

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

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ADVISORY BOARD ON RADIATION AND
WORKER HEALTH

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WORK GROUP ON SURROGATE DATA

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THURSDAY
MAY 13, 2010

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

PRESENT:

JAMES M. MELIUS, Chairman
JOSIE BEACH, Member
MARK GRIFFON, Member
WANDA I. MUNN, Member
PAUL L. ZIEMER, Member

ALSO PRESENT:

TED KATZ, Designated Federal Official

HANS BEHLING, SC&A
KATHY BEHLING, SC&A
TERRIE BARRIE, ANWAG
SAMUEL GLOVER, DCAS
EMILY HOWELL, HHS
ANN HUPKOWICZ, Bethlehem Steel Action Group
JENNY LIN, HHS
ARJUN MAKHIJANI, SC&A
JOHN MAURO, SC&A
DANIEL McKEEL, Texas City Petitioner
JAMES NETON, DCAS
WILLIAM THURBER, SC&A
ED WALKER JR., Bethlehem Steel Action Group

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

2 1:01 p.m.

3 MR. KATZ: This is the Advisory
4 Board on Radiation and Worker Health. This is
5 the Surrogate Data Work Group. My name is Ted
6 Katz, and I am the designated federal official
7 for the Advisory Board.

8 We will begin, as always, with
9 roll call. We are going to be speaking part
10 of the time about Bethlehem Steel, so please,
11 all agency-related members of -- participants
12 of this call, also note whether you have a
13 conflict of interest situation with respect to
14 Bethlehem Steel when you give your name for
15 roll call.

16 So, beginning with Board Members
17 and the Chair.

18 CHAIRMAN MELIUS: Yes, Jim Melius,
19 Chair of the Working Group, and I have no
20 conflicts relative to Bethlehem Steel.

21 MEMBER MUNN: Wanda Munn, Board
22 Member, Working Group Member, no conflicts.

23 MEMBER BEACH: Josie Beach,

1 Working Group Member. I have no conflicts
2 with Bethlehem Steel.

3 MEMBER GRIFFON: Mark Griffon,
4 Member of the Board. No conflicts.

5 CHAIRMAN MELIUS: Ted and other
6 people, Dr. Lockey will not be able to join
7 the Work Group meeting today. He's had a, he
8 has a -- he's traveling today. He's going to
9 be in a --

10 MR. KATZ: Okay, thanks. Thanks
11 for letting me know that.

12 CHAIRMAN MELIUS: He notified me
13 yesterday or the day before.

14 MR. KATZ: Okay. Thanks. And, I
15 assume, no other Board Members, right?

16 (No response.)

17 MR. KATZ: Okay. But, going on to
18 the NIOSH ORAU team.

19 DR. NETON: This is Jim Neton, of
20 NIOSH. No conflict to Bethlehem Steel.

21 DR. GLOVER: This is Sam Glover,
22 at NIOSH. No conflict to Bethlehem Steel.

23 MR. KATZ: Okay, that's quick.

1 And then SC&A team.

2 DR. MAURO: John Mauro, SC&A. No
3 conflict with Bethlehem Steel.

4 DR. BEHLING: Hans Behling, no
5 conflict.

6 MS. BEHLING: Kathy Behling, no
7 conflict.

8 MR. THURBER: Bill Thurber, no
9 conflicts.

10 MR. KATZ: Very good. Thanks, and
11 welcome. Let's go to HHS and other agency
12 officials, and contractors to government
13 agencies.

14 MS. HOWELL: Emily Howell, HHS.

15 MS. LIN: Jenny Lin, HHS.

16 MR. KATZ: Okay. And finally, any
17 members of the public on the line?

18 MS. HUPKOWICZ: Yes, Ann
19 Hupkowicz, member of the Bethlehem Steel
20 Action Group.

21 MR. KATZ: Ann Hokowicz?

22 MS. HUPKOWICZ: Hupkowicz. H-U-P-
23 K-O-W-I-C-Z. I'm representing [identifying

1 information redacted].

2 MR. KATZ: Very good. Thank you.

3 MS. HUPKOWICZ: You're welcome.

4 DR. MCKEEL: This is Dan McKeel.
5 I'm the Co-Petitioner on the Texas City, SEC.

6 MR. KATZ: Welcome, Dan.

7 MS. BARRIE: This is Terrie
8 Barrie, with ANWAG.

9 MR. KATZ: Welcome, Terrie.

10 MS. BARRIE: Good morning.

11 MR. WALKER: Ed Walker Jr.
12 Bethlehem Steel Action Group.

13 MR. KATZ: Welcome, Mr. Walker.

14 MR. WALKER: Thank you.

15 MR. KATZ: Terrific. Then let me
16 just remind all the folks on the phone-- all
17 of us, to mute our phones when we are not
18 speaking to the group. If you don't have a
19 mute button, please just use *6 -- *, then 6
20 will mute your phone, and *, then 6 will
21 unmute it, when you want to speak to the
22 group.

23 And, please do not put the call on

1 hold at any point but hang up and dial back
2 in. The hold will disrupt the call for
3 everyone else.

4 Much thanks, and it's your agenda,
5 Jim.

6 CHAIRMAN MELIUS: Okay. Thank
7 you, Ted. We have two major items on the
8 agenda for today. One is the discussion of
9 the draft Work Group Board document on
10 criteria for the use of surrogate data. The
11 new draft I circulated earlier this week, and
12 it is dated May 2010, so we'll spend some time
13 discussing that, first.

14 There is an accompanying updated
15 document from SC&A, I don't think we will
16 necessarily spend time discussing it, though.

17 It's useful background on this general issue,
18 which is, they've updated their inventory on
19 the use of surrogate data in the EEOICPA
20 program, particularly looking at what
21 documents from each site and where surrogate
22 data might be used in dose reconstruction or
23 for those sites.

1 I believe that was circulated
2 either, I believe, late last week or early
3 this week, from SC&A, but again, it's not
4 something, I don't think, we'll discuss in
5 detail.

6 And then, the second major item on
7 the agenda will be the discussion of the use
8 of surrogate data for dose reconstruction at
9 Bethlehem Steel. It's called Revision 1,
10 which is a draft paper that-- developed by
11 SC&A, and the revision is, after reviewing the
12 initial draft, I had asked, requested that
13 SC&A address a few issues in greater detail
14 because those issues had become, I think,
15 somewhat more prominent in our review
16 criteria, and I thought having some more
17 detail on those issues, and sort of
18 background, would be helpful to refresh the
19 memory of those of us Board Members who've
20 been around from the beginning, and are
21 familiar with the site, and as well as for our
22 newer Board Members who may not be as
23 familiar, and so understanding that would be

1 helpful.

2 So, the -- there's no questions on
3 the agenda. But, I will add, I noticed that
4 Dan McKeel was on, we are not specifically
5 going to talk about Texas City Chemicals
6 today, though obviously some of the discussion
7 we have is relevant because of the proposed
8 use of surrogate data at that site, but
9 really, until we get the criteria addressed,
10 and, as well as, there's the sort of separate
11 issue with radon. It's -- I don't think we
12 can really come to any closure on Texas City,
13 but obviously, the overall criteria have
14 something to do with that.

15 So--

16 MEMBER ZIEMER: For the record,
17 Paul Ziemer is now on.

18 CHAIRMAN MELIUS: Okay.

19 DR. MAKHIJANI: And also, for the
20 record, Arjun Makhijani, SC&A, is now on.

21 MR. KATZ: Welcome, and you might
22 just want to note, also, that you have--

23 CHAIRMAN MELIUS: Ted, we sort of

1 lost you there.

2 MEMBER ZIEMER: I didn't hear what
3 was said.

4 MR. KATZ: I'm sorry. I was just
5 asking for Dr. Ziemer, and for Arjun, you
6 should note your situation with respect to
7 conflict of interest for Bethlehem Steel.

8 MEMBER ZIEMER: No conflict for
9 Ziemer.

10 DR. MAKHIJANI: No conflict for
11 Arjun.

12 MR. KATZ: Thank you.

13 CHAIRMAN MELIUS: So the draft
14 document on the criteria for use of surrogate
15 data. I've made a number of changes in
16 response to our discussions at the last Board
17 meeting, where we had presented an earlier
18 draft of that and made changes.

19 I will briefly go through them.
20 They are not, you know, huge changes, but I
21 think they do add greater clarity to that, and
22 I took out some of the, what proved to be,
23 confusing statements.

1 I think the first change is
2 related to the hierarchy of data, that's
3 number 1 on the first page. And going back
4 through past transcripts and comments on the
5 draft, I think we were confusing ourselves or
6 confusing me. We were, at some trouble
7 talking about the hierarchy of data, and
8 deciding whether something was going up higher
9 or lower because some people it was -- we had
10 different reference points for higher and
11 lower.

12 So, it just didn't, I think we
13 were -- not everyone was meaning the same
14 thing when they meant higher and lower. And
15 actually, David -- beyond that, David
16 Richardson, I think, had some good comments
17 that he made at the last Board meeting in
18 response to this, where it's not just the
19 hierarchy of data, but it's also the quality,
20 relative quality of data within different
21 parts of the hierarchy, so to speak.

22 So that, simply because you would
23 have personal monitoring data, if you had bad

1 personal monitoring data, you might very well
2 want to replace that or supplement that with,
3 you know, processed data or coworker data, if
4 that was much better, even though you were
5 sort of, you know, using a lower quality,
6 relative to how we normally deal with that.

7 So I think I've just clarified
8 that the hierarchy of data is something that
9 you look at, but it's not, sort of, an
10 absolute rule. And obviously the quality of
11 the data, different parts of the hierarchy are
12 important.

13 MEMBER MUNN: Jim, may I say
14 something about that, before we go further, or
15 do you want to go through the entire document?

16 CHAIRMAN MELIUS: No, you are
17 welcome to interrupt me at any point in time.

18

19 MEMBER MUNN: This first item, the
20 hierarchy of data, is actually the only one in
21 this particular draft that does not read well
22 to me and does not really make sense.

23 For example, we're stating that

1 the usual hierarchy of data should apply to
2 dose reconstructions for that site, but at no
3 point in this document, unless I've missed it
4 somehow in my reading and rereading of it, at
5 no point do we state what that hierarchy is.

6 And if this is going to be a
7 standalone document, for example, the second
8 sentence says, "individual worker monitoring
9 data is preferable to workplace monitoring
10 data, et cetera."

11 Well, I guess, the "et cetera" may
12 be clear to everyone else reading it, but it's
13 not fully clear to me. I suspect that there
14 are a number of different concepts of what
15 that hierarchy is out there, in both, on the
16 Board and in the worker groups, and in the
17 general public.

18 And it would appear logical that
19 we state what that hierarchy is at some point
20 in this document. Hierarchy of data seems to
21 be the proper place for it, in my view.

22 CHAIRMAN MELIUS: I don't have any
23 problem doing that. I assumed that we all

1 thought of it in the same way and that it
2 wasn't necessary to do that, though you, if
3 you think it would improve things to state it,
4 it's, it's fine. I think the change I was
5 making -- for clarity, there's no problem with
6 that. Before we had a sort of absolute rule,
7 or more of an absolute statement about when
8 would, you know, data from one place -- the
9 hierarchy, replace another data, or should be
10 considered.

11 And again, I thought David
12 captured that very well, that it's usually
13 more complicated than just the issue of where
14 is the data in the hierarchy. It's also the
15 extent and the quality of that data, within,
16 you know -- that is available, and --

17 MEMBER MUNN: A point which we
18 cover well, I think, later in the document.
19 But nowhere in the document is it clear what
20 we're talking about when we talk about
21 hierarchy. And the last, the last sentence
22 says "it should only be used to replace data
23 if the surrogate" -- I am assuming "it" means

1 "surrogate data"-- should only be used to
2 replace other data, if the surrogate data has
3 some distinct advantages over available. But
4 it was not crystal clear in the reading.

5 CHAIRMAN MELIUS: I will -- I
6 can't promise crystal clarity, Wanda. But I
7 will try to make it more robust, I don't want
8 to use that word.

9 (Laughter.)

10 MEMBER MUNN: Well, thank you, Mr.
11 Falstaff.

12 MEMBER ZIEMER: This is Ziemer,
13 and I assumed on the hierarchy, where it said
14 the usual hierarchy, I think we are talking to
15 the stated NIOSH hierarchy, which is, the
16 personnel monitoring data is the top of the
17 hierarchy, and then you have the workplace
18 monitoring, and then you have source term, and
19 so on. Now, is that the list we're talking
20 about?

21 MEMBER MUNN: That's what I was
22 talking about, when I, when I see "et cetera,"
23 that's what that means to me, but I have no

1 idea what it means to other people. And as I
2 said, if this is going to be a standalone
3 document, we probably should make that
4 clearer.

5 MEMBER GRIFFON: Yes, this is Mark
6 Griffon. Might just consider cross
7 referencing the regulation on that, or pulling
8 the language right out -- you know.

9 CHAIRMAN MELIUS: Yes, I believe
10 it is in the regulation --

11 MEMBER GRIFFON: Yes, I mean, that
12 way, everyone is clear that, that you know,
13 that is the hierarchy we are talking about.

14 CHAIRMAN MELIUS: Yes. And I --
15 the confusion was, that actually we had
16 conflicting comments in various drafts from
17 Dr. Ziemer, from Wanda, about higher or lower
18 in the hierarchy, and in some cases it wasn't
19 -- one would say that, you know, individual
20 monitoring, personnel monitoring was the
21 highest. But then people would say they're
22 going higher. You would go -- but so, it was
23 also the first, and then they would go to the

1 second, well is that going higher or going
2 lower?

3 MEMBER ZIEMER: Oh.

4 MEMBER MUNN: Lower.

5 CHAIRMAN MELIUS: If we were,
6 well, we were saying it differently.

7 MEMBER MUNN: Exactly.

8 CHAIRMAN MELIUS: Yes. So I
9 thought it was best to -- and again, as David
10 Richardson pointed out, it's not an absolute
11 criteria, it also has to do with the quality
12 of the data toward different places in the
13 hierarchy, when under consideration.

14 MEMBER ZIEMER: This is Ziemer
15 again. In regard to Dr. Richardson's comment,
16 which I think is a good one, I assume that one
17 could, at least in principle, consider cases
18 where you would go to a lower hierarchy item
19 of better quality over a higher one of -- if
20 I'm going in the right direction, of lesser
21 quality. One could consider that.

22 CHAIRMAN MELIUS: Yes.

23 MEMBER MUNN: Which is what the

1 last sentence says, actually, as long as "it"
2 means "surrogate data".

3 MEMBER ZIEMER: Yes.

4 CHAIRMAN MELIUS: But I will
5 clarify hierarchy.

6 MR. KATZ: This is Ted Katz. I'm
7 sorry to interrupt, but someone on the line is
8 washing dishes while they're listening. If
9 they would please mute their phone, use *6 if
10 they don't have a mute button, that would be
11 helpful for everyone else who is trying to
12 listen. Thank you.

13 MEMBER MUNN: Or maybe they're in
14 their workshop.

15 MEMBER ZIEMER: They may be sawing
16 wood instead of washing dishes.

17 MEMBER MUNN: Yes, that's true.

18 CHAIRMAN MELIUS: The, let me find
19 my place in the old draft. The other changes,
20 though, and then we can go back and take
21 comments on other parts of it, because -- is
22 really in the last paragraph, starting, you
23 know, "claimants will have significant

1 concerns about credibility," so forth.

2 I think that, using the earlier
3 draft, some terms like "it should be rarely
4 used," and something to that effect, and I
5 changed that, and --

6 MEMBER MUNN: Reads better, now.

7 CHAIRMAN MELIUS: Used some other
8 terminologies more consistent with how we've
9 done it before. I think it's particularly in
10 the last sentence of that paragraph.

11 MEMBER MUNN: Yes.

12 CHAIRMAN MELIUS: Of that --

13 MEMBER MUNN: Improved.

14 CHAIRMAN MELIUS: Yes. Those were
15 the two sort of major changes. People had
16 made a number of, some were grammatical, some
17 were wording changes, and I've made all of
18 those, I think. I believe Dr. Lockey had
19 offered some and Wanda and others.

20 MEMBER ZIEMER: Dr. Melius, Ziemer
21 again. Just for clarity, what is the date on
22 the draft that you are looking at? I am
23 wondering if I'm looking at the same draft.

1 CHAIRMAN MELIUS: May, 2010. It's
2 a draft that I sent out on Monday.

3 MEMBER ZIEMER: Thank you.

4 CHAIRMAN MELIUS: Any other
5 comments?

6 MEMBER MUNN: No, I think it reads
7 well.

8 CHAIRMAN MELIUS: Mark, do you
9 have any? Or Josie?

10 MEMBER BEACH: No, this is Josie.
11 I think it does read well.

12 MEMBER GRIFFON: No, no additional
13 comments.

14 CHAIRMAN MELIUS: Okay. So if it
15 is okay with the Work Group, then what I will
16 do, is either later today, or more likely,
17 tomorrow morning, when I get back to my
18 office, I will circulate this to the entire
19 Board.

20 MEMBER MUNN: Are you going to
21 play with number 1 first?

22 CHAIRMAN MELIUS: Yes.

23 MEMBER MUNN: Good.

1 CHAIRMAN MELIUS: Yes, good point,
2 Wanda. I will do that and circulate to the,
3 to the full Board, and we have a Board
4 meeting, we have a time set up, I believe, on
5 the first day of our meeting on Wednesday. Is
6 that correct, Ted? For discussion of this --
7 of these criteria. And, I think, hopefully we
8 will be able to adopt them.

9 MR. KATZ: That's right.

10 CHAIRMAN MELIUS: Now, Will, and I
11 don't know, if Jim Neton or Ted want to say
12 anything. My understand is also, it will, I
13 think we tried to set it up in a way that
14 we'll be able to consider this. NIOSH is
15 also, I don't know whether it is changing, or
16 elaborating on their criteria for the use of
17 surrogate data, in, at least in the context of
18 the discussion that will come up about the
19 Hooker Chemical Plant.

20 Jim or Ted, could somebody
21 elaborate on that, or am I --

22 DR. NETON: Yes, this is Jim
23 Neton. I am not, I am not familiar with what

1 you are talking about. We have our IG-004 in
2 place, and right now, it's not under revision.

3 MR. KATZ: Jim, this is Ted Katz.

4 I know what Dr. Melius is talking about,
5 which is because we had this discussion with
6 Stu, and I think, Jim, Stu's point is that the
7 presentation of Hooker, a discussion of that,
8 I think, is good fodder for sort of coming to
9 sort of consensus terms between Board thoughts
10 and the Agency thoughts about surrogate data.

11 DR. NETON: Okay. Yes, I am
12 familiar with that. That doesn't involve any
13 revision to IG-004, it's just really
14 our thoughts on how Hooker would apply, using
15 our principles that are outlined there.

16 CHAIRMAN MELIUS: Yes, how the IG-
17 004 would apply to Hooker, I guess.

18 DR. NETON: Exactly.

19 CHAIRMAN MELIUS: Yes, okay. That
20 was -- but initially, we'll have, I believe
21 we've set up so we initially have that
22 discussion and then it will be followed by the
23 discussion of more criteria. So, I think we

1 will -- again, I think that should help us to
2 sort of reach some consensus and wrap up, at
3 least this part of the issue. I think the
4 next step is application.

5 Good. If there are no more points
6 on that, the next issue is the Bethlehem
7 Steel, again it's the second document, that I
8 believe was circulated, maybe even yesterday,
9 called Revision 1, on the Use of Surrogate
10 Data for Dose Reconstruction at Bethlehem
11 Steel.

12 And what we had asked SC&A to do
13 was to -- in the context of the Bethlehem
14 Steel SEC request, Petition, and the NIOSH
15 evaluation thereof, is to then consider the,
16 the application of -- I won't say they are the
17 final criteria, but the, at least the draft
18 criteria we had as the last meeting. Applying
19 those -- review of Bethlehem Steel relative to
20 those criteria. I think, not as much, I don't
21 think the application of those, or does it,
22 you know, fit or not fit, but as much as, the
23 information that would be helpful in making

1 that, that evaluation.

2 And what I, when I had seen the
3 first draft, I didn't think that there was
4 enough information on the, the workplace
5 plausibility issue. Were the, were the
6 similar -- for Bethlehem Steel, they used data
7 from Simonds Saw and the, you know, trying to
8 basically summarize information on those two
9 facilities in terms of, how would, you know,
10 how did they compare, for the time periods
11 involved.

12 And so, I believe most of the
13 change that was made from the first draft to
14 the Revision 1 draft of the SC&A document was
15 an elaboration on that. I think, as you all
16 know, and Josie, I don't know if you were -- I
17 believe you were on the Board then, but we
18 spent a lot of time on Bethlehem Steel very
19 early. The, actually, most of the discussion
20 of the Bethlehem Steel Site took place before
21 the SEC regulations were in place.

22 And so we had spent time reviewing
23 that. Then, after that point in time, the SEC

1 regulations were put in place. The Board,
2 there was a Petition received and qualified
3 from Bethlehem Steel, and because at the same
4 time we had just started looking at this
5 surrogate data issue, that, really was, in
6 some ways, Bethlehem Steel was the impetus for
7 us saying we needed to get criteria for how we
8 would look at surrogate data in this, the use
9 of surrogate data in this program for, you
10 know, for primary dose reconstruction.

11 MEMBER BEACH: Jim, this is Josie.
12 Thanks for that history review, I appreciate
13 it.

14 CHAIRMAN MELIUS: Yes. Yes, I
15 know, it's a long history, and a lot of time.
16 And a lot of us were familiar, though as I
17 said, this is SC&A sort of refreshing our
18 memory, as well as people that weren't
19 involved with that.

20 So, John, I don't know if you want
21 to briefly go through the report?

22 DR. MAURO: Yes, I will give you
23 the brief overview of what emerges from our

1 work and ask Bill Thurber to give a little bit
2 more detail.

3 When we went through the process,
4 basically providing the information that's
5 necessary that you would use to judge the
6 degree to which the use of surrogate data is
7 consistent with the May 10th draft criteria
8 document on surrogate data, what emerges from
9 that in our comparison, I think, is that there
10 is a favorable comparison in terms -- when I
11 say favorable I mean there is lots of
12 information provided that goes toward each of
13 the issues.

14 The degree to which one concludes
15 that it meets a threshold of acceptability,
16 that's a better way to say it, is certainly a
17 judgment call, especially with regard to
18 plausibility.

19 So at the end of our analysis, I
20 think there are two important things where a
21 degree of judgment is called for. With regard
22 to plausibility, in our mind, there is very
23 little doubt that the concentrations -- oh, by

1 the way, the essence of, of the use of
2 surrogate data at Bethlehem Steel really boils
3 down to, in the early years at Bethlehem
4 Steel, there was very little or no data on
5 airborne dust loadings. And it was an
6 important time, when they were very, when
7 there was some uncertainty about how much
8 actual machining of uranium took place,
9 especially in 1949, whether any machining took
10 place, and the degree to which it took place.

11 Nevertheless, it was necessary to
12 -- it was determined that, yes, we will try to
13 reconstruct the doses to workers that might
14 have been there in 1949 when there was, there
15 might have been some machining going on of
16 uranium at Bethlehem Steel.

17 How we go in to place the
18 plausible upper bound, that was the challenge
19 to NIOSH. And what NIOSH did is drew from
20 Simonds Saw at the source of air sampling
21 data. And when we reviewed it then, at the
22 time when it came up, and again now, from the
23 new perspective of now having some criteria in

1 front of us, the -- it is very clear that the
2 dust loadings that were experienced by Simonds
3 Saw, in the early years especially, before
4 they instituted controls of any substance,
5 represents some very, very high concentrations
6 of dust, concentrations that certainly would
7 appear to be bounding, and for any conditions
8 that might have been encountered for rolling
9 operations at the place, at Bethlehem Steel in
10 the early years.

11 So we concluded that, yes, the air
12 dust loadings from Simonds Saw certainly
13 bound. Now, the question of plausibility
14 comes in. Are they so high, and were the
15 conditions so different, that it's really --
16 it could not have been that high, and it does
17 not meet the test of plausibility. And we
18 left at, we were not conclusionary regarding
19 that in our latest report. We just tried to
20 place all the information before you as best
21 we could.

22 I think we are conclusionary that
23 there is no doubt that the Bethlehem Steel --

1 that the Simonds Saw air dust loadings are
2 high end values, and certainly bound any
3 exposures that workers at Bethlehem Steel
4 might have experienced in those early years.
5 Whether or not those are plausible and you
6 consider that to be over, now we are getting
7 into a, very much a subjective judgment of
8 degree of plausibility.

9 I would like to say, though, that
10 when we sort of put other sites through a
11 similar test, this is -- the use of the data
12 in this capacity is not, does not stand out as
13 being clearly implausible, as compared to
14 other places where surrogate data were used.

15 In other words, in the past,
16 surrogate data was used in many settings. And
17 in each one of those settings where it was
18 used, one could always raise the questions:
19 was it bounding, and was it plausible. There
20 was nothing about this that one would say it
21 stood out as being some, you know, really off
22 the charts in terms of plausibility. It was
23 very much within what I would consider to be

1 the envelope that we have experienced in the
2 past.

3 So that was the one place where,
4 you know, an important, I guess, aspect of
5 what our report has to say. The other part
6 that is important that we felt, I guess,
7 really did not pass the plausibility test as
8 we -- not plausibility, the surrogate data
9 criteria test that we now have before us, has
10 to do with the way in which dust loadings were
11 determined for when cutting the cobbles.

12 One of the steps that took place
13 during Bethlehem Steel operations is, these
14 rods got tangled up and they needed to be cut.

15 And it is recognized that that cutting
16 operation could result in airborne dust
17 loadings. In the later years, let's say
18 around 1952, that had a greater potential than
19 the dust loadings from rolling operations. So
20 you could almost envision that, no longer were
21 the rolling operations the limiting process,
22 because of improvements in the way in which
23 the rolling operations took place.

1 And all of a sudden, it turns out
2 there were other things going on at Bethlehem
3 Steel that may have all of a sudden become
4 more-- had a greater potential. And it was
5 judged that these cutting of the cobbles might
6 very well be a dust loading that could be even
7 more severe than the dust loadings one would
8 experience in the later years at Bethlehem
9 Steel. And we found that that particular
10 operation really did not meet the criteria,
11 the full array of criteria.

12 So I would say the outcome of our
13 investigation is that one aspect of the use of
14 surrogate data was the one place where it did
15 not fully meet or did not meet the array of
16 five criteria that have been set forth now in
17 the draft.

18 So, I mean, that's what I, that's
19 what I walk away with, with our, the work
20 we've done to date. We certainly can answer
21 any questions, and Bill, please feel free to
22 clarify or amplify anything that I just said.

23 MEMBER MUNN: This is Wanda. I

1 have question, first thing. As I was reading
2 through the document, I kept trying to imagine
3 why cutting the cobbles with a torch would be
4 a major concern with respect to dust. Now I
5 could imagine if you had a cutting or a
6 grinding operation, but cutting with a torch,
7 why is that seen as being a major dust
8 concern?

9 DR. MAURO: I'll take the first
10 cut at it. All torch cutting generates fumes
11 --

12 MEMBER MUNN: Yes, yes, I know.

13 DR. MAURO: So it's really not a
14 particle, it's more of a fume.

15 MEMBER MUNN: Right.

16 DR. MAURO: And these are very,
17 very fine particles, and in the analysis,
18 certain assumptions were made of the particle
19 size, which I believe does have some basis in
20 knowledge of what kinds of particles are
21 generated when you cut, when you go through a,
22 use an arc cutting, technique.

23 As far as the dust loading, that's

1 where -- or the fume loading, that's where,
2 you know, there really is not very much
3 development of the degree to which it meets
4 the criteria. And where we said that, unlike
5 the other places where surrogate data were
6 used, where there was a great deal of
7 development, why was reasonable, or if not
8 bounding, to use the data from Simonds Saw,
9 the assumptions that were used for that
10 particular exposure scenario were not
11 developed as well.

12 DR. MAKHIJANI: This is Arjun.
13 Could I amplify on that, unless Bill Thurber
14 wants to amplify on it first, since he was the
15 author of this? Bill, are you on the line?

16 (No response.)

17 DR. MAURO: Bill may have had to
18 step away.

19 DR. MAKHIJANI: Okay.

20 DR. MAURO: Let me, can I, excuse
21 me, let me just interrupt, when we -- before
22 the call, Bill, before this call, Bill called
23 that he would be on at 1:00, but he was going

1 to be calling from a doctor's appointment
2 office, and he may have to stay away. So
3 apparently he stepped away.

4 DR. MAKHIJANI: I was involved in
5 working on this question when we were
6 reviewing the Site Profile, and I think, I
7 think there's some more work that was done
8 than what's just been described. I mean,
9 there were two aspects to coming up with the
10 air concentration of this.

11 One was the work done by two
12 consultants to SC&A as to how much dust
13 loading can there be in a room and have people
14 still work there for long periods of time, for
15 the work day. And that was about thirty
16 milligrams per cubic meter.

17 And the second thing was the
18 number for cutting was derived from stainless
19 steel cutting. There were no -- the
20 hesitation about surrogate data is, there were
21 actually no data for uranium cobble cutting of
22 any kind that went into the calculations. So,
23 you know, stainless steel and uranium are

1 different metals, and of course, their
2 properties, presumably under circumstances of
3 cutting, would be somewhat different. Uranium
4 is pyrophoric, and so on.

5 There had been some discussion as
6 to whether you would ever cut uranium with a
7 torch, although workers testified to that
8 effect. So it was kind of a fairly
9 complicated discussion.

10 CHAIRMAN MELIUS: This is Jim
11 Melius. Just to add, I mean, having spent
12 some time in steel mills and sort of similar
13 heavy industrial facilities, and I will say
14 that, you know, this sort of flame cutting
15 does generate a lot of fumes.

16 MEMBER MUNN: Yes, I understand
17 fume. Fume, however, and -- doesn't translate
18 directly to dust loading. Nor does, I am not
19 sure, there must be data somewhere relative to
20 the difference in what kind of protection one
21 can expect in direct breathing zones that you
22 get in other parts of metal handling, as
23 opposed to cutting operations where one

1 certainly would anticipate that the individual
2 doing the cutting would, at the very least,
3 have a full face mask.

4 So how much of the, of the off gas
5 would be a matter of concern, surely has been
6 looked at, somewhere, sometime.

7 DR. MAKHIJANI: When we -- this is
8 Arjun. When we interviewed the workers, to my
9 memory, and I would go back and actually look
10 at those interviews, there was no indication,
11 and I think that any respiratory protection
12 was worn at Bethlehem Steel.

13 MEMBER MUNN: No, I am not saying
14 respiratory protection, I am just saying full
15 face masks for the welder.

16 DR. MAKHIJANI: Eye protection,
17 maybe, I don't know. The, the fume data are
18 really dust data that appear as fume, because
19 they're very fine dust particles. That's the
20 main difference between the fumes and the dust
21 loadings. So it did in effect, the dust
22 loadings, where the mask is concerned, but you
23 see it differently.

1 MEMBER BEACH: Well, a fume is a
2 particulate.

3 DR. MAKHIJANI: Yes.

4 DR. MAURO: In fact, I believe
5 NIOSH, and certainly confirm this, used a much
6 smaller particle size --

7 MEMBER MUNN: Sure --

8 DR. MAURO: In that particular
9 part of the analysis. To reflect the fact
10 that fumes generally are finer. But the -- as
11 Arjun pointed out, information, as it applies
12 specifically to cutting these cobbles, you
13 know, the degree to which we have parity that
14 is -- that we can justify that it works well
15 as surrogate data, you know, that's where we
16 found it weak. I mean, where we found that,
17 unlike the other aspects of the use of
18 surrogate data, where there was a great deal
19 of technical development, of why it was
20 appropriate to use the surrogate data, this
21 particular aspect, this particular scenario,
22 that's one of the places where we felt --

23 MEMBER MUNN: We do have clear

1 information, do we not, regarding the number
2 of cobbles? That would have been a major
3 production issue.

4 DR. MAKHIJANI: Yes, I think NIOSH
5 actually had a table in its --

6 MEMBER MUNN: I seem to recall
7 that at one time we discussed the fact that
8 the number of cobbles was relatively low,
9 which would mean that the number of
10 individuals who would be involved in disposing
11 of the cobbles would accordingly, be very low.
12 Okay.

13 DR. MAURO: I think it's important
14 to keep in mind, what happened was, as time
15 went on, and they used salt baths, and they
16 improved the techniques for the rolling
17 operation, and the dust loading, as actually
18 measured with real data, at Bethlehem Steel,
19 as the numbers came down, the possibility
20 emerged that, well, perhaps there were other
21 things that took place at that, those later
22 years, where the dust loading may have been
23 worse for those other activities.

1 And it was judged that it was
2 possible that that cutting of cobbles might
3 have been something important to look at. So
4 that came into the picture as being, perhaps a
5 limiting scenario, when the other scenarios
6 became less important. And so, NIOSH made an
7 attempt to explicitly address that, that
8 aspect of the analysis. And, taking into
9 consideration, I think, the number of cobbles
10 that were cut.

11 But of course, the problem is, to
12 say we've got surrogate data, you know in a
13 perfect world we would have had air sampling
14 measurements taken Simonds Saw of cobbling
15 cutting with these settling torches, but we
16 don't have that data.

17 MEMBER MUNN: Well, in a perfect
18 world, we wouldn't have had cobbles.

19 DR. MAURO: Yes, yes.

20 DR. MAKHIJANI: Let me just say
21 two things. I think, one is, there were no
22 surrogate data of the Board at the time the
23 analysis was done, so, in fairness to NIOSH,

1 and also to much of the interviewing and
2 development of -- you know, that we did during
3 the Work Groups, these numbers as claimant-
4 favorable, which we believe they are, as John
5 has said, were developed outside of the
6 criteria that the Board is working with on
7 surrogate data.

8 So this particular report, as Dr.
9 Melius was explaining, was developed not so
10 much -- so we've reviewed the old claimant-
11 favorability and come out in the same place,
12 more or less come out in the same place. But,
13 there are these additional workplace
14 plausibility questions and in that regard, I
15 want to add one more thing that I think John
16 skipped over in regard to the `48-`49 period,
17 is that, you know, since there is no
18 documentation from the `49-`50 period, since
19 NIOSH just assumed that the claimant-favorable
20 matter from a later document, that rolling had
21 occurred there.

22 So we have no documentation from
23 the time, and so there is no direct comparison

1 possible. So the numbers that were used for
2 assigning intakes in `49-`50 are very
3 claimant-favorable with respect to the dust
4 data from `51 and `52 for Bethlehem Steel.
5 And that should be borne in mind.

6 And then there were some specific
7 similarities between the Simonds process and
8 the Bethlehem Steel process, they were both
9 rolling uranium, they both had rolls, they
10 were somewhat -- they both had poor to no
11 ventilation, but there were some very specific
12 differences, not as a judgment of whether the
13 numbers were claimant-favorable, because we
14 believed they were.

15 But there were some process
16 differences. At Simonds Saw, there were
17 mostly things going on that tended to generate
18 more dust. It was an older mill, uranium was
19 being dragged across the floor. And Bethlehem
20 Steel was a newer mill.

21 So the question arises, that even
22 though the numbers are claimant-favorable, are
23 the similarities enough to justify, or are the

1 differences big enough that you want to make a
2 different judgment call with surrogate data
3 criteria, even though the numbers look very
4 claimant-favorable from everything we know.

5 MEMBER MUNN: Yes, your report
6 covers that very well, Arjun. One of the
7 questions that I may have missed in my re-
8 view is the question of, since cobbles have
9 jumped up to be the bogeyman at Bethlehem,
10 Bethlehem is doing this rolling in `49, `49
11 and `50, if they were at all, on obscure
12 weekends. And Simonds Saw is moving through
13 their process all the time.

14 Do we -- I do not recall, and I
15 didn't go back to look at the Simonds Saw
16 report, with respect to cobbles at Simonds
17 Saw.

18 DR. MAKHIJANI: Well, our original
19 judgment has been that cobbles were much more
20 unlikely at Simonds Saw, though I have not
21 looked for cobble data for Simonds Saw, nor
22 interviewed workers there, and Jim Neton or
23 NIOSH may know.

1 This is partly because of only two
2 rolls, rollers at Simonds Saw and six at
3 Bethlehem Steel, and the Bethlehem Steel
4 throughput, the amount of uranium going
5 through per unit time was significantly
6 greater than at Simonds Saw. But I don't have
7 the numbers from Simonds Saw.

8 MEMBER MUNN: Oh. I thought the
9 reverse was true.

10 MR. THURBER: Arjun, this is Bill
11 Thurber.

12 DR. MAKHIJANI: Hi.

13 MR. THURBER: Hi. I agree with
14 what you said, and I think that the big
15 difference is that at Bethlehem Steel, the
16 transfer of the uranium bars from one mill
17 stand to the next was on, essentially,
18 rollers, and it's -- the cobbles occurred when
19 the transfer of the physical movement of the
20 uranium bar from one mill stand to the next
21 got jammed up.

22 And there wasn't a similar
23 arrangement at Simonds. As I understand it,

1 they basically wrestled the uranium to a mill
2 stand and grabbed it on the other side. And
3 so the probability of having cobbles would be
4 quite small at Simonds as compared to
5 Bethlehem.

6 DR. MAKHIJANI: Yes. And, Ms.
7 Munn, just to clarify one point, the monthly
8 throughput at Bethlehem Steel was lower than
9 the monthly throughput at Simonds Saw. It was
10 75 tons compared to 200 or 300 tons --

11 MEMBER MUNN: Yes, that's what I
12 was going to say.

13 DR. MAKHIJANI: But they were only
14 working one weekend or two weekends a month,
15 something like that, whereas Simonds Saw was
16 working most of the time --

17 MEMBER MUNN: Yes. All of the
18 time.

19 DR. MAKHIJANI: So the per hour
20 throughput through the mill, which is what I
21 was referring to, was greater at Bethlehem
22 Steel. Per hour, not per month.

23 MEMBER MUNN: Yes. But the number

1 of hours was markedly different.

2 DR. MAKHIJANI: Right.

3 MEMBER MUNN: Much lower.

4 MEMBER ZIEMER: But there was--
5 this is Ziemer. There was some cobble cutting
6 at Simonds, is that not correct?

7 DR. MAKHIJANI: We, we haven't, I
8 haven't looked at that. I haven't been
9 involved in our review of Simonds. John, do
10 you know --

11 DR. MAURO: I have to say, I do
12 not recall discussing Simonds Saw cobble
13 cutting. Bill, you were the one who probably
14 looked at this last.

15 DR. GLOVER: Hey, John. This is
16 Sam Glover. I was -- I spoke to the Simonds
17 Saw and Steel workers last week.

18 DR. MAURO: Oh, there you go.

19 DR. GLOVER: There -- as they've
20 described, because it was a hand-run
21 operation, the cobbles didn't occur at
22 Simonds, and so when we spoke to them, there
23 was no equivalent cutting, torch cutting of

1 this material, because they just didn't -- the
2 process was too dissimilar.

3 They certainly would have used,
4 for cutting up material they used a -- they
5 had a cutoff saw. We have pictures of that,
6 the folks who were out with me when they had
7 to cut these materials up, but there was no
8 equivalent process.

9 MEMBER MUNN: Do you have -- do we
10 have any dust data from where they were doing
11 their cutting? That would be informative.

12 DR. GLOVER: There is cutoff saw
13 dusting, yes.

14 CHAIRMAN MELIUS: This is Jim
15 Melius, a few comments, just --

16 COURT REPORTER: I'm sorry, who
17 was that before you, Mr. Melius?

18 MEMBER MUNN: That was Wanda.

19 CHAIRMAN MELIUS: That was Sam --

20 MEMBER MUNN: And Sam --

21 CHAIRMAN MELIUS: And before that
22 Sam Glover. That was the new voice.

23 COURT REPORTER: Thank you.

1 CHAIRMAN MELIUS: That new voice
2 was Sam Glover, I believe. Just -- they're
3 not all to the same subject, but one is just a
4 reminder that, not only did we not have sort
5 of surrogate data criteria under development
6 at the time we did Bethlehem, we didn't have
7 SEC regulations, so when we were dealing with
8 Bethlehem Steel we were, I would say,
9 struggling to try to fit it into the dose
10 reconstruction process at the time, and the
11 only way that it seemed -- appeared to be
12 feasible for doing that in any way was through
13 the use of the Simonds Saw data.

14 So we didn't know if there were
15 other data, and whether or not we would have
16 handled it differently, you know, if it had
17 been first considered afterwards, you know,
18 it's just speculative.

19 The second comment I have is that,
20 what does strike me in comparing the two
21 facilities, is, that there are, there are
22 differences. And I think it points to how,
23 you know, differences, and the type of mills,

1 I mean, they're both rolling 16 inch versus
2 10, different operations and so forth, and
3 what strikes me, is how difficult it is to
4 compare these facilities in the way that we
5 want to be able to compare them. Now, as I
6 say, it can't be done, but it is, I think,
7 difficult.

8 And the third comment was really
9 just a follow up to what Wanda just said, is,
10 you know, I -- ideally, even if we didn't
11 have, you know, uranium data, or whatever,
12 whatever we were looking at in these
13 situations, there might be other data that
14 would help us to, you know, dust data, or
15 whatever, to compare these two facilities, and
16 have a general idea under, you know, similar
17 operations, would they, you know, lead to
18 similar exposures.

19 And though my fear is that, that,
20 you know, there wasn't, in this industry, and
21 particularly in this time period, there was
22 not a lot of routine monitoring done, because
23 there weren't the kind of regulations we have

1 today, and even today, unless you are trying
2 to regulate -- you're regulating specific
3 exposure, there isn't a lot of other
4 monitoring that would be done.

5 And I just think it's going to be,
6 it is going to be very difficult to try to,
7 you know, this workplace plausibility, how
8 similar are these two facilities, how similar
9 will the exposures be, is, is difficult.

10 MEMBER BEACH: Jim, this is Josie.
11 Is the difference in the ventilation a very
12 large factor in this, also? Between the two
13 facilities?

14 CHAIRMAN MELIUS: I am not
15 familiar with, with Simonds Saw. We've --
16 with Bethlehem, our discussion since I think
17 it's in the tables, said there was relatively
18 little ventilation, particularly during the
19 period when these operations took place.

20 DR. NETON: This is Jim Neton.
21 The ventilation -- the data that we used at
22 Simonds Saw was the very earliest data before
23 they updated their program and installed

1 ventilation. They did have one small hood
2 over what they called the quenching station.
3 Outside of that there was no active
4 ventilation in Simonds Saw, and the workers
5 attest that there was no ventilation at
6 Bethlehem Steel -- no active ventilation.

7 DR. MAKHIJANI: Particularly in
8 regard to ventilation, Jim is exactly right.
9 We found that they were pretty much
10 comparable. One had a little bit of
11 ventilation, but not over the rolling stations
12 and --

13 MEMBER BEACH: Oh, okay.

14 DR. MAKHIJANI: They were
15 comparable in regard to ventilation. I mean,
16 the physical arrangement, you know, one was a
17 rather larger building and room at Bethlehem
18 Steel, and Simonds Saw was much more
19 constrained and a smaller place. And so, they
20 weren't exactly comparable in terms of how
21 they were arranged, but the ventilation wasn't
22 a huge difference, I don't think.

23 MEMBER MUNN: The question seems

1 to boil down to the plausibility of the
2 activities surrounding the cobble sawing
3 issue, and if there --

4 (Whereupon, a momentary
5 interference in the connection rendered the
6 participant's statement inaudible.)

7 MEMBER MUNN: I'm not hearing
8 that.

9 CHAIRMAN MELIUS: Yes, I'm not --
10 a bad connection.

11 MEMBER MUNN: I can't hear that at
12 all.

13 MEMBER ZIEMER: This is Ziemer. I
14 can't understand that last comment, either.

15 CHAIRMAN MELIUS: I think it's
16 outside interference.

17 MEMBER ZIEMER: Oh.

18 MEMBER MUNN: No wonder we can't
19 understand it. It's worse than the material
20 we are looking at.

21 (Laughter.)

22 MEMBER ZIEMER: This is Ziemer
23 again. Let -- in relation to what Wanda was

1 talking about, let me ask SC&A, do we have any
2 -- the suggestion, I think, was that perhaps
3 torch cutting of the cobbles might generate
4 higher aerosol loads than the other
5 activities. Are you sort of raising that as a
6 possibility, or do we have data from other
7 types of cutting that would suggest that that
8 is, in fact, the case, or is it just raised as
9 a possibility?

10 DR. MAKHIJANI: Dr. Ziemer, the
11 data -- Jim Neton actually worked on a lot of
12 this, so I would defer to him, but there was
13 stainless steel cutting data that went into
14 this, but no, we don't have uranium data.

15 And so far as the surrogate data
16 are concerned, that's sort of the big issue,
17 is we have no uranium data to use. And, while
18 I think we were all in reasonable agreement
19 that the result is claimant-favorable, but the
20 judgment in this context is, what do you do if
21 there is no uranium cutting data.

22 And then, the other sort of issue
23 that is in the report that is a judgment issue

1 for you in the working group and the Board is
2 on page 14, in regard to the workplace
3 comparability for all the various things we
4 were just talking about in response to Josie's
5 questions.

6 MEMBER ZIEMER: Right.

7 CHAIRMAN MELIUS: Any other
8 questions or comments?

9 MEMBER MUNN: No, my -- I would be
10 interested in knowing if, even if it were only
11 one data point that we might have from a
12 physical sawing operation at Simonds, that one
13 data point might be helpful in addressing the
14 plausibility issue.

15 DR. NETON: Wanda, this is Jim.
16 We do have sawing data. My recollection is,
17 it is substantially lower than the thirty
18 milligrams per cubic meter that we have used
19 for the cobble cutting operation.

20 MEMBER MUNN: That was my memory
21 too, Jim. It's one of the reasons why I
22 thought since, since we seem to be focusing on
23 the plausibility of oxy-acetylene torch

1 cutting and actual grinding cutting, it seems
2 that if we took a look at the dust loadings
3 from physical grindings operations, that it
4 would at least give us a point of
5 consideration for the feasibility question.
6 Plausibility is going to end up being a
7 judgment call, in any case.

8 DR. MAURO: Yes, I'd -- this is
9 John. I think that what we have here, is--
10 the way in which we are approaching these
11 problems now, under the new criteria, is this
12 is actually a window that we are trying to
13 create, that says "Okay, it is high enough."

14 The way we are approaching the
15 problem with surrogate data, or with our
16 models, et cetera, is that it is high enough
17 that we feel comfortable that we're -- we've
18 placed a reasonable upper bound on it. All --
19 every worker that worked there. But not so
20 high that it doesn't -- as the words indicate
21 in the write-up. So it's almost a window.

22 MEMBER MUNN: Yes.

23 DR. MAURO: As it both cases, each

1 -- the top of the window and the bottom of the
2 window, is a subjective judgment call, that
3 collectively we have to -- not we, you, have
4 to feel comfortable with. That we've found
5 that window, and that the number that was
6 picked is, you know -- falls within that
7 window, and it's a very difficult judgment.

8 You know, we put upon ourselves
9 requirements, thresholds of acceptability that
10 are difficult. But, you know, we would try to
11 give you the place where, I think the data --
12 here's the data we have, here's where they
13 came, where it comes from.

14 In the case of the cobble cutting
15 is the place where the amount of data and
16 where it comes from -- and that was selected
17 for use -- really went toward placing an upper
18 bound --

19 MEMBER MUNN: Yes --

20 DR. MAURO: That is, picking a
21 number that, you know, everyone would agree,
22 it really can't be higher than that. For the
23 reasons that Arjun just explained.

1 Now, have we gone above the upper
2 end of that window, where was -- you know,
3 that only is an upper bound that really, for
4 that particular operation, is not plausible.
5 And that's the burden that we have placed on
6 ourselves, is that, have we, you know, have we
7 gone too high.

8 And I think that there are other
9 circumstances where we are running into that.

10 So plausibility has put, has put this, made
11 this an appropriate challenge, but it is quite
12 a challenge.

13 CHAIRMAN MELIUS: But I would go
14 beyond that, because I think that there is
15 also, with a surrogate data issue, a sort of
16 an additional criteria, a related criteria,
17 which is, are these two facilities so
18 different, and the kind of, you know, data we
19 have to compare the two facilities so meager,
20 that we just can't tell whether or not that,
21 that upper bound is, you know, plausible.

22 MEMBER MUNN: Well, I would
23 propose that the bigger question is not

1 necessarily these facilities, but the
2 materials which are generating the radiation
3 that we are concerned with. As long as you
4 are dealing with similar materials and there
5 is a similar activity going on, then you have
6 a valid basis for comparison, it would seem.

7 CHAIRMAN MELIUS: I strongly
8 disagree, because I believe that the facility
9 and that the way that they are handled can
10 significantly affect the exposures. I mean,
11 there is lots of industrial experience to back
12 that up, and it's -- you know, does it happen
13 all the time? No, but it, there is lots of
14 situations where it, where it does. There is
15 lots of factors that go in, I mean ventilation
16 is sort of the common one but there's lots of
17 others that, that can, and --

18 MEMBER MUNN: Oh, no-one would
19 argue that, Jim. Certainly not. But my point
20 is, unless you are dealing with the same type
21 of materials, and what I've been hearing here
22 today is, we don't have information about
23 cutting uranium in other places, and then I

1 hear, "yes we do have. We are cutting uranium
2 at Simonds Saw, also."

3 So my point is, we need not
4 discard all of the information that we have,
5 simply because the processes are not exact.
6 It's also of enormous importance to be aware
7 that the materials with which you are working
8 are the same. And if we have that, then we
9 have one more step toward defining the
10 plausibility that we need.

11 MEMBER ZIEMER: There is -- this
12 is Ziemer again. There is one other thing
13 that we have in this particular case, because
14 we are in a sense looking back, rather than at
15 a site where we are trying to decide how to
16 move forward. We have a site here that some
17 decisions were made quite a while ago, and
18 dose reconstructions were done.

19 On uranium aerosols, the
20 biological endpoint is lung cancer. In fact,
21 I'm not sure we see, even in the miners,
22 anything that's elevated except lung cancers.
23 Radiobiologists might correct me on that,

1 but my question is, do we have any claimants
2 with lung cancer at this site that haven't
3 been compensated? If that were the case,
4 then we might ask, why not. But it seemed to
5 me, we had a very high rate of, of
6 compensation, which sort of indicates that
7 the issue of scientific, sort of fairness,
8 has been addressed.

9 CHAIRMAN MELIUS: I -- Dr. Ziemer,
10 I would strongly disagree with that, I think
11 that's --

12 MEMBER ZIEMER: With, with what?

13 CHAIRMAN MELIUS: With that as a,
14 as a test for this, whether it is fair or
15 not.

16 MEMBER ZIEMER: Well, what I'm
17 saying is, for example, if you came out with
18 only a few lung cancers being compensated,
19 that might raise the question of whether or
20 not the dust loading that had been assumed
21 were adequate were --

22 CHAIRMAN MELIUS: Okay, I--

23 MEMBER ZIEMER: I think that we

1 all felt at the front end of this, that they
2 were in fact, possibly way beyond what might
3 be really be credible, but maybe not. But,
4 in any event, we thought they were very
5 conservative. And then the test of that in a
6 practical way is, what is, what is the bottom
7 line in terms of the compensation decisions.

8 You know, you can certainly have
9 a, you can have assumptions that are so great
10 that you are going to compensate everything
11 anyway, and they are not really
12 scientifically feasible. I think even SC&A
13 has raised this a few times, that we've
14 overdone it on other sites.

15 But, I'm just thinking of it as a
16 practical point of view, if the fumes were
17 greater, would we have, would we be -- for
18 the cobble cutting -- would we be
19 compensating more lung cancers, that's sort
20 of the question I am asking.

21 CHAIRMAN MELIUS: Well, I think we
22 ended up, I understand your comment better
23 now, but I don't think we've separated out

1 the cobble cutting, I think everyone ends up
2 getting the same --

3 MEMBER ZIEMER: Oh, yes. They do,
4 but I think -- I understood SC&A's suggestion
5 was that maybe the, maybe the numbers that
6 we've assumed are inadequate because the
7 cobble cutting has not been fully taken into
8 consideration --

9 DR. NETON: This is Jim Neton.
10 Just a point of correction. The cobble
11 cutters do receive a different exposure than
12 the general workers. It's more relevant in
13 the 1951 and '52 period, where the actual air
14 measurements that we have are much lower, and
15 so, you know, we assume, I think a two hour
16 per day cobble cutter exposure at 600 times
17 the maximum allowable air concentration,
18 compared to, I think the general plant
19 conditions were somewhere around 20.

20 CHAIRMAN MELIUS: Okay.

21 DR. NETON: In 1949 and '50,
22 though, I think the air concentration at
23 general plant was 550 max, and the cobble

1 cutters received 600, there is almost no
2 difference.

3 CHAIRMAN MELIUS: Yes, okay.

4 MEMBER MUNN: If there were, in
5 fact, cobble cutters going on at that time.

6 DR. NETON: I think there were
7 cobble cutters. Sam has actually talked to
8 the one guy who said he was the cobble
9 cutter.

10 MEMBER MUNN: Yes.

11 DR. NETON: But that's a different
12 --

13 MEMBER ZIEMER: So you are
14 allowing for that, then.

15 DR. NETON: Yes, yes.

16 MEMBER ZIEMER: Okay. I had
17 forgotten that.

18 CHAIRMAN MELIUS: Any other
19 questions? Or, any other -- I mean, all this
20 information, the report and the refreshing of
21 our memories, or being introduced to this
22 site is all very recent, or we just,
23 literally just received -- are there

1 information needs that would be helpful for
2 our meetings next week where we discuss this?

3 I mean, I think we've identified
4 some already, but are there others that
5 anybody hasn't --

6 (No response.)

7 CHAIRMAN MELIUS: And I think
8 NIOSH will also have had an opportunity to
9 look this over and if they have comments by
10 next week -- also, I don't know, Sam or Jim
11 or whoever, the -- was your IG-004 out when
12 you did the-- had that been done by the time
13 you had done your surrogate data criteria?

14 Had that been done by the time--
15 that document been prepared by the time you
16 did the evaluation of the Bethlehem --

17 DR. NETON: No, it was not.

18 CHAIRMAN MELIUS: I didn't think
19 so, so I guess there is some thought that
20 ought to be given to that, as well. It is
21 not --

22 MR. KATZ: Jim?

23 CHAIRMAN MELIUS: Yes.

1 MR. KATZ: Jim, this is Ted. Ted
2 Katz. If this is -- people keep touching on
3 a point that I think I'd like to address,
4 that I don't know that it really has a
5 bearing on Bethlehem Steel per se, given the
6 nature of the discussion that you've had, but
7 it does have a bearing when you are talking
8 about plausibility in general, and I wonder
9 if it wouldn't be a good time for me to
10 address it, since there will be more talks
11 about plausibility as a factor at the Board
12 meeting, too.

13 And that is, and this really just
14 sort of popped out at me when I read the SC&A
15 discretionary report on Bethlehem Steel, this
16 current one that we just received just before
17 this meeting.

18 But at the front end, again, I'm
19 not sure that it actually is operating in the
20 discussion that you're having, but a number
21 of things people have said have sort of
22 touched on this view, which is, SC&A
23 interprets the regulation with respect to

1 plausibility a little bit wrongly. And it's
2 important, I think, although it's subtle, is
3 with -- they talk at times, and then it's
4 come up with a number of you too, with
5 talking about this window, about the
6 plausibility of the dose, or the dose window
7 or whatever.

8 And plausibility, just, just to be
9 clear, what have to be plausible are the
10 circumstances of exposure that are taken into
11 considerations. But, I mean, as all of you
12 scientists know very well, I think, when you
13 are using a model and you are using multiple
14 conservatisms, even though all your
15 circumstances individually can be plausible,
16 to, sort of, the multiplication of those
17 conservatisms, the result, the resulting
18 dose, you know, if you were just to look at
19 that dose and consider the dose, top end for
20 example, that dose itself, you might say,
21 well, no-one's going to encourage that dose.

22 And that's because all of these
23 conservatisms are taking -- are sort of

1 multiplied against each other.

2 And so the only point I want to
3 make clear is, is that, that is not an issue
4 because the reg is not limiting in terms of
5 what happens at the -- comes out of the
6 pipeline in terms of dose. The regulation
7 speaks to the circumstances being plausible.

8 And I, I just think it's important
9 to, to keep that clearly in your minds when
10 you -- should you discuss actual dose levels
11 and whether those are plausible. I don't
12 think that is the issue.

13 MEMBER MUNN: That is a
14 penetrating thought, Ted. And it's one which
15 perhaps should be made for sure at the Board
16 meeting, at the time when we discuss this
17 material.

18 CHAIRMAN MELIUS: I would actually
19 have some pretty serious questions about that
20 interpretation, Ted.

21 MEMBER MUNN: And that's why it
22 needs to be said.

23 CHAIRMAN MELIUS: And I think it's

1 that -- I don't think we've strayed from it,
2 in terms of how we've approached that. In
3 terms of language, we may --

4 MR. KATZ: Well, Jim, the one I'm
5 speaking of is the explanation given at the
6 front end of the SC&A --

7 CHAIRMAN MELIUS: I know, but I'm
8 not familiar with that.

9 MR. KATZ: Again, like I said, I
10 don't know whether it's operationalized in
11 any way in the discussion. I didn't hear it
12 operationalized in the discussion about
13 Bethlehem Steel in specific, specifically.
14 But the language of the reg is what it is,
15 and what's plausible are the circumstances,
16 not, not the dose.

17 MEMBER MUNN: Good again to hear.
18 And ladies and gentlemen, I hate to say
19 this, but I have a plane to catch, and I'm
20 going to have to leave the call. I can't
21 imagine that anyone has anything they would
22 want to ask me, but if you do, now is the
23 time. I am on my way home.

1 MEMBER ZIEMER: Have a good trip,
2 Wanda.

3 MEMBER MUNN: Thank you.

4 CHAIRMAN MELIUS: Have a good
5 trip, Wanda, yes.

6 MEMBER MUNN: Thanks. I will do
7 my best. Good luck. Bye-bye.

8 CHAIRMAN MELIUS: So if there are
9 no more questions from the Work Group, does
10 anybody from the Bethlehem Action Group, I
11 believe it's called, have any comments or
12 questions? I don't know if you are still on,
13 it's been a pretty --

14 MR. WALKER: I am still on, but I
15 have no questions, I'm just listening in.

16 CHAIRMAN MELIUS: Thank you.

17 COURT REPORTER: Who was that?

18 MR. WALKER: Ed Walker Jr.

19 CHAIRMAN MELIUS: Anybody else, I
20 just want to give you the opportunity. And
21 we will be -- this, you know, the Petition
22 Evaluation, the Petition in this discussion
23 will be continued by the full Board, actually

1 a week from today, about the same time. I
2 believe it's on our agenda for the afternoon
3 of next Thursday.

4 MR. WALKER: Yes, I will be there.

5 CHAIRMAN MELIUS: Good. Okay.

6 Any other closing comments, Ted, or anyone
7 from the Work Group?

8 MR. KATZ: No thank you, I'm good.

9 CHAIRMAN MELIUS: Okay.

10 MEMBER ZIEMER: No thank you.

11 Ziemer.

12 CHAIRMAN MELIUS: Okay. If not,
13 we can adjourn and I guess we'll see everyone
14 in Niagara falls next week.

15 MEMBER ZIEMER: Very good. Thank
16 you.

17 MR. KATZ: Thank you, everybody.

18 (Whereupon, the above-entitled
19 matter went off the record at 2:14 p.m.)

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