

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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LINDE CERAMICS WORK GROUP

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WEDNESDAY,
SEPTEMBER 2, 2009

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The Work Group meeting convened,
at 9:30 a.m., in the Zurich Room of the
Cincinnati Airport Marriott Hotel, 2395
Progress Drive, Hebron, Kentucky, Genevieve
Roessler, Chair, presiding.

PRESENT:

GENEVIEVE S. ROESSLER, Chair
JOSIE BEACH, Member
MICHAEL H. GIBSON, Member*

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ALSO PRESENT:

TED KATZ, Designated Federal Official
NANCY ADAMS, NIOSH Contractor*
ISAF AL-NABULSI, DOE*
TERRIE BARRIE, ANWAG*
ANTOINETTE BONSIGNORE, Linde Petitioner
NICOLE BRIGGS, SC&A*
CHRIS CRAWFORD, NIOSH OCAS
LARRY ELLIOTT, NIOSH OCAS
EMILY GUNN, GAO*
MONICA HARRISON-MAPLES, ORAU Team*
EMILY HOWELL, HHS
JOHN MAURO, SC&A*
STEVE OSTROW, SC&A
LAVON RUTHERFORD, NIOSH OCAS
MUTTY SHARFI, ORAU Team

*Present via telephone

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

9:31 a.m.

MR. KATZ: Good morning.

This is Ted Katz. I'm the Acting Designated Federal Official to the Advisory Board on Radiation and Worker Health. This is the Linde Work Group. We are convening.

We are going to begin with roll call, as usual, starting with Board members in the room.

For everyone that is agency-related, please also state your conflict-of-interest situation. Thank you.

So beginning with the Chair.

CHAIR ROESSLER: I'm Genevieve Roessler. I'm Chair of the Linde Work Group of the Advisory Board on Radiation and Worker Health, and I have no conflicts.

MEMBER BEACH: Josie Beach. I am an Advisory Board member, and I have no conflicts.

MR. KATZ: And then Jim Lockey,

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1 for the record, is not available for this
2 meeting.

3 And on the phone?

4 MEMBER GIBSON: Mike Gibson, Board
5 member, no conflict.

6 MR. KATZ: Welcome, Mike.

7 And that does it for Board
8 members. Do we have any other Board members
9 on the phone who are not part of the Work
10 Group?

11 (No response.)

12 And then, for in the room,
13 starting with the NIOSH/ORAU Team.

14 MR. ELLIOTT: Larry Elliott,
15 Director of the Office of Compensation
16 Analysis and Support. I have no conflicts
17 with Linde.

18 MR. RUTHERFORD: LaVon Rutherford,
19 Special Exposure Cohort, Health Physics Team
20 Leader for the Office of Compensation Analysis
21 and Support, and I have no conflicts.

22 MR. CRAWFORD: Chris Crawford.

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1 I'm a Health Physicist with OCAS, since
2 everybody else said the long form.

3 (Laughter.)

4 And I have no conflicts.

5 MR. KATZ: And on the line? Oh,
6 I'm sorry. Mutty Sharfi, sorry.

7 MR. SHARFI: Mutty Sharfi, ORAU
8 Team. I have no conflicts with Linde.

9 MR. KATZ: Sorry about that.
10 Thank you.

11 And on the line? NIOSH/ORAU Team,
12 any?

13 MS. HARRISON-MAPLES: Yes. This
14 is Monica Harrison-Maples. I'm ORAU Health
15 Physicist, Team Lead. No conflicts.

16 MR. KATZ: Welcome, Monica.

17 MS. HARRISON-MAPLES: Thank you.

18 MR. KATZ: Okay, and then in the
19 room, SC&A?

20 DR. OSTROW: Steve Ostrow, Linde
21 Leader for SC&A. No conflicts.

22 MR. KATZ: And on the line, SC&A?

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1 DR. MAURO: John Mauro, SC&A. No
2 conflicts.

3 MS. BRIGGS: Nicole Briggs, SC&A.
4 No conflicts.

5 MR. KATZ: Welcome, both of you.
6 Okay, then other federal employees
7 or contractors, beginning in the room?

8 MS. HOWELL: Emily Howell, HHS.

9 MR. KATZ: Welcome, Emily.
10 And on the line?

11 MS. ADAMS: Nancy Adams, NIOSH
12 contractor.

13 MR. KATZ: Welcome, Nancy.

14 MS. AL-NABULSI: Isaf Al-Nabulsi,
15 DOE.

16 MR. KATZ: Welcome, Isaf.

17 MS. AL-NABULSI: Thanks.

18 MR. KATZ: And we have a crying
19 child on the line, too, I think. That's not a
20 federal employee.

21 (Laughter.)

22 And members of the public or staff

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1 of congressional offices, we'll start in the
2 room with a petitioner.

3 MS. BONSIGNORE: Antoinette
4 Bonsignore, Linde Ceramics, SEC petitioner.

5 MR. KATZ: Welcome.

6 And on the line, do we have any
7 petitioners, members of the public, or staff
8 of congressional offices who would like to
9 identify themselves?

10 MS. GUNN: Emily Gunn, GAO.

11 MR. KATZ: Emily, welcome.

12 MS. GUNN: Thank you.

13 MS. BARRIE: This is Terrie
14 Barrie, ANWAG.

15 MR. KATZ: Welcome, Terrie.

16 MS. BARRIE: Good morning.

17 MR. KATZ: Okay, I think that
18 takes care of participants for now.

19 Let me just remind the folks on
20 the phone to please mute your phone, except
21 when you're addressing the group. And if you
22 don't have a mute button, use *6, and then to

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1 come back off mute, hit *6 again. And if you
2 need to leave the call, please don't put it on
3 hold. Just disconnect and call back in.
4 Otherwise, it will interfere with the call.

5 Okay, having taken care of that,
6 then let me just also make notice: one of the
7 petitioners has sent a letter with information
8 about renovation that went on at Linde.
9 She's, I guess, not on the line right now, but
10 she did not give me express permission to read
11 her statement. She sent it addressed to the
12 Work Group members, and I have distributed it
13 to the Work Group members and the supporting
14 staff.

15 So we'll try to check back in with
16 her later, if she wants me to read this
17 statement into the record, but certainly the
18 participants have it in hand, except for the
19 other petitioner, at this point. So I just
20 wanted to make note of that.

21 Gen, it's all yours.

22 CHAIR ROESSLER: Thanks, Ted.

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1 Thank you, everybody.

2 Welcome, Antoinette. I'm glad you
3 could be here with us.

4 Everyone should have received an
5 agenda. We sent it out by email on Monday.
6 And if you don't have it, we have hard copies
7 here. So, if you need an agenda, just let us
8 know.

9 So we'll start out, then, with
10 Chris Crawford, who is ready to talk about the
11 SEC 107 petition evaluation report.

12 MR. CRAWFORD: I didn't want to
13 turn the slide projector on when everybody was
14 introducing themselves. It's a little loud.
15 It will be up here in a minute.

16 MR. KATZ: Someone on the line, if
17 you could just mute your phone, *6? Thank
18 you. Someone on the line has a child, and if
19 you could mute your phone, please? Use *6 if
20 you don't have a mute button. Thank you.

21 Okay, we are starting up.

22 Chris?

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1 MR. CRAWFORD: So just a brief
2 review, especially for those on the phone who
3 can't see the slides.

4 The petition was received on March
5 3rd, 2008. The proposed class definition was
6 all employees in all locations who worked for
7 the Linde Ceramics plant, Tonawanda, New York,
8 from January 1st, 1954 to July 31st, 2006.

9 NIOSH qualified the petition on
10 July 2nd, 2008 because there were no external
11 or internal monitoring records for the class
12 itself.

13 The DOE facility database
14 indicates October 1st, 1942 through December
15 31st, 1953 as the covered period for the Linde
16 Ceramics plant.

17 The class evaluated by NIOSH was
18 all DOE and AWE employees who performed Atomic
19 Energy Commission work at Linde Ceramics plant
20 in Tonawanda, New York, from January 1st, 1954
21 through July 31st, 2006.

22 As I think everybody has figured

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1 out by now, Linde Ceramics plant is located in
2 Tonawanda, New York. It is a division of
3 Linde Air Products Corporation. There have
4 been developments since then. I believe it
5 has now been taken over by Praxair, that
6 facility.

7 Linde Ceramics, prior to World War
8 II, had a history of handling uranium
9 compounds. They produced U308 and used it as
10 the basis for dyes for ceramic glazes. Many
11 famous radioactive plates were made at that
12 time.

13 In 1942, however, Linde Ceramics
14 contracted with the Manhattan Engineering
15 District to process uranium ores to produce
16 uranium oxides, and later green salt, in a
17 three-step process.

18 In the thirties, the original
19 Building 14, which was known as the Tonawanda
20 Laboratory of Linde Air, and was owned by
21 Union Carbide -- there's a lot of history
22 among these companies -- produced U308, as I

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1 mentioned, as a coloring agent for ceramic
2 glazes. They handled a lot of ores and they
3 produced 80 tons of U308. That's before the
4 MED period.

5 Building 14 has been designated an
6 AWE facility beginning in 1942. In 1942 and
7 thereafter, the MED erected several other
8 buildings, 30, 31, 37, and 38, at the site,
9 which became known as the Linde Ceramics
10 plant.

11 The MED contracted for the
12 processing of uranium ores into green salts in
13 a three-step process, extending from October
14 1st, 1942 through June 30th, 1949.
15 Decontamination and decommissioning was done
16 between July 1st, 1949 and July 7th, 1954,
17 with most of the work done in 1949 and 1950.

18 In terms of available information,
19 I will go through these fairly quickly. We
20 have the ORAU Team site profiles and Technical
21 Information Bulletins and procedures. We did
22 interviews with former employees, Linde

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1 employees.

2 We had existing claimant files.
3 We have documentation provided by the
4 petitioner. We have the NIOSH site research
5 database, and we have done a series of data
6 captures.

7 Those efforts, the data capture
8 efforts, have included Linde Air Products
9 Corporation, the U.S. Atomic Energy
10 Commission, the Formerly-Utilized Sites
11 Remedial Action Program, FUSRAP, which
12 provided data for the residual period; the Oak
13 Ridge National Laboratory records; the DOE
14 Open Net OSTI database.

15 We did an internet search. We
16 have the DOE Comprehensive Epidemiological
17 Data Resource, CEDR, and various DOE
18 locations.

19 In terms of history of the site,
20 beginning in June 1943, the plant began step-
21 one processing of various ores. Most of the
22 processing was on domestic ores. However,

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1 some African ores were also used.

2 Those ores were processed into
3 U308. About 26,000 metric tons of ore were
4 processed into about 2,300 tons of U308. The
5 step-one processing, which is the name for
6 this operation, was conducted until July 31st,
7 1946. So, after July of 1946, there were no
8 more ores in use at Linde. That has no
9 relevance to the petition at hand, but it does
10 have some relevance for the TBD.

11 Then step-two processing began,
12 which was to convert the U308 eventually into
13 U02. That occurred through March of 1944. It
14 occurred simultaneously with the ore
15 processing.

16 Then, for reasons that I'm not
17 clear about, they stopped producing U02 at
18 Linde and, instead, sent the U308 offsite and
19 allowed it to be converted offsite. Then it
20 was shipped back to Linde in drums as U02.
21 So, after 1946, only U02 was used as a source
22 material.

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1 Then step-three processing
2 converted the UO2 into green salt, which is
3 UF4. Most of the UO2 was shipped to Linde
4 from other sites, as I mentioned, in drums.
5 The step-three processing ended by June of
6 1949, and then D&D was done July 1949 through
7 July 1954.

8 There's some overlap of periods
9 here. Some people may know the SEC petition
10 begins on January 1st, 1954, but the actual
11 turnover of the building from the AEC to Linde
12 occurred in July of 1954.

13 What we did in the TBD for that
14 was to basically give the higher
15 decontamination and decommissioning exposures
16 to workers who were onsite through July of
17 1954. After that, we are into what is the
18 residual period.

19 Potential radiation exposures
20 during the class period, this is the residual
21 period, we also call it. For internal sources
22 of exposure, there was radon exposure present

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1 because some of the concrete surfaces of the
2 building had contamination on the surfaces by
3 uranium, and including uranium progeny. That
4 means there was radon emitted from those
5 surfaces.

6 Then we know that, during
7 renovation work in Building 30 in the 1960s,
8 airborne contaminants, at least there was the
9 potential for the release of further airborne
10 contamination if the walls and floors were
11 drilled into or abraded in any way.

12 We do have some -- it's not on the
13 slide -- but we do have some contracts for
14 renovation during that period, including plans
15 which are dated from 1962 to 1967. We are
16 going to do a little more research into
17 exactly what was done.

18 Then we have residual airborne
19 radioactive contaminants throughout the
20 residual period. These would have been -- I
21 don't want to prejudge the thing -- but
22 relatively low-level. In other words, the

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1 fixed contamination that was left after the
2 decontamination of the walls and the floors
3 would still have permitted some airborne
4 material to arise from normal use in the
5 building.

6 For external sources of exposure,
7 we have photon and beta exposure from the
8 residual uranium contamination of the
9 surfaces. Neutrons were not a significant
10 source of external exposure to Linde site
11 personnel.

12 I will note, parenthetically, that
13 there was no enriched uranium on the site.
14 They went from ores and oxides at natural
15 levels of U235.

16 Personal and area monitoring data
17 for the class period: because the AEC turned
18 the building over to Linde without limit,
19 essentially -- they said the building's been
20 decontaminated, it's yours -- we have no
21 bioassay data. There was no reason at the
22 time for anybody to be monitored internally or

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1 externally. Then that is why there is no such
2 data.

3 The next bullet point is, I
4 noticed later, not completely correct. We
5 have general area and breathing zone air
6 samples during the decontamination period.
7 Now those would have been much higher than
8 during the residual period. In other words,
9 there were people who were sandblasting and
10 chipping and vacuuming to get the contaminated
11 material out. So we do have records from that
12 time of what the airborne contamination levels
13 were.

14 Later, we had, under the FUSRAP
15 program, we had various visits to the site.
16 There was an ORNL visit in 1976 where radon
17 measurements were taken, and also, we have one
18 general air sample in Building 30, which was
19 the most contaminated building on the site.

20 Then, later again, in 1981,
21 another survey was done of radon sampling,
22 particularly.

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1 Finally, there was another
2 remediation period from the FUSRAP people in
3 the mid-nineties and I believe the late
4 nineties, too. There's two little split
5 periods there where we do have some breathing
6 zone data, but, again, that is for
7 decontamination workers, not exactly for the
8 general use of the building. But that is what
9 we have to work with.

10 On external monitoring data, we
11 have no film badge or pocket dosimeter data at
12 all except during the remediation work by the
13 FUSRAP workers rather than the Linde workers
14 themselves.

15 There were no area radiation
16 surveys done during the residual period that
17 we are aware of, again, other than perhaps
18 FUSRAP, when they were trying to complete the
19 remediation work.

20 The evaluation process is very
21 familiar to the people in this room. There's
22 a two-prong test established by EEOICPA and

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1 incorporated into 42 CFR 83.13(c)(1) and 42
2 CFR 83.13(c)(3).

3 The first is, "Is it feasible to
4 estimate the level of radiation doses of
5 individual members of the class with
6 sufficient accuracy?" If the answer to that
7 is yes, we don't have to answer the second
8 question. If the answer is no, then the
9 second question is, "Is there a reasonable
10 likelihood that such radiation dose may have
11 endangered the health of members of the
12 class?"

13 In brief, our finding is that the
14 available monitoring records, process
15 descriptions and source term data are adequate
16 to complete dose reconstructions with
17 sufficient accuracy for the evaluated class of
18 employees.

19 So we answered the first question
20 yes, and we won't be answering the second
21 question today.

22 Now the feasibility approach, for

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1 internal doses, we have intakes derived from
2 lognormal distributions for breathing zone and
3 general area air samples. That, again, is
4 from the decontamination period. We would use
5 those to limit the possible dose received for
6 the entire residual period, and in particular,
7 those will form the basis, the overall basis,
8 for any periods of construction and remodeling
9 at Linde in the sixties, as I mentioned
10 earlier. A geometric mean and standard
11 deviation were established for those
12 measurements.

13 Then we have a breathing zone --
14 well, as I just said, breathing zone data can
15 be, geometric mean and standard deviation can
16 be used to bound the internal exposure.

17 The ingestion intakes are derived
18 from deposition and resuspension factors
19 defined in TBD-6000 and TBD-6001.

20 The external exposures can be
21 bounded by using the results of surface
22 contamination measurements at the end of the

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1 D&D period and during FUSRAP activities.
2 There we have quite a few measurements,
3 contact measurements, for the fixed
4 contamination at the site.

5 Our feasibility summary is, for
6 the SEC period, it is feasible to do internal
7 dose reconstruction. It is feasible to do
8 that with uranium and its progeny. It is
9 feasible to do it with radon. It is feasible
10 to do external dose reconstruction, including
11 both gamma and beta sources.

12 So NIOSH's recommendation for the
13 period of January 1st, 1954 through July 31st,
14 2006, NIOSH finds that radiation dose
15 estimates can be reconstructed for
16 compensation purposes.

17 I'm through with the slides. I
18 will turn this noisy machine off.

19 CHAIR ROESSLER: Are there any
20 questions?

21 (No response.)

22 That was a nice presentation,

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1 Chris, to bring us all up-to-date on things.
2 I do have one question. It is probably in the
3 documentation, but I don't remember.

4 Why was the period brought up to
5 January 1954 instead of July 1954, the
6 beginning of the period? Why was January
7 picked? And how did that happen? That was
8 not the petitioner's data, I assume?

9 MR. CRAWFORD: No. I think we
10 found later that, when we reviewed all the
11 records, it is not so much that more
12 decontamination work was done, but the actual
13 signover of the building from AEC to Linde was
14 July 7, 1954.

15 We had decided that we would not
16 revise the SEC petition dates for that period,
17 but that if we ended up doing dose
18 reconstructions for the period, that we would
19 use the higher decontamination levels for that
20 period, because we don't know exactly who did
21 what during that final --

22 CHAIR ROESSLER: So the original

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1 SEC petition did have it as January?

2 MR. CRAWFORD: I believe so.

3 CHAIR ROESSLER: Okay.

4 MR. CRAWFORD: And that is what we
5 originally believed, until we got further
6 documentation.

7 MEMBER BEACH: Chris, I have a
8 question. You may not know the answer to
9 this. It's not part of this period, but it
10 says that 00127 is for preparing
11 qualification. Do you know what the dates for
12 that one is going to be?

13 MR. CRAWFORD: Oh, I didn't even
14 mention that, but 127 was merged into --

15 MEMBER BEACH: One two seven was
16 merged?

17 MR. CRAWFORD: It was merged into
18 107.

19 MEMBER BEACH: Okay. I thought
20 112 was merged.

21 MR. CRAWFORD: That was also
22 merged into 107.

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1 MEMBER BEACH: Okay.

2 MR. CRAWFORD: I should have
3 mentioned that.

4 MEMBER BEACH: Then this is
5 incorrect. It says, "preparing", "preparing
6 qualification." So all three of those are --

7 MR. CRAWFORD: They are --

8 CHAIR ROESSLER: That is an
9 older --

10 MEMBER BEACH: That is an older
11 one?

12 MR. CRAWFORD: Yes.

13 CHAIR ROESSLER: This has been
14 updated, I think.

15 MEMBER BEACH: What is the update
16 date? I looked and I couldn't find anything
17 more recent.

18 MR. RUTHERFORD: Actually, when
19 that report was issued, Linde was not, that
20 petition was not merged yet. So, when that
21 report was issued, it was not merged at that
22 time.

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1 MEMBER BEACH: Okay.

2 MR. RUTHERFORD: That is why it is
3 127.

4 MEMBER BEACH: Okay. When you go
5 look at Linde, it is quite confusing.

6 MR. CRAWFORD: Yes.

7 MEMBER BEACH: That is all the
8 different things. Okay, so those are all
9 three merged. Thank you.

10 MR. CRAWFORD: I didn't mention,
11 the evaluation report actually came out in
12 November of 2008. We are kind of late in --

13 MEMBER BEACH: Yes. Okay, thank
14 you.

15 CHAIR ROESSLER: It is confusing,
16 and that is why your talk helped. I think in
17 some of Steve Ostrow's documents it also helps
18 because Steve has been very careful in
19 documenting the sequence of things.

20 MEMBER BEACH: Yes. I appreciated
21 that.

22 DR. OSTROW: Chris, so we get it

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1 straight, so I get it straight, so the
2 petition 112 and 127 were merged into 107?

3 MR. CRAWFORD: That's correct.

4 DR. OSTROW: Okay. And also, the
5 106 you looked at and decided it wasn't
6 qualified?

7 MR. CRAWFORD: That is correct.

8 DR. OSTROW: Okay. And there's no
9 more petitions that you know of for Linde out
10 there?

11 MR. CRAWFORD: Not that I know of
12 at the moment.

13 DR. OSTROW: Okay, got it.

14 MR. CRAWFORD: And that certainly
15 covers the entire period between 106 and
16 107 --

17 DR. OSTROW: All right.

18 MR. CRAWFORD: -- that isn't
19 already in a SEC.

20 DR. OSTROW: Yes.

21 MR. CRAWFORD: Now I brought a
22 hard copy of our response to SC&A's critique,

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1 if I may call it that, of the ER. Does anyone
2 need a hard copy? Because I sent it kind of
3 late.

4 MEMBER BEACH: What does it look
5 like? Oh, I got that this morning.

6 MR. CRAWFORD: Right.

7 MEMBER BEACH: Okay. That's fine.

8 MR. CRAWFORD: Anyone need it?

9 MEMBER BEACH: Unless our reporter
10 wants one.

11 DR. MAURO: Chris, this is John
12 Mauro on the line.

13 MR. CRAWFORD: Yes, John.

14 DR. MAURO: What might be helpful
15 -- and it was for me -- is when you were
16 discussing the history of the site, beginning
17 I guess in 1942 to 1949, which is what I
18 would call the operations period, the MED
19 operations period, then there's another time
20 period from 1949 to 1954 that represents a
21 decon period where there was, I guess -- that
22 you described verbally.

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1 Then, after 1954, which is the
2 start of the time period that we are concerned
3 with here in this particular SEC and
4 evaluation report, that goes to 2006. But,
5 within that time period, there were times that
6 you make reference to remediation periods and
7 decontamination periods.

8 What I am getting at is, it might
9 -- I don't know if it is possible, if there is
10 a blackboard there -- I know when I was
11 reviewing this, along with Steve and looking
12 at it, I found it very useful to have like a
13 little timeline of where the different break
14 points were and the time periods, little
15 arrows, you know, when your data were
16 obtained.

17 So you actually have like a nice
18 picture in front of you. Okay, here's the
19 time period of interest. Here's what went on,
20 and here's when we grabbed air sampling data
21 or breathing zone sampling data, et cetera, et
22 cetera.

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1 That sort of sets what I call an
2 overarching view of the different periods and
3 the different kinds of data that you have and
4 when they were obtained. It really helped me
5 to understand places where things might be
6 strong and places where things might be weak.

7 If that is possible, it might really help
8 everyone to sort of just quickly sketch it on
9 a blackboard. I know I have it here in front
10 of me, but if you think that will be helpful.

11 MR. CRAWFORD: I am going to do
12 this to a degree from memory, unless, Bomber,
13 you have that data back?

14 MR. RUTHERFORD: Yes, that is what
15 I was looking to see.

16 MR. CRAWFORD: There is a 1995 to,
17 I think, 1998 period of FUSRAP, and there is
18 one other.

19 But I think where we can start is
20 from, say, July 1st of 1949 to, officially now
21 July 7th of 1954, which overlaps into our SEC
22 period. That is the decontamination period.

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1 We have extensive documentation on
2 that. The Heatherton and Klevin reports,
3 which I know SC&A has reviewed, are pretty
4 thorough for the time.

5 But, after 1954, the very next
6 information we get is in 1976 ORNL came to the
7 site. I believe that was part of the FUSRAP
8 beginning activities. They did a radon survey
9 and an airborne contamination survey. We can
10 comment more on that later.

11 Then, in 1981, we think -- I think
12 the report was 1982, but I think the data was
13 gathered in 1981 -- there was a contractor
14 that came back for FUSRAP, and they did
15 another radon survey. As far as I know, they
16 didn't do airborne at that time.

17 Then, Bomber, was it 1995 to --

18 MEMBER BEACH: Chris, is this on
19 page 17 of 35? I think that is pretty much
20 the same list you are going through.

21 MR. RUTHERFORD: Yes, that is what
22 I am pulling out right now.

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1 MEMBER BEACH: Yes. It is on page
2 17 of your ER report.

3 MR. RUTHERFORD: I can't remember
4 if I had it.

5 MEMBER BEACH: Yes.

6 MR. CRAWFORD: Well, we've got
7 several dates here. I will mention, and I
8 don't know if we need to put them up here, in
9 August of 1981 Building 37 was demolished. So
10 it is no longer in the picture as of August of
11 1981.

12 Then, from 1988 to 1992, we have a
13 FUSRAP remediation period. Now I don't
14 believe that means they were there for four
15 continuous years bothering Linde. But, during
16 that period, they were probably there for
17 various visits.

18 Now, by that late in time, any
19 remediation work done would have been tightly
20 controlled and done with airborne contaminants
21 and people in the buildings, the workers that
22 did the decontamination would have been

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1 monitored, and so forth, unlike the fifties,
2 where it was a little bit sketchier.

3 Then, in 1998 -- again, I won't
4 write it up here -- Building 30 was
5 demolished. So that is out of the picture in
6 1998.

7 Then, in 2004, Building 14 was
8 vacated for demolition, and in June of 2004,
9 it was demolished. So 14 is gone also by that
10 time.

11 Building 31 is now occupied and
12 used for office space at the moment.

13 MEMBER BEACH: You know, Chris, on
14 page 14, it is the activities operations of
15 Linde.

16 MR. CRAWFORD: Yes.

17 MEMBER BEACH: It is the same
18 stuff you are going over. It would be nice if
19 those two tables were combined and it would
20 give us a really good overall picture of both
21 events.

22 MR. CRAWFORD: Right. That is a

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1 building-by-building description --

2 MEMBER BEACH: Yes.

3 MR. CRAWFORD: -- of what was
4 going on.

5 MEMBER BEACH: And when they were
6 demolished.

7 MR. CRAWFORD: Right. Certainly,
8 we could do that.

9 MS. BONSIGNORE: If I could just
10 make a brief comment, Building 31 has actually
11 been demolished.

12 MR. CRAWFORD: Yes.

13 MS. BONSIGNORE: But I believe you
14 just said it was currently being used.
15 Maybe --

16 MEMBER BEACH: Well, it says,
17 "Currently used for maintenance activities,
18 offices."

19 MR. CRAWFORD: Right, Building 31.
20 Sorry. Yes.

21 MS. BONSIGNORE: Thirty was
22 demolished.

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1 MR. CRAWFORD: Thirty was
2 demolished --

3 MS. BONSIGNORE: Right.

4 MR. CRAWFORD: -- and 38.

5 MS. BONSIGNORE: Right, and
6 Building 31 was just demolished this past
7 February.

8 MR. CRAWFORD: Oh, well, that was
9 after the date of the report.

10 MS. BONSIGNORE: Right. Well, I
11 just wanted to clarify that.

12 MR. CRAWFORD: Right. So it's
13 gone, too, now.

14 MS. BONSIGNORE: It's gone, yes.

15 CHAIR ROESSLER: What prompted the
16 ORNL, in 1976, what prompted them to go in and
17 make the measurements?

18 MR. RUTHERFORD: I believe that
19 was driven by the preparation prior to doing
20 FUSRAP, the FUSRAP things. ORNL was
21 contracted by a number of sites or contracted
22 to do that preliminary work for a number of

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1 sites, not just Linde. So that was the
2 driver. We have seen that on quite a few
3 sites.

4 MR. ELLIOTT: Could Linde continue
5 to process uranium in any of this time frame?
6 They stopped processing the uranium after
7 1949?

8 MR. CRAWFORD: As far as we know,
9 yes.

10 MR. RUTHERFORD: Yes.

11 MR. ELLIOTT: So they weren't
12 still making --

13 DR. OSTROW: I think they decided
14 by then it wasn't a good idea.

15 MR. CRAWFORD: Yes.

16 MR. ELLIOTT: So we are talking
17 about the residual contamination from the MED
18 activity --

19 MR. CRAWFORD: That is correct.

20 MR. ELLIOTT: -- and the AEC work,
21 not from any other commercial work at this
22 time?

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1 MR. CRAWFORD: Right.

2 CHAIR ROESSLER: Are there any
3 further questions?

4 MS. BONSIGNORE: I actually have
5 another question. You mentioned, Chris, that
6 there are some contracts that NIOSH is
7 reviewing for the renovation work from 1962 to
8 1968, I believe you said?

9 MR. CRAWFORD: Right, to see if we
10 can further define it. Now those will not be
11 accompanied by any radiation measurements.

12 MS. BONSIGNORE: Right, I
13 understand that.

14 MR. CRAWFORD: Okay. But which
15 buildings were done and when they were done,
16 we are hoping to get that information.

17 MS. BONSIGNORE: Right. How would
18 I get access to those contracts? Would I have
19 to submit a FOIA request?

20 MR. ELLIOTT: Yes.

21 MS. BONSIGNORE: Okay.

22 MR. ELLIOTT: Yes, you would.

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1 MS. BONSIGNORE: And how would I
2 define that request because sometimes it --

3 MR. ELLIOTT: That's a good
4 question.

5 MS. BONSIGNORE: -- becomes
6 problematic?

7 MR. RUTHERFORD: Right. We can
8 help you on that.

9 MR. ELLIOTT: We can help you on
10 that.

11 MR. RUTHERFORD: I will take that
12 action.

13 MS. BONSIGNORE: Okay.

14 MR. ELLIOTT: We can give you the
15 specific titles or the dates of the report --

16 MS. BONSIGNORE: Okay.

17 MR. ELLIOTT: -- that would focus
18 your request.

19 MS. BONSIGNORE: Great. Thank
20 you.

21 MR. CRAWFORD: Needless to say, I
22 haven't seen those documents myself, but ORAU

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1 informed me recently that they have just
2 discovered the documents. So I don't even
3 have the titles myself.

4 MS. BONSIGNORE: In one of the
5 data capture --

6 MR. CRAWFORD: Yes, I believe one
7 that came over recently.

8 MS. BONSIGNORE: Okay. Because I
9 did make a FOIA request for all the data
10 capture efforts that have occurred to date.

11 MR. ELLIOTT: To the date of your
12 request, right?

13 MS. BONSIGNORE: Right.

14 MR. ELLIOTT: I don't know when
15 these came in.

16 MS. BONSIGNORE: Right. Right.

17 MR. ELLIOTT: It may be post-your
18 request.

19 MS. BONSIGNORE: Okay.

20 MR. RUTHERFORD: I will look into
21 that, too, on the dates and see. Either way,
22 I will work with you to get this.

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1 MS. BONSIGNORE: Okay. All right.

2 Thank you.

3 MR. ELLIOTT: The ORAU Team has a
4 continuous data capture effort ongoing, not
5 for this site, but for other sites. We find
6 in some of those situations we get data for
7 other sites.

8 MS. BONSIGNORE: Right.

9 MR. ELLIOTT: It seems like that
10 probably happened here.

11 MS. BONSIGNORE: Okay.

12 CHAIR ROESSLER: I think we should
13 point out, for those who are the phone, that
14 the material that Chris just put on the board,
15 as Josie pointed out, is actually in the
16 petition evaluation report, the November 3rd,
17 2008 one, on page 17. Then, also, on page 14
18 of that report is a good summary of the
19 activities in the various buildings. So we
20 actually do have a paper copy of that
21 material.

22 MEMBER BEACH: That is not really

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1 clear, though. It talks about when these were
2 D&Ded, when they were demolished, and a little
3 bit of what they did, but it doesn't really go
4 into time periods of what happened in between.

5 Like in Building 30, what occurred
6 in Building 30 between 1950, when they D&Ded
7 that building, and 1998, when they demolished
8 it? There's a couple of sentences that say
9 kind of processing, but it is really unclear
10 when that processing occurred.

11 So I guess I am real curious if we
12 can come up with a timeline of exactly what
13 occurred and better answer --

14 MR. CRAWFORD: Do you mean in
15 terms of government activity?

16 MEMBER BEACH: Yes.

17 MR. CRAWFORD: Right.

18 MEMBER BEACH: Because going back
19 and forth, I mean I could probably piece
20 something together.

21 MR. CRAWFORD: Right. Well, I
22 haven't actually seen the FUSRAP documents yet

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1 myself, which would give us a record of what
2 buildings they worked in. Their workers would
3 have been badged for radiation exposure. They
4 would have taken air sample measurements
5 during their decontamination efforts. They
6 would have made measurements before and after.

7 But I don't have that data right now.

8 MEMBER BEACH: Okay.

9 MR. CRAWFORD: That is very late
10 in the period. As you know, most of it was in
11 the late eighties/early nineties. So we will
12 get that data.

13 DR. MAURO: This is John Mauro
14 again.

15 The only reason I brought this up
16 was that I know that you folks have relied
17 heavily on a lot of the data gathered in 1976
18 and 1981, and that data collected in certain
19 buildings during the FUSRAP activities, I
20 believe the FUSRAP activities prior to them,
21 and over the course of remediation work, et
22 cetera, when the FUSRAP took place.

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1 Knowing when those samples were
2 collected and in what buildings and what types
3 of samples were collected, especially if you
4 are going to be relying on it heavily, which I
5 believe you have, for reconstructing exposures
6 from 1954 up to that time period, to a certain
7 degree, you have relied on those data. Having
8 a full appreciation of that data and what
9 buildings that are reflected in the time
10 period, I thought to be very important.

11 You will see, when we actually get
12 into our discussions, those are some of the
13 areas where I think we have some issues.

14 MR. CRAWFORD: Right, and if we
15 find in the FUSRAP data anything that leads us
16 to doubt the earlier data, of course, we will
17 be bringing it up. But we need to evaluate
18 that FUSRAP data at this point.

19 DR. MAURO: But am I correct,
20 though, that when you refer to -- for example,
21 you will see we will get into this, and I'm
22 sorry to do this, jump ahead. We will be

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1 getting into radon measurements made in 1976
2 and 1981. I believe there are some air
3 particulate measurements also made in that
4 time period. I'm not sure that that is FUSRAP
5 data, but it is data collected at that time
6 period, and that was of great use to you in
7 addressing these issues.

8 That is the only reason I brought
9 it up, because I think we are going to be
10 zeroing in on that data and how it is used.

11 MR. CRAWFORD: Yes, understood.

12 CHAIR ROESSLER: Are there any
13 more questions or are we ready for Steve
14 Ostrow's response?

15 MR. RUTHERFORD: I want to qualify
16 one thing, too. The FUSRAP data may or may
17 not have film badge data. Film badge would be
18 depending upon what actual levels of
19 contamination existed and the dose rates, and
20 such. I mean it may warrant it, based on the
21 criteria for badging, that the dose rates were
22 low enough that they would not have badged

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1 people.

2 So I wanted to qualify because,
3 since we haven't looked at that and haven't
4 seen that, I want to qualify that there may or
5 may not be film badge data there. We need to
6 look at that.

7 MS. BONSIGNORE: If I could just
8 get clarification. So NIOSH has not reviewed
9 the FUSRAP data, which may or may not
10 contain --

11 MR. RUTHERFORD: This is the 1988
12 to 1992 data he is talking about.

13 MS. BONSIGNORE: Right. Right.
14 And you haven't reviewed the contracts that
15 would detail the renovation work from 1962 to
16 1968?

17 I am just trying to get a clear
18 picture of just how much information you have
19 not reviewed. Is that correct?

20 MR. CRAWFORD: Yes. The contract
21 information in the sixties would be used to
22 possibly narrow our use of elevated dose. As

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1 it is, since we don't know when the
2 renovations occurred, basically, the entire
3 decade of the sixties has been set aside as a
4 time of elevated dose.

5 MS. BONSIGNORE: Well, the reason
6 I make that comment is because I'm sorry to
7 jump ahead here, but I was struck by your
8 report here on finding No. 7, that you said
9 there's no reason to believe that
10 decontamination techniques employed during
11 building decon would be part of building
12 renovation.

13 I know that, as part of our
14 petition, we submitted affidavits from workers
15 who conducted renovation work during the
16 1960s, particularly in Building 30, who
17 detailed exactly the type of renovation work
18 that they did, which included jackhammering
19 floors, which created a significant amount of
20 dust. A number of workers have attested to
21 that fact.

22 So, in terms of actual information

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1 that you have from people who were there about
2 the type of renovation work that happened
3 during the 1960s, there is some information
4 about that.

5 So I am somewhat confused as to
6 why, unless I am misreading this, that you are
7 saying that there was no pneumatic hammering
8 done during that time period.

9 MR. CRAWFORD: I think we couldn't
10 make that claim. I believe it is a matter of
11 degree.

12 What was the purpose of the
13 pneumatic hammering? In 1950, they were
14 hammering extensive areas of the floors and
15 walls, removed the top 16th or 8th of an inch
16 of concrete because it was contaminated.

17 Now, if you are doing a building
18 renovation, you might need a jackhammer to
19 drill a hole in your floor or your wall.
20 Maybe you want to anchor something to it or
21 put a drain pipe in that isn't already there.

22 So we would certainly not deny

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1 that such work was done, but the degree of the
2 work and the purpose of the work wouldn't have
3 been expected to levitate as much material as
4 the original 1950s decon work. And after all,
5 the purpose of the fifties work was to remove
6 the contaminated material. So we have to
7 assume that there was far less material
8 embedded in the walls in 1960 than there was
9 in 1950.

10 MS. BONSIGNORE: Yes, I understand
11 that, but the fact that the buildings, all of
12 the MED/AEC buildings were eventually
13 demolished, and the fact that there is data
14 that there was contamination in those
15 buildings, wouldn't you agree that there was
16 obviously residual -- still contamination
17 there? So the people who were doing,
18 particularly in Building 30, renovation work
19 that involved jackhammering for months at a
20 time, which the affidavits that I submitted
21 attest to, that would have created a
22 significant amount of airborne contamination

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1 that people inhaled and ingested.

2 MR. RUTHERFORD: I think we have
3 taken that into consideration. I think if you
4 look at the sixties -- and correct me if I am
5 wrong -- we have taken into consideration an
6 elevated dose rate or elevated intakes for
7 that period because of the renovation
8 activities.

9 I think the point that Chris was
10 trying to make was that those activities are
11 not going to be any higher than what the
12 activities that occurred in the 1950 to 1954
13 period, when the actual purpose of the 1950 to
14 1954 period was D&D, decontamination and
15 decommissioning.

16 So I think that is the point he is
17 making. It is not that there wasn't exposure
18 potential. He is just making that point that
19 there is a level of difference there.

20 MS. BONSIGNORE: Okay.

21 DR. OSTROW: SC&A would like to
22 say, since we have jumped ahead, we share

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1 Antoinette's concern on this very much.

2 I hear what NIOSH is saying, that
3 when you are doing renovations, it is less
4 extensive than when you are actually doing
5 D&D. But there is a potential, when you are
6 doing the renovation, to hit areas that you
7 didn't hit during the original D&D work, that
8 all of a sudden you are opening up a wall on
9 top of a beam or something, where you have 40
10 years of radioactive dust sitting that you
11 didn't see before.

12 I mean, there's a lot of things
13 when you are doing renovation, that you open
14 up walls to do this, that, and the other
15 thing, that you could have had pockets of
16 radioactive material that you didn't encounter
17 before.

18 So, in general, maybe there is
19 less radioactivity, but you could still hit
20 specific areas where you actually had higher
21 exposures than you had during the original D&D
22 period.

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1 MR. RUTHERFORD: From a chronic
2 intake, though, that would not make sense. It
3 would make sense more that, from a chronic
4 intake, that over the period of time the
5 levels in the 1950 to 1954 period are going to
6 be much higher than what would be anticipated
7 in the sixties period.

8 I agree with you on a D&D, I mean
9 that when you hit the renovation or when they
10 were doing the D&D, that there were areas --
11 obviously, they are doing surfaces, exposed
12 surfaces, and such, that if there were areas
13 that they couldn't reach during D&D or that
14 were not necessarily recognized, they could
15 potentially hit those during renovation.

16 However, that is just going to be
17 a short, little period they are going to hit
18 that. From the intake model, it is really
19 going to have a minimal effect.

20 DR. OSTROW: Well, just a little
21 personal experience, right now, we are
22 renovating our apartment. This has been going

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1 on like for 10 months already. Part of it is
2 we have marble floor all over, and they
3 jackhammered that and they removed that and
4 they put down a wood floor. But there was
5 dust everywhere.

6 MR. RUTHERFORD: Sure.

7 DR. OSTROW: I mean it is like
8 literally every surface of the apartment was
9 covered with dust. And I guess it was similar
10 to if you start jackhammering a concrete
11 floor. During renovation, you may actually do
12 extensive work on the floors, you know,
13 jackhammering it, taking off the floor,
14 putting down a new surface. There's a huge
15 amount of dust in this.

16 So SC&A does share Antoinette's
17 concern on this issue. I don't think it is
18 closed yet.

19 CHAIR ROESSLER: I think we did
20 jump ahead, but it was important, and it was
21 important to bring it up now.

22 I think, as we get to that point

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1 later on, we need to make a point that we are
2 talking about maybe a short-term versus
3 chronic, and it needs to be clarified.

4 MS. BONSIGNORE: And the bioassay
5 data that you have is not really from the D&D
6 period. Isn't the bioassay data limited from
7 1949 to 1950?

8 MR. CRAWFORD: Well, we had
9 bioassay data from 1947 on for the production
10 period, the step-three production period.

11 MS. BONSIGNORE: Right.

12 MR. CRAWFORD: In the D&D period,
13 I'm not so sure.

14 Mutty, do you --

15 MR. SHARFI: I don't think we have
16 any, not bioassay.

17 MS. BONSIGNORE: Right. So the
18 renovation workers who were doing this
19 renovation during the 1960s who weren't
20 provided with any respiratory protection
21 equipment, anything at all --

22 MR. CRAWFORD: Do we know that?

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1 MS. BONSIGNORE: Well, yes.

2 MR. CRAWFORD: Because even the --

3 MR. RUTHERFORD: It doesn't
4 matter. Our exposure model does not take into
5 consideration respiratory protection anyway.
6 We've never taken it into consideration.

7 MS. BONSIGNORE: Okay. Well --

8 MR. CRAWFORD: Just
9 parenthetically, let me say that in the 1950s
10 the engineer noted that, if they were going to
11 be sandblasting, that they needed protection
12 from the silica more than they needed
13 protection from the radiation.

14 So it wasn't that the idea of
15 protection was unknown in those days, but in
16 any case we are not taking that into account.

17 MS. BONSIGNORE: Right.

18 MR. CRAWFORD: We are not alleging
19 that somebody wore a mask.

20 MS. BONSIGNORE: Right. Well,
21 just to clarify the point, the workers who
22 were there during the 1960s who are

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1 miraculously still alive were never provided
2 with any respiratory protection during
3 renovation work. I just wanted to make that
4 point.

5 But the fact that there is no
6 bioassay data for the D&D period and there is
7 no bioassay data for the renovation period,
8 doesn't that limit your ability to determine
9 the amount of intake and ingestion of uranium,
10 uranium progeny, radon, in terms of not being
11 able to monitor that level in, let's say,
12 urinalysis data?

13 MR. CRAWFORD: Well, we have to
14 infer the possible dose, you might say.

15 MS. BONSIGNORE: Well, I
16 understand that.

17 MR. CRAWFORD: Right.

18 MS. BONSIGNORE: That's what you
19 do.

20 MR. CRAWFORD: In other words,
21 because we can't measure, since in the sixties
22 there was basically no reason for them to have

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1 done bioassays, and we have no data. But we
2 do have some idea of what the source term was,
3 and we have a good idea of what kind of
4 resuspension we can expect under normal
5 circumstances and what a heightened
6 resuspension would look like, because we did
7 the D&D work.

8 So we are making reasoned
9 estimates of the amount of material in the
10 air, and then we apply that to people's
11 breathing rates and exposure times.

12 MS. BONSIGNORE: Yes, but without
13 bioassay data, isn't it very difficult to
14 truly reconstruct dose for a worker who
15 ingested or inhaled uranium during that time
16 period?

17 MR. CRAWFORD: This is why it is
18 called dose reconstruction.

19 MS. BONSIGNORE: I understand.

20 MR. CRAWFORD: If we had exact
21 data on every worker's exposure 24 hours a
22 day, we could do a much better job. But it

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1 was recognized when this law was passed that
2 we were going to have to make scientific and
3 reasoned estimates of exposures.

4 MR. RUTHERFORD: And I would like
5 to add, yes, bioassay for individuals will
6 tell us, their individual exposure will help
7 us in that.

8 What we do, in the absence of
9 bioassay data, we move down a different
10 hierarchy for dose reconstruction. We look at
11 what personal or area monitoring data we have,
12 and then we develop a model that we feel will
13 bound the exposures to all those workers. We
14 feel that that model we developed does do
15 that.

16 MR. ELLIOTT: We would prefer to
17 have bioassays.

18 MR. RUTHERFORD: Yes. Yes, we
19 would very much prefer bioassay.

20 MS. BONSIGNORE: I understand.

21 MR. ELLIOTT: We would prefer to
22 have badge data as well as bioassay.

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1 MS. BONSIGNORE: Right. But, just
2 from the worker perspective and the people who
3 have developed cancer, lung cancer, other
4 types of respiratory cancer, this is very
5 difficult for them to comprehend because they
6 don't understand how -- you know, you show
7 them one of these petition evaluation reports
8 or a dose reconstruction report; it might as
9 well be written in a foreign language to most
10 folks.

11 So I think in terms of being able
12 to translate what exactly you are doing that
13 justifies them not being compensated is lost
14 here. It is difficult for me, as their
15 representative, to go back to them and explain
16 what's going on here, and tell them that this
17 is reasonable, when they don't think it is
18 reasonable when they have cancer.

19 Sometimes I think that is lost
20 here in terms of, you know, you are relying on
21 models and lognormal distributions. That is
22 difficult for me to understand, but it is also

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1 very difficult for me to explain to them. I
2 think sometimes that is lost here.

3 MR. CRAWFORD: The public
4 perception is difficult to deal with in many
5 respects. We are dealing with several factors
6 here.

7 The public tends to not think
8 about the fact that there is an inherent
9 background cancer rate. Twenty-five percent
10 of all Americans die of cancer, 99.99 percent
11 of them never worked with radioactive
12 materials.

13 This is the truth. But, of
14 course, if you personally get cancer and you
15 feel that you were, at some point during your
16 working history, exposed to radioactive
17 materials, you could easily lead to the
18 conclusion that, therefore, my cancer is
19 caused by radioactivity. That is what we are
20 up against.

21 However, we have to look at all
22 the evidence and consider it. And I think, in

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1 general, the program is extremely liberal. We
2 try to be.

3 I know right here we are saying no
4 to someone and that seems illiberal. But, in
5 general, we are, I think, compensating a great
6 many people and without epidemiological
7 evidence to support that.

8 Okay?

9 MS. BONSIGNORE: It is a 66
10 percent national denial rate on Part B.

11 MR. CRAWFORD: What is the correct
12 denial rate?

13 MS. BONSIGNORE: What is the
14 correct denial rate?

15 MR. CRAWFORD: Well, yes. I mean,
16 if --

17 MR. ELLIOTT: Probably much lower.
18 In fact, we are much higher, due to our
19 claimant-favorable approaches, than was ever
20 predicted by --

21 MS. BONSIGNORE: By DOE, right.

22 MR. ELLIOTT: -- by DOE and DOL in

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1 response to the Congressional Budget Office
2 and the Office of Management and Budget.

3 We understand the complexity and
4 trying to communicate effectively to laypeople
5 about this program. As you say, it is lost on
6 many folks, and we continue to try in our
7 communications in various ways to explain what
8 it is we are doing and how we do it.

9 I don't know that we will ever
10 achieve a satisfactory level of understanding
11 in this program. I don't know that Congress
12 understood that when they passed this law. It
13 is what it is.

14 We appreciate and welcome any
15 thoughts about how we can improve our
16 communications. I think this process of
17 review and the efforts we strive to be
18 transparent in our work are attempts to try to
19 help folks understand what is going on in this
20 program. And we always want to do better.

21 CHAIR ROESSLER: Antoinette, is --
22 concentrating on here is the fact that there's

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1 a lack of bioassay data, and NIOSH is relying
2 on bounding these numbers. I think it is
3 maybe the bounding or how you come to this
4 upper estimate, the claimant-friendly
5 approach, that is maybe not well-understood.

6 Of course, then it gets mixed in
7 with the statistical things like lognormal.
8 So I identify with her in that. Maybe the
9 oral presentation, when you give this to the
10 Board, it would be good to maybe expand on
11 that part a little bit.

12 MR. CRAWFORD: Well,
13 parenthetically, we have already worked many
14 of the Linde cases, non-SEC cases. Our
15 approval rate is 46 percent. In other words,
16 you could look at it the other way, our denial
17 rate is 54 percent.

18 MR. ELLIOTT: For this site.

19 MR. CRAWFORD: For this site.

20 MS. BONSIGNORE: I don't think
21 that's accurate.

22 MR. ELLIOTT: I do think it is

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1 accurate.

2 MR. CRAWFORD: That's true, but
3 not to --

4 MS. BONSIGNORE: I think I checked
5 the DOL site --

6 MR. ELLIOTT: You can't use the
7 DOL website to determine how many claims have
8 been dose reconstructed and compensated
9 through that process. DOL's website does not
10 break it down to Part B claims sent to NIOSH.

11 MS. BONSIGNORE: But they do.

12 MR. ELLIOTT: Well, I'll have to
13 look at that --

14 MS. BONSIGNORE: Okay.

15 MR. ELLIOTT: -- because that
16 number has always been a point of confusion
17 among people who look at that website. That
18 number, in my understanding, contains claims
19 that were denied that were not even eligible.

20 MS. BONSIGNORE: I think you need
21 to take another look at that site.

22 MR. ELLIOTT: Yes, I will look at

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1 it.

2 MS. BONSIGNORE: It has been
3 recently--

4 MR. ELLIOTT: Upgraded, yes.

5 MS. BONSIGNORE: -- upgraded.

6 MR. ELLIOTT: Yes, I haven't
7 looked at it since it has been upgraded.

8 MS. BONSIGNORE: Yes.

9 MR. ELLIOTT: So they may have
10 changed that.

11 MS. BONSIGNORE: Yes.

12 MR. ELLIOTT: We talked about the
13 need to get the numbers to make sense,
14 coincide on both sides.

15 MS. BONSIGNORE: Right.

16 MR. ELLIOTT: So I will look at
17 that, but I'm sure his numbers are right. I
18 should have brought my book today, but I
19 looked at that today, and those percentages he
20 just spoke about are what we show in our
21 files.

22 MS. BONSIGNORE: Okay. Well, from

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1 my analysis of what's at the DOL site now, I
2 believe it is around 37 percent.

3 MR. ELLIOTT: Well, I will look
4 into that.

5 MR. RUTHERFORD: And that may be,
6 if you took in the total number of cases, you
7 know, the dose reconstructions we have
8 completed to date, and this was just pulled --
9 what? --

10 MR. ELLIOTT: On the 27th.

11 MR. RUTHERFORD: -- on the 27th,
12 yes, it is 46 percent.

13 There are cases, a number of
14 cases, that have been pulled by DOL. And of
15 those cases, they could have been pulled for
16 SEC --

17 MR. ELLIOTT: For another site.

18 MR. RUTHERFORD: -- you know,
19 other things. Well, in fact, they could have
20 been pulled for the SEC for the early years at
21 Linde.

22 MR. ELLIOTT: I will look into

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1 that, but Linde and Bethlehem Steel are our
2 two sites that have the highest compensation
3 rate, Bethlehem Steel at 48.3 percent and
4 Linde at 46.

5 MS. BONSIGNORE: There is just one
6 other thing, and then I will stop talking.
7 The point that you made that sometimes people
8 don't understand that there's a 25 percent
9 general cancer risk in the general population,
10 I think they do understand that. I think the
11 fact that when everybody that they have worked
12 with has developed cancer, or people that they
13 worked with have died from cancer, and the
14 fact that the rate of cancer in western New
15 York is much higher than the rate it is for
16 the remainder of the state, I think there is
17 an obvious elevated rate of cancer in the
18 western New York population.

19 I think that can be properly
20 attributed to not only the people who worked
21 at these sites, but the fact that a lot of
22 these sites are being -- Linde is still under

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1 FUSRAP and still being decontaminated. There
2 is a lot of decontamination in the groundwater
3 and the soil that has been spread throughout
4 the western New York community, and not only
5 from Linde and Bethlehem Steel, but also from
6 the Niagara Falls Storage Site, where there is
7 a lot of contamination still going on there.

8 MR. ELLIOTT: I think it is a
9 mistake to say that the higher rates of cancer
10 in a geographical area are due to one type of
11 perhaps occupational exposure. Bethlehem
12 Steel, there are probably only 25 people ever
13 exposed out of the whole Bethlehem Steel
14 population, to the rolling mill situation that
15 happened there.

16 I would rather think at Bethlehem
17 Steel and at Linde that silica is a worse
18 actor than uranium. Uranium, in this form, is
19 not a -- it is what we would call a low-dose
20 exposure situation. Many people feel that
21 radiation is radiation, and here we go again.

22 It is a complexity that people don't

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1 understand. Radiation has different levels of
2 energy associated with it and different
3 abilities to either penetrate or cause harm.

4 In this instance, silica in this
5 site is probably the worse offender from an
6 occupational exposure than uranium. That is
7 just trying to put it in context for people to
8 try to understand. They may not accept that,
9 but, as an industrial hygienist, I would tell
10 you that I'm more concerned about silica in
11 these kinds of operations than I am ever
12 worried about uranium.

13 CHAIR ROESSLER: Okay. I think we
14 have covered some important background work,
15 and it never hurts to clarify some of these
16 things.

17 Should we take a quick break
18 before Steve talks or should we finish here?
19 Let's have Steve -- what's the conclusion?

20 DR. OSTROW: Let's take a break.

21 CHAIR ROESSLER: A five-minute
22 break.

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1 MR. KATZ: We are going to mute
2 the phones for five minutes.

3 (Whereupon, the above-entitled
4 matter went off the record at 10:37 a.m. and
5 resumed at 10:44 a.m.)

6 MR. KATZ: We are online again.

7 John, are you there with us?

8 DR. MAURO: Yes, I am.

9 MR. KATZ: And Mike?

10 MEMBER GIBSON: Yes, I'm here.

11 MR. KATZ: Hi. Good.

12 DR. OSTROW: Okay. This is Steve
13 Ostrow.

14 Just a little bit of background:
15 the background is that we have the petition,
16 the SEC 107 petition. NIOSH went ahead and
17 did their petition evaluation report.

18 Then, in the Albuquerque Board
19 meeting, we were asked -- that was on February
20 19th, 2009 -- SC&A was tasked to do two
21 things: to review the Special Exposure Cohort
22 Petition 00107, and then also the NIOSH SEC

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1 petition evaluation report, which is what we
2 have been talking about.

3 We reviewed it. Just to set the
4 stage here, we subsequently produced a report
5 that is dated June 18th, 2009, which was the
6 evaluation for this.

7 In our evaluation, we looked at
8 these two reports, the petition and the
9 evaluation report, and we looked at some other
10 documents and looked into different things,
11 and came up with a table of 11 findings or
12 observations, whatever, things that we were
13 concerned about.

14 As we said in our report, though,
15 we didn't at this time reach a conclusion
16 whether NIOSH had sufficient data to do the
17 dose reconstruction or not, because we
18 recognize that it is premature to do that. It
19 is early in the process.

20 We had comments. NIOSH is in the
21 process of responding to our comments. I am
22 sure we will go another round or two back and

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1 forth until we can form an opinion and before
2 the Board, the Work Group, can form its
3 opinion on the validity of NIOSH's claim that
4 they can reconstruct the doses for this
5 period.

6 So that is where we are right now,
7 and just noting that, in response to our June
8 18th report, we just received yesterday a
9 short report from NIOSH, which is a response
10 to our report, in which NIOSH took our Table 1
11 from our report, from the SC&A report, where
12 we have the 11 findings, and gave short
13 responses in table form to each one of them.

14 We recognize at this point that
15 NIOSH's response is still in the preliminary
16 stages. This is not the end-all, final
17 response.

18 Am I correct that, after this
19 meeting that we have, that NIOSH is going to
20 prepare a more detailed response?

21 MR. CRAWFORD: Yes.

22 DR. OSTROW: What's your plans?

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1 MR. CRAWFORD: That is where we
2 will expand on this.

3 DR. OSTROW: Okay. So that is
4 what I thought is going to happen.

5 MS. BONSIGNORE: So there will be
6 another petition evaluation report?

7 MR. CRAWFORD: No. There will be
8 another response to Steve's/SC&A's critique of
9 the report.

10 MS. BONSIGNORE: Okay.

11 DR. OSTROW: Our report has a lot
12 of pages in it, but is not really that
13 complicated. Just to take you through, we
14 produced a Table 1, which is a summary of the
15 findings. We have our 11 findings.

16 In the body of the report, we
17 actually have a discussion of certain issues
18 that set up these 11 findings. On Table 1, we
19 reference which section of the report has the
20 larger discussion.

21 One of the first things we did is
22 we looked at the SEC petition 107 itself. The

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1 petition brings up a lot of issues, and it is
2 somewhat repetitious, but we looked through
3 it. We pulled out of that several themes. We
4 thought we identified nine different issues
5 that the petition came up with, and that is in
6 our Table 2, where we summarize the issues
7 that were brought up.

8 We put in the next column next to
9 that, for each issue, looking at NIOSH's SEC
10 evaluation report, where we thought that NIOSH
11 dealt with these issues in the petition.
12 These are our assessments.

13 NIOSH, of course, when they
14 produce their final response, they are free to
15 comment on this, too. Did we capture it
16 correctly, what we thought your responses were
17 for this?

18 We think this is a good cross-
19 reference between the issues that were brought
20 up in the petition and how NIOSH responded to
21 it.

22 Okay. We found that there were

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1 nine issues that we thought were dealt with.
2 The one thing that we did note, the petition
3 brought up the issue, which I think is a
4 little bit separate from what the Work Group
5 deals with -- that is not really a radiation
6 issue -- that several of the buildings were
7 redesignated as a DOE facility from AWE. That
8 is the last box on Table 2, an issue to note.

9 This has certain ramifications
10 about compensation, that it is a DOE facility.

11 This was not specifically addressed by NIOSH
12 in their ER report because I don't think that
13 impacts their dose reconstruction ability. It
14 is an important issue, but it is a separate
15 issue from this.

16 I don't think NIOSH deals with
17 this, right? I'm not sure which agency deals
18 with this.

19 MR. ELLIOTT: The designation of
20 the facilities?

21 DR. OSTROW: Yes.

22 MR. ELLIOTT: That's not ours.

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1 DR. OSTROW: Yes, I didn't think
2 that was yours.

3 MS. BONSIGNORE: Yes, that is DOL.

4 DR. OSTROW: DOL. Okay, they're
5 the ones that do it.

6 MS. BONSIGNORE: Well, I mean,
7 they were the ones that initially decided that
8 the people who worked in the newly-
9 redesignated buildings wouldn't be eligible
10 for Part B if they worked during the residual
11 period.

12 DR. OSTROW: Okay.

13 MS. BONSIGNORE: Then they changed
14 their mind.

15 DR. OSTROW: Okay. So, anyway, it
16 is an important issue, but it is not a NIOSH
17 dose reconstruction issue.

18 MR. ELLIOTT: It is.

19 Go ahead.

20 MR. CRAWFORD: On the TBD, during
21 the period when the Working Group was working
22 on the TBD, DOE changed its mind twice. They

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1 first said it is a DOE facility now, and there
2 is no residual period. So we took our
3 attention completely away from the residual
4 period at that point.

5 Then, a year later, approximately,
6 they turned around and said it is a DOE
7 facility, but with a residual period. So
8 we're back.

9 MR. ELLIOTT: But that is because
10 there is one building that is still is an AWE
11 facility building.

12 MR. CRAWFORD: Building 14.

13 MR. ELLIOTT: And the other three,
14 four --

15 MS. BONSIGNORE: Four.

16 MR. ELLIOTT: -- four buildings
17 are now DOE-determined buildings.

18 DR. OSTROW: Is that because
19 Building 14 is like one of the original
20 buildings?

21 MS. BONSIGNORE: Building 14 was
22 the original, the Tonawanda lab was the

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1 original Linde facility, and then the
2 remaining four buildings, 30, 31, 37, and 38,
3 were constructed under AEC.

4 DR. OSTROW: Okay. So Building 14
5 is where they were producing the glaze for the
6 pottery?

7 MS. BONSIGNORE: Right, the great
8 pottery that --

9 MR. ELLIOTT: So, if I can finish,
10 where that leaves us is -- and correct me if
11 I'm wrong, Chris, Mutty, or Bomber -- because
12 DOL cannot discern who worked in which
13 building, all claims are going to have to have
14 a residual dose if they had employment during
15 the residual period. So we are not going to
16 be able to distinguish among claimants who
17 gets a residual contamination dose and who
18 doesn't. So everybody who had time in that
19 period will get a dose in the residual period.

20 DR. OSTROW: Thanks for the
21 clarifications. I looked at it, and I was
22 really confused about what happened.

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1 MR. ELLIOTT: So were we.

2 (Laughter.)

3 MS. BONSIGNORE: So was I.

4 DR. OSTROW: So was everybody.

5 MR. ELLIOTT: I think everybody
6 but DOL was for a while.

7 DR. OSTROW: Okay. So we know
8 that then.

9 All right. Then, just since we
10 are on that Table 2, we note at the bottom of
11 that the petition brought up -- well, there's
12 one extra issue. We have an Appendix B that
13 the petitioner, Antoinette, in a memo of June
14 4th, 2009, to SC&A, and I think NIOSH also,
15 had a petition which attached to a memorandum,
16 1944, that asserts that the African ore, the
17 pitchblende feedstock, was actually a higher
18 concentration, up to 65 percent concentration,
19 than NIOSH assumed in its site profile, which
20 was about 8 to 12 percent of the U308.

21 So we looked at it also in the
22 appendix, and it is attached as Appendix B to

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1 this.

2 But this we looked at, whether or
3 not that it is true that the feedstock was at
4 a higher concentration than NIOSH assumed.
5 NIOSH didn't actually use that information in
6 its dose reconstruction anyway because the
7 dose reconstruction is based on actual
8 measurements, the different surveys that were
9 taken at different periods of time.

10 So we didn't focus on whether the
11 feedstock information was correct or
12 incorrect, because it is sort of irrelevant to
13 the way NIOSH did it. If, in the future,
14 NIOSH changes its dose reconstruction
15 technique to sort of first principles by
16 looking at the original ore source terms, and
17 does the calculation that way, then this
18 becomes an important issue. But, for now, it
19 is not an issue at all to deal with.

20 MR. CRAWFORD: Steve, just a brief
21 response on that.

22 DR. OSTROW: Yes?

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1 MR. CRAWFORD: My understanding is
2 that we established that there was one ton of
3 65 percent ore that was sent to Linde, and
4 they were to prepare a sample that I believe
5 was to be sent on, and I forget to what
6 establishment, not that that is important.
7 But I think they took 100 pounds of that and
8 sent it out.

9 It is not clear that the rest of
10 the ore was processed by Linde or returned to
11 the MED. We don't know. But, considering
12 there were 26,000 tons of ore processed, the
13 effect on the total dose for everyone
14 concerned, we felt was going to be
15 minuscule --

16 DR. OSTROW: Okay.

17 MR. CRAWFORD: -- if it was or was
18 not processed at Linde.

19 DR. OSTROW: So, basically, to
20 clarify, it is based on what you can see at
21 this higher concentration. Ore at 65 percent
22 was just used to prepare a sample. That is

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1 what it looks like.

2 MR. CRAWFORD: That is what the
3 documentation shows.

4 MR. RUTHERFORD: Yes. In fact,
5 there's documentation that suggests that,
6 because of the -- I mean this is really
7 outside the scope of this, but that it
8 suggests that the actual radiation levels and
9 such and the controls that would have to be
10 put in place, they decided they did not want
11 to go ahead and process that.

12 DR. OSTROW: Okay. But, as I said
13 at the beginning, as of now, the way NIOSH is
14 doing its dose reconstruction, this is not a
15 material issue anyway.

16 Finally, just as an overview of
17 what we did when we looked at this, we have a
18 really long appendix, Appendix A, which helped
19 us. It is not directly relevant to all of the
20 conclusions.

21 But what happened originally, we
22 had reviewed Revision 0 of the TBD. I think

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1 the petition was also in response to Revision
2 0 of the TBD.

3 Subsequent to that, NIOSH produced
4 a Rev 0 page change, which was just minor
5 changes, and then, finally, a Revision 1,
6 which made major changes.

7 Just, as an aid to SC&A, and
8 perhaps the Board, if they want to look at it,
9 we just went ahead and compared Rev 0 and Rev
10 1, went through it thoroughly, just to see
11 where the changes were made.

12 So we see this as sort of a
13 reference document, if anyone wants to see how
14 some of these issues or some of the
15 methodologies evolved one revision to the
16 other. It didn't help -- it wasn't used
17 directly in this report, but it helps us as
18 background information, as a resource.

19 Okay. Now, moving on to our
20 findings, we have now, as I mentioned before,
21 Table 1, which summarizes the findings. This
22 is what NIOSH used yesterday to respond to our

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1 findings.

2 Of our 11 findings, we can group
3 them to some extent. Our findings are
4 concerned, a few of them with radon exposures.

5 This was during the period like 1954 to 2006,
6 more or less to present.

7 We were concerned about airborne
8 particulates. That is, you know, things like
9 uranium, thorium, radium, whatever, during the
10 period like 1954 to 1976, before the surveys
11 were done.

12 We also have some issues, have a
13 concern with the so-called renovation period
14 and what we can call like the factor-of-eight
15 issue, which comes up in one -- that is sort
16 of grouping it for convenience.

17 John, if you are still on the
18 phone, did I get that right?

19 DR. MAURO: Yes. I found, in
20 these matters where we have a relatively long
21 list of findings, sometimes conceptually I
22 see, for example, findings 1, 2, and 3 really

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1 deal with radon and some of the concerns we
2 have with the model that was developed for
3 assigning radon exposures to workers.

4 Then there is a group after that
5 -- I think 3 or 4 or so. So, in essence, we
6 have some concerns on how 4, 5, and 6, I
7 believe it is, and perhaps group 7, I'm not
8 sure -- I have to look at it again -- but
9 dealing with inhalation of uranium, radium and
10 thorium particulate material, the data on
11 which that is based and the extrapolations and
12 assumptions.

13 Then, the last group, I think it
14 comes up to No. 10, and that is 8, 9, and 10,
15 deals with this renovation period and how to
16 deal with those exposures. Quite frankly, 11
17 was really, the way I saw that, is a matter of
18 just making a little clearer what these
19 different time periods are. So it is really
20 not a finding. It is really a suggestion that
21 would be very helpful, and we talked quite a
22 bit about that at the beginning of this

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1 meeting, making it clear what buildings, what
2 time periods, what was going on.

3 Because I know I found it
4 difficult to navigate my way through it as I
5 was reading the material, and the discussion
6 we had earlier was certainly helpful.

7 So 11, I guess, if you agree, I
8 think 11 is really not a technical issue. It
9 is really a matter of communication.

10 DR. OSTROW: Okay. So, working
11 backwards, I agree with John that our No. 11
12 is more of a clarification issue than any
13 technical issue.

14 Hey, Gen, how should I handle
15 this? Shall I go through the findings, do you
16 think, and NIOSH's responses?

17 CHAIR ROESSLER: I think you need
18 to clarify. I think we are clear on Table 1,
19 and it seems like there are three categories
20 that we can keep in our minds, the radon, the
21 inhalation, which is numbers 4, 5, and 6, and
22 then the renovation period. So we are really

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1 talking about three different categories here.

2 I guess did you then want to --

3 MR. CRAWFORD: Gen?

4 CHAIR ROESSLER: Yes?

5 MR. CRAWFORD: Just one comment:
6 as Mutty reminds me, I misspoke, overpromised,
7 about the FUSRAP data. We don't have it at
8 the moment. We have reason to believe it
9 exists someplace. We are trying to get it
10 from the Army Corps of Engineers, but we
11 actually don't have it in our possession. So
12 we don't have those measurements from the late
13 eighties to the late nineties.

14 MEMBER BEACH: What about the
15 early years? Do you have the early years?

16 MR. CRAWFORD: Yes. Yes. By
17 early years, do you mean the fifties?

18 MEMBER BEACH: No. I would have
19 to look back at this chart, the 1981 --

20 MR. CRAWFORD: We do have the 1976
21 and 1981 data, yes.

22 MEMBER BEACH: Okay.

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1 MR. CRAWFORD: Yes.

2 CHAIR ROESSLER: But you don't
3 have the 1988 to 1992 in hand?

4 MR. CRAWFORD: The remediation
5 period, we do not. Sometimes you know that
6 someone has that data, but that doesn't mean
7 you can lay your hands on it, as we have
8 discovered. And working with the Corps of
9 Engineers is not so simple.

10 DR. OSTROW: Do you know the data
11 actually exists, though, even though you don't
12 have it in your possession? Is there data?

13 MR. CRAWFORD: It should at that
14 period, but we have no indication that it
15 actually exists.

16 DR. OSTROW: Okay.

17 MEMBER BEACH: So does your data
18 go back to 1975 that you have now? Because
19 that is the date when that -- or I guess it
20 says 1976.

21 MR. CRAWFORD: Yes, data reports
22 are a little later, but it is 1976, 1982, we

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1 think of it.

2 MEMBER BEACH: Okay.

3 MR. CRAWFORD: When the
4 measurements were actually taken may have been
5 a little earlier.

6 DR. MAURO: Excuse me. This is
7 John.

8 So the 1976, 1982, is that also
9 considered part of the remediation period, but
10 that is now separate from this FUSRAP cleanup
11 part? What is the distinction between the
12 remediation going on in the 1976, 1981, time
13 period, where you have some of your data, and
14 now this new set of data where you are
15 referring to it as just FUSRAP, period?

16 MR. CRAWFORD: We think that the
17 1976 and 1981 was basically assessment data.
18 Did they need to do a cleanup?

19 DR. MAURO: That is very important
20 because, in effect, what that says is this is
21 sort of like the airborne activity that we
22 experienced toward the end, almost like a

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1 baseline before FUSRAP began.

2 MR. CRAWFORD: Certainly, before
3 FUSRAP began, yes.

4 DR. MAURO: Okay, that is very
5 helpful. Thank you.

6 MR. CRAWFORD: By some years.

7 DR. MAURO: Many. Yes, I
8 understand.

9 CHAIR ROESSLER: What we need to
10 do is keep in mind, then, at the end of the
11 day, we are going to have to have a list of
12 what the next steps are. So, as we are going
13 along, if people could make notes on that to
14 help us summarize when we finish it, and I
15 think we have brought up one of them.

16 So, Steve, I think you asked a
17 question, how should you follow through? I
18 think you summarized Table 1, the summary of
19 findings, which really have to do with dose
20 reconstruction.

21 DR. OSTROW: Right.

22 CHAIR ROESSLER: Then you refer to

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1 Table 2 with your nine issues.

2 DR. OSTROW: This is what we think
3 that the petition issues are boiled down. Of
4 course, Antoinette is free to comment on that,
5 too.

6 You were involved in the petition,
7 in this petition. Did we actually capture
8 what you think are the important issues?

9 MS. BONSIGNORE: Yes, I would
10 agree with the way you summarized it.

11 DR. OSTROW: Okay.

12 MR. RUTHERFORD: Now correct me if
13 I am wrong. The only thing you are doing with
14 Table 2 is, your review of the petition, you
15 have identified what you believe are the
16 petitioner issues?

17 DR. OSTROW: That's right.

18 MR. RUTHERFORD: You are not
19 saying that those are SC&A's issues?

20 DR. OSTROW: No.

21 MR. RUTHERFORD: You are saying
22 that those are issues that, when the petition

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1 was submitted to NIOSH, those are the issues
2 that you derived from that petition --

3 DR. OSTROW: That is right. So, I
4 mean, we are not evaluating them, whether we
5 think they are good issues, bad issues, or
6 anything.

7 MR. RUTHERFORD: Right.

8 DR. OSTROW: These are just --

9 MR. RUTHERFORD: Right.

10 DR. OSTROW: -- what we think are
11 the issues.

12 MR. RUTHERFORD: Right.

13 DR. OSTROW: Because the petition
14 has a lot of good information in it, but it is
15 scattered a little bit. We tried to extract
16 what are the actual points were in the issues.

17 As I said, we also have the second
18 column of that Table 2, which are what we
19 think was NIOSH's response in your evaluation
20 report to the issues. We did the mapping, and
21 we invite NIOSH to comment on that, when you
22 get around to that stage. Did we capture your

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1 response correctly? But we didn't evaluate
2 that.

3 MR. RUTHERFORD: Right.

4 DR. OSTROW: This is just sort of
5 a road map of what we think.

6 MR. RUTHERFORD: But Table 1
7 upfront, those are the findings? Those are
8 the ones that we need to work through --

9 DR. OSTROW: Yes.

10 MR. RUTHERFORD: -- and work to
11 resolution?

12 DR. OSTROW: That's right. Table
13 1 are our actual findings that we have.

14 MR. RUTHERFORD: All right. Now I
15 don't know if you or John are willing to do
16 this or not, but I am going to ask it anyway.

17 (Laughter.)

18 DR. OSTROW: Sure.

19 MR. RUTHERFORD: Are you willing
20 or have you looked at the 11 issues that you
21 have identified, and have you actually couched
22 them or looked at those issues and said, okay,

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1 do we feel that this issue is an issue that is
2 a, we'll call them, TBD issue in that it is,
3 okay, we're not sure if the number that NIOSH
4 used is correct? This number could be a
5 little higher. It doesn't question our
6 feasibility to actually reconstruct dose, but
7 it does question the number we may have used.

8 Can you separate them into issues
9 that use what I will call SEC issues and TBD
10 issues? SEC issues, where you really question
11 where this issue points to a feasibility of
12 NIOSH in our ability to reconstruct dose?

13 MEMBER BEACH: That is a great
14 suggestion.

15 DR. MAURO: Yes, that is a great
16 question. I will do the best I can to walk a
17 tightrope on that question.

18 (Laughter.)

19 Because I don't want to be
20 conclusionary.

21 (Laughter.)

22 I would say that we have very

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1 serious concerns with the way in which you
2 have approached reconstructing the exposures,
3 and we have strong suggestions on alternative
4 strategies that might be more scientifically-
5 sound and claimant-favorable and more in
6 keeping with the philosophy adopted by
7 OTIB-0070.

8 So I would say, in that regard,
9 the tendency would be, using these other
10 approaches that we are going to be talking
11 about, we are going to suggest, would bring
12 you more in line with what we would see as
13 being a more appropriate approach.

14 But, of course, as we move into
15 that direction and talk about this other
16 approach, questions regarding data adequacy
17 will arise. I am going to give you an
18 example, and then I will be quiet.

19 OTIB-0070 leans you toward,
20 listen, let's start with the data we have for
21 the early years, whether it is the 1940s or up
22 to, let's say, 1953, where we have radon, we

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1 have air particulates. And OTIB-0070 says --
2 and this is a classic example of why we like
3 OTIB-0070 -- let's start with what we know as
4 of the end of, what I would consider to be,
5 the dirty period, and use that data, as
6 complete as it is, and select from that some
7 metrics of dust loading, radon, that is our
8 starting point for our residual period.

9 Then let that residual activity
10 decline at some slope that can be justified,
11 based on, for example, later data taken in
12 1976. You did not take that approach.

13 Now so what I would say is, in
14 principle, that strategy seems to be a much
15 more scientifically-defensible strategy. Then
16 the question from an SEC perspective is, do
17 you have sufficient data in, let's say, in the
18 1953, 1952, time period, perhaps even during
19 the operations period, that would represent a
20 good dataset to draw from as your anchor for
21 the start of 1954?

22 So, if you do, and right now I'm

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1 going to rein in myself a little bit about
2 saying whether you do or you don't, but that
3 is the essence of, okay, if we've got some
4 pretty good data, that is a good anchor. If
5 you've got that, and it can be shown, I think
6 what we are talking about now is a site
7 profile issue.

8 If that data is weak, it is an SEC
9 issue because then you have a difficult time
10 anchoring it. So that goes toward radon and
11 the particulates.

12 There's only one place that I say
13 right now, in my mind, is probably a fairly
14 strong SEC issue that we need to talk about.
15 The other matters I say sort of tend toward
16 potentially resolvable site profile issues.
17 The one area that I consider to be a potential
18 SEC is this business of raffinates.

19 As you know, when you are dealing
20 with air sampling and you have your gross
21 alpha counts, dpm per cubic meter, you know,
22 I'm always concerned that, what is the mix in

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1 there? Now if there were no raffinates onsite
2 during the period of interest, and therefore,
3 we could assume that the mix that you are
4 looking at in your gross alpha count is, you
5 know, what would be a normal mix with natural
6 uranium or a normal mix of ore in terms of dpm
7 per cubic meter, you know, what constitutes
8 that, but if there are some raffinates where
9 you've got some thorium-230 or radium-226,
10 then I am concerned, what are you going to
11 assume those dpm's are?

12 As you all know, whenever we enter
13 the world of raffinates, it is always a little
14 difficult. The extent to which we could put
15 that issue to bed would be important.

16 So I guess that is my best shot at
17 trying to lay out what I would call the
18 landscape of the problems as they pertain to
19 whether they are SEC versus site profile
20 issues.

21 MR. RUTHERFORD: I think he will
22 make a good politician.

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1 (Laughter.)

2 MEMBER BEACH: I am not sure we
3 got all that, right?

4 MR. RUTHERFORD: No, I understand
5 what you're saying. We didn't go down each
6 finding and specifically come up with a
7 separation. But I understand what John is
8 saying, in that he is saying that, okay, as a
9 raffinate issue, I am not sure I really see
10 that issue, but I understand what he is
11 saying.

12 I think, in general, the
13 discussion, I think we are going to have to
14 discuss why we chose the model we chose versus
15 using OTIB-0070 and provide an explanation of
16 that. I think that will help on some of the
17 issues as well.

18 MEMBER BEACH: I think it would be
19 fair to let SC&A kind of maybe discuss that,
20 not trying to do it on the fly in the middle
21 of this meeting, personally.

22 MR. RUTHERFORD: Sure.

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1 MEMBER BEACH: I have another
2 question --

3 MR. RUTHERFORD: Sure.

4 MEMBER BEACH: -- for Steve. Did
5 all of the petitioners' issues, did some of
6 those actually make it into your 11 list?

7 DR. OSTROW: Some of them did, the
8 ones that we thought are relevant, but some of
9 them didn't seem that relevant.

10 MEMBER BEACH: Right. What I
11 would like to see is it identified if it was
12 an issue or a petitioner issue, if you would
13 just let it be known where it was captured in
14 this list, so that I understand which ones of
15 these actually did become part of your
16 findings.

17 DR. OSTROW: Oh, I see.

18 MEMBER BEACH: And the petitioners
19 would probably like to see that as well.
20 Because, while this Table 2 is handy and it is
21 nice to see, I want to see what you captured
22 over in that list also, if you don't mind.

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1 DR. OSTROW: That is basically
2 mapping Table 2 to Table 1.

3 MEMBER BEACH: Well, or which ones
4 you decided fit into those findings. I guess
5 I was looking for a more uniform matrix like I
6 have seen at other sites. This one was a
7 little different.

8 DR. OSTROW: Yes, I hear what you
9 are saying. Our two tables sort of exist
10 separately. They identify the petitioner
11 issues, and we came up with a list of our
12 issues, but we didn't really make a connection
13 between the two of them to show you what --

14 MEMBER BEACH: Yes.

15 DR. MAURO: Yes, this is John.

16 I think it is important to make
17 sure that there is nothing on Table 2, issues
18 raised by the petitioners that we missed. In
19 other words, I know in talking to you, Steve,
20 about one of the issues that I don't think any
21 of us really engaged is this records business.

22 DR. OSTROW: Yes, the structure of

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1 records.

2 DR. MAURO: And I agree
3 completely; it is critical that every item
4 that is on the petitioner's list, as best we
5 reconstructed it in Table 2, that we, in fact,
6 have addressed. And if we haven't, we need to
7 identify it, that we haven't addressed it.

8 So I think, yes, that is a great
9 point, Josie. I think we've got to do that.

10 DR. OSTROW: I think we mentioned
11 the destruction of documents, but we
12 specifically said we didn't address it in
13 this. That is something, if the Work Group
14 wants us to do, we can do that going forward.

15 But that would have bogged down turning out
16 this report, which is basically on technical
17 issues. Destruction of records is not a
18 technical issue. It is something that is
19 important.

20 DR. MAURO: Where does records
21 come in? See, right now, to go back to the
22 question, the difficult question, I was asked

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1 regarding SEC versus site profile, it is
2 almost like a stage step process.

3 Let's say we get to the point
4 during this meeting where it is agreed, well,
5 you know, maybe -- let's say NIOSH agrees,
6 well, maybe we should have given a little bit
7 more consideration to OTIB-0070 and grab that
8 data. Then you say, okay, how are we going to
9 use that data? Now NIOSH may not agree with
10 that. I understand. In fact, by the end of
11 the day, we may agree with you that, no, the
12 way you are using it is fine. I would like to
13 hear more about that.

14 But, just for the sake of a model
15 going forward, let's say we get to the point
16 where we say, no, you know, I think we want to
17 use certain data as an anchor, using the
18 OTIB-0070 approach. Then the question, would
19 that process go forward in a more
20 scientifically-robust way if we had access to
21 these other data, these FUSRAP data that will
22 be made reference to?

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1 Not only that, even if NIOSH,
2 let's say, makes a strong case why their
3 current approach is scientifically-sound and
4 claimant-favorable, we need to ask ourselves
5 the question, is there anything about the
6 future data that might emerge, which is, of
7 course, much later data that would be
8 applicable here?

9 I'm sure it would be applicable to
10 the later years, you know, 2006, 2005, but the
11 degree to which it might be helpful for the
12 more difficult years, 1953, let's say, through
13 1976, I think that these are all matters that
14 we are going to have to discuss.

15 CHAIR ROESSLER: This is hard for
16 me to sort out all the things we are doing
17 here. I think we have to focus on one thing,
18 and that is, when does NIOSH present,
19 essentially, the report that Chris gave at the
20 beginning of our meeting? That is an SEC.
21 For that, we have to deal with SEC issues, and
22 we have to wrap everything else into it.

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1 Yes, Ted? Maybe you can help us.

2 MR. KATZ: When does NIOSH present
3 to the full Board?

4 CHAIR ROESSLER: Yes.

5 MR. KATZ: I mean we have a whole
6 Work Group process to go through now.

7 CHAIR ROESSLER: I know, but --

8 MR. KATZ: At the end of the whole
9 Work Group process, I would think, given that
10 this is sort of an unusual situation where we
11 have had SC&A do a review before the Board
12 ever got our presentation, so petitioners will
13 make a presentation today as opposed to making
14 a presentation to the full Board on the front
15 end. Obviously, there will be opportunities
16 to present to the full Board when this comes
17 to the full Board for the petitioner.

18 But my initial thought about this
19 is that the Work Group will probably, as
20 opposed to the normal process of OCAS getting
21 up and giving a presentation, here's our
22 evaluation report, and then the petitioner

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1 getting up and saying, "This is what I have
2 concerns about," since there's no tasking of
3 SC&A, at that point SC&A will have done its
4 work.

5 I think it probably makes more
6 sense for the Work Group to brief the Board on
7 the entire process of the Work Group,
8 including what has been presented to it, where
9 the Work Group stands, whatever outstanding
10 issues there might be that don't get resolved
11 by the Work Group, and then with the
12 opportunity of OCAS and SC&A to feed into that
13 briefing. That will sort of then set the
14 Board on its course to have the full Board
15 deliberations.

16 In my thought, that is probably a
17 better model for this, given that we will have
18 had all this groundwork done before it ever
19 comes before the full Board. That is open for
20 amendment, or whatever, but that is my thought
21 for the sort of sensible approach to that.

22 CHAIR ROESSLER: So I guess what I

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1 am trying to do is focus on, where do we go
2 from right now? We have brought up what seems
3 to be one SEC issue only. I am not sure if
4 that is what John intended.

5 DR. MAURO: I am sorry. I didn't
6 want to leave you with that impression. In
7 fact, I think if we get into the first three
8 issues on radon, we think that there are some
9 problems with the method used to reconstruct
10 exposure to radon from 1954 on.

11 They did not use an approach that
12 we felt was scientifically-robust, claimant-
13 favorable, and in accordance with OTIB-0070.

14 MR. KATZ: John, can I just
15 interject here?

16 DR. MAURO: Sure.

17 MR. KATZ: We had all this sort of
18 unusual discussion about where John was asked
19 about, what's TBD and what's an SEC issue, and
20 so on, upfront, and so on, but we haven't
21 really had the opportunity yet for Steve to
22 present the substantive findings.

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1 So we had an OCAS presentation we
2 haven't even gotten into. Let's have SC&A
3 present its review. At the tail-end of that,
4 I would say, rather than you having to put
5 words in OCAS's mouth, OCAS can then give its
6 initial response to that. Then we have a
7 petitioner opportunity to give the
8 petitioner's comments. Then let's get into
9 the turf of this.

10 But it seems like we have done a
11 lot of sort of global discussion before
12 getting into the meat. It probably will be
13 helpful to go through everybody's hard work.

14 DR. MAURO: I agree with you 100
15 percent.

16 So you want to do this orally? So
17 I would like to do it orally because I'm
18 getting a little frustrated that there's been
19 so much sort of crosstalk about issues that
20 nobody has really deliberated on the details
21 about yet.

22 DR. OSTROW: Okay. So what I

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1 would like to talk about now, basically, using
2 our Table 1, which is a summary of our
3 findings, as the guidance, is to go through
4 the different points.

5 Our Table 1 is a summary of
6 findings, and it points in the third column to
7 which section of our report goes into it in
8 more detail. So Table 1 is a little bit of a
9 shorthand.

10 We can take several of these
11 issues at a time. As has been mentioned, the
12 first three issues all have to do with radon
13 exposures, bounding radon exposures.

14 Our first finding, and this is all
15 in Section 3.2.1 of our report, which is
16 called "Bounding Radon Exposures," and there's
17 a little bit of a discussion on it, but then
18 we have the findings.

19 One of the findings is that the
20 data that was taken after the decontamination
21 of Building 31 -- that is the 1981 survey --
22 was actually higher in the good number of

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1 cases than the data that was taken before the
2 decontamination was done, the 1976 data.

3 I think the timeline is the 1976
4 survey there was decontamination work done.
5 Then there was a 1981 survey.

6 We found that, though it has been
7 said in a couple of places, the 1976 survey
8 wasn't a great survey, and it was a little bit
9 cursory. But it still raises questions in my
10 mind, why the dose rates or the doses were
11 higher after the decontamination than they
12 were before? That puts, I think, doubt on the
13 whole process of the surveys. That is our
14 finding 1, basically.

15 Finding 2 -- and we had brought
16 this up before in dealing with the site
17 profile issues -- that NIOSH is using the mean
18 value, geometric mean, rather than the 95
19 percentile value, as the appropriate exposure
20 metric. We still think for bounding
21 calculation we should be using 95 percentile
22 value rather than the geometric mean.

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1 We also bring up the issue that
2 you are using data from 1976 or also 1981 and
3 extrapolating back like 30 years prior to the
4 beginning of the residual period. To us, that
5 is not a very good way of doing it. We don't
6 think that is a robust way of doing it.

7 As John outlined earlier in one of
8 the preface remarks, we think it would be more
9 robust to go forward in a lot of cases. Look
10 at the measurement, the dose rates, and all
11 that, at the end of the operations period, the
12 beginning of the residual period, and go
13 forward from that.

14 Also, as John mentioned, this is
15 the OTIB-0070 approach. We think that would
16 be a more claimant-favorable and more
17 scientifically-valid approach for coming up
18 with bounding radon values for this period.

19 That basically summarizes our
20 findings with respect to radon.

21 Gen, would you like us, do you
22 think, to go through all findings, and have

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1 NIOSH respond, or have them respond by group?

2 This is the radon findings, the three of
3 them.

4 CHAIR ROESSLER: To me, it would
5 seem like it would be good to have them
6 respond to this set of findings.

7 DR. OSTROW: I agree. I think it
8 would be less confusing.

9 CHAIR ROESSLER: Yes. We could
10 concentrate on one topic.

11 MR. CRAWFORD: Okay. Looking at
12 finding 1 -- and, Steve, I might need to check
13 with you -- it is true some of the decon
14 contact survey data from 1950 and Building 31,
15 the average makes it look like there was no
16 improvement. In fact, it looked like it might
17 have gotten worse.

18 But what we noticed was, if you
19 look at the worst spots, they were
20 significantly reduced. Almost 5,000
21 measurements were taken for surface contact
22 data, and you even provided it. I noticed

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1 that the Heatherton report provides a map of
2 where the decontamination was heaviest --

3 DR. OSTROW: Yes.

4 MR. CRAWFORD: -- and to what
5 degree, which was good of them.

6 Naturally, that is where they
7 concentrated their decon efforts. It looks
8 like, if you look at the high readings, they
9 significantly reduced them, sometimes by a
10 factor of as much as 10, often by six or more.

11 The average was little affected.
12 But, if you have 5,000 readings and a great
13 majority of them are zeroes -- they mention
14 94.5 percent of the readings were 1 millirem
15 or less, for instance, at contact -- then you
16 can't lower the average very much, no matter
17 how much work you do. There's just too much
18 zero values sitting out there, you might call
19 it.

20 So we think there's evidence that
21 the bulk of the fixed contamination was
22 significantly reduced, even though the average

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1 exposure across the whole building didn't
2 change terribly much.

3 I guess our whole point, and I
4 should mention again, as we all know, Joe
5 Guido worked on this extensively and he's only
6 available on an occasional consultant basis
7 now, but our view of the situation is that,
8 after the decontamination, the remaining
9 fixed, embedded radioactive contaminants were
10 much less than they were before the
11 decontamination.

12 The situation probably was very
13 stable. There is no reason to think it
14 changed over the years from there to, say,
15 1976 and 1981, and the measurements you are
16 speaking of.

17 There were absolutely no process
18 activities going on here. The process, the
19 material was all removed. All those thousands
20 of tons of ore were history. All of the
21 product, the green salt, and so forth, all
22 gone. All the process machinery, gone. So

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1 there was no contamination from that source.

2 It was used as a general occupancy
3 warehouse, period. We don't have any reason
4 to think that there's a significant change to
5 be expected in the embedded contaminants.

6 So that is why we are looking at
7 this later data and saying it would have been
8 nice to have it earlier, but why would it have
9 changed?

10 DR. MAURO: Chris, I'm sorry to
11 jump in here, but it is a subject that I was
12 looking at pretty closely.

13 First, let me say that we have
14 left the area of radon, and you are using a
15 residual activity measured on surfaces.

16 By the way, on a positive note, we
17 agree completely with your approach for
18 external. In other words, you will notice we
19 have no comments on external dose. So we
20 don't think there are any issues there. We
21 think that you did a fine job and it is
22 claimant-favorable. The data are very good.

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1 That does go toward the surface contamination
2 information you are talking about.

3 I have a problem, though, using
4 residual activity on surfaces as a surrogate
5 for airborne radon levels. I understand why
6 you might want to take that approach, but I
7 think that, when you have radon data,
8 especially if you have radon data that go back
9 to the fifties, use it.

10 The idea, the fact that you have
11 what you would consider relatively stable
12 surface contamination levels observed in 1976
13 and 1981 as a way to be indicative of what the
14 radon levels might have been in 1954, I really
15 have a problem with that.

16 That is why I came down on I
17 really like the OTIB-0070 approach, where, no,
18 no, let's use the -- now there's a problem
19 with using the radon data from, let's say, the
20 1950s or the forties because the problem was a
21 lot worse. But we have seen that before. We
22 have seen you use that on Dow, where I think

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1 that it was even more conservative on Dow.

2 The approach where you used some
3 Dow measurements of airborne activity during
4 operations, and then used that as your anchor
5 to start the residual period, that was an
6 application where we thought that approach is
7 appropriate. In fact, we concluded that it
8 was extremely conservative.

9 I could see you using it here just
10 like you did at Dow. In fact, it would be
11 even less conservative here because you would
12 have better data.

13 So, you know, my sensibility is
14 that I understand the point you are making,
15 but to use that as a basis for assigning a
16 radon concentration for 1953, using surface
17 contamination levels observed, and somehow
18 that is indicative or it can be used as a hook
19 to help you reconstruct what the airborne
20 radon concentrations might have been in the
21 building in 1953, I have a problem with that.

22 MR. RUTHERFORD: John, this is

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1 Bomber. I want to respond a little bit to
2 that.

3 The Dow model was used because
4 there was no D&D activity that occurred after
5 1960 at Dow. We used the cutoff date of when
6 operations stopped as our high point --

7 DR. MAURO: Right.

8 MR. RUTHERFORD: -- and then did
9 the exponential reduction based on that. So,
10 I mean, there's a big difference between Dow
11 and Linde.

12 DR. MAURO: Well, why wouldn't
13 that work here? I guess, what is it about
14 that that is --

15 MR. RUTHERFORD: I think it would
16 work here. If you wanted to use that
17 approach, you could use that approach, but I
18 think that a more appropriate estimate of the
19 concentrations are the fact that you take into
20 consideration from 1950 to 1954 there was a
21 significant D&D effort to clean the facility
22 up, remove the contaminants, remove the

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1 equipment, remove the product, remove heavily-
2 contaminated concrete.

3 That period took out a significant
4 source term from that point. What we believe,
5 due to the washdowns and that activity, that
6 there was very little loose contamination that
7 existed.

8 From that point to 1976, we took
9 the position that, based on the cleanup that
10 occurred from 1950 to 1954, the only reduction
11 you are going to see is going to be if there
12 was activities that occurred, the renovation
13 activities, where you could get spot samples
14 of contaminants removed, and if a renovation
15 activity occurred over a month, that month
16 could generate some spot airborne.

17 But the significant portion of our
18 source term remains relatively constant from
19 that period of the end of D&D in the 1953-1954
20 period to 1976, because your removal constant
21 is much lower or it is more affected by decay
22 than anything, and decay sure isn't going to

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1 do much for that period.

2 DR. MAURO: I hear you.

3 MEMBER BEACH: So we are talking
4 about Building 31, correct?

5 MR. CRAWFORD: Thirty normally.

6 DR. MAURO: Thirty, yes.

7 Yes, but, Bomber, when we looked
8 at the cleanup that was done in that
9 decontamination period --

10 MR. RUTHERFORD: Yes.

11 DR. MAURO: -- I believe that is
12 the period where you had this eightfold
13 effect?

14 MR. RUTHERFORD: Yes, we actually
15 determined an eightfold from -- yes, we
16 indicated --

17 DR. MAURO: We had a problem with
18 that.

19 MR. RUTHERFORD: Sure.

20 DR. MAURO: Reality is, I think we
21 walk away from that decon operation, is that
22 it really didn't buy you too much. In other

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1 words, going from the beginning to the end of
2 decon, it wasn't eight; it was something less.

3 So decon didn't do too much.

4 It did what it did, but the
5 metrics don't -- you know, you would expect,
6 oh, we go from some high level, you know, by
7 orders of magnitude drop, but we don't see
8 that.

9 So, all of a sudden, the end of
10 the decon period, whatever the year that is,
11 1953, seems to be, given that decon wasn't all
12 that effective from the beginning to the end
13 in terms of really getting things down, that's
14 the data we see. It tells me that is probably
15 a pretty good place to start.

16 In my opinion, I would have gone
17 with the geometric mean of the radon and the
18 airborne dust loadings, starting at the end of
19 decon, maybe if you have enough data. I
20 haven't looked at all the data, but let's say
21 you have lots and lots of measurements. I
22 would have gone with the geometric mean and

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1 then used that as my anchor for the starting
2 point for 1953.

3 MR. CRAWFORD: By the way, the
4 only radon measurements that I'm aware of in
5 the early period were taken during production.

6 The values are very high, as you would expect
7 when you have thousands of tons of source
8 term.

9 DR. MAURO: So you don't have any
10 radon numbers during the decontamination time
11 period?

12 MR. CRAWFORD: Not to my
13 knowledge.

14 DR. MAURO: Okay.

15 MR. CRAWFORD: The reason that we
16 are looking at the fixed contamination as a
17 proxy is because, essentially, it is the
18 source of the radon. Therefore, if it is
19 greatly reduced --

20 DR. MAURO: Well, do you know how
21 I would handle that? I would look at the
22 airborne dust loading for particulates that

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1 you do have and relate -- in other words, see,
2 I like the idea of anchoring the beginning.
3 Somehow find a way -- and this might become an
4 SEC issue. If you can't find a way to get a
5 good anchor for what the airborne radon levels
6 are in the beginning of 1953, you've got a
7 problem.

8 If you have minimal amount of
9 radon measurement, that doesn't mean there's
10 not a way to create. For example, let's say
11 you go all the way back to operations, and you
12 have measurements on air particulates and you
13 have measurements of radon during operations.

14 So you've got some relationship.

15 Then you say, okay, this is what
16 we had during operation, and we have lots and
17 lots and lots of data. Okay, how do we take
18 advantage of that? Well, now we have lots of
19 data during D&D, but we only have particulate;
20 we don't have radon.

21 All right. To me, you say, well,
22 we do have a pretty robust relationship, and

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1 you could say, well, where you could use the
2 air particulate as a hook to say it's unlikely
3 that the radon levels would have been much
4 higher than this during decontamination. And
5 then you've got your anchor. That's how I
6 would have come at this thing.

7 Now when I look at these things, I
8 say, how would I have done it that I think
9 would be a little bit more scientifically-
10 defensible? And I would have taken that
11 approach.

12 I think that you are several steps
13 removed by going to the 1976 data. It is so
14 far removed that it doesn't really engender a
15 great deal of confidence that you really
16 caught the upper end to the early fifties.

17 Now whether or not you have the
18 data in order to create this model for 1953,
19 that is a question that is, in my mind, still
20 on the table, and how you would deal with
21 that.

22 But I've got to say right now the

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1 approach to radon, as currently described,
2 left me -- I felt that there's got to be a
3 better way to do this.

4 MR. RUTHERFORD: John, it's Bomber
5 again.

6 Two things: one, I think we need
7 to get into really at some point, whether it
8 is just another meeting, we need to really get
9 into a discussion on why you believe the
10 decontamination that was conducted 1950 to
11 1954 had little effect. Because I believe
12 that you guys have taken a very different
13 approach to your decontamination factor.

14 I think Chris mentioned the fact
15 that 94.5 percent of the samples, if you look
16 at -- you know and I know, if your
17 contamination on the surface is nothing, and
18 you remeasure it, it is nothing again. Your
19 decontamination factor is not going to change
20 or you don't have any. You know, it's one.

21 DR. MAURO: Right.

22 MR. RUTHERFORD: So, if you look

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1 at the decontamination of the higher
2 contamination areas to what the results are
3 after decontamination, and you focus, look at
4 those areas, that is giving you a better
5 indication of how well your decontamination,
6 how effective your decontamination is. That
7 is one issue.

8 So I think we need to talk
9 about --

10 DR. MAURO: And I agree, and that
11 is our factor-of-eight issue that we are going
12 to get to later.

13 MR. RUTHERFORD: Okay.

14 DR. MAURO: See, but there are
15 linkages. And I agree with you. I think we
16 are on the right track, though.

17 You see, what we are doing is we
18 are talking about, can we somehow take
19 advantage of the decon period data to help us
20 anchor our residual period? In other words,
21 it is where I wanted this conversation to go,
22 as opposed to the approach that you folks are

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1 using, where you are anchoring everything on
2 1976 data, which I have to say is very
3 disturbing to me.

4 MR. RUTHERFORD: Yes, but you
5 didn't let me finish here.

6 DR. MAURO: Okay.

7 MR. RUTHERFORD: The one thing, my
8 point is to show that we believe the
9 decontamination was very effective and that it
10 left fixed contamination, for the most part,
11 fixed contamination was left from that point
12 at the end of D&D.

13 So, then, the actual changes in
14 the contamination and even the radon of the
15 time of the end of the D&D period we believe
16 was only affected by, if there was the
17 renovation activities that occurred in
18 between, the spot changes that occurred, but
19 other than that, they were unaffected past
20 that 1954 period.

21 That is why we went with that
22 radon model. If you go back and you take the

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1 -- you know, I see the driver here. The
2 driver is to say, okay, well, we think it was
3 not effective, the D&D work, from 1950 to
4 1954. Maybe you should take the high point of
5 1949-1950 and use that as an exponential
6 decay.

7 DR. MAURO: And a geometric mean.

8 MR. RUTHERFORD: But then you are
9 taking the position that the D&D that occurred
10 in 1950 to 1954 did zero, and I totally
11 disagree with that.

12 DR. MAURO: Yes, well, see, that's
13 the dilemma we have. We have a dilemma that
14 both approaches have their problems. I think
15 that when we are in a situation like that,
16 this is classic, you go with the one that is
17 claimant-favorable but still plausible.

18 Right now, I think you folks have
19 selected the approach that certainly is
20 plausible, but I don't think it is as
21 claimant-favorable as it could be. So I am
22 more inclined to go toward making the error on

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1 the other side; namely, I think we may have
2 overestimated it for the following reasons, as
3 you did with Dow.

4 MR. RUTHERFORD: Well, as I
5 mentioned, Dow is completely different.
6 Operations continued at Dow. The only reason
7 that 1960 was picked was that was the end of
8 the AEC-covered period, and operations
9 continued at Dow. There were no efforts for
10 D&D or else we would have taken that into
11 consideration.

12 DR. MAURO: But, in my defense --
13 I'm sorry -- in Dow, though, we know that only
14 .1 percent of the activities that took place
15 during the operations period were AWE-related.
16 The rest were commercial.

17 But, nevertheless, so therefore,
18 in theory, the airborne concentrations that
19 were your anchor on Dow probably were
20 overestimated by a factor of a thousand. But,
21 nevertheless --

22 MR. RUTHERFORD: John, we talked

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1 about that. You know that's --

2 DR. MAURO: And we did.

3 MR. RUTHERFORD: Yes.

4 DR. MAURO: And we did, and the
5 Work Group decided that that's okay.

6 MR. RUTHERFORD: Yes.

7 DR. MAURO: So the Work Group was
8 comfortable with the potential of a one
9 thousand-fold overestimate as your anchor.
10 And I'm saying that, if we can do that there,
11 we certainly can do this here.

12 MR. RUTHERFORD: John, that had
13 nothing to do with a technical reason. That
14 was a legal reason, John. So, using that as
15 your anchor doesn't work with me.

16 MR. ELLIOTT: No, it is not a fair
17 comparison.

18 MR. RUTHERFORD: No, it's not. I
19 think one of the things that we can do is we
20 can go back in our final address, and when we
21 address these findings in our final, we can
22 come back and provide you more detail why we

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1 believe the decontamination effort that
2 occurred in the 1950 to 1954 period was
3 effective, and discuss more detail.

4 I know it is going to come up here
5 in one of the other findings with the
6 decontamination factor, but that is obviously
7 something that we are going to work to
8 convince you that that effort that occurred
9 from 1950 to 1954 was productive.

10 DR. MAURO: I mean what is good
11 that came out of this discussion, I think we
12 both clearly understand each other.

13 MR. RUTHERFORD: Sure.

14 DR. MAURO: And we're not talking
15 past each other.

16 CHAIR ROESSLER: Let me understand
17 this though. If you can convince him about
18 the decontamination period, does that, then,
19 remove his idea of this anchor that he is
20 talking about, using that old data to come up
21 with a --

22 MR. RUTHERFORD: I don't know that

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1 it does.

2 DR. MAURO: Yes. Yes. In other
3 words, that would be the challenge, to
4 demonstrate that the approach that they have
5 taken is scientifically-sound and also
6 claimant-favorable. Of course.

7 Right now, our perspective, from
8 what we have seen, we think that there is
9 another approach that is more scientifically-
10 sound because its proximity in time is better.

11 Instead of 1976, we are talking the fifties.

12 Second, it is certainly more claimant-
13 favorable.

14 So, in my mind, the way there will
15 be evidence is to try to anchor from the front
16 end and not from the back end, and try to make
17 an argument why 1976 data is probably okay. I
18 think that is going to be tough to do.

19 MR. CRAWFORD: John, I don't
20 think, however, you have answered my
21 observation that the only radon measurements
22 we have in the early period are during

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1 production.

2 DR. MAURO: Yes.

3 MR. CRAWFORD: We do not have any
4 radon measurements during the decon period.

5 DR. MAURO: Well, I mean -- yes.

6 MR. CRAWFORD: So how can we
7 anchor to production? How can that be a
8 reasonable, scientifically-justifiable
9 position?

10 DR. MAURO: Yes, but you just
11 opened up a nice SEC issue.

12 MR. RUTHERFORD: Well, see, you
13 know, I think that is an issue that can be --
14 I mean, ultimately, if we came down to that
15 position, we can address what the radon
16 concentrations would be using a more -- and I
17 am not committing to doing this at all because
18 I believe our model we have right now is the
19 right model, and the approach we have right
20 now.

21 But I don't believe it is an SEC
22 issue because I think we can come up with the

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1 radon concentrations during that period.

2 DR. MAURO: Good. See, that is
3 where I am headed. I am headed, if you can
4 come up with perhaps very conservative, but
5 plausible, radon concentration during the
6 decon period --

7 MR. RUTHERFORD: Well, my goal,
8 John, my goal right now is to convince you
9 that the model we have right now, and what I
10 am going to work towards is to convince you
11 that the model we have right now is claimant-
12 favorable and is scientifically-sound.

13 DR. MAURO: Well, we certainly
14 will keep an open mind, and we will look at
15 your material, of course.

16 CHAIR ROESSLER: So where this
17 sits right now is it is in NIOSH's --

18 MEMBER BEACH: Is that like a
19 white paper coming on?

20 MR. RUTHERFORD: I think when we
21 detail our responses to the finding in more
22 detail, we will provide that.

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1 CHAIR ROESSLER: Does this take
2 care of, are we talking about --

3 MR. RUTHERFORD: I think it
4 affects radon and the particulate question.

5 CHAIR ROESSLER: Are we talking
6 about 1 through 3 in Steve's findings? Or are
7 we actually going beyond that?

8 DR. MAURO: Right now, in my
9 opinion, I think we have only addressed 1
10 through 3. I would like to see how this plays
11 out when we move on to 4, 5, and 6.

12 MR. RUTHERFORD: Okay.

13 CHAIR ROESSLER: So we are saying
14 that for findings 1, 2, and 3, which we have
15 all grouped together as radon, closely related
16 to radon, they will be addressed by NIOSH, and
17 they will come up with something in writing to
18 present to SC&A to discuss and see what their
19 response is?

20 DR. OSTROW: Well, I think that is
21 sort of the answer for everything, Gen.

22 MR. RUTHERFORD: It is.

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1 DR. OSTROW: Because if you
2 recognize that NIOSH's response they produced
3 yesterday was just basically a quick outline,
4 it's good for discussion, but they didn't have
5 a lot of details and they didn't have the
6 benefit of this conversation with our
7 consultants or all that.

8 So they are going to -- and I
9 think this is correct, what NIOSH is going to
10 do -- they are going to respond to our entire
11 report, all the findings we have, and not just
12 the radon ones. That will be the general
13 thing.

14 Then we can go, you know, argue
15 some more.

16 MS. BONSIGNORE: And will there be
17 some further clarification about the issues
18 that John raised regarding the effectiveness
19 of the decontamination for 1950 to 1954?

20 DR. MAURO: That's why I think we
21 really do need to talk about 4, 5, and 6.

22 MR. KATZ: Absolutely. We just

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1 dealt with 1, 2, 3. So we are going to go
2 through them all --

3 CHAIR ROESSLER: Yes, we are going
4 there next.

5 MR. KATZ: -- regardless of
6 whether there's any redundancy, or whatever.

7 DR. OSTROW: Okay, so moving on to
8 4, 5, and 6, 4, 5, and 6 can be grouped
9 together, as John noted. This has to do with
10 basically particulates and inhalation of
11 particulates on 4, 5, and 6.

12 I'm just noting this is all
13 covered in Section 3.2.2.1 of the SC&A report,
14 and it is summarized in our Table 1.

15 The finding 4, just to go through
16 it quickly, and this is the issue of going
17 sort of backwards in time. We believe that
18 NIOSH's assumption that they took a single air
19 sample taken in the 1970s, that they are using
20 it to bound the plausible internal exposures
21 to uranium, thorium, and radon for almost 50
22 years in the past, we question whether that

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1 can be done correctly, whether that is valid.

2 Finding 5 has to do with sort of a
3 technical issue of NIOSH is assuming a GSD,
4 the lognormal distribution is five, while
5 guidance in the Battelle 2007 reference
6 recommends a value of 10 to sitewide
7 estimates. Five is for a process situation,
8 while the value of 10 is recommended where you
9 have sitewide estimates.

10 We also notice that we only have a
11 single sample. When you put it on lognormal
12 distribution, that can lead to substantial
13 errors. You know, it is basically how do you
14 draw a line through a single point?

15 And our finding 6 is what John has
16 been talking about extensively, that NIOSH is
17 using a constant air concentration by going
18 sort of backwards in time, rather than looking
19 at the beginning of the residual period and
20 going forward in time, and have like a
21 exponential declining that has been done in
22 OTIB-0070.

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1 So those are our three concerns
2 basically.

3 MR. ELLIOTT: The GSD of 10
4 approaches infinity, doesn't it? Where do you
5 draw the line there?

6 MR. RUTHERFORD: And the other
7 thing is, I mean, for one, the same issue is
8 on the table for 4, 5, and 6 that is on for 1,
9 2, and 3. We've got to show why we believe
10 that the concentrations were relatively the
11 same over that period. So, yes, we will have
12 to do that, and that will be addressed.

13 The GSD of 5 and GSD of 10, we
14 took the GSD of 5 because, although a GSD of
15 10 is recommended for sitewide, the operations
16 were relatively the same when you look at
17 sitewide across this. It was general
18 occupancy for the most part. So we felt like
19 that GSD was more appropriate.

20 And you may want to add something
21 to that. I don't want to --

22 MR. CRAWFORD: Just a couple of

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1 things, and just for the more general
2 audience, the GSD of 5 allows for a multiple
3 of 14 times the geometric mean value cited.
4 So it is a pretty wide range, a GSD of 5.

5 If you go to 10, that is saying I
6 have no idea what the readings were; we just
7 don't have anything to work with at all. It
8 could be anything.

9 MR. ELLIOTT: That is total
10 uncertainty.

11 MR. CRAWFORD: Right. So we
12 thought a factor of 14 is a big, wide,
13 claimant-favorable range, and that is why we
14 chose that.

15 DR. MAURO: But think about how
16 far removed we are from reality. I believe
17 you picked, you took a number that was
18 measured -- was it 1976? What year was it,
19 the dust-loading measurement?

20 MR. CRAWFORD: 1976.

21 DR. MAURO: 1976. You take that
22 number, single value; you assume that is the

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1 upper 95th percentile of some distribution.
2 Is that what you did?

3 I'm trying to understand the
4 rationale, and say, okay, now we have an
5 estimate --

6 MR. CRAWFORD: I believe so. I
7 think that's what Joe did.

8 DR. MAURO: You have a single
9 estimate that you say we are going to assume
10 that the concentration in 1953 is the -- in
11 other words, it is such a stretch. The
12 process you are going through is to start with
13 some value in 1976 and somehow get from there
14 -- I don't know whether that is an airborne
15 activity or a surface activity.

16 MR. CRAWFORD: It's airborne.
17 But, John, you are ignoring one thing here in
18 our finding 4 response.

19 DR. MAURO: Yes.

20 MR. CRAWFORD: Joe did a
21 calculation based on the alpha readings at the
22 95th percentile back in the fifties, not in

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1 1976, and said that, if you use standard
2 assumptions about resuspension, and so forth,
3 you get a value that is very similar to, but
4 less than the value that was measured in 1976.

5 That is what gives him some
6 confidence. That isn't just one value and
7 there's no way to compare it to anything else.

8 He is saying, if we start from basic science
9 and work our way up, we come to an estimate
10 that is really pretty close to what we
11 actually measured so many years later.

12 DR. MAURO: I see. Well, I mean I
13 hear you. And, see, you used 10 to the minus
14 5 resuspension factor. That is a fairly good
15 resuspension factor for a relatively-
16 undisturbed area. Ten to the minus 4 would be
17 for -- I don't know if there was a lot of
18 physical activity going on, people walking
19 around, working, in 1953-1954. If they were,
20 I might go with 10 to the minus 4.

21 But I also notice that -- and this
22 is in my notes -- you actually have a

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1 measurement in 1954 of 78 dpm per cubic meter
2 for uranium. So there is some airborne
3 measurement here in 1954. This is sort of
4 like a note I wrote in a column.

5 So, apparently, there are some
6 measurements there. I think that if we could
7 sort of let this all converge, namely, Joe
8 Guido's hand calc, I like that.

9 I have some notes here that there
10 are some measurements of 78 dpm per cubic
11 meter. I'm not too sure where I got that
12 from. That might be measurements made during
13 the decommissioning period, you know, the 1949
14 to 1953 period.

15 MR. CRAWFORD: I believe that's
16 correct, and that is what we applied the
17 factor of eight to come up with the 10 dpm
18 number --

19 DR. MAURO: Oh, I got it.

20 MR. CRAWFORD: -- for the
21 renovation period.

22 DR. MAURO: Well, anyway, I hear

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1 what you are saying. This last thing you
2 mentioned about going with this dust, the
3 concentration on the surface, and then
4 applying, that you have, but, again, that
5 concentration on the surface was, again, taken
6 in 1976. Is that correct?

7 MR. CRAWFORD: No. We are using
8 the measurements from the fifties, from the
9 Klevin and Heatherton.

10 DR. MAURO: Okay. So you have dpm
11 per square meter, or whatever, on surfaces for
12 the 1950s. You apply a 10 to the minus 5
13 resuspension factor, and you get a dust
14 loading that is comparable to the one that you
15 guys selected?

16 MR. CRAWFORD: No, comparable to
17 the measurement that was made in 1976.

18 DR. MAURO: Oh, okay.

19 MR. CRAWFORD: Do you see what I'm
20 getting at? In other words, we predicted the
21 1976 measurement.

22 DR. MAURO: Oh, okay, well, that

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1 makes a bigger argument. I hear what you're
2 saying. Okay.

3 One other thing that might be
4 worthwhile is to also play this -- in other
5 words, I like to say let's come at this in
6 several directions.

7 What you have done is, okay, that
8 is another direction. I would sure like to
9 know what the dust loadings were in the
10 decontamination period. See, are we four
11 orders of magnitude higher, a factor of two?

12 In other words, the 78 dpm per
13 cubic meter that was measured at sometime
14 early, I would like to see where that fits in
15 in this milieu of different strategies you
16 used to sort of come at what you might have
17 experienced in 1953.

18 MR. RUTHERFORD: We could add
19 that, John. I know what you are saying.

20 DR. MAURO: In other words, almost
21 trying to build a story that you come at this
22 in several directions. What happens is, my

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1 experience is, when you come at something in
2 several different ways, something emerges from
3 that that you have to say, yes, I think I've
4 got a pretty good feel for what the right
5 number is.

6 Right now, just going from this
7 1976 value, single measurement, it may turn
8 out that is okay, but until you sort of test
9 it by these other lines of inquiry, the way
10 Joe did, it left me a little off-balance.

11 MR. CRAWFORD: We will certainly
12 look at the source of that 78 or 80 dpm
13 number. I believe those were samples, air
14 samples, taken during the physical acts of
15 decontamination. In other words, we could
16 expect them to be much higher than, say, a
17 resting building.

18 MR. ELLIOTT: Or a building with
19 normal --

20 DR. MAURO: Well, a resting
21 building, but I think there were certainly
22 people doing things in the fifties, right? I

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1 mean they were walking around and working? It
2 is not that it was a quiescent place.

3 MR. ELLIOTT: I don't think we
4 disagree with that, John. It wasn't a quiet,
5 resting building. It had activity in it, but
6 we don't think that activity would have
7 generated --

8 MR. RUTHERFORD: But it wasn't a
9 production building.

10 MR. ELLIOTT: It wasn't a
11 production building. It wouldn't have
12 generated what contamination was seen during
13 the D&D effort.

14 DR. MAURO: Yes, and you can see
15 the linkage now. The D&D period, no
16 production going on, granted. In D&D,
17 intuitively, you would say, well, there's a
18 lot of airborne activity generated; it is
19 unfair to apply D&D measurements to this
20 residual period.

21 But then you say, but wait a
22 minute, when we look at the D&D period, the

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1 degree of decontamination that was actually
2 experienced seemed to be marginal, maybe a
3 factor of eight. To me, that is relatively
4 small, by the way. Maybe smaller, based on
5 discussions that we will get to soon.

6 So, again, I'm just looking at it,
7 coming at it several different ways and to see
8 how robust the outcome is. Right now, as I
9 said, I'm uncomfortable with the number, the
10 single value. Even though you assign -- what
11 is it? -- a geometric standard deviation of
12 five, the starting point of that single
13 airborne measurement, you have to admit that
14 is not very robust.

15 CHAIR ROESSLER: So what you are
16 going to do is find several other ways --

17 MR. RUTHERFORD: We will do a
18 little more comparisons.

19 CHAIR ROESSLER: -- to assess that
20 value.

21 MR. RUTHERFORD: Right.

22 CHAIR ROESSLER: To support the

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1 value.

2 Are we on to the next group now?

3 DR. OSTROW: I think so. Okay,
4 the next group, we put together findings 7
5 through 10, which the details are in Section
6 3.2.2.3 of the SC&A report. These have to do
7 with exposures during the building renovation
8 period.

9 Finding 7, we think the process
10 that NIOSH used to establish the
11 decontamination dust levels don't appear to us
12 to be claimant-favorable based on the
13 Heatherton report. We have some details of
14 why we don't think it's claimant-favorable.

15 Finding 8 -- I am just
16 summarizing -- has to do with this
17 decontamination factor of eight, which is
18 based on pre- and post-decontamination values.

19 We pointed out that they were taken in
20 different areas, that one part of the building
21 was done to the pre-decontamination; a
22 different part of the building was done for

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1 post-decontamination, and came up with a
2 factor of eight.

3 If you look at the full dataset,
4 which we did, we think that the differences in
5 the potential internal exposure between the
6 earlier and later decontamination activities
7 aren't as great as a factor of eight. We
8 disagree with the factor of eight.

9 The ninth finding is that we think
10 that the TBD-6001 approach, bounding approach,
11 is more claimant-favorable than the one done
12 in the petition evaluation report.

13 And the finding 10, we needed
14 clarification, a quantification of the
15 different alpha-emitting radionuclides in the
16 airborne dust. This is related to the
17 raffinates that we brought up before.

18 So that is the summary of our
19 findings.

20 CHAIR ROESSLER: And NIOSH has
21 their response.

22 MR. CRAWFORD: Shall I just leap

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1 in here?

2 CHAIR ROESSLER: Yes, go ahead.

3 MR. CRAWFORD: Okay. We will
4 start with finding 7 then. Again, we are
5 looking at the same data, I believe, and sort
6 of mixing this with finding 8 as well, and
7 just seeing different things.

8 If we only look at the average
9 contamination level pre- and post-
10 decontamination, the difference is not
11 remarkable. Joe's figure suggests that it is
12 a factor of about two.

13 If we look, however, at the small
14 minority of measurements that were above 1
15 millirep, we see that those areas of
16 heightened contamination also have the
17 greatest reduction, often factors of six to
18 ten.

19 Again, we have to look at the idea
20 of what was the report written for. These
21 engineers were tasked with rendering the
22 building fit for habitation, basically, and

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1 use. They were looking to achieve levels of
2 contamination of less than 1 millirep per hour
3 at contact.

4 So, if some part of the building
5 had levels less than 1 millirep per hour, and
6 that was 94 percent of the spots surveyed,
7 they probably didn't do much. They probably
8 washed and vacuumed those areas and didn't do
9 much else.

10 But where they found heavy
11 contamination, that is when they got out the
12 chipping hammers, the torches, the
13 sandblasting equipment, and they removed
14 material, and lots of it.

15 So we have to interpret what the
16 engineers did and why they did it. I would
17 say that it is reasonable to assume that they
18 achieved their goal. It wouldn't have changed
19 the average contamination much because you've
20 got so many spots that just were a little
21 contaminated.

22 Of course, this is an area of

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1 uncertainty for all of us. Maybe the factor
2 of eight isn't the exact correct factor. It
3 would be a miracle if it were. But we think a
4 significant reduction occurred.

5 MR. RUTHERFORD: Well, this,
6 again, goes into also -- I mean responding to
7 the discussion on why we believe the
8 decontamination was effective, and we will
9 detail that in our response.

10 MR. CRAWFORD: And for finding 9,
11 I think --

12 DR. OSTROW: I was taking notes,
13 so I didn't respond to him immediately.

14 The question may not be -- I don't
15 know how important it is, but the pre-
16 decontamination was taken in one part of the
17 building, I think the west wing or the east
18 wing, and the other, the post-decontamination
19 value when Joe got this factor of eight was
20 taken in the other wing of the building. One
21 was east and one was west, and I forget which
22 order it was. I think it would have been more

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1 valid if he took it in the same spot both
2 times.

3 MR. CRAWFORD: Are you referring
4 to the Heatherton study? Because I am looking
5 at the Klevin study, and they have pre- and
6 post- on east and on west and separately on
7 more areas.

8 DR. OSTROW: I would have to look
9 back at my notes, but my impression is it was
10 different areas.

11 MR. RUTHERFORD: Yes, we didn't
12 think he did that. We will look at that in
13 detail.

14 DR. OSTROW: I might have
15 misinterpreted it.

16 MR. RUTHERFORD: Because if you
17 are correct in your interpretation, then that
18 is a question we need to address.

19 DR. OSTROW: Okay. Yes, so please
20 look into that because I might have
21 misinterpreted it.

22 DR. MAURO: I have another

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1 thought, too. This is one of those lines of
2 inquiry that sort of taxes your approach. Now
3 when you do a survey with a survey meter and
4 millirep per hour, there is a certain limit of
5 detection. How much uranium would have to be,
6 in terms of Becquerels per square meter,
7 before you would even see it in terms of your
8 survey meter, your walkover survey meter?

9 So, in theory, one could say,
10 okay, let me just test this idea. I know that
11 95 percent of the area we surveyed we didn't
12 see anything. In other words, it was more or
13 less background. Usually, a background is
14 defined as, I'm going to say, 7 to 10 microrem
15 per hour, plus or minus a factor of two. I
16 mean that seems like a nice rule of thumb.

17 Now you could ask yourself the
18 question, well, how much of this residue would
19 have to be on the surface in order for me to
20 see unambiguously an elevated level? Because,
21 in theory, that would be an upper bound on
22 what the surface contamination would be in all

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1 those areas where you didn't see anything,
2 detectable with your hand-held survey
3 instrument, whatever that Becquerel per square
4 meter is.

5 I apply a 10 to the minus 4
6 resuspension factor to that. I say this seems
7 to be an upper bound of what might have been
8 the airborne dust loading at that time. That
9 would be another way to come at the problem
10 that would test or help validate or give you
11 some assurance that the number you picked
12 seems to be in the right place.

13 MR. RUTHERFORD: Yes, and I know
14 what you're saying, John, and I think what we
15 could probably do that would even be easier
16 than that would be to actually look. There's
17 probably dose rate measurements in the same
18 vicinity of surface contamination measurements
19 that we could do a comparison to from that.

20 DR. MAURO: Good. Yes.

21 MR. RUTHERFORD: I am not saying
22 there is for sure --

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1 DR. MAURO: That is even better.

2 MR. RUTHERFORD: -- but I would
3 suspect there is. We could look at that and
4 kind of address what you are indicating.

5 MR. KATZ: One of your issues is
6 still unaddressed.

7 DR. OSTROW: Okay. Our finding
8 11, we discussed briefing before. That is not
9 really an issue; it is an observation, finding
10 11.

11 MR. KATZ: No, I think there has
12 been no discussion of that.

13 DR. MAURO: The raffinate issue.

14 MR. KATZ: That is what I was
15 pointing to.

16 DR. OSTROW: Okay, Ted. Thanks.

17 MR. CRAWFORD: So finding 10,
18 again, our response is that we are using Table
19 3-3 of the TBD, which has uranium progeny
20 ratios. So we are using all the uranium
21 progeny in assuming internal exposure here.

22 DR. MAURO: I understand that.

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1 When they talk about raffinates, I mean this
2 is thorium-230 and radium-226 that might have
3 been separated from uranium and represented a
4 completely different mix that changes the
5 assurance.

6 I believe your position is that
7 all that stuff was removed.

8 MR. RUTHERFORD: That is his --

9 DR. MAURO: So any residue that
10 you are looking at during the residual period,
11 the presumption is, I guess you are assuming
12 it is the normal mix of uranium ore, I
13 believe?

14 MR. CRAWFORD: Right. Right.

15 DR. MAURO: So you've got some
16 mix, and not necessarily material where the
17 uranium is not there, and you are really only
18 dealing with raffinates. When I say,
19 "raffinates", that means the separated
20 material, the thorium-230 and the radium-226.

21 I will say it again. That is the
22 single issue that I say really you would like

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1 to be able to put to bed: there are no
2 raffinates at this site and why.

3 Then, all of a sudden, you are
4 dealing with something that I consider to be a
5 lot more tractable problem.

6 MR. RUTHERFORD: John, I think
7 that it is pretty clear that at the end of
8 operations that all the raffinate and all the
9 ore material and byproducts were removed at
10 that time. Then any holdup material that may
11 have been present would have been removed when
12 the equipment and stuff was removed from the
13 site.

14 The only thing that would have
15 been left would have been any minor mixture of
16 surface contamination, which, again, we
17 believe the D&D took care of.

18 We would also argue that the
19 majority, I mean the overarching contaminant
20 of concern is in the ratio that we have
21 described.

22 DR. MAURO: Do you know what would

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1 be helpful? If you do have, because I know
2 they probably were not doing any isotopic
3 analysis of samples certainly in these years,
4 but perhaps when you do look at the FUSRAP
5 data, which may have been collected I believe
6 in the 1980s, they may have done isotopic
7 analysis of various samples where you will get
8 the breakdown of all the uraniums and thoriums
9 and radium.

10 If that data is out there, and you
11 say, listen, everything indicates that we are
12 not dealing with raffinate, there is no
13 raffinate. In other words, none of the
14 samples were just pure radium or pure thorium
15 with radium. They were all in the mix ratio
16 that would indicate that we are dealing with
17 the natural relative abundances that you would
18 see in ore, and that you don't have
19 raffinates. That would be one way to put this
20 to bed, if that data is out there.

21 I hear your argument, and it is a
22 common-sense argument that I would tend to

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1 agree with, that it is unlikely. But it sure
2 would be nice if you could come at it from
3 another direction with other data sources that
4 says: and here's another reason why we
5 believe it is true -- if you have some data,
6 more recent data, where they do do isotopic
7 analysis of this area.

8 MR. RUTHERFORD: We can take a
9 look at that, John.

10 DR. MAURO: Okay.

11 MR. RUTHERFORD: We've got to
12 address each one anyway.

13 CHAIR ROESSLER: So we have taken
14 care of 10, and, like Steve was saying, 11
15 really --

16 MR. RUTHERFORD: That is just a
17 clarity issue, a clarification.

18 CHAIR ROESSLER: Right. So where
19 do we stand then on --

20 DR. OSTROW: If I may, I see two
21 action items, okay?

22 One is that it's clear that NIOSH

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1 is going to prepare a detailed response to our
2 report of June 18th, and they are going to
3 expand on what they had in their table that
4 they produced yesterday, based on the
5 conversation we had today. So that is the
6 action item.

7 Then, of course, the Board will
8 look at it, the Work Group will look at it,
9 and SC&A will look at, whenever they produce
10 that, and see if it is okay.

11 The second action item I see is an
12 SC&A one, though it is just a small one that
13 Josie brought up earlier in the discussion.
14 In our report, we don't make it clear, or we
15 don't really discuss -- we identify the
16 petition issues. I think we came up with nine
17 of them. Then we have a table where we list
18 our 11 SC&A issues, but we don't really say,
19 did we address, are we covering all of the SEC
20 issues or not? Did we leave any out? And why
21 we left them out. So it is a little bit of a
22 map --

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1 MR. ELLIOTT: You mean the
2 petitioner issues?

3 DR. OSTROW: The petitioner
4 issues, yes. Did we cover them all? Did we
5 leave any out? So that I say we can do in the
6 next couple of days. That is pretty easy just
7 to go over the map.

8 I don't think we need to revise
9 our report. We can just come out with like
10 probably a two- or three-page supplement. We
11 can call it a supplement, I guess, to this
12 report, so they hang together. There's so
13 many different reports -- an addendum -- that
14 it is hard to keep track of them. So we will
15 attach it to this report as an addendum, we
16 will call it.

17 So those I see are the two action
18 items that came out of this.

19 CHAIR ROESSLER: Thank you.

20 MEMBER BEACH: And then I have a
21 question. Are we clear which ones are TBD
22 issues and which ones are SECs?

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1 MR. ELLIOTT: No, not yet.

2 MEMBER BEACH: Okay. Because I
3 have got a couple written down, but I am not
4 clear on that.

5 MR. RUTHERFORD: I think John's
6 last words were, if we can resolve the
7 raffinate issues, he thinks the other issues
8 are tractable. Am I correct?

9 DR. MAURO: I'm leaning there.
10 Yes. I guess the answer is yes.

11 I think that the other problems
12 that we have are tractable because it appears
13 that you then had the data, or ways of dealing
14 with the data, that allow you to track the
15 problem. But that is a conclusion that the
16 Work Group has to come to. They are the ones,
17 in the end, that say, okay, we see that the
18 strategy -- let's say, whatever strategy you
19 pick, that, of course, becomes -- right now,
20 your strategy, we have problems with it.
21 Right now, in our mind, the other strategy
22 would be more robust.

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1 Then let's say you were to
2 implement the other strategy at that point in
3 time and you would have to base that on
4 certain data, the data that we really haven't
5 talked very much about, you know, collected in
6 the earlier years, and how that might serve
7 you well.

8 I suspect that data is probably
9 pretty good, but it would be inappropriate for
10 me to conclude that right now. On the
11 presumption that the data is pretty good, it
12 makes it a tractable problem.

13 CHAIR ROESSLER: It appears that
14 this would be a breaking point for lunch, but
15 I think, before we do that, Ted, would you
16 guide us as to what you think we will be doing
17 when we come back from lunch, and how we can
18 best focus this?

19 We have not heard, except
20 occasionally, from Antoinette yet.

21 MR. KATZ: Well, first up, yes,
22 Antoinette has an opportunity, if she wants to

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1 in a complete way address the Work Group.
2 That would be the first step.

3 MS. BONSIGNORE: Yes, I would like
4 to do that.

5 MR. KATZ: Sure. Then, after
6 that, there can be dialog about whatever
7 issues might remain or in response to what
8 Antoinette might raise. After that, then we
9 can move to the next agenda item, once there
10 is no more to be said about this petition.

11 CHAIR ROESSLER: So, as far as you
12 can see, we are then on to the site profile
13 review followup with Steve's presentation on
14 his August report and then NIOSH's response to
15 that?

16 MR. KATZ: Yes, if the Work Group
17 doesn't have more discussion about this
18 petition, then yes.

19 MEMBER BEACH: I asked early on if
20 it would be possible to put the two tables in
21 NIOSH's report together, and I don't know if
22 NIOSH wants to take that on or if it is

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1 something --

2 MR. RUTHERFORD: Oh, you mean a
3 chronology type of thing?

4 MEMBER BEACH: It is kind of to
5 clarify what was done in each building, when
6 it was D&Ded, because when you were talking
7 about one, two, and three, some of it was
8 D&Ded in the fifties; some of the reports said
9 in 1997. It would just be nice to have that.

10 MR. RUTHERFORD: Put it together
11 and pass it out more in the Work Group, not a
12 revision --

13 MEMBER BEACH: Within a Work
14 Group. No, just a Work Group, yes. Yes, that
15 would be helpful.

16 CHAIR ROESSLER: So, in addition
17 to SC&A kind of blending their two tables,
18 which were the eleven findings and the nine
19 issues, then NIOSH is going to blend the two
20 tables in the --

21 MR. RUTHERFORD: Yes, the tables
22 on pages 14 and 16.

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1 CHAIR ROESSLER: Okay.

2 MEMBER BEACH: Thank you.

3 MS. BONSIGNORE: I just have a
4 procedural question. If, at the end of all of
5 this discussion, NIOSH comes to the
6 conclusion -- would there ever be a situation
7 where NIOSH would issue a revised PER?

8 MR. KATZ: A revised evaluation
9 report, do you mean?

10 MS. BONSIGNORE: Petition
11 evaluation report.

12 MR. ELLIOTT: No, not unless there
13 is new information to consider.

14 MR. KATZ: No, no, no. I mean
15 there can be --

16 MR. ELLIOTT: An evaluation
17 report.

18 MR. KATZ: Wait. Let me just --

19 MS. BONSIGNORE: I'm sorry, Ted.

20 If you were to incorporate some of
21 the ideas that John has been suggesting and
22 Steve has been suggesting, wouldn't that call

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1 for a revised PER?

2 MR. RUTHERFORD: That would be in
3 the site profile. That would be addressed in
4 our site profile revision that we would do.

5 I mean you could argue, I guess
6 someone could argue that, well, the model we
7 presented in our ER, we changed that, but I
8 think that the actual model change would be
9 addressed in the site profile, whether there
10 is addition --

11 MS. BONSIGNORE: And what would
12 that --

13 MR. RUTHERFORD: I'm sorry. Go
14 ahead.

15 MS. BONSIGNORE: And what would
16 that mean for NIOSH's recommendation on the
17 SEC petition?

18 MR. RUTHERFORD: Our
19 recommendation would not change. If it was
20 determined that it was a change in our model,
21 if we were changing our model for dose
22 reconstruction, our recommendation is still

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1 the same, that dose reconstruction is feasible
2 for the class period.

3 It would only be that we would
4 modify the site profile to address dose
5 reconstructions, and we would ultimately end
6 up having to re-evaluate claims that were
7 completed under the previous site profile.

8 MR. ELLIOTT: That is a PER. I
9 know you are using a PER, a petition
10 evaluation report, but PER to us means a
11 program evaluation review.

12 MS. BONSIGNORE: Evaluation
13 report, right. Yes. Right. Right.

14 Okay. But I guess what I'm trying
15 to get out here, probably not well, is, in
16 terms of the information that you have in the
17 petition evaluation report now, and in terms
18 of what the statutory definition of when that
19 petition evaluation report had to be produced,
20 if you come to the conclusion that you need to
21 revise the TBD, in light of these discussions,
22 what rights do the petitioners have in terms

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1 of arguing that, well, you don't have it right
2 now? So we have met our burden in terms of
3 the statutory time period and you haven't.

4 MR. KATZ: Maybe I can help
5 clarify here. The evaluation report that OCAS
6 produces is a starting point for the
7 deliberations of the Board.

8 As a result of the deliberations
9 of the Board, OCAS can do a number of things
10 that come, then, along in the process. There
11 are occasions where they have added addendums
12 to their evaluation report, where they have
13 changed methodology, changed findings, have
14 new findings to add to the evaluation report.

15 They might do that.

16 They might do one or all of these
17 things. They might also, as they mentioned,
18 change their TBD as a result of the dialog
19 around the SEC evaluation, because you are
20 discussing all issues that affect dose
21 reconstruction as well. But it all depends on
22 the substantive findings of the deliberations.

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1 Then, as far as the petitioner
2 having sort of access to all information, the
3 petitioner, of course, has access to the
4 transcripts of the dialogue. So you have all
5 that substance of what's been discussed and
6 why courses have been changed, or what have
7 you, in response to the dialogue.

8 So you have all that mass of
9 information at your disposal, and you have the
10 opportunity to interact with the Board
11 throughout this process, until the Board comes
12 to a conclusion about the petition evaluation.

13 MS. BONSIGNORE: Right. I
14 understand that. What I am trying to get at
15 is, in terms of the rights of the petitioner,
16 what is the end-point? I mean, how long a
17 process?

18 You know, I have people to answer
19 to.

20 MR. KATZ: Sure.

21 MS. BONSIGNORE: And they want to
22 know, well, are we going to be in limbo for

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1 three years, four years, like Bethlehem Steel
2 has been, or is there a time period when the
3 Advisory Board says, and together, the
4 Department of Health and Human Services says,
5 well, you know, there's got to be a beginning
6 and an end to this?

7 MR. KATZ: As far as the rules go,
8 the Board does not have an imposed time
9 requirement on how long it carries out its
10 deliberations. Certainly, the Board is
11 concerned about timeliness, but they put a
12 premium on thoroughness over timeliness in
13 terms of the Board's general sort of way of
14 dealing with this problem.

15 So you are correct, there are
16 petitions that have been around with the Board
17 for quite a while, but there is no statutory
18 limitation on how long the Board deliberates
19 about a petition. There isn't.

20 MS. BONSIGNORE: Right. Yes, I
21 realize that. I guess I am suggesting that
22 that is a problem in terms of something being

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1 claimant-favorable. How long do you expect
2 workers, claimants, petitioners to wait?

3 MR. KATZ: Well, I guess, for
4 context about this, I mean, again, the Board
5 tries to get through these deliberations as
6 quickly as possible. The Board has autonomy
7 to do this process at whatever rate it can do
8 it. So the agency doesn't put any constraints
9 on the Board in that respect, except, of
10 course, the Board asks for information from
11 the agency, and there is time involved in
12 providing information to support that
13 deliberation.

14 MS. BONSIGNORE: Okay.

15 MR. ELLIOTT: In this instance,
16 there are no claims pending. So, from a
17 program perspective -- I understand your
18 perspective on claimants waiting to find out
19 what the outcome of this process is -- but
20 from the program perspective, we are not
21 pending claims. We are not holding claims.

22 In fact, I did go back to the DOL

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1 website and I did look at it, and there are,
2 according to DOL, there is a 58 percent
3 compensation rate. Because there are 236
4 cases that have been sent to NIOSH for dose
5 reconstruction; 137 have been done, according
6 to DOL.

7 Our input on 46 percent is based
8 upon we've got all of the claims reconstructed
9 except one right now. That is where the 46
10 percent comes.

11 So DOL's numbers don't report all
12 of the work that we have completed as we are
13 reporting it.

14 MS. BONSIGNORE: Okay.

15 MR. ELLIOTT: But I just want you
16 to know that, as far as the program is
17 concerned, we are not holding up claims
18 awaiting on this process.

19 MS. BONSIGNORE: Right. Well, I
20 suppose that depends on how you define
21 "pending". I think the people whose claims
22 have been denied would say their claims are

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1 pending.

2 MR. ELLIOTT: Well, "pending" in
3 our terminology is that we are standing on a
4 claim and it's not moving anywhere.

5 MS. BONSIGNORE: Right. I
6 understand that, but in terms of, if there's
7 new data that would require NIOSH to redose
8 denied claims, then technically those claims
9 would still be open. There's always the
10 possibility of that. That is the people that
11 I represent.

12 The people who are complaining to
13 me are not the people who have been
14 compensated.

15 MR. ELLIOTT: Sure.

16 MS. BONSIGNORE: The people who
17 are complaining to me are the people whose
18 claims have been denied --

19 MR. ELLIOTT: Yes.

20 MS. BONSIGNORE: -- and are
21 suffering. So that is what I am talking
22 about.

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1 MR. ELLIOTT: I understand your
2 perspective.

3 MS. BONSIGNORE: Okay.

4 MR. ELLIOTT: But, technically,
5 the claim, they've got a decision. So, until
6 NIOSH identifies a change in its site profile
7 or its dose reconstruction approach, and seeks
8 to reopen those denied claims, they are
9 standing there with a final decision. They
10 have completed the deliberation process --
11 adjudication process, for the claim up to that
12 point, up to where we identify a change that
13 would result in additional dose perhaps.

14 MS. BONSIGNORE: Right. I
15 understand.

16 MR. KATZ: I would just note for
17 all claims that NIOSH has done throughout the
18 whole complex, in effect, what you are saying
19 applies to all of them because at any point
20 that NIOSH might revise a TBD for any site, it
21 always has to go through this analysis to see
22 if those denied claims would be affected, in

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1 which case they would be reopened.

2 MR. ELLIOTT: I understand your
3 perspective and your claimants' perspective
4 who has been denied. But let me put a little
5 context around that perspective.

6 There are 611 claims for Hanford
7 that are truly pended at NIOSH, awaiting the
8 process of the Board's Work Group deliberation
9 and our ability, our efforts to retrieve
10 enough information to do dose. Those people I
11 am more concerned about because they have been
12 waiting a long time without any decision
13 whatsoever.

14 So I think it is unfortunate for
15 everybody concerned, but those people are in a
16 worse state than the Linde folks who have got
17 at least one determination made on their claim
18 at this point. These folks, the 611 at
19 Hanford, have no determination.

20 MS. BONSIGNORE: Right. Well, but
21 I would submit to you that the claims that
22 have been denied don't feel that they have

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1 received a fair determination.

2 MR. ELLIOTT: I understand that
3 perspective, too.

4 MR. CRAWFORD: That is always
5 going to be there.

6 MR. ELLIOTT: That is always going
7 to be there.

8 MS. BONSIGNORE: I understand
9 that. And the fact that there is this
10 constant, ongoing reevaluation of documents,
11 you find new documents all the time, there are
12 constant revisions, this, to me, seems just in
13 terms of fairness to the claimants to be not
14 fair.

15 If you had all the possible data
16 before you and you made a final determination,
17 then that would be a fair determination. But
18 the fact that there are constant data capture
19 efforts that go on, and go on year after year
20 -- you're finding more documents. In this
21 case, you have renovation contracts that
22 haven't been reviewed. I don't see how that

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1 is fair to the claimants in terms of saying to
2 them, well, you have received a final fair
3 determination.

4 MR. KATZ: Antoinette, let me
5 explain to you something general about the way
6 the whole program was designed, because the
7 procedures in the regs that allow for this
8 process of continually finding more
9 information and improving dose reconstructions
10 based on new information, I mean that only
11 goes to the benefit of claimants.

12 Because any claim that has been
13 paid on the basis of old information, that
14 stays paid. So the opportunity to find new
15 information and, as a consequence, be able to
16 reconsider claims and possibly pay more claims
17 is only a net gain for claimants.

18 MS. BONSIGNORE: I'm sorry, are
19 you suggesting that, because when you find new
20 information, you don't take the money back
21 from people who were compensated, that that is
22 evidence that the program is claimant-

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1 favorable?

2 MR. KATZ: This isn't about
3 claimant -- I mean the door was left open to
4 find new information because it is well-
5 recognized before this program ever started
6 that you find, when you go out and you do
7 research, whatever, you are always finding new
8 information from these sites, given the
9 enormity of this program, and so on, and the
10 complexity of records-holdings and all that.
11 You are always finding new holdings.

12 My only point is that, when new
13 information is taken into account and added to
14 these, the only cases that are reconsidered
15 are cases that were denied.

16 MS. BONSIGNORE: Right.

17 MR. KATZ: And that's with an aim
18 to approve cases that were denied based on new
19 information that was newly-found. That is
20 purely a benefit.

21 MS. BONSIGNORE: I understood what
22 you said. I am just saying that I don't think

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1 the fact that the program is set up to not
2 knock on someone's door who was compensated,
3 who maybe shouldn't have been compensated, is
4 what you are saying, because of new
5 information --

6 MR. KATZ: No, I'm saying that a
7 person who was denied can get paid based on
8 new information.

9 MS. BONSIGNORE: Right.

10 MR. KATZ: That's a benefit.

11 MS. BONSIGNORE: Okay. I think
12 you are missing my point, but that's fine.

13 MR. ELLIOTT: I think you latched
14 onto what Ted said about some people getting
15 paid that, if new information came to light,
16 they would not have been paid.

17 MS. BONSIGNORE: Right.

18 MR. ELLIOTT: And it is not NIOSH
19 who makes these payments. In fact, NIOSH has
20 in several instances identified either
21 information or approaches that, if they were
22 used at the time the dose was reconstructed,

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1 there are some claims that didn't deserve
2 compensation. We are not advocating that that
3 be taken back.

4 MS. BONSIGNORE: Oh, I know that.

5 MR. ELLIOTT: We don't want to see
6 that.

7 MS. BONSIGNORE: Of course not.

8 MR. ELLIOTT: And it's DOL's
9 responsibility to make that decision. I don't
10 think they take it lightly, either. I don't
11 know of any particular instance where they
12 have retrieved money. They have that ability.
13 They can go do that, but I don't think they
14 have done it.

15 MS. BONSIGNORE: Okay.

16 CHAIR ROESSLER: Can we decide on
17 how long we will break? Would an hour be
18 sufficient time?

19 DR. OSTROW: Gen, can I just make
20 one very quick suggestion before we leave
21 this?

22 Okay, now we have three action

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1 items. Would it benefit us to get a timeline
2 for this, you know, a schedule? Should that
3 go with the action items?

4 CHAIR ROESSLER: I think that,
5 once we get back here this afternoon and wrap
6 up, we'll need to do that. Yes, I have the
7 three items, and you can help me with the
8 wording on them to make sure we have them
9 right.

10 I wanted to ask a question, if
11 John Mauro and Mike Gibson will be with us
12 this afternoon.

13 DR. MAURO: I will be here this
14 afternoon.

15 CHAIR ROESSLER: Okay. Mike, are
16 you still there?

17 MEMBER GIBSON: Yes, I will be
18 here this afternoon.

19 CHAIR ROESSLER: Okay. Then I
20 have 12:33, approximately.

21 MR. KATZ: Until 1:30?

22 CHAIR ROESSLER: 1:30? Okay.

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1 MR. KATZ: Okay, I'll break the
2 line, and we will reconvene at 1:30.

3 (Whereupon, the above-entitled
4 matter went off the record at 12:33 p.m. and
5 resumed at 1:33 p.m.)

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1 gotten through NIOSH presentations and SC&A
2 presentations and discussion about Petition
3 107. It is now the opportunity for the
4 petitioners, Antoinette Bonsignore, to
5 present.

6 MS. BONSIGNORE: Well, most of the
7 general issues I wanted to raise, I raised
8 before we broke for lunch. I just have a few
9 technical questions that I wanted to get some
10 clarification on.

11 The first is about the factor-of-
12 eight reduction. The air concentration
13 measurements were taken during the D&D time
14 period, were taken during the vacuuming
15 activities. Am I correct in that statement?

16 MR. CRAWFORD: I believe that is
17 correct.

18 MS. BONSIGNORE: Okay. This was
19 not the only activity that took place during
20 the residual period. As I mentioned earlier,
21 a lot of the workers did jackhammering of
22 floors and other types of renovation work.

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1 So can you please explain the
2 justification for relying on measurements that
3 only take into account vacuuming activities?

4 MR. CRAWFORD: Basically, I
5 believe what was done was we took the highest
6 readings from any of the activities. I
7 believe they found that vacuuming happened to
8 be that activity. In other words, we looked
9 at all of these and then found the highest and
10 used that.

11 MS. BONSIGNORE: So the vacuuming
12 activities would have yielded higher results
13 than pneumatic jack drilling of --

14 MR. CRAWFORD: Apparently. I can
15 look that up again.

16 In those days, you have to
17 remember they didn't have HEPA filters on
18 their vacuums. So there was a lot of exhaust
19 dust coming out as well. They captured some
20 of the dust inside, but it would have been
21 pretty -- it lofted a lot of material, I'm
22 sure.

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1 MS. BONSIGNORE: Okay.

2 MR. CRAWFORD: But I can check
3 that for you and make sure.

4 MR. ELLIOTT: Do you recall,
5 Chris, if some of the results were related to
6 these kinds of activities other than
7 vacuuming, jackhammering or drilling, or were
8 they that specific?

9 MR. CRAWFORD: They did capture
10 those activities, yes. They did breathing
11 zone samples from each one of the activities.

12 MS. BONSIGNORE: The second issue
13 was that, with regard to the uranium progeny
14 during the residual period, NIOSH seems to be
15 saying that the sampling ratio was taken from
16 storm and sanitary sewers for the uranium
17 progeny ratios?

18 MR. CRAWFORD: I don't recall
19 that. Those were much later measurements, I
20 think --

21 MS. BONSIGNORE: Right.

22 MR. CRAWFORD: -- that such

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1 measurements were made.

2 But the progeny, which we refer to
3 Table 3-3 in the TBD document, I believe those
4 were made from much earlier measurements, not,
5 in other words, from the -- I think the
6 measurements you are citing are from much
7 later.

8 MS. BONSIGNORE: Okay. Because I
9 am trying to understand the connection between
10 relying on sampling from storm and sanitary
11 sewers versus what would have been on walls,
12 rafters, that kind of thing, during the
13 residual period.

14 MR. CRAWFORD: Well, the drains --
15 let me put it this way: materials that go
16 into the drains don't usually come back out as
17 much. We would expect to see more
18 resuspension from something on the walls and
19 the floors of the building than we would from
20 a drain, which, after all, might be a
21 considerable distance down from the building.

22 MS. BONSIGNORE: Right. So, well,

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1 that is sort of my point. Relying on data
2 from storm and sanitary sewage wouldn't really
3 be representative of what workers were exposed
4 to during the residual period, from
5 resuspension from walls, rafters, that kind of
6 thing.

7 MR. CRAWFORD: Well, I don't think
8 that would be a valid comparison, no.

9 MR. RUTHERFORD: Now my question
10 is: where are you getting this information
11 from?

12 MS. BONSIGNORE: I believe this is
13 from the 1976 and 1981 data, but I would have
14 to check that. But I believe that that is
15 where I got this from.

16 If you could just explain that. I
17 may not be right about that, but --

18 MR. RUTHERFORD: Okay. We will
19 look into it.

20 MR. ELLIOTT: It is highly
21 unlikely --

22 MR. RUTHERFORD: Yes.

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1 MR. ELLIOTT: -- that we would tie
2 our approach to data that comes out of a
3 drain.

4 MR. CRAWFORD: I don't see
5 anything in the ER, Antoinette, that suggests
6 that we used the drain data.

7 MS. BONSIGNORE: Okay. I'll take
8 a closer look at that. I had a health
9 physicist take a look at some of this stuff,
10 too, and he provided me some information. I
11 may be misinterpreting what he --

12 MR. CRAWFORD: My memory of that
13 report, by the way, is that is the same report
14 where they did the Ellicott Creek readings and
15 that sort of thing. It was sort of a sitewide
16 and areawide survey?

17 MS. BONSIGNORE: I don't know.
18 Okay, I will take a closer look at that.

19 Then, in terms of the inhalation
20 rate, NIOSH in the site profiles is using a
21 value of 1.2 -- I hope I am saying this right
22 -- meters --

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1 MR. ELLIOTT: Cubed.

2 MS. BONSIGNORE: -- cubed. Thank
3 you. Cubic meters. Thank you. One point two
4 cubic meters per hour, and the U.S. EPA
5 recommends for construction workers doing
6 moderate work 1.5 cubic meters per hour. Can
7 you explain why the EPA's recommendation is
8 not utilized?

9 MR. CRAWFORD: I don't know why or
10 from what source we picked that.

11 Mutty?

12 MR. SHARFI: It is a breathing
13 rate question?

14 MR. CRAWFORD: Yes, a breathing
15 rate question.

16 MR. SHARFI: That was something
17 that I thought that Stu was working on with
18 the construction worker OTIB.

19 MR. RUTHERFORD: I am sorry, I
20 missed the question.

21 MS. BONSIGNORE: The U.S. EPA
22 recommends using 1.5 cubic feet per hour for

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1 construction workers doing moderate work,
2 whereas in the 2006 and 2008 site profiles
3 NIOSH relies on 1.2.

4 MR. RUTHERFORD: For the residual
5 period?

6 MR. CRAWFORD: Breathing rate.

7 MR. SHARFI: Breathing rate. So
8 it is, basically, light versus heavy
9 breathing.

10 MR. RUTHERFORD: Okay. Yes, that
11 is more of a site complex-wide issue that Jim
12 has on his plate, Dr. Neton has on his plate.
13 So I can't really answer it.

14 If the breathing rate is in
15 question, it wouldn't be in question solely
16 for Linde. It would be in question for other
17 sites.

18 MS. BONSIGNORE: Right. Right.
19 Okay.

20 Also, in terms of the radon model
21 that is used, do you have information on the
22 ventilation rates for the radon data for the

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1 buildings that that data was taken from?

2 MR. CRAWFORD: Not that I am aware
3 of.

4 MS. BONSIGNORE: Okay. Do you
5 assume it is stagnant? In the model, do you
6 assume a stagnant ventilation rate as
7 claimant-favorable?

8 MR. CRAWFORD: Well, let's put it
9 another way. The radon readings that we do
10 have --

11 MS. BONSIGNORE: Right.

12 MR. CRAWFORD: -- we are using
13 actual data. In other words, we are not
14 trying to construct a model and assume a
15 refresh rate in the air or anything like that.

16 Of course, a warehouse environment
17 is going to be very difficult to model in some
18 regards. A typical warehouse is going to have
19 truck-sized doors to open. In other words, it
20 is not like an office building where you have
21 a single person-sized door to worry about and
22 it is closed most of the time.

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1 So all I can say is, we look at
2 the building and we look at the data we have
3 for it. But how much air refresh rate is
4 assumed for Joe's early values, I don't know.

5 We are assuming a static situation,
6 essentially.

7 MR. RUTHERFORD: Actually, we are
8 taking -- and correct me if I am wrong -- the
9 highest radon data we have and assume it is
10 that data across the time period. So there
11 are lower readings in other places.

12 I know your concern is, it sounds
13 to me, that, okay, fluctuations in ventilation
14 would affect that. I agree that, with the
15 data we have, we are taking the highest value.

16 DR. MAURO: This is John Mauro. I
17 might be able to help out a little.

18 It may be that this question
19 emerged because there has been a great deal of
20 discussion on radon models as applied to
21 blocks where air turnover rate, of course, was
22 a very, very important issue. However, I

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1 don't believe this issue is at play here
2 because we have radon measurements.

3 MR. RUTHERFORD: I agree.

4 DR. MAURO: So the real question
5 is, when you have radon measurements, do you
6 have sufficient measurements that allow you to
7 place a plausible up and down on what the
8 chronic exposure might have been to a worker?

9 So the air turnover rate is really
10 not an issue in this particular application.

11 MS. BONSIGNORE: Okay. Those are
12 the questions I had.

13 CHAIR ROESSLER: Do you need some
14 followup on the first two?

15 MS. BONSIGNORE: Well, Chris
16 mentioned that he would look into those
17 issues.

18 CHAIR ROESSLER: So you know which
19 ones?

20 MR. CRAWFORD: Right, and I also
21 took another look at the ER. During the
22 renovation work, the method used to estimate

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1 the airborne contamination work -- I'm talking
2 about the sixties renovations now -- was to
3 take the 1950s data during decontamination and
4 reduce it by a factor, based on the fact that
5 material was removed during the 1950s. So it
6 would be less, is the theory, in the sixties.

7 In other words, it wasn't based on sump data
8 or anything like that.

9 MS. BONSIGNORE: Okay.

10 MR. CRAWFORD: And we have the one
11 general area air sample in 1976 to go on,
12 again, not based on sump data. That was
13 volume air sampling.

14 MS. BONSIGNORE: Okay. Thank you.

15 CHAIR ROESSLER: Okay, then I
16 think we are ready to get back to the
17 documents we are presenting. According to my
18 schedule, Steve is up again.

19 MR. KATZ: Do you want to talk
20 about time frames for this before you want to
21 move on?

22 CHAIR ROESSLER: Before? Sure.

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1 Well, we have the three -- I have
2 them here somewhere. I had them here.
3 Anyway, we have three action items.

4 One of them, the first one, NIOSH
5 was going to respond, give a detailed response
6 to the June 8th report to sort of add to or
7 detail out the report you already put together
8 earlier in the week. That was Action Item 1.

9 SC&A was going to, in your report,
10 Steve, respond to Josie's suggestions that you
11 produce an addendum to your report. I think
12 my understanding is pretty much blend Table 1
13 and Table 2, so everything would kind of
14 follow a sequence of items better.

15 Then the third item is in NIOSH's
16 site profile, that page 14 --

17 MR. SHARFI: Fourteen and 16, yes.

18 CHAIR ROESSLER: -- and mine comes
19 out on page 17, but basically Tables 5-1 and
20 5-3, is that what your understanding is,
21 LaVon?

22 MR. RUTHERFORD: Yes.

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1 CHAIR ROESSLER: And I didn't put
2 down what you are going to do with them, but I
3 think it was going to be the same thing.

4 MR. RUTHERFORD: Yes. We are
5 going to actually kind of merge them together
6 and give a better chronology of events.

7 MR. SHARFI: So it is 14 and 16 of
8 the ER or of the site profile?

9 CHAIR ROESSLER: Of the ER.

10 I think the timetable depends on
11 when NIOSH and SC&A can --

12 DR. OSTROW: Excuse me. I think
13 we just added two new action items after
14 Antoinette's talk, two things that NIOSH is
15 supposed to respond back to. One was on this
16 factor-of-eight reduction, about vacuuming
17 activities, whether that was --

18 MR. KATZ: Based on the highest
19 levels or not.

20 DR. OSTROW: Yes, that was the
21 bounding case. The other one had to do with
22 uranium progeny during the residual period,

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1 the ratios, and where did they come from?
2 Were they from storm and sanitary sewers or
3 where, where they were from, basically?

4 MR. RUTHERFORD: I think those
5 will actually be answered as well, anyway, in
6 our report because the ratios are going to
7 have to be discussed partly in support of
8 finding No. 10, and the other item, which was
9 the first one --

10 CHAIR ROESSLER: Factor-of-eight,
11 that is also a part of --

12 MR. RUTHERFORD: Factor-of-eight,
13 that has also been a part of our discussion as
14 well.

15 CHAIR ROESSLER: So that really
16 comes under Item No. 1 that we went to before.

17 MR. RUTHERFORD: Right, right.

18 CHAIR ROESSLER: Okay. So, NIOSH,
19 what is a good timetable for you?

20 MR. RUTHERFORD: Well, I think
21 what we need to do is, one, we need to go back
22 and get -- I don't think we want to give you a

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1 date, a true date, today without going back
2 and talking to our contractor, finding out
3 resources, and from a schedule standpoint,
4 where we can come back with final answers for
5 those.

6 So, if we could give you a date
7 maybe next week, that would be better because
8 that would give us time to get back, get with
9 our Linde team, with our ORAU contract team,
10 and ask them for an estimate on completion.

11 CHAIR ROESSLER: We have a
12 teleconference on September 8th.

13 MR. RUTHERFORD: Yes.

14 CHAIR ROESSLER: If you had an
15 answer before that, I could incorporate it
16 into the Work Group report.

17 MR. RUTHERFORD: Okay, we will
18 shoot for that.

19 CHAIR ROESSLER: And, Steve?

20 DR. OSTROW: Well, two weeks.

21 CHAIR ROESSLER: Two weeks.

22 DR. OSTROW: We have got to do a

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1 little internal review, but this is fairly
2 easy to do. Two weeks.

3 CHAIR ROESSLER: Within two weeks.

4 So, once we have this timetable,
5 then we will need to work that into what our
6 next step as a Work Group will be.

7 DR. OSTROW: On NIOSH's timeline,
8 the third item, that is separate than Item No.
9 1, right?

10 CHAIR ROESSLER: Well, I thought
11 they were going to address that also on your
12 timeline, Steve, yes.

13 DR. OSTROW: Are you going to roll
14 the chronology into your response to us? Was
15 that supposed to be a separate --

16 MR. RUTHERFORD: We can just roll
17 it into the response. It would probably be
18 easier. That way, it is all in one thing.

19 I guess if we get it done, that
20 portion done sooner, we could get it out. But
21 I think, ultimately, all the review and
22 everything, if it all comes out in one report,

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1 I think that is probably easier to track.

2 CHAIR ROESSLER: Then we will take
3 the next step after we get that. So we will
4 know by next Tuesday or whatever September 8th
5 is.

6 MR. KATZ: And then we can plan
7 another Work Group meeting.

8 CHAIR ROESSLER: Then we will plan
9 another Work Group meeting.

10 We could, if we know, it would be
11 good, while we are here, if we could plan
12 another Work Group meeting. Maybe we should
13 address that at the end of the session today,
14 to see if we could come up with a tentative
15 time.

16 MR. KATZ: Although we would have
17 to have a rough guess as to when these things
18 could be delivered from OCAS to be able to do
19 that, I mean whether it is weeks or months, or
20 I don't know what it is.

21 CHAIR ROESSLER: Yes. I suspect
22 we are looking at not another Work Group

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1 meeting until after the Board meeting in
2 October? Is that reasonable? So we are
3 probably looking at --

4 MR. RUTHERFORD: I think the
5 November/December time frame, we should
6 have --

7 MR. KATZ: It doesn't seem like
8 that there is an enormous amount to do in
9 these responses really.

10 MR. RUTHERFORD: No, no.

11 CHAIR ROESSLER: So maybe we could
12 get it done before the Board meeting. Let's
13 just see.

14 MR. RUTHERFORD: Until I see where
15 our resources are -- because, remember, coming
16 up to a Board meeting, we are driven on
17 preparing for that.

18 CHAIR ROESSLER: Maybe what we
19 should do, because you have to get this
20 announced, is to pick a tentative date after
21 the October Board meeting.

22 MR. KATZ: We can. We might as

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1 well give OCAS the chance --

2 CHAIR ROESSLER: Okay.

3 MR. KATZ: -- until this Friday to
4 figure out what their guess is, so that we
5 could schedule. Otherwise, we may be wasting
6 our time scheduling a date that just doesn't
7 work.

8 CHAIR ROESSLER: Okay. I thought
9 it would be easier with us here, but --

10 MR. KATZ: We don't want to give
11 it more time than we need to, either, so that
12 we can get it done as quickly as possible. So
13 we might as well hear from them on Friday.
14 Then, next Tuesday, we can book it.

15 CHAIR ROESSLER: Okay.

16 DR. MAURO: Say, Gen, this is
17 John.

18 I've got a bit of a controversial
19 question, if you don't mind.

20 (Laughter.)

21 CHAIR ROESSLER: Gen is not here.

22 (Laughter.)

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1 DR. MAURO: Right now, I know that
2 Bomber and the NIOSH folks are planning to
3 mount their arguments of why the current
4 approach, which basically starts with the 1976
5 -- it heavily depends on the 1976 data -- you
6 know, they feel pretty confident that they can
7 make their case.

8 Now the controversial question is
9 this: in my mind, let's say we can go down a
10 very linear process. Wait until we see that,
11 regroup, talk, maybe everything will be fine.

12 But maybe it won't.

13 Sometimes when you have an SEC --
14 the big question is, is it possible that there
15 are other strategies that would work? Stay
16 with me for a minute.

17 Is it possible for NIOSH to
18 explore strategies that are anchored in the
19 1950 data that would begin the process, the
20 more traditional OTIB-0070 approach? In
21 effect, saying that there are a number of
22 alternative strategies for coming at this

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1 problem. The preferred strategy, let's say,
2 is NIOSH's strategy, where they would work
3 from the 1976 data -- I will call it that --
4 as being the way in which they come after
5 problems because they think that is the most
6 reasonable, scientifically-sound approach.

7 But there are other methods that
8 could also be used which are more
9 conservative, perhaps to the point where NIOSH
10 feels it is too conservative. But it would be
11 another approach.

12 Where I am going with this is, it
13 would be really nice to get to the point
14 where, if we are going to meet again in
15 November or December, which is quite some time
16 from now, that we could come to an agreement
17 that says we believe these doses could be
18 reconstructed.

19 But we are not really at the point
20 yet where we are in full agreement on which
21 strategy is the most appropriate. That almost
22 solves it. That is why it is controversial.

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1 That almost solves the SEC
2 question. Then it just becomes purely, what's
3 the best way to do this? We can do it. It is
4 just a matter of, what's the best way to do
5 it?

6 MR. KATZ: I mean, it certainly
7 would expedite the SEC process.

8 DR. MAURO: That's why I brought
9 up. Like I said, we have never done anything
10 like that before. It would be a bit unusual,
11 but it might actually expedite the
12 decisionmaking process.

13 MR. KATZ: I mean, the downside is
14 it would take OCAS more work to develop that
15 alternative strategy, for if the Work Group at
16 the end of the day -- and OCAS at the end of
17 the day -- doesn't think the initial strategy
18 works, that means they also have to develop an
19 alternative strategy. That will take them
20 longer to get back to the Work Group.

21 CHAIR ROESSLER: However, in the
22 long run, it would take less time.

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1 MR. KATZ: In the long run, it
2 wouldn't be, right --

3 CHAIR ROESSLER: But is OCAS going
4 to determine whether their current strategy is
5 not going to work, or is it going to require a
6 Work Group meeting where we call in SC&A? My
7 understanding is that SC&A needs to be
8 satisfied before we present this to the Work
9 Group and the Board.

10 MR. KATZ: I mean, it is really,
11 again, OCAS has its right to make its
12 determinations at the end of the day as to
13 what it believes is correct. SC&A advises the
14 Work Group, and the Work Group has its right
15 to make its findings as to what it believes is
16 appropriate, you know, correct, in terms of
17 answering these questions.

18 So it is not something that should
19 be resolved between OCAS and SC&A. At the end
20 of the day, the Work Group has to decide what
21 it believes is correct, but OCAS can decide
22 where it stands on this, certainly, on its

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1 own.

2 But I guess OCAS just needs to
3 respond and say whether it is willing or not,
4 whether it would be time-saving or time-losing
5 to work up an alternative, should it decide
6 down the road that its first alternative isn't
7 actually the best route.

8 MR. ELLIOTT: I just don't think
9 we are prepared here today. We heard, it was
10 good for us to hear SC&A's concerns and
11 Antoinette's concerns. I don't think we are
12 in a position, though, to commit one way or
13 another until we have gone back and done our
14 homework and reported out on that.

15 If it comes to pass that we have
16 to change because we find that these concerns
17 are valid and we missed the mark, then
18 certainly we are going to come back with what
19 we think is the resolution to that. How long
20 that takes us, I am not prepared to commit.

21 MR. KATZ: Sure. No, no, no.

22 MR. ELLIOTT: I can tell you the

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1 raffinate issue -- I think we all want to see
2 that thing answered. I have asked my folks --
3 I talked to Steve a little bit about it at
4 lunch.

5 I guess we are hard-pressed to
6 identify in this process that happened at
7 Linde where a separation of the ore occurred
8 that would have concentrated any radioactive
9 material. The refuse, as we understand it, I
10 think, the refuse that was generated from this
11 process didn't have that kind of a separation
12 aspect that would have concentrated
13 radioactive materials, unlike what we have
14 seen at Mallinckrodt.

15 So we need to put that to bed by
16 documenting the characteristics of the process
17 in that regard. Hopefully, I think we can do
18 that.

19 If that happens, I think we have
20 handled -- what? -- the first three --

21 MR. RUTHERFORD: Well, I think
22 that addresses one big concern that John had

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1 upfront.

2 MR. ELLIOTT: So what is left, if
3 that is the way it plays out, what's left, I
4 think we've got, again, our homework to do to
5 explain why we are positioned where we are
6 positioned.

7 MS. BONSIGNORE: Do we anticipate
8 that the presentation before the full Board on
9 October 20th will proceed as scheduled?

10 MR. KATZ: Well, Linde isn't
11 scheduled for October yet.

12 MS. BONSIGNORE: Oh, okay.

13 MR. KATZ: Because we don't have
14 an agenda for the Board meeting yet.

15 MS. BONSIGNORE: I thought it was.

16 MR. KATZ: And it will really
17 depend on what we hear about the time frame
18 for feedback, as to whether it makes sense to
19 schedule it for October or not.

20 MS. BONSIGNORE: Okay, okay.

21 MR. KATZ: We certainly won't
22 schedule it for the full Board unless we are

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1 pretty confident that we will be ready at that
2 point.

3 MS. BONSIGNORE: Okay.

4 MR. KATZ: It seems like a
5 stretch, given that there will need to be
6 another Work Group meeting.

7 MS. BONSIGNORE: Right. Okay. So
8 it's not likely that it will be October?

9 MR. KATZ: It seems unlikely to me
10 at this point that it will be then.

11 CHAIR ROESSLER: Could we even
12 work it in with the Federal Register notice?
13 Let's say that we find out next Tuesday that
14 we can have another Work Group meeting. Then
15 probably we can't even make it work before --

16 MR. KATZ: No, it's not a problem.

17 I mean we can put things on the agenda that
18 don't happen. The main issue is we want to
19 have on the agenda things that might happen.

20 CHAIR ROESSLER: Well, I mean, is
21 it even reasonable that we could --

22 MR. KATZ: So it is, yes.

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1 CHAIR ROESSLER: -- have another
2 Work Group meeting before the October --

3 MR. KATZ: Oh, yes. I mean we can
4 have a Work Group meeting at the drop of a
5 hat.

6 CHAIR ROESSLER: Okay.

7 MR. KATZ: This is not a
8 subcommittee. We don't need 30 days notice.

9 CHAIR ROESSLER: Yes, okay. So we
10 don't need that? Okay.

11 MR. KATZ: We can meet as quickly
12 as you guys can convene, once we are ready.

13 CHAIR ROESSLER: Okay.

14 MR. KATZ: Absolutely.

15 CHAIR ROESSLER: Okay.

16 MR. ELLIOTT: But the constraint
17 on our side is that we are trying to marshal
18 our resources for a variety of efforts.
19 Certainly, Linde is not any less important
20 than any of these other efforts, but you heard
21 earlier that one of our technical contract
22 support staff is now no longer viable for all

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1 time, only on a limited consulting basis.

2 So we have to check with Joe and
3 see what his available time frames are. That
4 is what we are facing. We can't do everything
5 to everybody's clock.

6 MR. KATZ: Absolutely. I think
7 John was just expressing that, I guess,
8 really, it is in your read as you go down
9 this, if it starts to look like, well, there
10 may be a real debate about the current path,
11 and it would be great to have some thought
12 going into an alternative path. So that,
13 potentially, even if in the dialogue at the
14 next Work Group meeting, if you decide it is
15 really not going to work that route, but we
16 could do this route, that that discussion
17 could happen at the same Work Group meeting,
18 if possible.

19 MR. RUTHERFORD: I think we can
20 take that into consideration in our response.

21 MR. KATZ: Yes.

22 MR. RUTHERFORD: In our response,

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1 if we feel that it is appropriate to consider
2 that and be prepared for that, we can take
3 that.

4 MR. ELLIOTT: That is the key,
5 though: be prepared.

6 MR. RUTHERFORD: Yes, yes.

7 MR. ELLIOTT: Because I don't want
8 to come in and not have something fully
9 fleshed out.

10 MR. RUTHERFORD: Yes, I agree.

11 MR. ELLIOTT: And throw it on the
12 table, and it gets shot down. It doesn't
13 accomplish anything.

14 MR. RUTHERFORD: Absolutely.

15 CHAIR ROESSLER: Okay, we are done
16 with that, right?

17 MR. KATZ: We are.

18 CHAIR ROESSLER: That is as far as
19 we can go. So now should we call on Steve to
20 do his assessment report, August 2009?

21 MR. KATZ: And for folks on the
22 phone, this is an evaluation of the status of

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1 the site profile, implementation of site
2 profile changes or TBD changes, based on prior
3 Working Group work with OCAS.

4 DR. OSTROW: Okay, this is Steve.

5 The report we did was actually two
6 things. Well, we looked at the disposition of
7 the site profile issues, and this was actually
8 in response to the SEC petitioner concerns.
9 This is one of the concerns the SEC petition
10 brought up.

11 The issue here we are looking at
12 is that originally we identified, when we did
13 our original site profile, a review of Rev 0
14 of the site profile, we identified 22 issues.

15 There was a whole long process -- you might
16 say torturous -- that went back and forth with
17 the Working Group, SC&A, NIOSH, lots of
18 meetings, reports, and so forth, where we
19 finally discussed all the issues and resolved
20 everything.

21 What came up, though, in the
22 petitioner's question, and also we had in

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1 mind, too, that some of the 22 issues were
2 closed, you might say, tentatively. In other
3 words, they were closed based on a presumptive
4 action by NIOSH. It was closed by NIOSH
5 committing to do something, to revise some
6 methodology or get new data, or clarify
7 something.

8 So the question is, subsequent to
9 our report, NIOSH issued Rev 1 of the site
10 profile. So we went ahead and looked at Rev 1
11 against our original findings to see, did
12 NIOSH actually live up to its commitments to
13 close out all these issues? So that is what
14 this report, basically, looks at.

15 This, as I said, is in response to
16 one of the petitioner questions. So, while
17 this is a site profile review, it actually
18 relates to the SEC claims also, the petitioner
19 claims.

20 So we went through all the
21 disposition of the 22 issues. I produced
22 Table 1 of my report, which is a Linde issue

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1 resolution chronology, where I tried to
2 capture, based on all of the documents that I
3 had -- and I hope I didn't miss any, anything
4 important -- the history of all the documents,
5 meetings, and so forth. I mean I had like
6 piles of this at home and on my computer. I
7 was trying to put it in order. This is what I
8 came out with, beginning actually in 2005 and
9 running up to late 2008, different meetings.

10 I produced, then, a Table 2, which
11 is on the back of this document because it is
12 a big table and it is in landscape mode. It
13 runs on for pages. It has each of the
14 individual issues identified, and listing in
15 five subsequent columns following the
16 disposition of each issue, through SC&A's
17 original site profile review, NIOSH's initial
18 response, our summary of an Advisory Board
19 meeting.

20 NIOSH made a large response, a
21 large document. We assessed it. Then, going
22 up to the Las Vegas Work Group meeting. We

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1 show how we've got all the issues closed.

2 Table 3 then is repeating what we
3 just had in the last report. It is the exact
4 same table.

5 This shows all the changes made
6 between Rev 0 and Rev 1. I repeated it here
7 because it was useful for this report also to
8 identify all the changes made.

9 Finally, Table 4 -- which is
10 upfront in the body of the report because it
11 is a smaller table -- went through all the
12 issues again. Of the 22 issues, I tried to
13 identify which ones required verification by
14 us that NIOSH did the correct follow-up
15 action.

16 For example, Issue No. 1, I put
17 down no verification was required. In this
18 case, there was no action on NIOSH to amend
19 the site profile.

20 Issue No. 2, for example, there
21 was a verification required because NIOSH, in
22 the course of all these meetings and reports,

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1 committed to do something. I checked to see
2 if they actually did do it.

3 So I went through all the
4 commitments, all the documents. I would like
5 to say that, as far as we see in our
6 assessment, that NIOSH actually did live up to
7 all of its commitments.

8 I forgot what the number is, but I
9 think there were like 12 issues that required
10 verification, and all of them were taken care
11 of with the possible minor exception, I think,
12 of Issue 17, which is the infamous burlap bag
13 issue.

14 NIOSH in its site profile, Rev 1,
15 has an appendix to it. I forget which one it
16 is. Is it E? It is E, where they did exactly
17 what they said they were going to do about
18 treating the burlap bag issue, and we agree
19 with it perfectly.

20 My only comment to it is that is
21 not really referred to in the body of the
22 text. I mean the appendix is there; it's

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1 great, but there's no direction given to the
2 dose reconstructor, what to do with it.

3 So this is a case where you did
4 live up to the commitments, but you needed
5 maybe another paragraph of explanation for the
6 reviewer, just to first alert them that in the
7 case of -- during that time, if it is found
8 that he might have encountered these burlap
9 bags that were sitting there in the residual
10 period, then go to Appendix E and use the
11 methodology there.

12 So this is a case where NIOSH's
13 model is fine. We agreed with it perfectly.
14 But it is a question about the directions to
15 the dose reconstructor aren't there.

16 As far as we are concerned then,
17 all the open issues are closed by NIOSH, with
18 this one exception which just needs another
19 paragraph of explanation somewhere.

20 So that is our finding. We've got
21 a lot of pages going through the history of
22 all this, but that is basically the

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1 conclusion.

2 DR. MAURO: This is John.

3 This is the first time we did
4 something like this; namely, bring something
5 actually to the point of closure.

6 (Laughter.)

7 I didn't mean it that way. I'm
8 sorry. I didn't mean it.

9 But I mean, you know, try to close
10 the circle. It was very valuable. That is,
11 yes, look at this, the whole process took many
12 years, but all 22 issues, for all intents and
13 purposes, have been resolved in the last
14 version of the site profile. This is a first
15 where we actually did that.

16 We have a document now,
17 documentation for the record, for posterity,
18 of how we got there.

19 CHAIR ROESSLER: I think that is
20 very valuable, what you did, Steve, by putting
21 everything together in one document for all of
22 us.

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1 Now what happens with your adding
2 the paragraph? Does that mean that there's
3 going to be a Revision 1A or?

4 MR. CRAWFORD: I don't think we
5 would have any trouble doing that.

6 MR. RUTHERFORD: No, I think that
7 is a simple change that we can do. That is
8 just providing simple direction, as Steve
9 mentioned. I don't see any problem with doing
10 that and getting that taken care of relatively
11 quickly. That doesn't seem like something
12 that will be too difficult to do.

13 CHAIR ROESSLER: And we don't have
14 to call it a new revision? Or you don't have
15 to call it a new revision?

16 MR. RUTHERFORD: Well, I am
17 wondering if we can do a page change or not on
18 that. I have to check with the people that
19 normally do that and see if we can just do a
20 page change.

21 CHAIR ROESSLER: So you can let me
22 know beforehand and we can depend on that.

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1 MR. RUTHERFORD: And recognizing
2 that we are going to have to do a revision to
3 the site profile anyway, once this process is
4 complete, because we have to, if ultimately
5 everyone agrees at the end that the current
6 model that we have developed in our evaluation
7 report is okay, we still have to incorporate
8 that into the site profile, because the site
9 profile does not have that current methodology
10 in it.

11 MS. BONSIGNORE: And that would
12 mean that all the claimants for that time
13 period whose claims were denied would have,
14 presumably, some opportunity to have their
15 claims redone?

16 MR. RUTHERFORD: That is correct.
17 Yes, we would do a PER. We would do a PER to
18 evaluate the effect to the claims that we have
19 denied.

20 MS. BONSIGNORE: Okay.

21 MR. ELLIOTT: The PER would
22 identify those claims so affected.

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1 MR. RUTHERFORD: Exactly. That's
2 better. Right.

3 MR. ELLIOTT: I think it is a
4 misconception that every claim would be
5 reworked.

6 MR. RUTHERFORD: Right.

7 MS. BONSIGNORE: Okay. How would
8 claimants understand whether -- are claimants
9 notified? I don't know how this process
10 works. Are they notified that they --

11 MR. ELLIOTT: If we put forward a
12 program evaluation review to the Department of
13 Labor and a list of claims that we have
14 screened to be affected by that -- and ask
15 them to return them to us for rework -- DOL
16 will notify those people.

17 MS. BONSIGNORE: Okay.

18 MR. ELLIOTT: What we want to
19 avoid is creating a sense of, well, further
20 frustration and a sense that something is
21 going to change for every claimant. Because
22 we have learned in early program evaluation

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1 reviews -- take the Super S, for example; a
2 lot of claimants felt like they worked at one
3 of the sites that were listed in a PER and
4 their claim should now be compensable. That
5 is not necessarily the case in all situations.

6 So our agreement and a
7 coordination with DOL has evolved to the point
8 where we identify those affected claims, seek
9 a return of those from DOL. DOL notifies the
10 claimant. We provide a revised dose
11 reconstruction to the claimant, another
12 opportunity for a closeout interview to
13 understand what we have done, why we did it.
14 Hopefully, they sign an OCAS-1 again, so that
15 we can return it to the Department of Labor
16 for another decision.

17 MS. BONSIGNORE: And the decision
18 about which claims should be reevaluated is
19 solely within the discretion of OCAS?

20 MR. ELLIOTT: Yes, right.

21 MS. BONSIGNORE: And SC&A has no
22 review over that, over those decisions?

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1 MR. ELLIOTT: Well, SC&A -- the
2 Board, the Advisory Board -- has the ability
3 to say we want to have a particular program
4 evaluation review examined. I think there's
5 been a couple of those.

6 MR. KATZ: There has been at least
7 one.

8 MR. ELLIOTT: At least one. I
9 don't know where that effort stands for future
10 reviews.

11 MR. KATZ: So the Board can do
12 that. SC&A has it within their contract to be
13 able to do that. They have done it, I believe
14 only one that I know of it, but maybe it has
15 been more than one, yes, but where they did
16 exactly what you are sort of asking about,
17 where they looked at, what were the cases
18 selected; are these the right cases that were
19 selected, and so on?

20 In that case, they agreed that
21 those cases were the right cases selected
22 because those were the cases that would be

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1 impacted by that change, the previous PER that
2 Larry is talking, which was for lymphoma.

3 MS. BONSIGNORE: So is there an
4 automatic review or -- ?

5 MR. KATZ: There is nothing
6 automatic about this. Again, because there
7 are many PERs and the Board will choose which
8 are priority to review, as, again, part of
9 what's on its plate for all of its review
10 work.

11 MS. BONSIGNORE: Okay.

12 MR. KATZ: So it is a
13 discretionary thing.

14 MS. BONSIGNORE: Right. Yes, I
15 get that.

16 I guess what I am trying to
17 understand, you know, if there is a PER that
18 identifies certain claimants and doesn't
19 identify others, the way in which I can go
20 about explaining that to a claimant who says,
21 "Well, I worked with this guy. You know, we
22 worked in this area during the same time

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1 period. We both have similar -- you know, he
2 has bladder cancer; I have bladder cancer.
3 Why was his claim chosen and mine wasn't?"

4 MR. ELLIOTT: Well, in that
5 example, I would hope that both bladder
6 cancers got treated appropriately.

7 MR. KATZ: Exactly. They would.
8 They would.

9 MR. ELLIOTT: They would. They
10 should.

11 MS. BONSIGNORE: They should,
12 right.

13 MR. ELLIOTT: Yes, they should.

14 MS. BONSIGNORE: But if they
15 weren't, how --

16 MR. ELLIOTT: Well, if they
17 weren't, then that implies that we missed the
18 mark on screening, reviewing all the claims
19 that were denied up to that point, and through
20 that screening process, identifying those that
21 were so affected.

22 For that to happen, that means we

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1 have had a serious failure in our quality
2 control approach on PERs.

3 MS. BONSIGNORE: Okay.

4 MR. ELLIOTT: So I just don't see
5 it happening myself.

6 MR. KATZ: But, certainly, a first
7 recourse is, if any case which seems
8 questionable to anybody comes up, is to
9 contact OCAS and try to get to the bottom of
10 it.

11 MR. ELLIOTT: What we have done
12 and why we missed it, if we missed it. If we
13 didn't miss it, then we will explain why that
14 particular claim doesn't fit into this
15 particular PER.

16 MR. KATZ: Now if you had a number
17 of these experiences and were not feeling like
18 it is making sense to you, the screening
19 process, I mean that would be something to
20 comment to the Board. It would be an added
21 reason why the Board might consider evaluating
22 that PER.

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1 MS. BONSIGNORE: Okay, but in
2 terms of the individual claimants, how would
3 they go about appealing the fact, you know,
4 the example that I gave?

5 MR. ELLIOTT: Let's say they were
6 left out.

7 MS. BONSIGNORE: Okay.

8 MR. ELLIOTT: They were left out
9 of this process. They didn't have their claim
10 recalled --

11 MS. BONSIGNORE: Right.

12 MR. ELLIOTT: -- and sent back to
13 NIOSH for rework.

14 MS. BONSIGNORE: Right.

15 MR. ELLIOTT: They could approach
16 DOL and ask DOL to reopen a claim under this
17 PER. What we have coordinated and agreed with
18 DOL would happen in that situation, DOL would
19 turn to us and say, give us an explanation of
20 why we shouldn't return this to you.

21 MS. BONSIGNORE: Okay.

22 MR. ELLIOTT: That can be given to

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1 the claimant then from DOL.

2 MS. BONSIGNORE: Okay. All right,
3 thank you.

4 MR. KATZ: Let me just say,
5 Antoinette, we tasked SC&A, I mean I did, in
6 consultation with Gen and Paul Ziemer, with
7 doing this report on your behest.

8 MS. BONSIGNORE: Right.

9 MR. KATZ: I know you have just
10 received it today because I just gave it to
11 you today.

12 MS. BONSIGNORE: Right.

13 MR. KATZ: It just cleared for PA.
14 But, certainly, if you have feedback about
15 the report, concerns, issues, what have you,
16 let us know.

17 MS. BONSIGNORE: Okay.

18 MR. KATZ: Because that would be
19 something else that, then, we can take up down
20 the road.

21 MS. BONSIGNORE: Okay. Right.

22 Okay. Thank you.

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1 CHAIR ROESSLER: Okay, I think we
2 have finished, then, Steve with your report.

3 DR. OSTROW: Yes. It was short
4 and sweet.

5 CHAIR ROESSLER: Yes, very good.

6 Chris, do you want to respond? We
7 have you on the agenda to respond to that, but
8 I think maybe you have already done that.

9 MR. CRAWFORD: I think it is
10 pretty straightforward.

11 Just for Steve's knowledge --
12 because on the practical end I have done dose
13 reconstructions and I review them every day,
14 practically -- the site profile documents
15 aren't actually a recipe for doing dose
16 reconstructions, unfortunately for the DRs,
17 because it would be much nicer to have a more
18 pointed document in that regard.

19 They are really a source document.

20 The DR is responsible for knowing what is in
21 the appendices as well as in the main text.
22 So there is no problem with putting in the

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1 phrase you suggested. I just wanted to
2 reassure you that people aren't simply
3 overlooking Appendix E because it is not there
4 in the main text.

5 DR. OSTROW: No, I realized that
6 totally. It was just that you have the text
7 talking about doses in the residual period.
8 Since you have the text there, you ought to
9 just refer to Appendix E.

10 MR. CRAWFORD: Sure.

11 DR. MAURO: This is John. I may
12 be able to elaborate on that a little bit.

13 In the past, we have commented on
14 site profiles a year or two after they were
15 published or even longer. We would point out
16 that, gee, it looks like this site profile
17 should make reference to this OTIB or that
18 OTIB, or whatever that came out subsequent to
19 that, in order to provide a complete direction
20 or guidance to the dose reconstructor.

21 That was a matter of great
22 discussion. We ended up -- and SC&A

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1 completely agreed -- that it is really not
2 practical for every site profile to make
3 reference to every new OTIB that comes out.
4 It just can't be done.

5 But, as long as there is a
6 training program and if there is a QA process
7 to make sure that every dose reconstruction
8 that is done for, let's say in this case,
9 Linde, for example -- a perfect example would
10 be Linde -- if there was a dose reconstruction
11 that was going to be done, that, in fact, it
12 does address all of the issues that are not
13 only addressed and identified in the site
14 profile, but just about every other OTIB that
15 is out there that may have bearing.

16 So I would say that it would be
17 great for the site profile to make reference
18 to the appendix that addresses the burlap
19 bags, but in keeping with the previous
20 conclusion, it is not something that is a
21 requirement, that every site profile has to
22 make sure it references every possible other

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1 OTIB or procedure that might have
2 applicability.

3 It was decided, it was judged by
4 the Board that, no, that would be asking too
5 much. It is just not practical within this
6 type of project.

7 MR. ELLIOTT: We would constantly
8 be revising.

9 DR. MAURO: Yes, it would be
10 impossible. And SC&A fully agrees with that.

11 MR. ELLIOTT: Every time we come
12 out with a new TBD or TIB, we would have to
13 cross-reference it with those sites that it
14 impacts on. So it is handled in training
15 sessions.

16 CHAIR ROESSLER: So it seems we
17 have finished.

18 MS. BONSIGNORE: I actually have
19 two more questions about the PER for the time
20 period from '47 through '53 that you mentioned
21 during the ANWAG teleconference. You said it
22 was about two months out?

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1 MR. RUTHERFORD: I don't know.

2 MR. ELLIOTT: She is talking about
3 -- were you sitting in that meeting?

4 MR. KATZ: No. I was on the
5 phone.

6 MR. ELLIOTT: Yes. Well, it is
7 farther out than that, I guess, because we are
8 not through with this process here.

9 MS. BONSIGNORE: Right.

10 MR. ELLIOTT: We are through with
11 the site profile, but if there is anything
12 that comes out of this deliberative process --

13 MS. BONSIGNORE: Okay.

14 MR. ELLIOTT: -- that would affect
15 the site profile, that will drive the PER.

16 We finished the site profile. We
17 know what changes there are that are going to
18 affect denied claims that would result in a
19 PER.

20 MS. BONSIGNORE: Right.

21 MR. ELLIOTT: What we don't know
22 is what additional changes might come out of

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1 this.

2 MS. BONSIGNORE: Okay.

3 MR. ELLIOTT: So, rather than do
4 multiple PERs --

5 MS. BONSIGNORE: Right. Okay.

6 MR. ELLIOTT: -- we would rather
7 push through this --

8 MS. BONSIGNORE: Okay. I've got
9 you.

10 MR. ELLIOTT: -- and get it nailed
11 down, so that we can do one PER.

12 MS. BONSIGNORE: I've got you.

13 MR. ELLIOTT: Right now, we are
14 set; two months away, we could do a PER on the
15 site profile changes --

16 MS. BONSIGNORE: Right.

17 MR. ELLIOTT: -- that we have in
18 hand.

19 MS. BONSIGNORE: Right.

20 MR. ELLIOTT: Did that help? I'm
21 sorry.

22 MS. BONSIGNORE: Yes.

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1 MR. ELLIOTT: I'm sorry.

2 MS. BONSIGNORE: Yes. No, it
3 does. It is just, from what you said during
4 the teleconference, you said it was about one
5 to two months out. So I had let the claimants
6 know that.

7 MR. ELLIOTT: Oh.

8 MS. BONSIGNORE: But that's all
9 right.

10 MR. ELLIOTT: Well, I mean we
11 could do that, but then we are going to have
12 another, it looks to me like we may have
13 another go at it.

14 MS. BONSIGNORE: Okay.

15 MR. ELLIOTT: Hopefully, in two
16 months' time or three months' time, maybe we
17 can get through this and know exactly what the
18 PER should entail.

19 MS. BONSIGNORE: Okay.

20 CHAIR ROESSLER: You had another
21 question?

22 MS. BONSIGNORE: Yes. The other

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1 question was about SEC 106 that failed to
2 qualify. I don't know, Steve, if any of that
3 was addressed in this report.

4 DR. OSTROW: No. No, it wasn't.
5 I really don't know why it wasn't qualified.
6 I mean I'm saying, literally, I don't know
7 why. It is not that I'm questioning it; I
8 just didn't look into the process.

9 MS. BONSIGNORE: Okay. Because I
10 believe I had requested that that be evaluated
11 along with changes to the site profile.

12 MR. KATZ: I don't recall your
13 request, but certainly SC&A is not tasked to
14 evaluate the qualification of petitions,
15 because the Board, in fact, is not a reviewer
16 of the qualification of petitions. I mean,
17 when the regulations were put out, the Board
18 had extensive discussion about whether or not
19 to be involved in the qualification of
20 petitions, and the Board did not believe it
21 was appropriate for the Board to be part of
22 the qualification process.

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1 MS. BONSIGNORE: Isn't there a
2 Working Group?

3 MR. KATZ: So there was a Working
4 Group that has looked at how that has gone in
5 the past. That Working Group has been
6 disbanded, but it did take a point-in-time
7 look at a whole large number of petitions that
8 have not qualified for a variety of reasons
9 and examined what those reasons were and what
10 it felt. It came out with final findings
11 around that process and recommendations.

12 MR. ELLIOTT: We have employed
13 those recommendations.

14 MR. KATZ: So the Board can at any
15 time reassemble a Work Group to consider the
16 qualification of petitions, but it doesn't
17 have one actively operating right now.

18 MS. BONSIGNORE: Okay. So, in
19 terms of any further recourse in terms of SEC
20 106, there is none?

21 MR. ELLIOTT: There is if you
22 identify additional information --

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1 MS. BONSIGNORE: Right.

2 MR. ELLIOTT: -- that we have not
3 yet examined.

4 MS. BONSIGNORE: Okay.

5 MR. ELLIOTT: But, at this point,
6 I think you had an appeal, an administrative
7 review. You got the results of that.

8 MS. BONSIGNORE: Actually, I was
9 denied the --

10 MR. ELLIOTT: Denied the review.

11 MS. BONSIGNORE: -- the Review
12 Board report, which is --

13 MR. ELLIOTT: Or you couldn't get
14 a copy of the Review Board report?

15 MS. BONSIGNORE: Right, and I've
16 appealed that. It is with the CDC FOIA
17 office, and I haven't received any disposition
18 on that to date.

19 MR. KATZ: If you would send me an
20 email about that and the timing of when you
21 asked for it, and so on, maybe I can help you
22 out with that.

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1 MS. BONSIGNORE: Okay.

2 CHAIR ROESSLER: So, before we
3 end, could I summarize the action items to
4 remind everybody and make sure that I have
5 them right?

6 MR. KATZ: Sure.

7 CHAIR ROESSLER: I have action
8 items for OCAS, for SC&A, and for the Work
9 Group.

10 First, with regard to OCAS, you
11 are going to respond to the SC&A June 8th
12 report. There were 10 items summarized in
13 there which really we can put into three
14 groups: the bounding of the radon exposures;
15 the inhalation, which includes the uranium,
16 radium, and thorium -- and under that one
17 would cover one of Antoinette's concerns,
18 which was the factor of eight -- and the third
19 grouping was the renovation period.

20 Sort of as an aside, you are going
21 to merge your tables in the PER.

22 With regard to timing on that, you

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1 are going to evaluate this and let us know
2 next week, before the conference call, not
3 only when you can do it, but you are also
4 going to let us know if you are going to need
5 to use that fallback option that Dr. Mauro
6 brought up.

7 MR. RUTHERFORD: Yes. Well, we
8 are taking that fallback position into
9 consideration. If, ultimately, in our final
10 resolution of these issues we feel that our
11 position may not be as strong as we thought,
12 then we can look at that fallback position,
13 and we may address that in our response,
14 depending on where we come out.

15 CHAIR ROESSLER: And then the
16 other item, you are going to do the site
17 profile, change the additional paragraph
18 recommended by Steve.

19 MR. RUTHERFORD: Yes.

20 CHAIR ROESSLER: That is all I
21 have for OCAS.

22 SC&A, you are going to prepare an

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1 addendum to your report.

2 DR. OSTROW: Yes.

3 CHAIR ROESSLER: And you will have
4 that within two weeks.

5 DR. OSTROW: Yes.

6 CHAIR ROESSLER: Then for the Work
7 Group, we will set up a meeting after we get
8 the report from OCAS.

9 MEMBER BEACH: And after SC&A has
10 time to review it.

11 MR. KATZ: No, no, no.

12 MEMBER BEACH: No?

13 MR. KATZ: She means just after we
14 get a report from OCAS saying when they think
15 they will have their work done.

16 CHAIR ROESSLER: Then we will have
17 to figure out --

18 MR. KATZ: This Friday.

19 CHAIR ROESSLER: Oh, this Friday?

20 MR. KATZ: Because Labor Day, they
21 won't be there.

22 CHAIR ROESSLER: That's right.

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1 So have I covered everything?

2 (No response.)

3 Do we have any further questions
4 or anything we need to do?

5 (No response.)

6 Does anybody on the phone -- Mike,
7 do you have any comments?

8 MEMBER GIBSON: No, not at this
9 time.

10 MR. KATZ: I want to just also
11 thank Antoinette for coming to this meeting.
12 I think it makes an enormous difference to
13 have you here, and we appreciate that.

14 MS. BONSIGNORE: Thank you.

15 CHAIR ROESSLER: Thank you all.
16 Thank you for your reports. In the absence of
17 one of the key players here, you pulled it
18 together.

19 MR. KATZ: We are adjourned.

20 (Whereupon, the above-entitled
21 matter went off the record at 2:30 p.m.)

22

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