 presentations, so I'm wondering if we wouldn't
18 be wise to get the material out there but
19 allow them some time to digest this.

20 CHAIRMAN MELIUS: What I was -- I
21 was going to follow up with that, Dr. Ziemer,
22 and suggest that they -- we'll make them aware

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 of the reports, but I think there are sort of
2 key reports to this, and certainly I think by
3 far the most useful report is the, you know,
4 Revision 1 that we discussed today from SC&A.

5 MEMBER ZIEMER: And also, again, I
6 think very important that all of our Board
7 Members understand the petitioner's issues, as
8 well.

9 CHAIRMAN MELIUS: Yes. No, I agree,
10 and that's why I think getting it out there --
11 we'll take action or we won't. It's really
12 up to the Board to decide.

13 MEMBER ZIEMER: Right.

14 CHAIRMAN MELIUS: But I was
15 planning on this afternoon sort of, depending
16 on what happens in our call here, to send out
17 information to the Board Members just saying:
18 This will be on the agenda. These are the
19 documents, and I'll work with Ted on this,
20 and, you know, this is the -- these are the
21 key documents to read, I think, in terms of
22 understanding where we are with this now.

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 DR. MCKEEL: Dr. Melius?

2 CHAIRMAN MELIUS: Yes.

3 DR. MCKEEL: This is Dan McKeel. I
4 would certainly ask for the new Board Members
5 in particular, and maybe to refresh all the
6 others who really haven't heard about Dow
7 Madison over the past couple of years, I
8 certainly wish the transcript could be
9 mentioned to them of May 4, 2007, and,
10 actually, there were two more presentations
11 that I made to the Board about the residual
12 period. You know, they're on Docket 113 for
13 Dow.

14 They're also just posted on the
15 Dow page, on the web page, but I'm not sure
16 many or any of those people have had a chance
17 to read those. I mean, they're available for
18 everybody, but they are redacted on the web
19 site, and, you know, the original comments
20 submitted to the Board would be more -- or to
21 NIOSH would be more useful.

22 So I just ask that you at least

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 call their attention to the rather voluminous
2 input that I've had, which takes different
3 positions sometimes on some of the things that
4 the Board and SC&A and NIOSH have concluded.

5 CHAIRMAN MELIUS: Okay. Thanks.
6 Any other comments from Board Members? So,
7 just some of the logistics here, so, LaVon,
8 you'll see that somebody from NIOSH makes a
9 presentation?

10 MR. RUTHERFORD: Yes, I imagine
11 it'll be me.

12 MEMBER ZIEMER: I think on -- this
13 is Ziemer. I think on NIOSH's part you will
14 basically be repeating what you presented
15 before, in a sense, but that'll help kick it
16 off for the new Board Members.

17 CHAIRMAN MELIUS: I actually think
18 it'll be a bit more than that, because it's
19 not what was presented the first time, but --

20 MEMBER ZIEMER: Right. It's been
21 revised, right.

22 CHAIRMAN MELIUS: It's really the

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 evolution of this, and the residual period has
2 actually changed over time.

3 MEMBER ZIEMER: Right.

4 CHAIRMAN MELIUS: So it's a little
5 bit more complicated, so it's not like you can
6 go back to just one document at the beginning,
7 which we can usually do, and have everything.
8 It's spread over a few documents.

9 MEMBER ZIEMER: Right.

10 CHAIRMAN MELIUS: And then if SC&A
11 could then, you know, briefly present, and I
12 think it's the, you know, this Revision 1
13 document that we talked about today.

14 DR. MAURO: Are you looking for a
15 slide presentation with slides being made
16 available to Zaida beforehand?

17 CHAIRMAN MELIUS: I'm looking for
18 at least a slide presentation.

19 DR. MAURO: Okay.

20 CHAIRMAN MELIUS: I'm not going to
21 -- I'm not sure what Zaida's deadline is.

22 MEMBER ZIEMER: Dr. Melius, this is

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 Ziemer again. I'm wondering if we could treat
2 this like we do other SEC petitions where we
3 would allow the petitioner to speak at that
4 time when we're -- rather than during the
5 public comment?

6 CHAIRMAN MELIUS: Yes, I'm sorry,
7 that's actually already scheduled, I believe.

8 MEMBER ZIEMER: Oh, okay. Very
9 good.

10 CHAIRMAN MELIUS: Yes, it's in the
11 -- at least, it's in the annotated agenda.

12 MEMBER ZIEMER: Okay.

13 CHAIRMAN MELIUS: It's the --

14 MEMBER ZIEMER: Yes, you're right.
15 You're right.

16 CHAIRMAN MELIUS: -- the petitioner
17 cheat sheet, which I get before each meeting.

18 MEMBER ZIEMER: Okay.

19 MR. RUTHERFORD: I wanted to point
20 out that the agenda has Dow on from 1:00 to
21 2:00, and if I'm presenting kind of how we got
22 here to this point and our approach for dose

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

1 reconstruction, and then Bill Thurber is
2 presenting and then Dr. McKeel, that's going
3 to be tough to get it into --

4 CHAIRMAN MELIUS: We'll figure it
5 out.

6 MR. RUTHERFORD: Okay, and I know
7 Simons is on the agenda at 2:00.

8 COURT REPORTER: This is the court
9 reporter. Who just spoke, please?

10 CHAIRMAN MELIUS: That was LaVon.

11 COURT REPORTER: Thank you.

12 MR. RUTHERFORD: I apologize.

13 MEMBER ZIEMER: Ziemer again, one
14 final comment. I don't know that we
15 necessarily have to have a conclusive
16 discussion after we hear the presentations,
17 because if we agree that this would come up
18 again at the next meeting, say, for a vote,
19 then we would have additional time for
20 thorough discussions, as well.

21 CHAIRMAN MELIUS: Well, but even
22 within the same Board Meeting, in the past

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 we've concluded, you know, presentations and
2 then come back and done discussion at a later
3 point in time in the meeting because of --
4 mainly because of the issue of trying to
5 schedule petitioners --

6 MEMBER ZIEMER: Right.

7 CHAIRMAN MELIUS: -- to be on the -
8 - be on the calls.

9 MEMBER ZIEMER: Right.

10 CHAIRMAN MELIUS: So we'll work
11 around it.

12 MR. KATZ: This is Ted. Could I
13 ask a couple things while we're on this topic?

14 We do have -- we have a good bit of working
15 time also for discussions, but I would just
16 ask for both DCAS and SC&A, Bill -- Bomber and
17 Bill, with respect to your presentations,
18 given that Zaida --

19 You know, the train has left the
20 station, probably, as far as Zaida is
21 concerned. Would you please email your
22 presentations to Zaida and myself and also

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com

1 bring on, you know, bring on a memory device
2 copies of it, too, just to be safe, to be sure
3 that we have your presentations there for the
4 meeting?

5 MR. RUTHERFORD: Okay, yes.

6 MR. KATZ: And you're welcome to,
7 for that matter -- I mean, you can email your
8 presentations to the rest of the Board
9 Members, or if you send them to me, I'll
10 forward them to the rest of the Board Members,
11 too. I just want to make certain that, you
12 know, everybody has the materials there, and,
13 you know, it's late Friday. It's not late
14 yet, but we're getting there. Thanks.

15 CHAIRMAN MELIUS: Okay. Anybody
16 else? Okay, if not, thank everybody who
17 participated in the call, and I guess a number
18 of you we will see in Santa Fe next week.

19 (Whereupon, the foregoing matter
20 was adjourned at 2:39 p.m.)

21

22

NEAL R. GROSS

COURT REPORTERS AND TRANSCRIBERS

1323 RHODE ISLAND AVE., N.W.

WASHINGTON, D.C. 20005-3701

(202) 234-4433

www.nealrgross.com