

UNITED STATES OF AMERICA
DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL AND PREVENTION

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NATIONAL INSTITUTE FOR OCCUPATIONAL
SAFETY AND HEALTH
ADVISORY BOARD ON RADIATION
AND WORKER HEALTH

+ + + + +

61st MEETING

+ + + + +

WEDNESDAY, FEBRUARY 18, 2009

+ + + + +

The meeting came to order at 9:00 a.m., in the Coral Room of the Doubletree Hotel Albuquerque, 201 Marquette Avenue Northwest, Albuquerque, New Mexico, Paul L. Ziemer, Chairman, presiding.

PRESENT:

- PAUL L. ZIEMER, Chairman
- JOSIE M. BEACH, Member
- BRADLEY P. CLAWSON, Member
- MICHAEL H. GIBSON, Member (via telephone)
- MARK A. GRIFFON, Member
- JAMES E. LOCKEY, Member
- JAMES M. MELIUS, Member
- WANDA I. MUNN, Member
- JOHN W. POSTON, SR., Member
- ROBERT W. PRESLEY, Member
- GENEVIEVE S. ROESSLER, Member
- PHILLIP M. SCHOFIELD, Member

THEODORE M. KATZ, Acting Designated Federal
Official

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Adjourn

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P R O C E E D I N G S

9:08 A.M.

CHAIRMAN ZIEMER: Good morning everyone. We're ready to begin our deliberations this morning so I'll ask everyone to be seated and we will get underway.

First of all, I have a couple of regular housekeeping reminders. The first is a reminder to register your attendance with us today in the registration booklet out in the corridor.

Also, if you are a member of the public who wishes to address the assembly later today at the public comment period, please sign up in the sign up sheets that are also at the table just outside of the room.

And finally I'll remind you that there are copies of the agenda and of the related documents that pertain to this meeting on the table in the back of this room. And please help yourself to those as appropriate.

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1 Let me ask our Designated Federal
2 Official, Mr. Katz, if he has any additional
3 comments for us this morning.

4 MR. KATZ: Yes, thank you, Dr.
5 Ziemer. Welcome everybody to the second day
6 of the Board meeting.

7 I just want to -- this is really
8 addressed to the people on the phone in
9 particular. Yesterday we had a lot of audio
10 problems. Even in the room it wasn't
11 particularly pleasant at times with feedback
12 and so on.

13 But the people on the phone had, I
14 think, a quite terrible experience with the
15 sounds of wind blowing through and so on and
16 shuffling papers and so on. And the set up --
17 I think they've worked to improve the audio
18 set up today. I think it should work out.

19 But please, folks on the phone, if
20 you find that it's not working for you still,
21 let us know and we'll try to make other
22 arrangements. But I apologize for the bad

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1 experience that you had yesterday.

2 CHAIRMAN ZIEMER: And perhaps I
3 might add to that a reminder to mute your
4 phone when you're not speaking because we did
5 have some sidebar conversations which you may
6 not have realized were broadcast to the group
7 here.

8 And not only to protect your own
9 privacy but to keep the lines clear so others
10 can hear, please mute your phone when you're
11 not speaking which, during the regular
12 session, should be most of the time.

13 MEMBER MELIUS: Paul?

14 CHAIRMAN ZIEMER: Yes, comment,
15 yes, Dr. Melius?

16 MEMBER MELIUS: Could I make one
17 comment? We finished up late last night and
18 we're all pretty tired including everybody
19 left in the room was pretty tired. But I
20 would just like to thank the petitioners for
21 their presentation yesterday as well as the
22 people who spoke on behalf of the petitions

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1 last night.

2 I thought it was some very
3 compelling information -- actually very
4 disturbing to hear what had happened to some
5 of the claimants. But I thought much of the
6 information was very useful to use. And I
7 think will be useful to the Board in going
8 forward with the evaluation of this petition.

9 So I really, at least speaking
10 personally and I think on behalf of other
11 members of the Board also, I'd really like to
12 thank you for the effort that you put into
13 bringing the group together and getting this
14 information to us.

15 CHAIRMAN ZIEMER: Certainly your
16 comments are completely in order and I think
17 reflect the thanks of the full Board for those
18 who participated, not only for their
19 participation but for the clear and compelling
20 statements that many of them did make. So,
21 indeed, we do thank you very much.

22 And, again, we will have another

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1 public comment period later today as well.

2 We have several other petitions
3 before us this week to consider. And the
4 first of those is the Westinghouse Atomic
5 Power Development petition. That will be --
6 the evaluation report will be presented by
7 LaVon Rutherford of NIOSH.

8 Then we will have an opportunity to
9 hear from the petitioners. And then we will
10 proceed from there.

11 So, LaVon, welcome.

12 MR. RUTHERFORD: Thank you, Dr.
13 Ziemer. Again, I'm LaVon Rutherford. I am
14 the Special Exposure Cohort Health Physics
15 team leader for NIOSH. And I'm going to talk
16 about Westinghouse Atomic Power Development
17 and the SEC Petition.

18 This petition was received on
19 August 13th, 2007. We had petitioner-proposed
20 class of testers, laboratory researchers at
21 the L Building, including the K Building from
22 1942 through 1944.

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1 The petition qualified for
2 evaluation on October 16th. And the basis was
3 no monitoring data.

4 During our initial evaluation of
5 this petition, we recognized that there was
6 information that supported that the covered
7 activities that were previous described by the
8 Department of Energy for this site were
9 actually not -- did not occur at this
10 facility.

11 They had, on the Department of
12 Energy's site; it indicates that Westinghouse
13 Atomic Power Development produced the uranium
14 for Enrico Fermi's stacked fuel experiment.
15 Based on our review, the uranium was actually
16 produced at the Bloomfield site, not at the
17 East Pittsburgh site.

18 In February 2008, we contacted the
19 Department of Energy with this concern and
20 provided them reference material to support
21 our conclusion.

22 In June of 2008, the Department of

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1 Energy sent a letter to NIOSH and the
2 Department of Labor concurring with our
3 assessment that yes, we agree with NIOSH that
4 it appears that the work, the actual uranium
5 production for the Enrico -- the stacked fuel
6 experiment was actually produced at Bloomfield
7 and not at the East Pittsburgh site.

8 In September of 2008, the
9 Department of Labor issued a letter to
10 Department of Energy and NIOSH concluding that
11 without a public revocation of the
12 documentation on the considered site's
13 database as being erroneous, it would not be
14 appropriate to remove the years from 1942
15 through 1944.

16 And during this time period, we
17 continued to research and look for activities
18 that may have occurred during that time
19 period. We had recognized that there was a lot
20 of information about Westinghouse and their
21 work for MED during that time period.

22 And although we had concluded that

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1 the activities of uranium production were not
2 conducted at the East Pittsburgh site, we felt
3 like there were probably other activities.

4 In October of 2008, we sent
5 correspondence to the Department of Energy and
6 Department of Labor concerning evidence of
7 uranium enrichment work that was potentially
8 occurring at the East Pittsburgh site during
9 the indicated covered time period.

10 If we all remember, 1942 through
11 1944 was the time period we were working to
12 produce the atomic bomb and we were analyzing
13 four different uranium enrichment options.

14 NIOSH decided to proceed with the
15 evaluation based on these uranium enriching
16 activities during the time period. We felt we
17 had enough documentation that supported that
18 it was clear that those activities had
19 occurred at the East Pittsburgh site.

20 We issued our approved evaluation
21 report on January 22nd, 2009.

22 A little background, Westinghouse

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1 Atomic Power Development is located in East
2 Pittsburgh. It is located within the original
3 Westinghouse Electric Company/Electric and
4 Manufacturing Company facility.

5 The Westinghouse research
6 laboratory is located in East Pittsburgh.
7 Forest Hills is also considered to be part of
8 the site.

9 So there are two separate areas.
10 There is the East Pittsburgh and then a short
11 distance away, there is the Forest Hills site.
12 They are all considered part of Westinghouse
13 Atomic Power Development under the facility
14 designation.

15 Documentation supports that
16 Westinghouse Atomic Power Development was
17 involved in pilot scales/laboratory scale
18 studies of uranium enrichment work using a
19 method with an ionic centrifuge, which is a
20 modified magnetron.

21 The sources that we went to to look
22 for information about the activities were the

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1 site profiles, existing site profiles, and
2 technical information bulletins. We had an
3 interview with a former Westinghouse Atomic
4 Power Development employee.

5 We looked at existing claim files,
6 documentation provided by the petitioner and I
7 would like to say the petitioner, Dr. Sandy
8 Kramer, is in the audience, up front.

9 And the documentation provided by
10 the petitioner really was what led us to the
11 uranium enrichment activities in the
12 beginning. There was a lot of good information
13 provided there.

14 We looked at our site research
15 database. We also did data captures. Our
16 data capture efforts, we did a number of data
17 captures. We had the Westinghouse collection
18 at Senator John Heinz History Center. We
19 picked up, if I remember correctly, 30 or so
20 documents about the facility there.

21 The Department of Environmental
22 Protection in Pennsylvania, DOE Germantown,

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1 DOE Legacy Management, NNSA, the NRC, a lot of
2 these are standard searches because what we've
3 learned over time during these petition
4 evaluations, there are some of these sources
5 that have information not only about their
6 existing facility but also about other
7 facilities, AWEs, and such.

8 And so we do a lot of searches
9 through their electronic databases, Washington
10 State University, Washington University
11 libraries, our DOE Opennet, internet searches,
12 CDER, and various DOE locations.

13 Our previous dose reconstructions,
14 we have 17 claims right now for Westinghouse
15 Atomic Power Development. Now we have 14 that
16 meet the class definition of 1942 through
17 1944. The other three claims are outside of
18 the current covered period.

19 And I'll answer the question now
20 before it comes up, we are exploring why we
21 have those claims.

22 We completed one dose

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1 reconstruction for an individual within this
2 class. However, that dose reconstruction was
3 based on internal and external dosimetry from
4 a period outside of our evaluated covered
5 period.

6 Talking about Westinghouse's side
7 operations, Westinghouse was deeply involved
8 in 1942 through '44 period with a number of
9 other companies and universities in
10 researching various uranium enrichment
11 processes.

12 They provided the centrifuges for
13 the pilot studies and work on the mechanical
14 centrifuge. They did a lot of the electrical
15 work for the electromagnetic calutron at Y-12.

16 Gaseous diffusion, they supported
17 Kellex/Pierpont and the initial pilot studies
18 of the gaseous diffusion process and then the
19 ionic centrifuge.

20 The ionic centrifuge, don't ask me
21 to go into details on this because that's one
22 of the reasons why I'm going to recommend a

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1 class because I don't have a lot of good
2 process description on this.

3 But it's generally what I
4 understand by this is that it is a
5 modification of a magnetron and uses a very
6 similar process to the calutron operations at
7 Y-12 in that the magnetic flux and deflection
8 of the U235 mass versus a 238 allows you to
9 separate them out.

10 There's no indication that the work
11 with radioactive material occurred at
12 Westinghouse Atomic Power Development for any
13 of the enrichment methods with the exception
14 of the ionic centrifuge.

15 As I had mentioned, we have found
16 documentation that supports there are a number
17 of things that Westinghouse was producing at
18 that time in support of the enrichment but we
19 only have clear documentation that the ionic
20 centrifuge work was done at the East
21 Pittsburgh site.

22 Based on documentation available to

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1 NIOSH, again I mentioned that they were
2 involved in the ionic centrifuge uranium
3 enrichment method. And as I had mentioned, it
4 is very similar to the calutron operation.

5 We have no detailed process
6 information about this. We have -- we don't
7 even have a good process description of how
8 this actually worked. We have no information
9 -- if you look back on the facility database
10 website, it talks about K and L and actually
11 the petitioner had identified K and L
12 buildings as potential location for the work
13 that occurred.

14 From what we've been able to
15 uncover, K and L building were contaminated
16 with uranium and thorium. However, they were
17 contaminated with uranium and thorium because
18 of the early filament work that was done at
19 Westinghouse in the 1920s at the East
20 Pittsburgh site, earlier period.

21 In 1918 and 1919, they were looking
22 at uranium as a filament. They also looked at

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1 -- they were using thorium as well. And so
2 there was a lot of work that was done at the
3 East Pittsburgh site during that period.

4 In 1920s, early `20s, that work
5 actually shifted to the Bloomfield site where
6 the actual lamp division was moved from
7 Westinghouse East Pittsburgh to the Bloomfield
8 site at that time. So that what we believe is
9 the contamination that existed in K and L
10 could have easily come from the early filament
11 work that was occurring in the 1920s.

12 So we cannot specifically -- and we
13 have no clear documentation that outlines the
14 exact location this work occurred. As I had
15 mentioned earlier, the Forest Hills site has a
16 number of laboratories.

17 It could have occurred there. But
18 there are also places within the existing site
19 at East Pittsburgh that the work could have
20 occurred.

21 Also, source material, we have no
22 information. We have one document that

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1 indicates that the work may have been
2 laboratory-scale quantities.

3 However we also have an interview
4 that talks about a number of different runs
5 trying to increase the enrichment process or
6 trying to increase the enrichment process
7 using the gas material. And so I can't be for
8 sure if it was -- what is pilot-scale
9 quantities.

10 Our internal sources of exposure,
11 the work associated with the electromagnetic
12 enrichment separation used a uranium
13 tetrachloride. It was converted -- heated and
14 converted into a gas form.

15 We had potential inhalation from
16 that conversion as well as the work involved
17 in the separation. External sources, we have
18 photon and beta exposures from the electronic
19 magnetic separations and we have potential
20 neutron exposures from alpha-N reactions with
21 the chlorine.

22 We also could have, again, not

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1 knowing the details but knowing the Y-12
2 operation, there were X-rays produced in the
3 calutron operations. Those may have been an
4 exposure concern here, too. It is not clear.

5 Internal monitoring data, we have
6 no bioassay data for the class period and we
7 have no general area breathing zone air
8 sampling for the class period.

9 External monitoring data, we have
10 no film badge or pocket dosimeter data and no
11 area radiation surveys. Again, this is a
12 unique operation.

13 We looked at the calutron
14 operations. Can we use some of the activities
15 associated with the calutron?

16 But knowing the specific details of
17 the process was one concern. And also
18 recognizing from the 1942 through 1947 period
19 at Y-12, we have an SEC because of the
20 calutron internal exposure. So it made it
21 very difficult using that as a surrogate.

22 Our evaluation process is a two-

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1 prong test, which was employed many times. Is
2 it feasible to estimate the level of radiation
3 dose with sufficient accuracy? If that answer
4 is no and then is there a reasonable
5 likelihood that such radiation doses may have
6 endangered the health of members of the class.

7 We've found that the available
8 monitoring records process description and
9 source-term data are not adequate to complete
10 dose reconstruction with sufficient accuracy
11 for the evaluated class.

12 We use existing procedures to
13 reconstruct external exposures from medical X-
14 rays for non-presumptive cancers or cancers or
15 claims that do not meet the SEC criteria.

16 Our table, again, internal
17 exposures cannot be reconstructed, external
18 can't, medical X-rays, we will reconstruct for
19 those cancer claims that come back to us. And
20 our feasibility determination is the August
21 13th, 1942, which is the date associated with
22 the establishment of the MED, Manhattan

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1 Engineering District, and December 31st, 1944,
2 which is the end of the covered period.

3 Again, the health endangerment,
4 evidence reviewed in this evaluation indicates
5 some workers in the class may have received
6 chronic exposures through intakes of
7 radionuclides and direct exposure to
8 radioactive materials. And consequently we
9 find that health may have been endangered for
10 those workers.

11 Our proposed class, we looked at --
12 because we knew this was pilot work and -- or
13 at least we thought it was pilot work from the
14 information that we had, we looked at ways to
15 try to limit this class and try to get it to
16 specific locations.

17 In the documentation that we had,
18 we could not come up with a good argument and
19 a good reason to isolate it to specific
20 locations within the facility.

21 We also had talked about do we want
22 to look at specific job titles but after three

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1 or four years of SECs, we recognize that
2 specific job titles are very tough.

3 Not only are they tough because
4 somebody has got to make that determination
5 but job titles change over time. And it is
6 not clear that we could even come up with job
7 titles.

8 We talked to the Department of
9 Labor about a proposed class definition of
10 using researchers and scientists involved in
11 ionic centrifuge operations and they could not
12 administer that class. Therefore, we came up
13 with all AWE employees who worked at
14 Westinghouse Atomic Power Development, August
15 13th, 1942 through December 31st, 1944.

16 And, again, our recommendation.
17 The feasibility, we cannot reconstruct for
18 that period. And health was endangered.

19 Questions?

20 CHAIRMAN ZIEMER: Thank you very
21 much, LaVon.

22 Dr. Lockey?

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1 MEMBER LOCKEY: One question. Why
2 couldn't they identify a class?

3 CHAIRMAN ZIEMER: Use the
4 microphone please.

5 MR. RUTHERFORD: The question comes
6 down to how you are going to be able to
7 determine -- it's not clear, especially if you
8 look at testers. That was one of the titles
9 that was used in individuals that were
10 involved in the operation. And the records
11 that they had, it was not clear that they
12 could identify testers, researchers.

13 And then the other question also
14 came up upon -- okay, who cleaned up the
15 material at the end of the day? Was it the
16 maintenance workers? Was it the scientists?
17 Was it this -- and you start realizing okay,
18 how can I separate those individuals out?

19 CHAIRMAN ZIEMER: Dr. Roessler?

20 MEMBER ROESSLER: Of the people you
21 have identified so far, so they all fulfill
22 the 250-day requirement?

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1 MR. RUTHERFORD: You know, I
2 apologize. I did not look at that. I can
3 find that answer out quickly. And get back to
4 you. I know that most of them -- I believe
5 most of them do. And most of them continued
6 employment well beyond the '44 period.

7 CHAIRMAN ZIEMER: Well, and also,
8 you didn't mention this, but were there any
9 indications of quote, incidents, that were
10 identified in that period?

11 MR. RUTHERFORD: No.

12 CHAIRMAN ZIEMER: Okay. Thank you.

13 MR. RUTHERFORD: There was an
14 incident with the -- there was an atom smasher
15 at Westinghouse in the early years but that
16 was before the covered period.

17 CHAIRMAN ZIEMER: And also, on the
18 medical X-ray are you just assuming annual X-
19 rays or did Westinghouse have a practice that
20 you could identify?

21 MR. RUTHERFORD: No, we had no
22 documentations so we're just assuming an

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1 annual X-ray.

2 CHAIRMAN ZIEMER: So that you are
3 assuming that did have that, right?

4 MR. RUTHERFORD: Yes.

5 CHAIRMAN ZIEMER: Actually it was
6 fairly common during those days. Okay. Thank
7 you.

8 Mr. Presley?

9 MEMBER PRESLEY: You said you had
10 three individuals outside of the petition.
11 How far outside the petition dates?

12 MR. RUTHERFORD: 1950s, 1960s -- I
13 think if I remember correctly, because I just
14 looked at these this morning, all three of
15 them were in the `60s period. And some
16 actually had went early into -- as well into
17 the late `50s.

18 MEMBER PRESLEY: Were they there
19 when this work was being done?

20 MR. RUTHERFORD: No, they were not.
21 And, you know, recognize Westinghouse was
22 doing a lot of -- in the `50s, `60s, a lot of

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1 commercial work, fuel work at the time.

2 MEMBER PRESLEY: Thank you.

3 CHAIRMAN ZIEMER: Bradley Clawson?

4 MEMBER CLAWSON: Do we know when
5 they tore this down?

6 MR. RUTHERFORD: We have a document
7 that supports that at the end of the 1944
8 period, that they ceased all activities with
9 this. And we don't have documentation that
10 says that all the material was removed at that
11 time, you know.

12 But based on the documentation that
13 -- it's called the Smyth Report, some of the
14 HPs will probably remember that report, it is
15 a pretty detailed summary of the activities
16 that occurred during the production of the
17 first atomic bomb.

18 And in the Smyth Report, it talks
19 about the activity shifting to the East
20 Pittsburgh site because that actually -- the
21 ionic centrifuge was actually started at the
22 University of California at the same time that

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1 the work was done with the calutron.

2 And they stopped the work at the
3 University of California and shifted --
4 [Identifying information Redacted] for
5 Westinghouse actually took that activity back
6 to the East Pittsburgh site to continue pilot-
7 scale studies and that is discussed in the
8 Smyth Report.

9 And it says in the Smyth Report
10 that at the end of 1944, that that activity --
11 that all operations with the ionic centrifuge
12 ceased. But I don't know about disposition of
13 materials.

14 MEMBER CLAWSON: Yes, I was
15 wondering about when the centrifuge was torn
16 out or anything else like that, if we knew.

17 MR. RUTHERFORD: I can't tell you.

18 CHAIRMAN ZIEMER: Or was there a
19 decommissioning at all or a clean up of this
20 site to your knowledge?

21 MR. RUTHERFORD: Yes, there is a
22 decommissioning work that was done on this

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1 site. And I can't remember the period but I'm
2 believing that the site itself, if I remember
3 -- I don't even want to say because if I say
4 it, I'll be wrong.

5 CHAIRMAN ZIEMER: Was that a FUSRAP
6 site?

7 MR. RUTHERFORD: Yes, it was
8 actually for a short period. And then they
9 took it off the FUSRAP.

10 CHAIRMAN ZIEMER: Okay.

11 MEMBER BEACH: Paul, I was just
12 looking at the ER report.

13 CHAIRMAN ZIEMER: Oh, Josie, I
14 missed your sign there. Go ahead.

15 MEMBER BEACH: No problem. Page
16 17, 1946, it said Westinghouse and other
17 companies coordinated with MED for the
18 disposal of the centrifuge equipment.

19 MR. RUTHERFORD: Now the centrifuge
20 -- recognize that that centrifuge equipment
21 was actually the centrifuge -- the mechanical
22 centrifuge that was being tested for -- at the

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1 Standard Oil facility. That was not the
2 centrifuge that --

3 MEMBER BEACH: So it was a
4 different one. Thank you.

5 CHAIRMAN ZIEMER: Okay. Yes, Mark?

6 MEMBER GRIFFON: LaVon, I do
7 appreciate that you are pretty good at
8 anticipating our questions and the one that I
9 had underlined before you started was the
10 laboratory scale because I know I'll remind
11 the rest of us that --

12 MR. RUTHERFORD: Right.

13 MEMBER GRIFFON: -- in the past,
14 we've excluded some buildings in Y-12 --

15 MR. RUTHERFORD: Yes.

16 MEMBER GRIFFON: -- because it was
17 lab-scale operations. So I'm appreciative to
18 hear the distinction --

19 MR. RUTHERFORD: Right.

20 MEMBER GRIFFON: -- that it could
21 have been a bigger pilot or you just don't
22 know --

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1 MR. RUTHERFORD: We don't know. We
2 don't know.

3 MEMBER GRIFFON: -- because
4 otherwise I would be wondering why in this
5 case --

6 MR. RUTHERFORD: Yes. And that was
7 -- like you mentioned, there was a lot of
8 detailed discussion on that Y-12. And because
9 of the fact that we had good descriptions of
10 those laboratory-scale quantities, we were
11 able to exclude those. And the Board
12 concurred with this. But we just do not know
13 the exact quantities.

14 MEMBER GRIFFON: I think that is an
15 important point in this one so I appreciate
16 you pointing that out.

17 CHAIRMAN ZIEMER: Jim Neton?

18 DR. NETON: Just to clarify, I
19 think the laboratory-scale operations that
20 were exempted at Y-12 were truly like
21 analytical laboratories, not production
22 laboratories. So that is really the

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1 distinction in my mind.

2 CHAIRMAN ZIEMER: Thank you, Jim.

3 Okay, again, LaVon, thank you very
4 much.

5 And I think we're ready to hear
6 from the petitioner. And Sandy Kramer is
7 here. Sandy, welcome. And we're pleased to
8 hear from you. You can use either mic that
9 you are comfortable with. Use the podium.

10 DR. KRAMER: I'm not going to have
11 too much to say because most of anything I
12 could say was said much better by Mr.
13 Rutherford, much better than I could say.

14 I was introduced by Mr. Rutherford
15 as Dr. Kramer. I do have a Ph.D., however it
16 is in political science so my knowledge and
17 understanding of anything that has to do with
18 chemistry and physics is limited to the one
19 course I took in physics at Princeton. And
20 may I say that was the hardest course, as far
21 as I was concerned, that I have ever
22 experienced.

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1 So I'm not going to ask for any
2 questions because I don't think I'll be able
3 to answer them if they are scientific in
4 nature. However, if anyone that has a
5 question that is not scientific in nature, I
6 would be happy to address it.

7 The reason I'm here today is
8 primarily to thank the Board, ladies and
9 gentlemen of the Board, and the other
10 individuals who are involved in the
11 proceedings to this point, thank them for the
12 work that they did in putting together a
13 presentation.

14 I also want to thank Denise Brock,
15 who could not be here today due to
16 [Identifying information Redacted], and I
17 especially want to thank [Identifying
18 information Redacted], who is co-petitioner,
19 who is unable to be here today because she is
20 holding a bedside vigil for [Identifying
21 information Redacted] who is [Identifying
22 information Redacted] of [Identifying

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1 information Redacted]. And otherwise she
2 would be here.

3 As far as the other petitioners, I
4 have never spoken to them or met them.

5 I must say that I think Mr.
6 Rutherford covered a lot of ground. I
7 encountered similar ground but I did not have
8 the wherewithal to obtain the reports that he
9 did obtain.

10 So, therefore, I would suggest that
11 should you have any questions on any of the
12 material that was covered, that they be
13 addressed back to Mr. Rutherford.

14 But at this point in time, other
15 than once again saying thank you, I will ask
16 if there are any questions of a general nature
17 or of a specific nature, specific to my
18 particular petition that you might wish to
19 ask.

20 CHAIRMAN ZIEMER: Okay, apparently
21 not. We do thank you for being here and for
22 participating in this.

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1 Board members, do you have any
2 further discussion on this? This appears to
3 be a fairly straightforward petition and
4 recommendation.

5 Ms. Munn?

6 MEMBER MUNN: I have no comments.
7 I'm prepared to make a motion if the Board is
8 ready for it.

9 CHAIRMAN ZIEMER: I maybe have a
10 comment here. Dr. Melius?

11 MEMBER MELIUS: I'm prepared to
12 offer a friendly amendment to the motion.

13 (Laughter.)

14 MEMBER MUNN: Why don't you go
15 first?

16 MEMBER MELIUS: Okay, well --

17 MEMBER MUNN: Do go ahead, Dr.
18 Melius.

19 MEMBER MELIUS: Oh, no, no, no.

20 MEMBER MUNN: Please provide the
21 amendment.

22 CHAIRMAN ZIEMER: I think his

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1 tongue is still in his cheek. Why don't you
2 go ahead with your motion?

3 MEMBER MUNN: I move that the Board
4 accept the recommendation of NIOSH that this
5 SEC be accepted as written and that the
6 petition be granted and rescind our
7 recommendation to that effect to the
8 Secretary.

9 CHAIRMAN ZIEMER: Okay. The motion
10 basically is to recommend to the Secretary
11 that this petition be granted and that an SEC
12 class be added.

13 Dr. Melius?

14 I need a second. Okay. There is a
15 second.

16 Do you have a comment or --

17 MEMBER MELIUS: I have actually a
18 rather lengthy friendly amendment.

19 CHAIRMAN ZIEMER: Okay.

20 MEMBER MELIUS: It might speed up
21 the process.

22 CHAIRMAN ZIEMER: Is this the

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1 official wording?

2 MEMBER MELIUS: This is the
3 official wording.

4 CHAIRMAN ZIEMER: Okay. Just for
5 clarification for those particularly who may
6 be new here, we actually have some official
7 wording that goes to the Secretary of Health
8 and Human Services. I guess in this case it
9 will still be an Acting Secretary.

10 But in any event, the motion, as
11 presented by Ms. Munn, was a general motion.
12 What will actually go to the Secretary -- and
13 Dr. Melius has graciously served as our
14 wordsmith on these because I think he has
15 the boilerplate in his laptop, so is this --

16 MEMBER MELIUS: This is actually
17 the updated boilerplate --

18 CHAIRMAN ZIEMER: The updated,
19 okay.

20 MEMBER MELIUS: -- with the recent
21 changes that have --

22 CHAIRMAN ZIEMER: Good. Very good.

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1 MEMBER MELIUS: -- boilerplate
2 changes.

3 CHAIRMAN ZIEMER: So here -- and
4 then we will not have to deal with this later
5 in the week. Okay. So here is the official
6 wording.

7 MEMBER MELIUS: The Board
8 recommends that the following letter be
9 transmitted to the Secretary of DHHS within 21
10 days. Should the Chair become aware of any
11 issue that in his judgment would preclude the
12 transmittal of this letter within that time
13 period, the Board requests that he promptly
14 informs the Board of the delay and the reasons
15 for this delay, and that he immediately works
16 with NIOSH to schedule an emergency meeting of
17 the Board to discuss this issue.

18 The Advisory Board on Radiation and
19 Worker Health, the Board, has evaluated the
20 SEC Petition 0096 concerning workers at the
21 Westinghouse Atomic Power Development Plant,
22 WAPDP in East Pittsburgh, Pennsylvania under

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1 the statutory requirements established by
2 EEOICPA and incorporated into 42 CFR Section
3 83.13. The Board respectfully recommends
4 Special Exposure Cohort status be accorded to
5 all AWE employees who worked at the WAPDP in
6 East Pittsburgh, Pennsylvania from August
7 13th, 1942 through December 31st, 1944, for a
8 number of work days aggregating at least 250
9 works days occurring either solely under this
10 employment or in combination with work days
11 within the parameters established for one or
12 more other classes of employees in the SEC.

13 The Board notes that although NIOSH
14 found that they were unable to completely
15 reconstruct radiation doses for these
16 employees, they believe that they are able to
17 reconstruct the occupational medical dose.

18 This recommendation is based on the
19 following factors,

20 1. The WAPDP was involved in the
21 earliest research and development work for the
22 manufacture of atomic weapons.

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1 2. NIOSH was unable to locate
2 sufficient monitoring data or information on
3 radiological operations at this site in order
4 to be able to complete accurate individual
5 dose reconstruction for the potential
6 internal/external radiation exposures to which
7 these workers may have been subjected. The
8 Board concurs with this conclusion.

9 NIOSH determined that health may
10 have been endangered for the workers exposed
11 to radiations at this facility during the time
12 period in question. The Board concurs with
13 this determination.

14 Based on these considerations and
15 discussions held at our February 18th Advisory
16 Board meeting in Albuquerque, New Mexico, the
17 Board recommends that this Special Exposure
18 Cohort petition be granted.

19 Enclosed is the documentation from
20 the Board where this Special Exposure Cohort
21 class was discussed. The documentation
22 includes transcripts of the deliberations,

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1 copies of the petition, the NIOSH review
2 thereof, and related documents distributed by
3 NIOSH. If any of these items are unavailable
4 at this time, they will follow shortly.

5 CHAIRMAN ZIEMER: Okay. Thank you.
6 That is the formal wording that is used.

7 I do have one question, Dr. Melius,
8 in mentioning on the bullet points the lack of
9 internal and external monitoring data and so
10 on. Did you mention process information?

11 MEMBER MELIUS: I actually
12 mentioned radiological operations.

13 CHAIRMAN ZIEMER: Okay. That's
14 fine.

15 MEMBER MELIUS: The source and
16 process.

17 CHAIRMAN ZIEMER: Okay. That's
18 fine.

19 MEMBER MELIUS: Yes.

20 CHAIRMAN ZIEMER: I wanted to make
21 sure that we covered the waterfront.

22 MEMBER MELIUS: Right, yes.

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1 CHAIRMAN ZIEMER: Okay. That is
2 the motion. We need to do a roll call vote.
3 Did we determine that Mr. Gibson was on the
4 line? Yes, Mike, are you on the line?

5 MEMBER GIBSON: I'm here, Paul.

6 CHAIRMAN ZIEMER: Yes, Mike is
7 here. Thank you. So we'll be sure to include
8 him.

9 MR. KATZ: All right, okay, so
10 calling the roll now, Ms. Beach?

11 MEMBER BEACH: Yes.

12 MR. KATZ: Mr. Clawson?

13 MEMBER CLAWSON: Yes.

14 MR. KATZ: Mr. Gibson?

15 MEMBER GIBSON: Yes.

16 MR. KATZ: Mr. Griffon?

17 MEMBER GRIFFON: Yes.

18 MR. KATZ: Dr. Lockey?

19 MEMBER LOCKEY: Yes.

20 MR. KATZ: Dr. Melius?

21 MEMBER MELIUS: Yes.

22 MR. KATZ: Ms. Munn?

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1 MEMBER MUNN: Aye.

2 MR. KATZ: Dr. Poston?

3 MEMBER POSTON: Yes.

4 MR. KATZ: Mr. Presley?

5 MEMBER PRESLEY: Yes.

6 MR. KATZ: Dr. Roessler?

7 MEMBER ROESSLER: Yes.

8 MR. KATZ: Mr. Schofield?

9 MEMBER SCHOFIELD: Yes.

10 MR. KATZ: Dr. Ziemer?

11 CHAIRMAN ZIEMER: Yes. The motion
12 carries. There are no nays and no
13 abstentions. I didn't mention how the motion
14 carried other than there were no nays.

15 Okay. Thank you very much. And we
16 will proceed to prepare and send those
17 materials to -- actually they go through the
18 Director of NIOSH or of OSHA actually -- no
19 NIOSH -- I'll get it right. It is Christine
20 Branche. And that will get transmitted to the
21 Secretary.

22 Now I think that the -- we're a

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1 little ahead of schedule and we don't want to
2 begin the Tyson Valley thing until 10:30 I
3 don't believe. We will have a petitioner on
4 line for Tyson Valley, is that correct -- at
5 10:30?

6 MR. KATZ: It's a possibility.

7 CHAIRMAN ZIEMER: Yes. So we need
8 to keep that as a time certain. So I'm
9 wondering if -- if Mr. Cohen is agreeable, if
10 we could go ahead with the SC&A Technical
11 Support Contract portion of our agenda.

12 Sandy, is this okay to move you up
13 in the schedule?

14 DR. COHEN: Well, I haven't written
15 it yet.

16 CHAIRMAN ZIEMER: Well, that's even
17 better probably. We don't want you to be
18 prepared too far in advance here. But we
19 welcome Sandy Cohen. And as many of you know,
20 that it's -- SC&A is Sandy Cohen and
21 Associates that has the contract for the
22 support of this Board. So welcome, sir.

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1 DR. COHEN: Thank you very much.

2 I'd like to express my appreciation
3 to the Board for you confidence in SC&A to
4 continue our work in support of the Board.
5 You don't often get a chance to do that kind
6 of thing. So I wanted to do that.

7 You know it is always gratifying
8 from both professional and financial
9 perspectives to be awarded a competitive
10 contract.

11 However there is a special
12 satisfaction in being awarded a competitive
13 contract as an incumbent, particularly after a
14 five-year incumbency. To me this implies that
15 we must have done a pretty good job over an
16 extended period of time.

17 Our work for the Board has been
18 particularly challenging. Our deliverables
19 must not only meet or exceed the expectations
20 of the Board but they are also carefully
21 reviewed by many other interested parties.

22 We routinely interact and

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1 coordinate with NIOSH and the Department of
2 Energy and must communicate effectively with
3 claimants, petitioners, and other interested
4 parties. In fact, over the past couple of
5 years, even Presidential candidates have
6 expressed an interest in our work.

7 I've been in government consulting
8 for about 37 years and thought that I had seen
9 everything. But I have to tell you there have
10 been aspects of the work on this contract over
11 the past five years that were entirely new to
12 me. And at the risk of appearing less than
13 fully knowledgeable about the particulars of
14 the project, I thought that I might share a
15 few of these with you today.

16 We can label this discussion a view
17 from the front office although I don't
18 actually inhabit our front office. My
19 observations fall into the following four
20 categories: learning curve, objectivity,
21 special interests, politics, and Sunshine, and
22 disposition of findings.

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1 Not long after we initiated the
2 work on this contract, we realized that we had
3 a big problem. Although we had naively agreed
4 to the government schedule and level of effort
5 estimates, both the time and the effort
6 actually required to perform some elements of
7 the work turned out to be significantly
8 greater than the government's estimates.

9 The discrepancy was most serious in
10 our reviews of the adequacy and completeness
11 of the site profiles. This work was performed
12 in accordance with detailed procedures, which
13 we developed initially and which were
14 evaluated and approved by the Board. However,
15 it took a lot more time and effort to conduct
16 the reviews in accordance with these
17 procedures than either we or the Board had
18 anticipated.

19 Contributory to the schedule
20 slippage were delays in obtaining some of the
21 references in the site profiles. You may also
22 recollect that one of our first reviews was

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1 the site profile for Bethlehem Steel, which
2 was particularly challenging.

3 Interestingly, I recall that our
4 ultimate review deliverable had more pages in
5 the report than that of which we were
6 reviewing, which was not helpful for our case.

7 Ordinarily, this kind of problem is
8 worked out between the contracting officer and
9 the contractor. This one, however, blew up
10 and resulted in teleconferences attended by
11 members of the Board and representatives from
12 NIOSH in addition to the contractor and the
13 CO. It became quite contentious and for a
14 while there, I was concerned about the future
15 of the contract.

16 Ultimately this all worked itself
17 out. The Board realized that this was a
18 first-of-a-kind effort and that the original
19 level of effort estimates were informed
20 guesses at best. And our subsequent -- and
21 after we had experienced our own learning
22 curve, our subsequent costs for site profile

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1 reviews came down, although not as far down as
2 the original government estimate.

3 I like to think that the government
4 believes that although SC&A's work under the
5 direction of the Board has added some burden
6 to NIOSH's workload, the overall program has
7 benefitted from this burden.

8 As the work proceeded, we realized
9 that one of our most significant challenges
10 was to deliver balanced and objective
11 technical evaluations unencumbered by the
12 exuberance or preconceived notions by any of
13 the individual contributors.

14 Although we had recognized the need
15 for unquestionable technical expertise and a
16 diversity of skills well before we wrote our
17 proposal, we had not given as much thought to
18 the mechanisms required to deal with differing
19 perspectives or dare I characterize them as
20 biases present in all of us. I believe that
21 good technical people do their very best to
22 overcome any biases they might have in the

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1 course of performing high-quality scientific
2 work.

3 Nevertheless, it is good management
4 practice to maintain vigilance on behalf of
5 objectivity and to emphasize the need for
6 objectivity to the individual contributors.
7 One technique that we have implemented is a
8 rigorous internal review of all reports for
9 balance and objectivity as well as technical
10 validity before they are delivered to the
11 client.

12 I've been observing the
13 extraordinary efforts that the project team
14 has put forth to produce our work products and
15 insist that we continue these internal reviews
16 so that our products are technically
17 defensible.

18 This brings me to another unusual
19 aspect of this contract. The Board is charged
20 with advising HHS on the scientific validity
21 and quality of dose reconstructions and SEC
22 petition reviews performed by NIOSH. Although

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1 our job is to support the Board in these
2 endeavors, because the Board has no
3 contracting authority, our contract is
4 necessarily with NIOSH.

5 The potential for conflict of
6 interest was identified early on and was even
7 dealt with in GAO evaluations. It has been my
8 impression that the Board and NIOSH have bent
9 over backwards to address any perception of
10 conflict of interest.

11 NIOSH has assigned designated
12 federal officials who are unaffiliated with
13 the NIOSH Office of Compensation Analysis and
14 Support as the contracting officers' technical
15 representatives. And the OCAS cooperates
16 fully in our pursuit of information and does
17 not exert any influence over our
18 investigations or findings.

19 Another new twist, at least to me,
20 is related to the political high profile of
21 this contract. At least policies concerning
22 EEOICPA -- I hate that acronym -- are

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1 bipartisan, all of the politicians, regardless
2 of political party or ideology, are anxious to
3 ensure that their constituents get deserved
4 remuneration under EEOICPA.

5 I recollect the first time that
6 John Mauro informed me that we were requested
7 to meet with Senate staffers about a
8 particular facility concerning the claims of
9 constituents. He asked for my advice on what
10 to do. I said absolutely not.

11 My response to John is based on a
12 general rule that most contractors abide by.
13 That is to pass on the request for information
14 from the press or from Congress to our
15 clients. While members of our project team
16 were encouraged by the government to attend
17 these meetings and my advice which, by the way
18 I still hold to, was ignored.

19 We have since met with several
20 Congressional staffers, even those of a couple
21 of Presidential aspirants, including one
22 incumbent. We have also met with the staffs

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1 of the House Committee on the Judiciary, who
2 were responding to a relevant GAO report.

3 The project team must achieve a
4 balance between the control of sensitive
5 information, that is information covered by
6 the Privacy Act and also classified material,
7 and the need to perform all work in the
8 sunshine.

9 There is also attention between the
10 need for the Board's work to be performed
11 independently of NIOSH and DOE while at the
12 same time coordinating those activities with
13 NIOSH and DOE for the sake of efficiency.

14 My understanding is that
15 considerable effort has been put forth by all
16 parties and procedures have been developed to
17 define how NIOSH and its contractors and the
18 Board and its contractor will coordinate site
19 visits, data capture, and worker interviews at
20 DOE sites while maintaining the independence
21 of the Board's investigations.

22 These procedures also address the

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1 complexity of having SC&A draft work products
2 reviewed by DOE for sensitive information and
3 also by NIOSH for Privacy Act information
4 without infringing on the Board's independent
5 oversight mission. I expect that there will
6 be continuing challenges in achieving these
7 competing requirements.

8 When this technical support
9 contract was originally envisioned, my
10 recollection is that there was no explicit
11 consideration given to the way in which our
12 findings would be resolved. The original
13 statement of work described the various
14 reviews required and specified the
15 contractor's deliverables associated with
16 these reviews.

17 And, by the way, it has been my
18 observation that for many of our contracts in
19 the past, the report goes on the shelf and
20 that's the end of it. However, in this case,
21 it didn't take long for the Board to realize
22 that there had to be a mechanism established

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1 for the resolution of the contractor's
2 findings and recommendations.

3 I have observed that the issues
4 resolution process and the tools used to track
5 and document that process has also placed a
6 burden on project resources. I understand
7 that methods used to resolve and document the
8 resolution of issues is a work in progress. I
9 look forward to hearing more about the
10 effectiveness of these methods in helping the
11 program achieve and document issues
12 resolution.

13 I'd like to conclude by once again
14 expressing my appreciation to the Board for
15 selecting SC&A as your contractor. I assure
16 you that SC&A's management will thoroughly
17 support the project team in meeting the
18 numerous technical and administrative
19 challenges that we're certain to encounter in
20 the future.

21 Thank you.

22 CHAIRMAN ZIEMER: Thank you very

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1 much, Sandy. We appreciate those comments. I
2 know that your comments are not designed to
3 provoke any discussion but nonetheless since
4 we have you here, it would seem appropriate --
5 and I'm kind of in the habit of asking the
6 Board and I think if you are agreeable, to
7 give the Board members opportunities if they
8 do wish to ask you anything about the
9 operation as you see it or anything related.

10 DR. COHEN: I'd be glad to attempt
11 to answer some questions.

12 CHAIRMAN ZIEMER: And I'm not going
13 to ask you a question but I do want to express
14 the thanks for the Board to you for the teams
15 that you've put together and the ability of
16 those folks to develop -- to help us both
17 develop procedures and approaches to some of
18 the thorny problems that you identified as you
19 addressed us.

20 Ms. Munn, you have your banner up
21 there. You have a comment?

22 MEMBER MUNN: Yes, I do. So does

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1 Mr. Melius. I notice that the good doctor is
2 not in his chair. So I don't know whether he
3 wanted to address Dr. Cohen or not.

4 In any case, welcome, Dr. Cohen.
5 It is a pleasure to see the face behind the
6 name. And a further pleasure to see that you
7 have identified in your brief remarks a couple
8 of the items that appeared to be thorny issues
9 for us as well.

10 I can't help but comment that
11 personally I believe your position with
12 respect to both those items is a parallel
13 position of mine. And it is much appreciated.

14 Your organization is not in an easy
15 spot. And as you pointed out, the confluence
16 of conflicting goals is difficult for everyone
17 concerned. But you have provided us with an
18 excellent team that has worked diligently with
19 us in an attempt to smooth out these larger
20 problems that this confusing situation has
21 presented.

22 So you certainly have the thanks

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1 from this Board member. And thank you very
2 much for being here.

3 DR. COHEN: Thank you.

4 Are there any other questions?

5 CHAIRMAN ZIEMER: Any other
6 comments? Jim had his flag up. But he had to
7 leave. Or did he?

8 MEMBER BEACH: I think it was up
9 from the last --

10 CHAIRMAN ZIEMER: Oh, from before.
11 Okay.

12 Okay, very good. Again, thank you,
13 Sandy, for being here with us this week.

14 I'm going to go ahead and let us
15 begin our break. It is a few minutes early
16 for that but since we always seem to have a
17 way of extending breaks beyond their scheduled
18 time, so I'll give you a little extra time
19 this time.

20 But we do need to come back
21 together promptly at 10:30 since that is
22 basically a time certain with the petitions

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1 for the Tyson Valley Powder Farm discussion.
2 So we will recess until then.

3 (Whereupon, the above-entitled matter went off
4 the record at 10:01 a.m., and
5 resumed at 10:34 a.m.)

6 CHAIRMAN ZIEMER: We're now ready
7 to resume our deliberations.

8 The next item on our agenda is the
9 petition on what is called the Tyson Valley
10 Powder Farm. This is an SEC 83.13 petition
11 that LaVon Rutherford will present on behalf
12 of NIOSH. And then we may hear from the
13 petitioner by phone as well.

14 MR. RUTHERFORD: Okay. Thank you,
15 Dr. Ziemer.

16 Again, I'm LaVon Rutherford. I'm
17 going to talk about Tyson Valley Powder Farm
18 Special Exposure Cohort Petition.

19 This petition was received on June
20 13th, 2008. We had a proposed class of all
21 employees who worked in any are at Tyson
22 Valley Powder during the applicable covered

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1 period from January 1, 1942 through December
2 31st, 1949. That is the entire covered period
3 designed under the DOE facility database
4 website.

5 The petition qualified for
6 evaluation on August 4th, 2008. The
7 petitioners had provided an affidavit that
8 there was, to the best of their knowledge, no
9 monitoring data. And based on our review, we
10 concurred with that, that there was no
11 personal or area monitoring data.

12 A little background about the site,
13 Tyson Valley Powder Farm is located in St.
14 Louis, Missouri. In 1941, the U.S. Army
15 purchased some land, undeveloped land. They
16 had purchased that land approximately 25 miles
17 southwest of St. Louis.

18 It was established as the Tyson
19 Valley Army Powder Storage Farm, also known as
20 Tyson Valley Powder Farm. The original
21 primary function of this site was to receive,
22 store, issue, and test explosives.

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1 On May 10th, 1946, the U.S. Army
2 declared the Tyson Valley Powder Farm site as
3 surplus. During that time, the Atomic Energy
4 Commission was looking for an area to store
5 some byproduct material and scrap material.
6 And so the Atomic Energy Commission began
7 using the buildings at Tyson Valley Powder
8 Farm immediately after closure.

9 Our earliest reference to the AEC's
10 desire to use that facility is February 13th,
11 1946. At some time between February 13th,
12 1946 and June 28th, 1946, the AEC began to
13 store radioactive material on the site. So
14 what we have used is we have used the February
15 13th, 1946 as basically our start date for the
16 purpose of this, as I just mentioned.

17 Our sources that we used to get
18 information, again, we always look through
19 site profiles, technical information,
20 bulletins, and procedures for information. We
21 also performed interviews, looked at the
22 existing claimant files. As you notice, we

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1 have one claimant.

2 We looked at documentation provided
3 by the petitioner. We also did our site --
4 looked through our site research database.
5 And we performed data capture efforts.

6 Our data capture efforts included a
7 historian for St. Louis Area Weapons Work.
8 She's not truly a historian. She is actually
9 a professor of political science. That is Dr.
10 Denise DeGarmo, who is the audience.

11 The Missouri Department of Natural
12 Resources, St. Louis Office, and U.S. Army
13 Corps of Engineers, St. Louis County Library,
14 DOE Germantown, Legacy Management, NSA, NRC, a
15 lot of these you'll notice are very -- are
16 ones that you would see on the previous
17 petition because, again, these are sources
18 that over time we realize provide information
19 on more than one site. And so we go back to
20 those sources.

21 Washington State University,
22 Washington University libraries, National

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1 Archives, DOE OpenNet, internet searches, CDER
2 database, and various DOE locations.

3 A previous dose reconstruction, we
4 have one claim for this site. And that
5 claimant is actually -- the survivor is
6 actually the petitioner. And that claim meets
7 the class definition.

8 And one-dose reconstruction was
9 completed. We have no internal or external
10 monitoring data from that plant.

11 A little background on Tyson Valley
12 Powder Farm, documents indicate that the AEC
13 may have used as many as five igloos to store
14 uranium and uranium byproducts. These igloos,
15 we know for sure at least two of them and
16 these igloos contained storage area of a
17 maximum of 100,000 pounds.

18 There is no information as to how
19 the material was placed, stored, or removed
20 from the site. And the AEC continued to use
21 this site until its permit was revoked on July
22 1, 1948. We do have some documentation that

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1 indicates that the material was actually moved
2 in that June time frame from the site.

3 NIOSH did not find any evidence of
4 other areas at Tyson Valley Powder Farm being
5 used for radioactive material storage or
6 operations. The radioactive material stored
7 on this site, uranium scrap materials, they
8 were scrap materials contaminated with
9 uranium. We had the bottom third of the slag
10 biscuit.

11 And you'll notice that some of
12 these have quantities because we did, through
13 our review of documentation, we were able to
14 uncover some source quantities for some of the
15 material. You'll also notice that some of
16 them will say unknown. Slag biscuit and also
17 the C-slag, which was the top two-thirds of
18 the slag.

19 Pitchblende residues, these
20 residues were generated prior to 1948 with an
21 unknown amount. And the raffinates or
22 byproducts of the uranium ore processing, if

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1 you'll remember during Mallinckrodt period,
2 the 1946-48 period was a prime time when the
3 high-grade pitchblende ore was being processed
4 at Mallinckrodt.

5 We do not have clear documentation
6 that says the high-grade ore was stored at
7 this site but we do know -- or the pitchblende
8 or byproducts were stored at this site but we
9 do know that pitchblende or byproducts were
10 stored there during this period.

11 And that is the period when high-
12 grade pitchblende ore was being processed. So
13 because of that, we had to assume that the
14 high-grade pitchblende ore byproducts were
15 there.

16 Potential internal radiation
17 exposures during the class period -- and I
18 want to go back to the one claimant we have,
19 who just happens to be the caretaker of this
20 site during that period -- I forgot to mention
21 that.

22 Tyson Valley Powder Farm workers

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1 had the potential for internal radiation
2 exposure from uranium residues through
3 inhalation and ingestion of airborne uranium
4 dust and exposures from radon and radon
5 progeny while working at this site.

6 Uranium metal scrap would present a
7 low risk from an internal exposure because
8 most of that was in metal form. However the
9 pitchblende ore residues would present the
10 greatest potential for internal exposure from
11 the potentially high levels of radon
12 generated.

13 External exposures could have
14 resulted from drums and barrels containing
15 uranium scrap and residues. The exposure
16 rates would have varied depending on the
17 source term. Photon exposures may have
18 resulted from radionuclides in the uranium
19 decay chain and beta exposures as well.

20 And based on the information that
21 we have, we do not believe neutron exposures
22 would have been in any significant form at

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1 Tyson Valley.

2 Personal area monitoring data,
3 internal monitoring data, we have no bioassay
4 data for the class. We have no general area
5 or breathing zone air sampling for the class
6 period.

7 External monitoring data, no film
8 badge or pocket dosimeter data. And no area
9 radiation surveys.

10 Again, as earlier, it is a two-
11 prong test. Is it feasible to reconstruct the
12 radiation doses for individual members with
13 sufficient accuracy? If no, is there a
14 reasonable likelihood that their health was
15 endangered?

16 Our determination, we found that
17 the available monitoring records, process
18 descriptions, and source-term data are not
19 adequate to complete dose reconstruction with
20 sufficient accuracy for the evaluated class.
21 We will use existing procedures to reconstruct
22 external exposures from medical X-rays.

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1 And our table, again, February
2 13th, 1946 -- again, that February 13th date
3 is the date where we know the AEC had
4 contacted to use the Tyson Valley Powder Farm
5 so it would be the earliest possible date that
6 material could have been on site through June
7 30th, 1948, which is when we know the material
8 was removed from the site and no longer at
9 Tyson Valley Powder Farm.

10 You'll notice in comparison to the
11 covered period, the covered period on DOE
12 facility database is 1942 through -- up to
13 1949. Our review of records and information
14 indicates that there was no material -- AEC
15 material on site prior to that February 13th
16 period.

17 Health endangerment, the evidence
18 reviewed in this evaluation indicates some
19 workers may have accumulated chronic radiation
20 exposures through intakes of radionuclides and
21 direct exposure to radioactive material.
22 Consequently, we have determined that their

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1 health may have been endangered.

2 Our proposed class is all AWE
3 employees who worked at Tyson Valley Powder
4 Farm in St. Louis, Missouri from February
5 13th, 1946 through June 30th, 1948 for the
6 number of work days aggregating at least 250
7 work days.

8 Again, our recommendation,
9 feasibility is no, health endangerment is yes.

10 Questions?

11 CHAIRMAN ZIEMER: Again, we thank
12 you, LaVon, for that presentation.

13 Josie, you have the first question.

14 MEMBER BEACH: Hi, LaVon. I
15 realize with just one employee, do you know
16 how many employees worked during that time
17 period?

18 MR. RUTHERFORD: You know there
19 were a number of buildings on the site but I
20 do not know how many people actually worked
21 during that period.

22 MEMBER BEACH: And also did you

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1 hold any worker outreach meetings?

2 MR. RUTHERFORD: We didn't hold any
3 worker outreach specifically for that area.
4 We did try to find people to interview. And
5 we actually went to the St. Louis Bureau --
6 and I'm trying to remember the exact names and
7 talked to a few people that were familiar with
8 the assessments that went on during that
9 period.

10 And asked them for additional
11 potential contacts that they may have that we
12 could talk to and we did not get any hits on
13 that.

14 MEMBER BEACH: Okay. Thanks.

15 CHAIRMAN ZIEMER: John Poston?

16 MEMBER POSTON: Wanda.

17 CHAIRMAN ZIEMER: Oh, Wanda is
18 next? Okay.

19 MEMBER MUNN: LaVon, do you have
20 any concept of how the igloos were constructed
21 and how they were sealed? Ordinarily, storage
22 igloos of that type are not areas where

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1 personnel are likely to be entering unless
2 they are bringing things in and bringing
3 things out, which is a relatively short period
4 of time. Do you have any of that information?

5 MR. RUTHERFORD: No, we do not have
6 any information on whether they were open or
7 if they were sealed or, you know, recognizing
8 the fact that the radon generation from the
9 pitchblende ores, if they were sealed, would
10 have built up in the igloos as well.

11 And if there were any inspections
12 at all that would have occurred, it would have
13 been an exposure potential to the caretaker.

14 Now the possibility would be can
15 you limit that class based on that to just
16 people that could have entered those igloos.

17 If we were to have enough knowledge
18 that said that they were closed and sealed,
19 which we don't, but we actually went to -- our
20 proposed class at the Department of Labor was
21 individuals that entered those five igloos.

22 And the Department of Labor came

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1 back to us and said there is no way was can
2 administer that class as defined. And,
3 therefore, they recommended that we change the
4 class to what we have defined it as, as all
5 AWE employees.

6 MEMBER MUNN: Thank you.

7 CHAIRMAN ZIEMER: Dr. Poston?

8 MEMBER POSTON: I think Ms. Munn
9 asked my question because being familiar with
10 these igloos, they are normally sealed after
11 they are filled and there's no entering except
12 to go get the material when you take it out.

13 So this is, in my estimation, sort
14 of a presumptive exposure. If this were a
15 criminal investigation, you would have no
16 proof that a crime has been committed. So it
17 is sort of a strange situation we haven't
18 always faced before.

19 CHAIRMAN ZIEMER: Thank you.

20 Other comments or questions?

21 LaVon will catch Mark but very
22 quickly is there any evidence that there was

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1 contamination left behind or any remedial
2 action that occurred later?

3 MR. RUTHERFORD: I don't recall. I
4 don't remember reading anything on that at
5 all.

6 CHAIRMAN ZIEMER: Thank you.

7 Mark?

8 MEMBER GRIFFON: I think first off,
9 I will follow up on Paul's -- I mean there is
10 some indication that there was some FUSRAP
11 investigation on this site, right? And I
12 don't know if you found any reports on that
13 and whether they, in any way, quantified the -
14 -

15 MR. RUTHERFORD: No, I know that
16 the land was actually cleaned -- I mean that
17 the land was deemed cleaned and turned over to
18 the City of St. Louis.

19 MEMBER GRIFFON: But you had no
20 reports on that? You couldn't find any on
21 that?

22 MR. RUTHERFORD: No.

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1 MEMBER GRIFFON: I guess the other
2 questions are along the same lines that have
3 already been asked but, you know, if I heard
4 you right, I heard you say you can actually
5 limit -- you know, you've got potentially five
6 igloos, 100,000 pounds per igloo. And if I
7 assume worst case, it is all pitchblende. Why
8 can't I bound doses on -- I'm just trying to
9 rationalize this compared to other sites that
10 we work on.

11 MR. RUTHERFORD: Okay. Well, I
12 mean from a sufficiently accurate -- if you
13 are looking at 100,000 pounds of high-grade
14 pitchblende ore, what are your radon
15 concentrations going to be to the lung? I
16 don't think that's -- I mean I think that Dr.
17 Neton would agree with me that I think that
18 would step outside the bounds of sufficiently
19 accurate.

20 MEMBER GRIFFON: So that's not
21 plausible probably?

22 MR. RUTHERFORD: Correct.

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1 MEMBER GRIFFON: Okay. I'm just
2 trying to get a sense of this compared to
3 other evaluations that we look at.

4 CHAIRMAN ZIEMER: Well, if you knew
5 the masses and assumed that was all --

6 MR. RUTHERFORD: Sure. And the
7 other issue is --

8 CHAIRMAN ZIEMER: -- you could
9 calculate the radon output but you don't know
10 much about the igloos in terms of the buildup
11 and diffusion out and so on.

12 DR. NETON: Yes, the air exchange
13 rates as well.

14 CHAIRMAN ZIEMER: Right.

15 DR. NETON: But, LaVon, refresh my
16 memory, we don't -- do we know much at all
17 about the process involved in the loading of
18 these igloos?

19 MR. RUTHERFORD: And that was the
20 other point --

21 DR. NETON: How this material was
22 really transferred, that's one of the big

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1 issues.

2 MR. RUTHERFORD: We don't know how
3 it was transferred, the storage inspections
4 that were done, and how the material was
5 removed at all. And that was mentioned
6 earlier. And we also don't know the
7 concentrations that was, you know, the
8 processed ores.

9 MEMBER GRIFFON: Okay. I'll give
10 you -- I'm just wrestling with this, you know,
11 this notion of, you know, clearly some
12 pitchblende ore went there. It may not have
13 been the highest concentration.

14 MR. RUTHERFORD: Yes, we don't
15 know.

16 MEMBER GRIFFON: But your
17 determination was that assuming it was all the
18 highest grade pitchblende was -- didn't fit
19 the method -- didn't fit the sufficiently
20 accurate test.

21 MR. RUTHERFORD: I wouldn't say --
22 I would say that that, along with the fact

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1 that we know nothing about how the material
2 was placed --

3 MEMBER GRIFFON: Okay.

4 MR. RUTHERFORD: -- and how the
5 material was stored, inspections that were
6 performed, how the material was removed from
7 the site. And recognize during that two-year
8 period, it wasn't just we put it in one day
9 and we removed it at the end of the period.
10 It was placed over time, built up into those
11 igloos.

12 MEMBER GRIFFON: Okay. And just
13 the last thing -- John has a question -- just
14 is the last one. I'm trying to understand the
15 '46 determination that the site was -- from
16 '42 through '49 or whatever --

17 MR. RUTHERFORD: Right.

18 MEMBER GRIFFON: -- but you didn't
19 find any indication until '46 that anything
20 was stored there, is that --

21 MR. RUTHERFORD: Right. Based on
22 what we have, the Army was still using the

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1 facility. It was the Army's facility up until
2 1946 when they declared the site was surplus.

3 And at that time -- at that time the AEC
4 inquired about using the facility for storage
5 of radioactive materials.

6 And the February 13th date that we
7 had identified is actually the date where we
8 have that official request by the ACE to use
9 the site. We used that date even though we
10 know material didn't go in that day but the
11 next day that we have that we know material
12 was there, it was already there. And that was
13 in June of that year.

14 MEMBER GRIFFON: But how did DOL
15 define the time frame for the site?

16 MR. RUTHERFORD: I do not know. We
17 have all of the documents the Department of
18 Labor has. And --

19 MEMBER GRIFFON: But I mean if it
20 was Army before that, it shouldn't have been
21 defined as an operating period, correct?

22 MR. RUTHERFORD: I agree.

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1 MEMBER GRIFFON: I mean I think we
2 have to sort that out. That's pretty
3 important here.

4 MR. RUTHERFORD: Yes, we will go
5 back to the Department of Labor with a letter
6 and with all our reference material to show
7 that where we believe that the '42 through the
8 '46 period should not be a covered period.

9 MEMBER GRIFFON: Okay.

10 CHAIRMAN ZIEMER: Dr. Melius?

11 MEMBER MELIUS: Just a quick follow
12 up on that part of it, just make sure that
13 there is a note to come back to the Board with
14 that --

15 MR. RUTHERFORD: Yes.

16 MEMBER MELIUS: -- information
17 because I think it helps us understand --

18 MR. RUTHERFORD: Yes.

19 MEMBER MELIUS: -- this designation
20 -- site designation issue and time period
21 because we keep running into this a lot with
22 these sites.

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1 MR. RUTHERFORD: Right.

2 CHAIRMAN ZIEMER: LaVon, who is the
3 official employer at this site? Was Tyson
4 Valley Powder a company? Or just the name of
5 the location? These weren't Mallinckrodt
6 people were they?

7 MR. RUTHERFORD: You know, I do not
8 recall.

9 CHAIRMAN ZIEMER: Well, the reason
10 I ask that when we say they are employees, who
11 are they employees of?

12 MR. RUTHERFORD: Well, Tyson Valley
13 Powder Farm. And the Department of Labor
14 determines whether a claim is accepted under
15 this program.

16 CHAIRMAN ZIEMER: Yes, I understand
17 that.

18 MR. RUTHERFORD: So they are the
19 ones that have defined the facility.

20 CHAIRMAN ZIEMER: They'll make the
21 determination.

22 MR. RUTHERFORD: Right.

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1 CHAIRMAN ZIEMER: It's more of a
2 curiosity thing. I'm just wondering, you
3 know, it is fairly clear cut if you are a
4 Mallinckrodt worker that you worked for
5 Mallinckrodt. It's not clear who they are
6 working for here.

7 And I don't know if Labor is even
8 prepared to answer that now. But Jeff, you
9 don't happen to know, do you, who the employer
10 is for Tyson Valley Powder?

11 MR. KOTSCH: No, not really.
12 Actually LaVon sent us, I think, four cases.
13 We had our Denver Office look at them. And I
14 just don't remember who the, you know, who the
15 employer was listed on there.

16 CHAIRMAN ZIEMER: Maybe the
17 petitioner will be able to, you know, inform
18 us on that in a moment.

19 Any other questions? John Poston?

20 MEMBER POSTON: Just a few facts.
21 I applaud Mark for trying to provide an upper
22 bound by assuming it was all pitchblende but

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1 as LaVon stated, there was scrap materials,
2 which were simply contaminated with uranium,
3 and then there were the slag biscuits, which
4 have a lower concentration of uranium.

5 And the pitchblende, according to
6 LaVon's slides is only .29 percent U308, which
7 is sort of a medium to low concentration ore.

8 MEMBER GRIFFON: Well, I think you
9 are supporting my argument, John, that, you
10 know, probably all 500,000 pounds wouldn't be
11 pitchblende. And they've got other data that
12 they can subtract off of that 500,000 to get
13 that number down. And maybe, you know, it's
14 not so unreasonable.

15 That was sort of my point that
16 maybe they can reconstruct. I'm just trying
17 to understand this juxtaposed to other sites
18 that we've looked at where we've said that we
19 can't do it.

20 The only final item I ask LaVon is
21 on the one slide you said that you have one
22 claim and you had one dose reconstruction that

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1 you completed. How did you complete that dose
2 reconstruction, if I might ask?

3 MR. RUTHERFORD: I figured that
4 question was going to come up.

5 MEMBER GRIFFON: Yes, it's on a
6 slide. I'm sure people were thinking about
7 it.

8 MR. RUTHERFORD: The one claim that
9 we have, who is the petitioner's actual
10 survivor -- is an A4 prostate cancer. Now
11 you'll wonder why we qualified a -- or why we
12 used a petitioner with a prostate cancer. And
13 if I say anything I'm not allowed to say --

14 CHAIRMAN ZIEMER: It might be too
15 late.

16 MR. RUTHERFORD: -- I'm sure our
17 attorneys will -- are looking at me -- I will
18 make sure that --

19 CHAIRMAN ZIEMER: It might be too
20 late.

21 MR. RUTHERFORD: -- there were
22 other issues with the claim that allowed it to

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1 qualify. However, the cancer that was
2 evaluated and the dose reconstruction was
3 completed was for a prostate.

4 And as you know from an internal
5 exposure perspective, you can throw an
6 enormous amount at that. And so that is what
7 it was set at.

8 CHAIRMAN ZIEMER: I want to ask now
9 if the petitioner is on the line. I'm not
10 sure -- I won't identify her unless she is on
11 the line. Okay, hold on just a moment until
12 we get the mic -- okay, now if you would -- we
13 would be pleased to hear from you if you so
14 desire. And you can identify yourself.

15 MS. BARNETT: Thank you. If
16 you're not hearing me, please let me know.

17 CHAIRMAN ZIEMER: Yes, we hear you.

18 MS. BARNETT: My name is Eileen
19 Janette Barnett. And I'm representative for
20 [Identifying information Redacted], who is the
21 claimant for his deceased [Identifying
22 information Redacted].

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1 And I want to thank you for giving
2 me this time for some comments. Well, this
3 claim has been in the works for more than five
4 years. And I know it has a way to go or not.

5 So I'd just like to comment on here and now.

6 In its long process, I somehow had
7 the idea that if it were to ever get to NIOSH,
8 it would be like reaching Nirvana. That here
9 would be experts in investigation and
10 resources of information or at least as many
11 as were available to NIOSH.

12 So whatever the ultimate decision
13 on this case, I think I had the right idea.
14 So I want to thank all of you for all of your
15 labors.

16 And my [Identifying information
17 Redacted] and I would also like to express our
18 appreciation for the communication we've had
19 in letters and telephone calls, e-mails, and
20 even personal contact.

21 I wish we could remember
22 everybody's names there but especially we want

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1 to thank NIOSH Ombudsman Denise Brock who --
2 well, she has a gift for explaining
3 complicated things, making this complicated
4 process a little more clear. And also for
5 clearing a path for us. Thank you, Denise.

6 Last and very important, we just
7 want to remember Clete Barnett, [Identifying
8 information Redacted]. He worked at Tyson
9 Valley Powder Farm in 1946 and `47. He was a
10 remarkable man with many unfulfilled dreams
11 for his beloved Kentucky farm.

12 He loved his farm, his family, and
13 his country. Well, he'll never be forgotten.

14 Again, thank you for this time.

15 CHAIRMAN ZIEMER: Okay. Thank you
16 very much, Eileen, for your comments.

17 MS. BARNETT: Sure.

18 CHAIRMAN ZIEMER: Board members,
19 any other questions or discussion?

20 It would be in order to have a
21 motion regarding this particular petition.
22 Well, the Chair does not want this matter to

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1 drop for lack of a motion. So is there anyone
2 who wishes to make a motion regarding this
3 recommendation?

4 Ms. Munn, with some fear lest it be
5 modified, let's proceed. And we can proceed
6 as we did before. We understand that we need
7 a motion on the floor. We'll get the wording
8 if it is so ordered.

9 MEMBER MUNN: It is what? My
10 motion that we accept the recommendation of
11 the NIOSH investigators and that the Secretary
12 be advised accordingly.

13 CHAIRMAN ZIEMER: Thank you.

14 Is there a second to the motion?

15 MEMBER LOCKEY: I second.

16 CHAIRMAN ZIEMER: Dr. Lockey
17 seconds the motion.

18 Dr. Melius, do you have some
19 wording all ready for this particular one?

20 MEMBER MELIUS: I have a friendly
21 amendment, yes.

22 CHAIRMAN ZIEMER: Okay.

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1 MEMBER MELIUS: A lengthy friendly
2 amendment.

3 CHAIRMAN ZIEMER: Lengthy friendly
4 amendment, okay, here we are.

5 MEMBER MELIUS: Okay. The Board
6 recommends that the following letter be
7 transmitted to the Secretary of Health and
8 Human Services within 21 days. Should the
9 Chair become aware of any issue that in his
10 judgment would preclude the transmittal of
11 this letter within that time period, the Board
12 requests that he promptly informs the Board of
13 the delay and the reasons for this delay, and
14 that he immediately works with NIOSH to
15 schedule an emergency meeting of the Board to
16 discuss this issue.

17 The Advisory Board on Radiation and
18 Worker Health, the Board, has evaluated SEC
19 Petition 00115 concerning workers at the Tyson
20 Valley Powder Farm in St. Louis, Missouri,
21 under the statutory requirements established
22 by EEOICPA and incorporated into 42 CFR 83.13

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1 and 42 CFR 83.14. The Board respectfully
2 recommends Special Exposure Cohort status be
3 accorded to all atomic weapons employer, AWE
4 employees, who worked at the Tyson Valley
5 Powder Farm in St. Louis, Missouri, from
6 February 13th, 1946 through June 30th, 1948,
7 for a number of work days aggregating at least
8 250 works days occurring either solely under
9 this employment or in combination with work
10 days within the parameters established for one
11 or more other classes of employees in the SEC.

12 The Board notes that although NIOSH
13 found that they were unable to completely
14 reconstruct radiation doses for these
15 employees, they believe that they are able to
16 reconstruct the occupational medical dose.

17 This recommendation is based on the
18 following factors:

19 1. Tyson Valley Powder Farm was
20 involved in the storage of materials from the
21 early manufacture of atomic weapons.

22 2. NIOSH was unable to locate

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1 sufficient monitoring data, information on
2 operations at this site, and source-term
3 information at this site in order to be able
4 to complete accurate individual dose
5 reconstruction for the potential
6 internal/external radiation exposures to which
7 these workers may have been subjected. The
8 Board concurs with this conclusion.

9 3. NIOSH determined that health
10 may have been endangered for the workers
11 exposed to radiation at this facility during
12 the time period in question. The Board also
13 concurs with this determination.

14 Based on these considerations and
15 discussions held at our February 18th Advisory
16 Board meeting in Albuquerque, New Mexico, the
17 Board recommends that this Special Exposure
18 Cohort petition be granted.

19 Enclosed is the documentation from
20 the Board meeting where the Special Exposure
21 Cohort class was discussed. The documentation
22 includes transcripts of the deliberations,

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1 copies of the petition, the NIOSH review
2 thereof, and related documents distributed by
3 NIOSH. If any of these items are unavailable
4 at this time, they will follow shortly.

5 CHAIRMAN ZIEMER: Thank you very
6 much, Dr. Melius.

7 I need to insert here -- and
8 perhaps some clarification, LaVon, I'm looking
9 back in the evaluation report itself versus
10 the slide and I'm noticing that the evaluation
11 report shows that you can reconstruct external
12 dose.

13 And I -- Jim, what wording did we
14 have on that in the friendly amendment?

15 MEMBER MELIUS: They couldn't
16 construct external. They could reconstruct
17 occupational doses. I was going by the
18 slides.

19 CHAIRMAN ZIEMER: I'm seeing -- and
20 LaVon, in the evaluation report, page 24, I'm
21 noting that NIOSH says it can reconstruct
22 external dose, including medical X-ray, but

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1 also gamma and beta. And it only shows
2 internal not feasible.

3 MR. RUTHERFORD: Unfortunately, I
4 believe we have an error in our table under
5 here because what we -- if you actually review
6 earlier in the report, we actually say that we
7 could reconstruct some of the external dose.
8 But without the quantities, the significant
9 source-term quantities, we could not
10 completely define the external dose.

11 And that's what it should have
12 said. And so the external table should have
13 been no. And I'm really kind of surprised.
14 I'm wondering if somehow or another we have an
15 error. I'll have to issue a revision of the
16 report to show that the external doses are no
17 with the exception of occupational medical X-
18 ray.

19 CHAIRMAN ZIEMER: Okay. So that
20 what you have in the slide is --

21 MR. RUTHERFORD: Is correct. It is
22 correct.

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1 CHAIRMAN ZIEMER: -- what was
2 intended and what is in the letter then is
3 correct.

4 MR. RUTHERFORD: Right. It is
5 correct.

6 CHAIRMAN ZIEMER: And I thought
7 from the narrative in the report, it appeared
8 that you could not reconstruct external dose.

9 MR. RUTHERFORD: Right. I
10 apologize, I somehow missed that.

11 CHAIRMAN ZIEMER: Sorry, I missed
12 that earlier until I was just reviewing it
13 again. So we will assume that the evaluation
14 report will be corrected or modified so that
15 it is in agreement with what we were told here
16 in the oral presentation as well as what the
17 narration in the report itself states. And
18 that's Table 7-1 in the report.

19 Board Members, you've heard the
20 motion and the official wording. Are you
21 ready to vote then? It appears that we are.
22 And we'll take a roll call vote.

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MR. KATZ: Ms. Beach?

MEMBER BEACH: Yes.

MR. KATZ: Mr. Clawson?

MEMBER CLAWSON: Yes.

MR. KATZ: Mr. Gibson?

MEMBER GIBSON: Yes.

MR. KATZ: I'm sorry, that was yes.

Mr. Griffon?

MEMBER GRIFFON: Abstain.

MR. KATZ: Dr. Lockey?

MEMBER LOCKEY: Yes.

MR. KATZ: Dr. Melius?

MEMBER MELIUS: Yes.

MR. KATZ: Ms. Munn?

MEMBER MUNN: Aye.

MR. KATZ: Dr. Poston?

MEMBER POSTON: Yes.

MR. KATZ: Mr. Presley?

MEMBER PRESLEY: Yes.

MR. KATZ: Dr. Roessler?

MEMBER ROESSLER: Yes.

MR. KATZ: Mr. Schofield?

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1 MEMBER SCHOFIELD: Yes.

2 MR. KATZ: And Dr. Ziemer?

3 CHAIRMAN ZIEMER: Yes.

4 The voting is 11 in favor and one
5 abstention. Thank you very much. The motion
6 carries and we will proceed to transmit the
7 appropriate materials.

8 I'm going to skip ahead now on the
9 agenda since we have a little time.

10 Let me thank Ms. Barnett for being
11 with us today if she's still on the phone.
12 Thank you again for your comments.

13 We're going to move ahead then on
14 the agenda. We have already heard from Mr.
15 Cohen. And we want to keep the afternoon
16 schedule basically fixed so that we will do
17 the General Steel Industries SEC Petition at
18 1:15. We'll do the Hood Building petition at
19 3:00. And Blockson Chemical at 4:00.

20 In the meantime, we have some items
21 that we can move up in the schedule. And from
22 tomorrow morning's agenda, one of those items

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1 is the Science Update. And I understand Dr.
2 Neton is prepared to present that to us now.

3 So, Jim, if you would, we'll
4 proceed on the Science Update.

5 DR. NETON: Thank you, Dr. Ziemer.

6 I'm here to present an update on a
7 few issues that have come to fruition since
8 the last time the Board met just a few short
9 months ago. So there's -- it's hard to come
10 up with earth-shaking scientific progress when
11 the Board seems to meet so frequently these
12 days but I do have a few things I'd like to
13 report on today.

14 The first one as I mentioned, I
15 think, in my last presentation that we were
16 undertaking a verification and validation of
17 the NIOSH-IREP Program itself, specifically
18 that refers to the current version that is
19 used by the Department of Labor and NIOSH and
20 also the version that is posted on our
21 website. That is version 5.5.3.

22 As the bullet indicates on this

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1 slide, this effort was undertaken to insure
2 that the program operated with the parameters,
3 equations, and assumptions that were described
4 in the formal documentation of the program.

5 And by formal documentation, I'm
6 referring to two or three documents actually.

7 The first one is the -- what I call the Green
8 Book, the National Academy of Science's Review
9 of the NIOSH or the NCI Version of IREP that
10 was undertaken several years ago followed by
11 the documentation that is online for the
12 version of NIOSH-IREP that is on our website.

13 And then finally, the third piece
14 of documentation is the recent publication of
15 the NIOSH-IREP article in a special edition of
16 the Health Physics Journal that appeared, I
17 think it was the July issue of Health Physics
18 last year.

19 It is a very extensive, nice write
20 up of IREP. If no one has read that yet, I
21 would encourage you. It is very good bedtime
22 reading.

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1 Okay. The approach that was
2 undertaken here had sort of a three-prong
3 attack. One was to compare the equations and
4 the risk models that were used in the code to
5 those described in the formal documentation.
6 That is, you know, were the models actually
7 transcribed into the program itself.

8 And then also to compare any
9 numerical data that were in there -- did we
10 transport the numerical data properly in there
11 -- some of these assumed fractional
12 distributions and such.

13 And then to make sort of a micro
14 version of NIOSH-IREP using Excel and Crystal
15 Ball. The program is so large it couldn't
16 possibly run on an Excel/Crystal Ball
17 combination. Well, it would be very difficult
18 to make it run that way. It runs on an
19 Analytica engine platform now.

20 But we created this scaled-down
21 version of the risk models. And independently
22 generated the equations and the numerical data

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1 used in the program itself.

2 Now if you remember, IREP is a
3 probabilistic model so we took a two-tact
4 approach. One was to actually do
5 deterministic calculations, you know put in
6 values and make sure the equations actually
7 came out exactly correctly.

8 And the other aspect was to do the
9 probabilistic runs and make sure that the
10 outputs were within certain proscribed ranges
11 of acceptance.

12 I should have mentioned up front
13 that this was undertaken by our contractor,
14 Senes Oak Ridge, that maintains the IREP
15 program for NIOSH.

16 The verification and validation
17 exercise basically demonstrated to us, at
18 least, our mind, at least, that the code
19 actually worked as intended. But with a code
20 this size, I guess I shouldn't have been
21 surprised that there were some
22 inconsistencies, which we'll call findings

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1 here that were identified in the V&V of the
2 program.

3 Fortunately, they appear -- they
4 don't appear -- they did effect only isolated
5 portions of the code. There were no systemic,
6 huge issues identified. And the magnitude of
7 those expected changes --

8 MR. KATZ: Jim, can you hold one
9 moment?

10 DR. NETON: Yes.

11 MR. KATZ: I'm sorry. Folks on the
12 phone, are you having a hard time hearing? Go
13 ahead and try again and let's just see.

14 DR. NETON: Okay. The magnitude of
15 the changes in the probabilistic causation
16 calculations are expected to be small. And
17 I'd just like to go over those three --

18 MR. KATZ: Sorry, sorry to
19 interrupt. This is not the Blockson petition
20 but are you having a difficult time hearing
21 still on the phone?

22 CHAIRMAN ZIEMER: Four o'clock.

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1 MR. KATZ: At four o'clock. But
2 anyway, I just want to ascertain all your
3 quality.

4 CHAIRMAN ZIEMER: You can ask Mike.

5 MR. KATZ: I don't know how we
6 could -- Mike, are you having a difficult time
7 hearing as well?

8 Okay, Jim, can you maybe just speak
9 more into the mic or something?

10 DR. NETON: Sure.

11 The first finding that Senes
12 discovered was that there was an error in the
13 estimate of the risk in the calculation for
14 the acute lymphocytic leukemia model. And it
15 was due to something very simple, which was
16 the spelling of lymphocytic. The code said if
17 this equal lymphocytic, go here. And since it
18 was spelled wrong, it never went there.

19 But it was in the quadratic term of
20 the calculation. If you remember, all models
21 within IREP assume a linear no-threshold dose
22 response relationship with the exception of

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1 leukemia models. The leukemia models, for
2 acute exposures to low linear energy transfer
3 radiation, that is photons and beta particles,
4 has a quadratic term built into it.

5 So without the quadratic term in
6 there, it would really only effect acute
7 exposures to low linear energy transfer
8 radiations that were a fairly high magnitude
9 because at the linear portion -- or the low
10 dose portion, the linear term predominates.
11 And only until you get into the higher
12 portions does the quadratic term kick in to
13 any appreciable extent.

14 So based on this, the revised
15 version could result in higher values for
16 probability of causation for some cases of
17 acute lymphocytic leukemia.

18 The second finding was an error
19 that was discovered in the uncertainty
20 equation for the age dependency modifier for
21 Group 2 cancers. So remember, this is not the
22 age dependency calculation. It is the

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1 uncertainty in the age dependency calculation.

2 And I just have a little footnote
3 here that reminds folks of what Group 2
4 cancers are. They are listed here and those
5 are the cancers for which there were fewer
6 numbers of cases in the Hiroshima Nagasaki
7 survivor dataset, the Radiation Effects
8 Research Foundation dataset.

9 And because of that, the models are
10 a little simpler than the more complex models
11 like Group 1 that could do things like sex --
12 corrections for sex and stuff like that in the
13 risk calculations.

14 So it would be these cancers that
15 would be effected. It would not affect any
16 cases that were diagnosed after 50 years of
17 age.

18 I should note that the beginning of
19 a very long equation for the GSD -- the
20 geometric standard deviation -- is listed
21 here. And the error was that little two was
22 left out. And if you notice the term that the

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1 two is in is subtracted from the first term,
2 it would actually result in a smaller
3 geometric standard deviation if the two were
4 included.

5 Because of that, the corrected
6 version would result in lower probability of
7 causations for cancers. So in this case, the
8 PC, if, you know, any effect was observed, it
9 would be to decrease the probability of
10 causation. But even with that, we would
11 expect this to be small because remember, this
12 is the uncertainty term in another term that
13 was effected.

14 And the final finding that was
15 noted in the Senes' review was an error in the
16 uncertainty of the modifier for age dependency
17 in the National Institutes of Health lung
18 model. If you recall, we actually run two
19 lung risk calculations within NIOSH-IREP.

20 One is the original one that was
21 published with the code. The second one is
22 what we call the NIH lung model because that

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1 is what the NIH is using. And that particular
2 code was modified to include some additional
3 analysis done by Preston et al from the RERF
4 that incorporates some additional data on the
5 effect of cigarette smoking I believe.

6 When we modified NIOSH-IREP, we now
7 run both of those models and pick the one that
8 has the higher probability of causation. The
9 error that was in this calculation was a
10 reversal in the sign -- a plus or minus sign
11 associated with the terms, again, in the
12 geometric standard deviation calculation for
13 the age dependency modifier.

14 It is a little less certain in this
15 case how the effect is going to go. The
16 revised version could be either slightly lower
17 or higher depending on a combination of ages
18 at exposures and ages at diagnosis.

19 But nonetheless, our initial review
20 of this indicates that the effect on any case
21 would probably be within plus or minus .5
22 percent on the PC calculation itself. So a

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1 fairly small but not inconsequential
2 difference.

3 So given that we have done this and
4 identified these particular issues, you know,
5 what are we going to do about it? And
6 obviously we are going to update the current
7 version of IREP 5.5.3 to a new version that
8 we're going to call 5.6 that corrects these
9 algorithms.

10 We already have what we call an
11 enterprise edition in place running in the
12 background that we're evaluating right now.
13 And, of course, we will do a verification
14 validation of all those corrections to make
15 sure they function properly.

16 But as importantly, I think, we
17 will identify the specific claims effected and
18 we're working through those issues now and
19 issue a program evaluation report and rework
20 any claims that were effected by these errors.

21 It was a fairly interesting
22 exercise. I'm really glad we did it. I

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1 should have mentioned up front that this was
2 undertaken by primarily -- there were some
3 stakeholders' concerns about this, about the
4 adequacy of the verification/validation.

5 And I was quick to point out early
6 on that it's not that it wasn't verified but
7 not in this rigorous of a manner. I mean they
8 were all independently verified, the
9 calculations.

10 But it wasn't done by a third party
11 un-associated with the calculations -- more
12 like you'd see with a very rigorous V&V that
13 we've done with sort of a nuclear power plant-
14 type application.

15 Senes Oak Ridge has completed all
16 of this. We're in the process of correcting
17 this as I indicated.

18 And right now we have a very short
19 draft report out but we're expecting --
20 actually just before I left, I received a
21 draft report that is 400-plus pages that goes
22 through all of the mechanics and nuts and

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1 bolts of what was done here.

2 And as soon as I can review that
3 and we approve it for release, we'll put that
4 on our website and make it available to the
5 public.

6 Mark?

7 MEMBER GRIFFON: We usually have
8 questions at the end but --

9 DR. NETON: Yes, that's fine.

10 MEMBER GRIFFON: -- this one seems
11 pertinent now. You said an independent
12 review? I mean --

13 DR. NETON: Well, it was someone
14 not associated --

15 MEMBER GRIFFON: -- Senes developed
16 the IREP that is online, right? The NIOSH-
17 IREP?

18 DR. NETON: Yes.

19 MEMBER GRIFFON: I mean there was
20 NIH-IREP but this is Senes doing the V&V on
21 Senes' product.

22 DR. NETON: Yes, I'm sorry.

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1 MEMBER GRIFFON: Okay.

2 DR. NETON: What I really should
3 have said was that it was someone not
4 associated with developing the code in the
5 first place. The coders weren't doing the
6 V&V.

7 MEMBER GRIFFON: So it was another
8 party at --

9 DR. NETON: Another party --

10 MEMBER GRIFFON: -- Senes?

11 DR. NETON: -- within Senes --

12 MEMBER GRIFFON: Okay.

13 DR. NETON: -- that was doing the
14 independent calculations, which is somewhat
15 traditional on how those things go.

16 Okay. Any other questions on IREP
17 before I move into another issue?

18 CHAIRMAN ZIEMER: Dr. Roessler?

19 MEMBER ROESSLER: That spelling
20 error is sort of interesting. And I'm -- I've
21 never done a code evaluation but I assume they
22 didn't find it by going through and looking

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1 for spelling errors but they did it in a
2 mathematical way and then they figured out
3 that's what happened.

4 DR. NETON: I don't know but I
5 would suspect that's probably what it was.
6 That the two -- you know, they reprogrammed it
7 and the numbers were coming out different. So
8 they had to go back and figure out, you know,
9 what caused that difference. And that's when
10 they identified the spelling error.

11 MEMBER ROESSLER: And once having
12 done that, then I think they might have been
13 alerted to looking for other things -- you
14 know, other spelling errors or something.

15 DR. NETON: Right. But remember,
16 you know, this whole undertaking was someone
17 independently coded those equations in Crystal
18 Ball and Excel and came up with answers. And
19 then ran both programs and compared the
20 numerical outputs.

21 MEMBER ROESSLER: Yes.

22 DR. NETON: And if the numerical

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1 outputs varied, then that would lead to a sort
2 of a hunt as to what was causing the issue.

3 MEMBER MELIUS: Probably Microsoft
4 spell check was -- you know we're using Google
5 searches now.

6 CHAIRMAN ZIEMER: Well, I might add
7 to that, it pegs my mind here or spurs my
8 recollection is that I can misspell something
9 when I go into Google or any of the search
10 engines and they figure out what I'm really
11 after. I don't know if they're just using
12 spell check but they seem to be pretty smart.

13 And the minor misspelling of a word
14 like lymphocytic, I would hope in the future
15 that the program would be able to figure out
16 that that is what was meant --

17 DR. NETON: Yes.

18 CHAIRMAN ZIEMER: -- because I
19 could see -- well, enough said.

20 DR. NETON: I'm not sure you want
21 programs doing that because sometimes when I
22 mistype something in Google --

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1 CHAIRMAN ZIEMER: I understand.

2 DR. NETON: -- it gives me some
3 options that aren't really what I was looking
4 for.

5 CHAIRMAN ZIEMER: That aren't what
6 you want, right.

7 MEMBER ROESSLER: I think we should
8 make it clear though that it wasn't a search
9 for a spelling error. That it was a
10 mathematical determination. And that would
11 show up other errors, too.

12 DR. NETON: Yes.

13 CHAIRMAN ZIEMER: Right. Very
14 good.

15 DR. NETON: And, of course, no
16 errors are acceptable in this program. But I
17 was actually quite gratified that, you know,
18 the ones that were found resulted in fairly
19 small differences. So that speaks, I think,
20 to the level of rigor that went into it in the
21 first place I believe.

22 CHAIRMAN ZIEMER: Okay, go ahead,

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1 Jim, you want to proceed?

2 DR. NETON: Okay. The next issue,
3 which has been on the agenda for quite some
4 time now -- it's picking up some steam now --
5 is the chronic lymphocytic leukemia issue, you
6 know, should it be a covered cancer.

7 We're continuing to pursue the
8 possible addition of CLL. And, you know, as I
9 indicated on this slide, we've engaged in a
10 couple of rounds of subject expert reviews to
11 make a determination in that regard.

12 You might recall, we commissioned a
13 review panel very early on, a couple of years
14 ago, to actually ask a number of experts
15 should chronic lymphocytic leukemia be
16 considered radiogenic in the first place.

17 If the answer we got back from the
18 review panel was a resounding no, then we
19 thought our job would be done. The experts
20 say no. And as long as we have some good
21 scientific justification, our job would be
22 over.

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1 But that's not the way it came out.
2 The review panel of five experts, the
3 majority of the reviewers supported the
4 inclusion of CLL.

5 And I think I reported on that a
6 while ago, that they found no substantive
7 reason why CLL couldn't be caused by radiation
8 exposure, even though the epic studies that
9 have been conducted cannot really make a
10 determination that CLL, there isn't some kind
11 of dose response relationship. It doesn't
12 mean that it couldn't be radiogenic.

13 So the majority of the reviewers
14 chimed in that CLL certainly could be
15 radiogenic, and that review was completed way
16 back in 2005. This has been a much more
17 complicated issue, though, than I would have
18 envisioned when we first started it.

19 But when we also needed a way to do
20 dose reconstructions for chronic lymphocytic
21 leukemia, and I reported last time that, with
22 our contractor, Senes Oak Ridge, we developed

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1 a probabilistic dose reconstruction method. I
2 reported in some detail on that.

3 But we wanted to, you know, we
4 wanted to poll the experts, does what we're
5 proposing make sense? So we did a second
6 round of review, and requested input on some
7 five specific issues related to the etiology,
8 the development of chronic lymphocytic
9 leukemias.

10 And as I mentioned, these were
11 based on a Senes-generated white paper that
12 came out August 12th, 2008. It's a fairly
13 thick document. They reviewed -- extensive
14 review of the literature on this. But we
15 wanted to get some expert hematologists'
16 opinions.

17 Review comments were solicited, as
18 indicated here, in October 2008, and we
19 finally received all -- the last set of
20 comments from the last reviewer January 2009,
21 last month.

22 I just listed here the five

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1 questions that we asked the panel to consider.

2 I don't expect to make anybody hematologists
3 here, but they essentially refer to the nature
4 of what mature lymphocyte precursors are
5 involved here.

6 The development of lymphocytes
7 themselves is a fairly arcane science that not
8 many people really are aware of, and to what
9 extent these precursors circulate.

10 Once, you know, you identify the
11 precursor for a chronic lymphocytic leukemia
12 cancer, do they circulate? Are they localized
13 in different organs? Are they systemic? What
14 is a residence time if they do become
15 systemic?

16 And then there are some post-
17 transformation transfers. Once you get a
18 clone, can it migrate throughout the body?

19 So would it be reasonable to assume
20 or not that the point of diagnosis where the
21 CLL was originally located was its point of
22 origin? Those kind of questions. We're

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1 really trying to get our hands around what is
2 going on here.

3 So we've got those review comments
4 in. In general, they're supportive of the
5 approach that we've developed. I see nothing
6 in these comments so far that would invalidate
7 what we've been proposing.

8 But we are going to prepare a
9 point-by-point evaluation of these last rounds
10 of comments. They're fairly technical. And
11 then we will finalize a risk model and dose
12 reconstruction approach, and prepare a
13 transmittal package for the HHS Secretary's
14 Office to take up this issue.

15 And that's the last slide I have.
16 So I'd be happy to answer any questions if
17 anybody has any.

18 CHAIRMAN ZIEMER: Jim, can you
19 remind us -- or is it premature to ask this --
20 what would be the, quote, organ of interest
21 for which the dose is calculated?

22 DR. NETON: It would be a -- this

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1 is difficult to describe, but it's a
2 probabilistic dose reconstruction model. In
3 other words, we would calculate doses to the
4 various organs that the tumor could have
5 originated, in which the tumor could have
6 originated, and assign certain probability
7 distributions for the doses to those different
8 locations.

9 Because there is no one site that
10 one can identify, it could either be the bone
11 marrow, or it could be generally distributed
12 throughout any of the lymphatic tissues. And
13 once you do that, it's a very unwieldy,
14 complex problem, and I think it lends itself
15 to probabilistic modeling because the science
16 is really not that well understood.

17 But I think we've got enough input
18 from the subject experts in order to put some
19 reasonable bounds around, you know, where
20 these tumors could have originated.

21 CHAIRMAN ZIEMER: And then once you
22 did that, then is it appropriate to assume

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1 that you would select the one for which the
2 probability of causation was the greatest?

3 DR. NETON: No.

4 CHAIRMAN ZIEMER: Or are these
5 somehow combined?

6 DR. NETON: They would be combined.

7 CHAIRMAN ZIEMER: Okay.

8 DR. NETON: It would be -- that's
9 one of the issues, and I addressed this the
10 last time. One of the locations that it could
11 -- a CLL tumor could originate is the
12 tracheobronchial lymph nodes.

13 And we all know from the lymphoma
14 program evaluation report that we've done that
15 you can get extremely high doses to the
16 tracheobronchial lymph nodes from inhalation,
17 because that's the ultimate deposition site
18 for insoluble material to a large degree.

19 Once you do that, you end up
20 assigning such high doses to the
21 tracheobronchial lymph nodes that virtually
22 every chronic lymphocytic leukemia case

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1 becomes compensable with the current models,
2 which is inconsistent with the science -- with
3 the epidemiologic science.

4 In other words, you would see a
5 huge rash of CLL tumors in weapons complex
6 workforce if that were true. So that's why
7 we've opted to do some apportioning of the
8 dose to the various sites, and do it on a
9 probabilistic basis, and move forward that
10 way.

11 This is a -- you know, I feel badly
12 that this issue is taking so long to resolve,
13 but it's probably the most complex issue that
14 we've undertaken in this program to do a dose
15 reconstruction and develop an associated risk
16 model.

17 CHAIRMAN ZIEMER: Dr. Roessler?

18 MEMBER ROESSLER: I think you've
19 answered my question. And I think it's -- I
20 don't understand how you're going to do it.
21 But it seems like you gave a lot of biology
22 that sort of convinces you that this is the

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1 reasonable thing to do, but then you don't
2 really have any epidemiology to come up with
3 these models.

4 DR. NETON: Right. Well, the risk
5 model itself is going to -- well, would be a
6 lymphoma model, because CLL behaves more like
7 -- the risk model is more closely associated
8 with a lymphoma than a leukemia, because
9 leukemia, if you remember, is very radiogenic.

10 I mean, a one or two rem variation
11 can be a compensable dose for leukemia. So it
12 would be a lymphoma model, but with the
13 addition of a very long latency tail, because
14 CLL has a long latency period. It's known to
15 have a very long latency time.

16 So it would be an adaptation of the
17 lymphoma model that we would use.

18 CHAIRMAN ZIEMER: Dr. Melius?

19 MEMBER MELIUS: First a follow up
20 with Jim, I mean I think your approach sounds,
21 you know, basically sound and so forth. I
22 think this is sort of akin to some of the work

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1 that's been attempted, and actually I think
2 you use in IREP with some of the other low-
3 incidence cancers, and based on BEIR studies,
4 and so forth.

5 And BEIR and some of the other
6 current research has been trying to -- how do
7 you model those cancers when they're not
8 strongly radiogenic, and are low incidence.
9 And this one, I think, what you're trying to
10 do is to fit both the epidemiology -- what you
11 have --

12 DR. NETON: Right.

13 MEMBER MELIUS: -- and you know
14 what it -- you have sort of an upper limit,
15 you know, it's not -- you're not finding an
16 excess. But so then how do you come up with a
17 realistic model that is then based on some
18 biology to do? And I think it is very
19 complicated.

20 DR. NETON: It is.

21 MEMBER MELIUS: And this may have
22 been addressed last time, but at what point

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1 does the Board get involved in this?

2 DR. NETON: I meant to review that
3 process in my mind, because it's been quite a
4 while since we've been engaged in rulemaking.

5 And maybe Ted Katz, who has been involved in
6 the regulations, could speak to that issue.

7 MR. KATZ: Sure. And I can be
8 corrected if I get something wrong with the
9 lawyers. But this would be rulemaking; this
10 would have to be rulemaking, because we'd have
11 to change the probability of causation rule.

12 So as we did with the other rules,
13 once there's a notice of proposed rulemaking,
14 then there would be the comment period, and
15 during that comment period, the way we handled
16 it in the past is then the Board reviewed it,
17 had meetings, discussed it, made their
18 recommendations.

19 Those were taken into account
20 before the public comment period was closed,
21 and then final rulemaking was done. And then
22 there a presentation subsequently, too.

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1 MEMBER MELIUS: Can I suggest that
2 you explore, because I think it would be
3 better in terms of process and so forth, is
4 involvement of the Board at an earlier stage?

5 I think prior to rulemaking, you have
6 technical reports.

7 And I think, you know, much like
8 we're reviewing sort of the science
9 implications, I think it would be helpful, and
10 I think you can do that in a way that doesn't
11 violate the rulemaking.

12 MR. KATZ: I mean I can --

13 MEMBER MELIUS: I'm not asking for
14 an answer, but I'm just asking to explore that
15 issue.

16 MR. KATZ: Okay. I mean I think I
17 can speak to that a little bit right now,
18 though, because I have experience with other
19 rulemaking that NIOSH does outside of this
20 program, too, and on technical matters, before
21 we go into rulemaking, if you want to evaluate
22 technical matters, certainly you can. That's

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1 not proscribed. So yes.

2 DR. NETON: I think the various
3 pieces and parts that we've developed
4 certainly can be shared with the Board, and
5 I'd be happy to do that as long as it's
6 legally appropriate.

7 MEMBER MELIUS: Yes, no, I just
8 think -- I mean, this is controversial,
9 because of the -- what's traditionally been
10 found. And I think it's worth sort of
11 exploring the -- talking about the science
12 independent of the regulation and so forth.

13 CHAIRMAN ZIEMER: Dr. Lockey?

14 MEMBER LOCKEY: I just have one
15 question. When the first Board -- the first
16 panel looked at this, was their conclusion
17 that it's biologically plausible, or --?

18 DR. NETON: Yes. It wasn't
19 unanimous. The majority -- I think I said the
20 majority. I believe that three out of the
21 five definitely indicated it was biologically
22 plausible. There was no reason it's not

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1 plausible. I guess that's a little different
2 take.

3 And then the other two were sort of
4 ambivalent a little bit. It could be, it
5 could not be.

6 But three were very strong that
7 there's no reason that it couldn't be
8 radiogenic. There's no unique mechanism to
9 the development of CLL that lends itself to
10 only being caused by chemicals, for example.

11 MEMBER LOCKEY: Okay. Thank you.

12 MEMBER MELIUS: And I think that --
13 the argument is more of that sort of negative
14 argument. You can't say it's not. There's
15 not some risk.

16 MEMBER LOCKEY: No, no, I
17 understand that. I was trying to figure -- I
18 don't remember what the first Board said, so I
19 was trying -- so here's the question, is it
20 biologically plausible? I think the answer
21 is, yes. I would say yes to that, also.

22 Has it been proven? No. But is it

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1 biologically plausible? Yes.

2 MEMBER MELIUS: How do you prove
3 there's no risk?

4 MEMBER LOCKEY: You can't, because
5 it's a rare tumor, and it doesn't occur that
6 often, and it's a difficult issue.

7 MEMBER MELIUS: Yes.

8 CHAIRMAN ZIEMER: Okay. Other
9 comments or questions?

10 Thank you, Jim. We'll look forward
11 to further updates on both of these issues
12 then. Thank you.

13 In view of the time, we're
14 approaching the lunch hour. In any event,
15 we're a few minutes ahead, but we'll go ahead
16 and recess.

17 We will return, and let's plan to
18 be here promptly at 1:15 so that we can get
19 underway with the General Steel Industry's SEC
20 Petition. And also we will have some folks by
21 phone involved with that one, as well.

22 So we need to stick close to that

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1 schedule. So we will recess until 1:15.
2 (Whereupon, the above-entitled matter went off
3 the record at 11:35 a.m., and
4 resumed at 1:22 p.m.)
5
6

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

2 1:22 p.m.

3 CHAIRMAN ZIEMER: We are ready now
4 for the afternoon session.

5 The first item on our agenda this
6 afternoon is a petition, an 83.13 petition for
7 General Steel Industries.

8 We're going to hear first from Dave
9 Allen at NIOSH, who will present the NIOSH
10 evaluation report. And then we will hear from
11 a couple of the petitioners by phone following
12 that.

13 So let's proceed with -- hang on
14 just a moment. We need to double check on the
15 phone here and make sure the petitioners are
16 here.

17 MR. KATZ: Dan, are you with us?

18 DR. McKEEL: Yes, I'm here.

19 MR. KATZ: That's great.

20 And Patricia?

21 MS. COGGINS: Yes, I'm here.

22 MR. KATZ: Great, thank you.

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1 CHAIRMAN ZIEMER: Thank you.

2 Then let's proceed, and hopefully
3 the connection will be a little better than
4 this morning.

5 And Dave, if you would stay close
6 to the mic so that the petitioners,
7 particularly, can be sure to hear you.

8 MR. ALLEN: I'll try to stay close
9 to the mic, but keep reminding me. I have a
10 knack of pulling away from it. So if you have
11 to remind me several times, I'd appreciate it.

12 I'm here to present the General
13 Steel Industries' SEC Petition, which you'll
14 hear me refer to as GSI routinely throughout
15 the presentation.

16 The background for General Steel
17 Industries is that it is classified as an
18 atomic weapons employer from 1953 to 1966,
19 with the residual contamination period
20 extending from the end of the cover period
21 through 1992.

22 The reason they are a covered site

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1 is they performed radiography on uranium metal
2 that came from the Mallinckrodt site. To do
3 this, they used betatron machines, which I'll
4 discuss a little more later.

5 Their job was to perform these X-
6 rays and hand over the film to Mallinckrodt.
7 They did not evaluate the film for defects, et
8 cetera. They did develop the film, look at
9 it, make sure they had a good X-ray shot. But
10 they did not do the evaluation or any voids or
11 whatever that Mallinckrodt was looking for.

12 Also I wanted to point out there
13 were two betatron buildings on site. One that
14 was referred to as the old betatron machine
15 was built in 1952, and it was reported to have
16 a maximum energy of 24 MeV photons, which is
17 pretty high photon energy.

18 Another one that is referred to as
19 the new betatron machine was actually built
20 about the same time in Eddystone,
21 Pennsylvania. In 1963, the sister site -- the
22 work at that sister site was consolidated in

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1 Granite City, Illinois at this site, and so a
2 new betatron building was built, and that
3 betatron was moved to Granite City, Illinois
4 to the GSI site. It is reported to have a
5 maximum energy of 25 MeV.

6 On the screen, you see a couple
7 drawings. These are schematics of the layout
8 of the betatron buildings themselves. And I
9 put these up here mostly to point out that
10 these were not small X-ray units. These are
11 actual buildings that were built for this
12 purpose.

13 In the center, you will see what
14 the operators refer to as the shooting area.
15 That's where the radiography actually took
16 place, where a large casting or something can
17 be moved into, and the head of the betatron
18 machine could be manipulated by a crane in
19 that area to set up the X-ray shot that they
20 wanted to take.

21 The thick-looking walls you see
22 around that shooting area are, indeed, thick

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1 walls. They were intended to be shield walls.
2 They're reported to be ten feet thick. They
3 were composed of a sandwich of one foot of
4 concrete on the inside and the outside, with
5 the eight-foot void in between filled with
6 sand.

7 The areas outside of that, you'll
8 see some office-looking areas. Those are the
9 control room and some offices. The
10 electronics for the machine were actually
11 above the control room on the second floor.

12 There were other sources of
13 radiation at the site, primarily associated
14 with the radiography of one type or another.
15 They had some isotopic sources. They did have
16 a 250 kVp portable X-ray unit.

17 What I wanted to point out mostly
18 was that the 25 MeV is a high enough photon
19 energy to actually cause activation in various
20 materials, including steel. We don't usually
21 think of it that way.

22 We usually think of neutron

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1 activation in materials. But if a photon gets
2 to be a high enough energy, above the 10 to 13
3 MeV threshold value, you can actually get
4 activation with these. And these did have a
5 high enough photon energy to produce some
6 activation in steel, uranium, et cetera.

7 There was also internal exposure
8 from the uranium they handled. Some people
9 thought that wouldn't be there simply because
10 it was your large pieces of uranium metal.
11 People aren't known to inhale 100-pound pieces
12 of uranium metal.

13 But uranium is fairly active
14 chemically. It will oxidize fairly easily.
15 And you will get oxidation products, and any
16 time you're handling that, then some oxidation
17 will rub off, become loose contamination. And
18 that can become airborne or be ingested.

19 A summary of the petition, it was
20 submitted February 25th, 2008. It qualified
21 for evaluation May 15th of 2008, and it was
22 submitted to the Board on October 3rd, 2008.

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1 The class proposed by the
2 petitioner, essentially -- it's a little long,
3 but essentially it's all operators for the
4 entire covered period and the residual period.

5 What I wanted to point out just
6 because there may be something about this
7 later is that she actually included the
8 location as 1417 State Street, Granite City,
9 Illinois. And I don't know exactly the motive
10 for doing that, but I suspect there was a lot
11 of misconception about this site originally.

12 When EEOICPA was first started, it
13 was called the Granite City Steel Site. As it
14 turns out, there is a Granite City Steel Site
15 very close by. Eventually they bought out
16 this site. And that created a great deal of
17 confusion early on in the program to the point
18 to where this site was officially renamed the
19 General Steel Industries Site. And I suspect
20 that's the reason for putting down the address
21 is to make sure we're all talking about the
22 same facility. If not, it was a good move

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1 even if wasn't.

2 The period we evaluated is the
3 same. There is one exception there. If you
4 look at the bottom, you'll see that we said
5 the covered period is through June 30th of `66
6 instead of December 31st of `66.

7 The difference there is that the
8 DOE website tends to just put down the year in
9 most situations. We looked into the reason
10 for the end date on the covered period, and it
11 was purchase orders that actually ended at the
12 end of the fiscal year in `66, which, at that
13 time, was June 30th of 1966.

14 But the entire period is covered.
15 That last six months we call residual versus
16 covered -- versus operational period. That's
17 the only difference in these two descriptions
18 here.

19 Sources of available information
20 include Appendix BB. That is the GSI appendix
21 we put together to describe our exposure
22 model. And that is appendix to Battelle-6000.

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1 We also, as usual, have ORAU
2 Technical Information Bulletins, as well as
3 procedures. We have information on the Site
4 Research Database, which includes FUSRAP, as
5 well as some worker information and some of
6 the information DOE used to make this a site.

7 We have interviews with the current
8 and former GSI employees. And I'd like to
9 point out on that one, that was actually -- a
10 great deal of information came from a couple
11 of worker advocates that put together meeting
12 of the workers and actually had those meetings
13 transcribed.

14 We weren't at the first two
15 meetings, but we were allowed to attend to
16 second two meetings. So we were there, plus
17 we have the transcripts.

18 After the appendix was written,
19 there was another meeting of some of the
20 workers that were most familiar with this.
21 And we have the meeting minutes from that.
22 And we did attend that one, also.

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1 We have case files from the NIOSH,
2 claims tracking that is, primarily dealing
3 with the individuals more than the site, but
4 there is some site information there.

5 And eventually we were able to find
6 film badge data from 1964 to 1973. This came
7 from Landauer. It says employees here. I
8 wanted to point out that doesn't mean every
9 employee at GSI. Essentially it's the badged
10 employees at GSI, which appears to be the
11 radiographers and those closely associated
12 with the radiography.

13 The basis for the petition was that
14 people were not monitored. And other than the
15 film badge data that I had just pointed out,
16 that seems to be the case. The petition
17 included affidavits from a number of workers
18 that said they were not monitored and were
19 never offered a dosimeter.

20 Testimony from workers backed that
21 up, including that some were actually badged,
22 but it's not a large part of the population.

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1 It was those -- essentially radiographers,
2 radiographers' assistants, I think the film
3 processors, and some of the supervision in the
4 betatron buildings.

5 But it did not include everybody in
6 the betatron buildings. There were plenty of
7 other people that worked to move large steel
8 castings or repair the castings that were not
9 badged.

10 We found nothing as far as internal
11 monitoring. That's kind of consistent with
12 what they did. I don't think a lot of people
13 thought there would be any internal dose at
14 the facility, at least at that time.

15 And I already mentioned the last
16 one, that many people were associated with
17 these castings.

18 As far as the time line, the
19 appendix was approved June 25th of 2007. And
20 as I already mentioned, February 25th of 2008
21 is when we received the SEC Petition. And
22 March 17th, 2008, SC&A submitted a review of

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1 Appendix BB; they submitted that to the Board.

2 Right about that same time frame,
3 in March 2008 is when we received the Landauer
4 film badge data. And I just wanted to point
5 out that was not available to us during the
6 appendix, and it was not available to SC&A
7 during their review of the appendix.

8 June 26th, 2008, the Board
9 established a working group for the purpose of
10 reviewing the Battelle-TBDs as well as
11 Appendix BB. And as I already pointed out,
12 October 3rd is when we submitted the
13 evaluation report to the Board.

14 Before I'm asked, I did want to
15 point out on there that the appendix review
16 was actually taken up by the Procedures
17 Working Group of the Board that tasked SC&A
18 with reviewing it. That's why you see the
19 SC&A review was actually completed before
20 there was a working group. The working group
21 actually was established, and that work was
22 handed over from the Procedures Working Group.

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1 The appendix is essentially a --
2 it's a very proscriptive exposure matrix on
3 how we would do dose estimates for individuals
4 that worked at GSI. Some of the exposures
5 that were evaluated include external dose in
6 the betatron operations through the shield and
7 by shine.

8 Those of you that are not familiar
9 with shine, all I'm saying there is it is
10 possible for radiation, including photons, to
11 essentially bounce. The shield walls I showed
12 you earlier only went up one story. They did
13 not go the whole way up the sides of the
14 building.

15 They also -- there was no shielded
16 roof. It was just a typical industrial roof,
17 and it was possible for radiation to scatter
18 off the castings, essentially over the shield,
19 bounce off the air, and come back down to the
20 ground level.

21 So while the ten-foot thick shield
22 walls are very thick, and it is possible that

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1 the shine would be a more significant dose
2 than what's transmitted through the shield.

3 We also evaluated the activation of
4 the steel castings --

5 MR. KATZ: Dick, could you maybe
6 just speak up or something, I think they're
7 having a hard time hearing you on the phone.

8 MR. ALLEN: Okay, I can try to get
9 a little closer here.

10 MR. KATZ: That's much better.

11 MR. ALLEN: Okay. The external
12 dose from the activated castings was also
13 evaluated. As I said, these can get activated.

14 Therefore, they're radioactive, and they're
15 emitting some radiation after the X-ray shot.

16 The same is true with the uranium
17 metal. At that point there is activation. I
18 would also include that it is above the
19 threshold to cause fission, so there's
20 actually fission products associated with this
21 uranium.

22 Internal dose from the uranium

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1 corrosion products, I already mentioned that.

2 Also, since the uranium could be activated or
3 have fission products in it, we had to account
4 for the internal dose from those. Any time
5 you're inhaling the uranium, if it were
6 activated or if it had activation or fission
7 products in it, you would also be inhaling
8 those. And we had to account for that.

9 And the last thing I have on my
10 list there was the internal dose from the
11 activated castings. And by those I'm talking
12 about the steel castings, which was the normal
13 operation at the site, the bulk of the
14 operation.

15 Their purpose in X-raying these was
16 to find internal flaws, such as a void. If
17 they found that, they would often try to
18 repair a casting rather than recast a huge
19 casting. That would involve grinding out that
20 void and filling it with welding material.
21 And grinding out something that was freshly X-
22 rayed, that could be activated, obviously is a

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1 source of internal exposure.

2 When we modeled the external dose,
3 we used Attila and MCNP software. Both are
4 software packages that have some advantages.
5 One has an advantage over the other, but we
6 used a combination of both to try to
7 accomplish this task.

8 The betatron buildings were
9 modeled, and the dose rate outside the shield
10 determined during the operation of the
11 betatron, so as I mentioned earlier, it's
12 possible the shine is higher than the dose
13 that's actually transmitted directly through
14 the shield wall.

15 I say possible because we never
16 really modeled those separately. We just
17 modeled it all in one large chunk. That gave
18 us the dose rates outside the shield during
19 betatron operations.

20 But again, after the operations,
21 the castings could be radioactive, the uranium
22 obviously is radioactive before and after, and

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1 so we also tried to account for that
2 externally by essentially -- we tried to do
3 this in a bounding way by essentially hitting
4 a large piece of steel or uranium.

5 By large piece, I mean something
6 thick enough to where the beam could not be
7 transmitted through to find a usable -- to
8 obtain a usable X-ray, and wide enough to
9 encompass the entire beam.

10 The beam of the betatrons are known
11 to be fairly narrow compared to typical X-ray
12 machines, and so we used a very wide, very
13 thick piece to absorb all of the energy from
14 the betatron machine to try to bound how much
15 activation could be in that piece.

16 For the internal dose, as I
17 mentioned earlier, we really had no
18 information. What we attempted to do in the
19 appendix was to find a bounding estimate. I
20 did mention earlier that GSI was not
21 responsible for evaluating the uranium, the
22 internal structure of it. They were

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1 responsible for producing a good X-ray film
2 and then handing that over to Mallinckrodt.

3 Because of this, there was no
4 worker testimony that they ever manipulated
5 the uranium. There's no indication that they
6 ever did other than handling it to set up the
7 shot and transport it to and from.

8 But there was no indication that
9 they would have ground out any defects or
10 anything like that. In fact, there was quite
11 a bit of indication that it was actually a
12 sample of uranium that they were X-raying.
13 They were called betatron slices.

14 And from what the operators said,
15 essentially even the uranium was too dense for
16 the betatron to get through. They had to --
17 Mallinckrodt had to take a slice of the
18 uranium ingot and X-ray that. So the only
19 good explanation for that would be they were
20 X-raying a sampling of an ingot for part of
21 their QA program.

22 So based on that, it doesn't look

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1 like GSI ever did any repair of the uranium
2 metal. I'm not sure how they would. But they
3 wouldn't have done any kind of abrasive work.

4 It was handling the material, handling the
5 uranium to get it in there to X-ray it,
6 setting up the X-ray shot, handling it to get
7 it back out of there.

8 In order to bound that, we used
9 uranium slug models from Battelle-6000. When
10 they were producing uranium slugs, they were
11 handling uranium metal very similar to what
12 GSI did.

13 But the uranium slug also included
14 some abrasive work, where they would cut rods
15 to smaller pieces, and they would also machine
16 the ends of these rods, so we included -- this
17 airborne model here would include some cutting
18 of uranium metal, some machining of uranium
19 metal, and that should produce a higher
20 airborne evolution than simply handling the
21 uranium metal.

22 But there was plenty of handling in

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1 slug production, also. That's why we think
2 that that is a bounding case.

3 Dose from the uranium fission
4 activation products, we did an estimate based
5 on the MCNP runs on how much of the material
6 would be uranium versus fission products or
7 activation products, and we simply increased
8 the dose estimate in the appendix to try to
9 account for that, again in a bounding fashion.

10 Internal dose from activated steel
11 castings, we considered that and evaluated it,
12 and we included that in the TBD, or the
13 appendix, I'm sorry.

14 I mentioned earlier we did
15 eventually get the film badge data that was
16 available from Landauer. The data we have
17 indicates pretty much what we were told. The
18 radiographers in the later years were badged,
19 not in the earlier years. It was not all GSI
20 employees. It was only those very closely
21 associated with the radiography.

22 It appears to be on a weekly -- or

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1 it was on a weekly film badge exchange
2 frequency. They reported a reporting level of
3 ten millirem, everything ten millirem or more
4 was reported as the number, everything less
5 than that was simply reported as a capital M,
6 meaning monitored.

7 And the vast majority -- that's how
8 the vast majority of the readings came out.
9 It turns out about 99.7 percent of the badges
10 were reported as less than ten millirem on the
11 weekly reads.

12 I have a couple example dose
13 reconstructions for you. These were put
14 together using the appendix. The first
15 employee is a GSI employee from 1951 to 1982.

16 His job description was a welder, and the
17 CATI indicated he did work in the betatron
18 sometimes.

19 Not all the weld repairs were done
20 in the betatron building. Sometimes a lot of
21 repairs were done outside of the building.
22 The casting would be moved out, a number of

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1 repairs done while they were X-raying
2 something else. But this individual indicated
3 he was associated with the betatron machine at
4 least that time, so we gave him the
5 radiographer dose.

6 The appendix does not -- the
7 appendix has two different exposure models in
8 it for external dose. One is radiographers,
9 and one is everybody else, essentially. And
10 for radiographers, it's not limited to those
11 that have a job title of radiography. It's
12 anybody that would be associated with the
13 steel castings within a couple hours after
14 they were X-rayed. That's to account for the
15 weld repairs done on these steel castings.

16 This particular individual, male,
17 born in 1923, and diagnosed in 1988 with lung
18 cancer. From the Appendix BB, that produces a
19 dose of approximately 63 rem external dose,
20 almost 29 rem internal dose, and an X-ray dose
21 of a little over one rem, for a total that's
22 29.981 rem. That combined with his

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1 demographic information produced a probability
2 of causation of 58.91 percent.

3 The next example I got is an
4 employee that was working at GSI from 1963 to
5 1973. This particular person was a laborer,
6 but in reality for radiographers, that's
7 actually a very good time frame. That seems
8 to be the time frame when they were doing a
9 great deal of radiography. The betatron
10 machines were working 24/7 around the clock.

11 This individual was a laborer, but
12 again, he said he was associated with the
13 betatron machines, or some of the castings
14 that were X-rayed. He was male, born 1914,
15 diagnosed in 1988 with prostate cancer.

16 The model dose from Appendix BB for
17 this situation gives him 10.395 rem of
18 external dose. The internal dose listed on
19 the slide is zero, and that is largely because
20 the uranium is the primary internal dose, and
21 while it concentrates in the lungs, it will
22 not concentrate in a prostate.

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1 There is actually some dose
2 accounted for in there. It just ended up
3 being less than one millirem. We also gave
4 him the medical X-ray dose of 100 millirem.
5 So the total was 10.495 rem. That combined
6 with his demographic information produced a
7 probability of causation of 11.8 percent.

8 And you've seen slides like this a
9 number of times. Essentially the evaluation
10 report was -- it used the guidelines in 42
11 CFR. It was issued on October 3rd, 2008.

12 Again, you've seen this slide, a
13 two-prong test for SEC petitions. The
14 evaluation determined that we could -- I'm
15 sorry -- two-prong test is whether or not it
16 is feasible to estimate the dose, and
17 secondly, whether or not there is a reasonable
18 likelihood that such radiation dose would have
19 endangered the health of the members of the
20 class.

21 NIOSH's feasibility from the
22 evaluation report found that we could

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1 reconstruct the dose to the members of the
2 class, and therefore, a determination of
3 health endangerment was not required.

4 And last slide is the summary,
5 essentially reiterating that the evaluation
6 report decided we could reconstruct all the
7 routes of exposure at GSI.

8 CHAIRMAN ZIEMER: Okay. Thank you,
9 David.

10 We'll take a few minutes for some
11 questions. I did want to mention for the
12 record, just so that the transcript agrees
13 with the slides on the dose reconstruction
14 number one, the total rem to the hypothetical
15 person was 92.981, not 29.

16 MR. ALLEN: I'm sorry.

17 CHAIRMAN ZIEMER: Just so the
18 written record or the transcript agrees with
19 what we saw.

20 Okay. Wanda Munn, question or
21 comment?

22 MEMBER MUNN: Dave, I guess I don't

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1 -- I'm missing something in your presentation
2 of internal exposure. On the one hand, I
3 heard that the X-rays were not read there.
4 They were read at Mallinckrodt.

5 And knowing how production
6 activities occur, then it would seem logical
7 that any void or inclusion that was identified
8 by the X-ray would not immediately be repaired
9 at this site.

10 So I'm trying to reconcile in my
11 mind why the internal exposure would be based
12 on the premise that someone would be grinding
13 or working hands-on with this material during
14 the very immediate period following its
15 activation. Am I missing -- and I know I'm
16 missing something, but I'm not sure what I'm
17 missing.

18 MR. ALLEN: Well, you're probably
19 missing it because I didn't explain it well.

20 What I was saying in there, I think
21 it's two different subjects is what we're
22 talking about. There's internal exposure from

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1 uranium, but there's also internal exposure
2 from grinding on the steel -- the activated
3 steel castings that would get activated from
4 the betatron X-rays.

5 From everything we're told, it is
6 typical for them to try to repair those
7 quickly. It depends a great deal on the
8 situation whether they're doing a whole lot
9 more shots on a very big casting, or whether
10 they're doing one shot to see if the repair
11 was good, find out it wasn't, and they run in
12 there and try to do another quick repair on
13 it.

14 It doesn't sound like it was
15 unusual on the steel castings for them to
16 perform a repair soon after the X-ray. As far
17 as the uranium, I was simply trying to point
18 out that there was no information that they
19 would repair anything with the uranium
20 castings.

21 And so the slug production that we
22 used should be a bounding situation, because

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1 there was some grinding in that. We were
2 simply very limited on the internal exposure
3 for uranium at GSI.

4 MEMBER MUNN: Well, I would think
5 that would be a very generous bound, but it's
6 surprising to me that, as a matter of course,
7 the repairs would be attempted without having
8 the benefit of the actual X-ray reading from
9 Mallinckrodt. But if that's what happened,
10 that's what happened.

11 MR. ALLEN: No, I mean, I'm not
12 sure I understand your question.

13 MEMBER MUNN: Well, the whole
14 purpose in taking the X-ray was to identify
15 whether there were voids or inclusions in the
16 metal. What's the quality of this casting?

17 MR. ALLEN: Right.

18 MEMBER MUNN: And if you take the
19 X-ray, and then send it to essentially the
20 other company to evaluate the work that's been
21 done, then --

22 MR. ALLEN: Okay. I think I

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1 understand. There's a little bit of
2 confusion. I mean, GSI's primary work did not
3 include this uranium. They made tank turrets,
4 they made steel turbines.

5 MEMBER MUNN: I understand. I
6 understand.

7 MR. ALLEN: And when I'm talking
8 about an immediate repair, I'm talking about
9 the steel castings that they produce. As far
10 as the uranium, there was no indication that
11 any repair was ever done. But it was
12 certainly -- all I was trying to say is it was
13 certainly not done at GSI if there was.

14 MEMBER MUNN: I guess my question
15 really revolves around the timing. It was
16 difficult for me to imagine why, if the X-ray
17 was going to have to be read before any
18 activity occurred, whether that would not
19 decrease the amount of radiation significantly
20 because of the time lapse from activation to
21 the time they handled it.

22 But what I think I'm hearing from

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1 you is they went ahead and -- even though they
2 were not actually reading the X-rays, they
3 really and truly were responding to what they
4 saw on the X-ray, and went ahead and attempted
5 the repair before they actually sent it all
6 off to Mallinckrodt.

7 MR. ALLEN: No, no. I mean
8 Mallinckrodt -- when I was talking about they
9 got a good X-ray, and they sent those to
10 Mallinckrodt, that was only for the uranium.
11 I mean, GSI evaluated the X-rays for the
12 steel.

13 MEMBER MUNN: And not for the steel
14 at all?

15 MR. ALLEN: No. Mallinckrodt had
16 nothing to do with the steel castings.

17 MEMBER MUNN: All right. Fine.
18 That explains it. Thank you.

19 MR. ALLEN: Okay.

20 CHAIRMAN ZIEMER: Okay. John
21 Poston?

22 MEMBER POSTON: I have several

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1 questions just to try to clarify or understand
2 what you've done.

3 You mentioned in slide 13 uranium
4 fission --

5 CHAIRMAN ZIEMER: Stay close to the
6 mic there, John.

7 MEMBER POSTON: All right. You
8 mentioned in slide 13 uranium fission, and I
9 was a little bit unsure what you were talking
10 about. Are you talking about spontaneous
11 fission?

12 MR. ALLEN: No, we're talking
13 about. It is possible for a high-energy photon
14 to cause a fission in uranium.

15 MEMBER POSTON: Of course. But
16 it's in the middle bar range. It's extremely
17 small, the probability is.

18 MR. ALLEN: It did not --

19 MEMBER POSTON: Is vanishingly
20 small above about eight MeV.

21 MR. ALLEN: Yes, and it did not --

22 MEMBER POSTON: I've looked at that

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1 in great detail. It goes almost to zero.

2 MR. ALLEN: Yes, and these were 25
3 MeV.

4 MEMBER POSTON: Yes.

5 MR. ALLEN: And I mean, we had to
6 account for it. It did not make a large
7 difference in it, but we did account for it.

8 MEMBER POSTON: Okay. Second
9 question, on activation products, you're
10 talking about photon activation of steel and
11 other things?

12 MR. ALLEN: Yes.

13 MEMBER POSTON: Okay. On slide 15,
14 you indicated this worker was a welder that
15 might have entered the area. Was he badged?

16 MR. ALLEN: I don't know of any
17 laborers or welders that were badged. It was
18 pretty much people assigned to what I would
19 call the NDA department. I'm not sure if
20 that's what they called that department or
21 not.

22 MEMBER POSTON: Okay. So in your

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1 evaluation of the dose on the next slide, the
2 external dose, what did you do? Assume that
3 he got ten millirems a month?

4 MR. ALLEN: We gave him the
5 radiography external dose.

6 MEMBER POSTON: Well if you have
7 90-something percent -- 97 percent were less
8 than ten millirem --

9 MR. ALLEN: Yes, but again, that's
10 the film badge data, and that came about after
11 the --

12 MEMBER POSTON: Well, that's what
13 I'm asking. What assumptions did you make to
14 cover the period where they weren't badged?
15 And obviously, this worker wasn't badged
16 during the period that you had badges. So
17 what -- I'm trying to understand what you did.

18 MR. ALLEN: Well, the details are -
19 -

20 MEMBER POSTON: I mean, you've got
21 63 rem here. That's a huge dose for a worker
22 who's not routinely in a radiation area, and

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1 I'd like to know how you did that.

2 MR. ALLEN: Well, the assumption on
3 the radiographers in the appendix was that
4 they're right outside the shielded area during
5 the radiography, and they're in on the casting
6 almost immediately afterwards.

7 And from our indications, there
8 were certainly laborers, possibly folks moving
9 the castings, and possibly repairs done in
10 that time frame. Essentially running in there
11 right afterwards.

12 That was how we modeled it. It was
13 an exposure scenario based on how long the
14 shot took, how much dosage rate they'd be
15 getting outside, versus how much dose they
16 would be getting from the casting. And it
17 does decay away fairly quickly.

18 But that made the exposure scenario
19 important in these situations, how close they
20 would be, for how long, what kind of dose
21 rate, et cetera. Without getting into the
22 details of the appendix, it's hard to go much

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1 more than that.

2 MEMBER POSTON: Well, I don't
3 remember the number, but you said that there
4 was 90-something percent of 97 percent of the
5 badges were marked with an M, which means that
6 they were minimal dose, below minimal
7 detectable. Is that correct?

8 MR. ALLEN: Yes, that's correct.

9 MEMBER POSTON: Okay. So if I take
10 -- if I assume that each worker wore the badge
11 and they got minimal dose of ten millirem,
12 that's 520 millirem a year. Well, but there's
13 52 weeks in a year, 520 millirem per year, and
14 I'm having a heck of a time getting to 63 rem.
15 That's my problem.

16 MR. ALLEN: Well, the appendix was
17 put together as a model that was intended to
18 be conservative.

19 MEMBER POSTON: Well, it sure is.

20 MR. ALLEN: And apparently it was.
21 But there are some other issues that have
22 been raised as far as the badges, whether they

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1 were worn all the time, et cetera.

2 MEMBER POSTON: Because you don't
3 have any indication this guy worked there for
4 120 years.

5 MR. ALLEN: No.

6 MEMBER POSTON: So I just -- it
7 doesn't come together. It doesn't make any
8 sense to me.

9 CHAIRMAN ZIEMER: Yes, and
10 incidentally, on the Landauer films, the M
11 actually stands for minimal, not for
12 monitored. It represents lower limit, or they
13 were below the limit of detection.

14 Brad Clawson?

15 MEMBER CLAWSON: I just wanted to
16 know, who processed the film badges for GSI?
17 Was it done on site, or was this a
18 subcontractor?

19 CHAIRMAN ZIEMER: Landauer.

20 MR. ALLEN: Landauer.

21 MEMBER CLAWSON: Landauer did?
22 Okay. One of the questions I had was, in

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1 talking with some of the petitioners and stuff
2 like that, they were talking about, in the
3 earlier years, that some of the film cradles,
4 or whatever that they were using, had nickel,
5 and aluminum, and some other -- and that they
6 actually activated those, too. Did we look
7 into --?

8 MR. ALLEN: Well, anything exposed
9 to the beam could be activated, but the film
10 is generally on the opposite side of the steel
11 that's being X-rayed. Essentially the dose to
12 the film casing should be similar to what
13 would be necessary to expose that film.

14 MEMBER CLAWSON: Okay.

15 MR. ALLEN: It's going to be
16 considerably less than what the direct beam of
17 that betatron is.

18 MEMBER CLAWSON: Well, I think in
19 talking with petitioners, something about that
20 the film cradles that they were holding the
21 film in actually become activated and they
22 didn't know about it for quite a while, and

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1 then they changed to another type of film
2 cradle that was going on there.

3 On the contamination issues and so
4 forth like that, there was actually a spread
5 outside of the facility -- they actually found
6 it up and down the tracks, if I'm not
7 mistaken. But from my understanding of what
8 you were saying, it was only in the calutron,
9 or --

10 MR. ALLEN: Betatron?

11 MEMBER CLAWSON: Right.

12 MR. ALLEN: You're talking about
13 the uranium contamination?

14 MEMBER CLAWSON: Yes.

15 MR. ALLEN: I don't know of any --
16 you're talking about that FUSRAP survey, I
17 assume. They found during the FUSRAP survey
18 some fixed uranium contamination on the floor
19 of the old betatron as well as in a vacuum
20 cleaner that was a permanent structure inside
21 that betatron building.

22 There are also railroad tracks

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1 inside. They found it on those. I don't
2 remember a story about outside of -- railroad
3 tracks outside the building, but --

4 MEMBER CLAWSON: My understanding
5 was it was outside of the building. The
6 tracks that went through, they'd actually
7 bring the large castings in there. They'd X-
8 ray them in there, they'd grind them, and
9 they'd repair them. And then taking it out,
10 there really wasn't that much of a cleaning
11 process.

12 And I was just wondering if we were
13 looking at what spread outside of this
14 facility, or --

15 MR. ALLEN: Well, the way the
16 appendix was written was to model it as if
17 everybody was inside that betatron with the
18 uranium contamination in there which, from
19 what you're saying, there would still be the
20 source of the uranium contamination. So
21 essentially we put everybody at the source for
22 the whole time.

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1 MEMBER CLAWSON: Okay.

2 CHAIRMAN ZIEMER: Okay. Other
3 questions before we hear from the petitioners?

4 Okay. Then we will proceed with
5 Dr. McKeel. Sorry -- Dan?

6 DR. McKEEL: Yes, yes, sir. Can
7 you hear me all right?

8 CHAIRMAN ZIEMER: We can hear you
9 very well. Please.

10 DR. McKEEL: All right. Good
11 afternoon to the Board. We've all done a lot
12 of work thus far, and we're pleased to be
13 speaking about the SEC 105 petition.

14 My credentials include an M.D.
15 degree. I've held 36 NIH-funded research
16 grants, was on the Medical School faculty at
17 Washington University for 31 years, tenured 23
18 years, had almost 200 peer-reviewed research
19 articles and abstracts, and one book that I
20 was the lead author.

21 I was a member of the initial
22 Mallinckrodt SEC team. I've been a co-

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1 petitioner on three SECs, 79 at DOW, 88 at
2 Texas City, and this one, and I've made
3 numerous comments on the EEOICPA CFR rules and
4 Board matters.

5 The general comment that I would
6 like to make is that it was, at the outset of
7 this SEC, it was distressing that it took too
8 long before NIOSH put the petitioner, Ms.
9 Coggins, in contact with myself and
10 [Identifying information Redacted], given the
11 fact that we have been interacting with this
12 site for about three years before the SEC was
13 finally filed.

14 Thereafter, Ms. Coggins had me
15 authorized as a co-petitioner through other
16 contacts than NIOSH.

17 I want to say at the outset that
18 the petitioners, and particularly advocate
19 [Identifying information Redacted], have
20 supplied the Board, its contractors, and NIOSH
21 with truly massive amounts of GSI dose related
22 and worker outreach information that NIOSH had

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1 not and possibly was unable to obtain on its
2 own.

3 All of this information has been
4 well documented, has been discussed somewhat
5 in other venues, and it's just too numerous to
6 review here. So I'm going to concentrate on
7 matters that just affect this SEC, and NIOSH's
8 recommendation to deny the SEC.

9 I have a number of bases on which
10 we challenge the NIOSH recommendation to deny
11 this SEC. First and overall is that, from the
12 very beginning in 2005, [Identifying
13 information Redacted] and I have presented
14 data that we hoped supported the idea that
15 monitoring data was insufficient, and should
16 have been the basis alone for awarding an SEC
17 -- SEC 83.14 to GSI.

18 Now we are at least four years down
19 the road from that point. NIOSH and SC&A
20 models have been produced that conflict with
21 one another, and I'll go into that in just a
22 minute. And then we have Landauer film badge

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1 data that conflicts with both of those models.

2 The bottom line is that NIOSH and
3 SC&A are still far apart on defining an
4 accurate dose for GSI betatron workers, let
5 alone the other workers who are treated
6 differently for DR purposes.

7 This is despite the presence of
8 TBD-6000, its Appendix BB, the SEC 105
9 evaluation report by NIOSH, and a white paper
10 from NIOSH from November 2008 when the TBD-
11 6000 work group last deliberated. It is our
12 feeling that this evaluation report should be
13 considered in concert with all of these
14 tightly-related technical documents.

15 I wanted to review for the Board
16 where we are today as far as arriving at an
17 overall bounding dose for the GSI workers.
18 And I'm referring now to two tables that were
19 in the white paper generated by NIOSH in early
20 November of 2008.

21 And I'm referring to the last two
22 tables in that document, the first of which is

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1 called Estimated Annual External Exposures of
2 Betatron Operators. And since we can't look
3 at this together, I'm going to walk you
4 through that table.

5 The column headings are Year,
6 External Exposure in Roentgens Per Year for
7 SC&A and NIOSH, Neutron Dose for SC&A Only,
8 and a footnote A, note that neutron doses were
9 not assessed by NIOSH. And you might have
10 discerned that from Mr. Allen's presentation.

11 And then there were skin doses for
12 SC&A and NIOSH, comparing hands and forearms
13 and other skin, and the vertical columns were
14 broken down by year, 1952 to seven, 1958, 1959
15 through '60, and then individually '61, '62,
16 '63, '64, '65, and '66, the last year of the
17 AEC contract period.

18 And I think overall you can say
19 that there were huge differences between the
20 SC&A and the NIOSH external exposure estimates
21 that we feel cast serious doubt on their
22 ability to accurately perform dose

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1 reconstruction.

2 And moreover, the final table,
3 which was the film badge data, shows an even
4 higher discrepancy. So for example, the
5 external roentgen per year doses were two to
6 six times higher for SC&A modeling than for
7 NIOSH's. NIOSH doses varied more over time
8 than SC&A doses, only SC&A calculated neutron
9 doses, as I mentioned, and the SC&A skin doses
10 were 1.4 to 10 times higher than NIOSH's,
11 depending on the year that was mentioned.

12 So for instance, the peak external
13 exposure calculated by SC&A was 13.6 rems per
14 year in 1965. By NIOSH, it was 2.1, et
15 cetera.

16 The film badge exposures in the
17 next table were only .7436 and stayed steady,
18 interestingly, by SC&A's calculations from
19 1952 to 1965, and then dropped by about 50
20 percent in 1966.

21 I should mention that, coincident
22 with this data, there are some conflicting

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1 statements in Appendix BB and in the white
2 paper, and actually, in this evaluation report
3 whereby NIOSH is attempting to justify its
4 extrapolation of film badge data in 1964,
5 five, and six, the only that it has back to
6 cover the period of 1953 to 1963.

7 And in one place it's stated that
8 that 1964 data should be bounding, because
9 that's the peak year, whereas the purchase
10 order data in Appendix BB, as interpreted by
11 Mr. Elliott, states that, in 1962, for
12 example, there were 378 uranium hours spent,
13 and only 28 in 1964 for the, quote, peak year.

14 So anyway, that data needs to all
15 be reconciled. And the key point that I want
16 to state just up front is that there really is
17 a very large discrepancy.

18 The second point I want to bring to
19 the Board's attention is some work from the
20 SEC Issues Work Group from 2006 related to an
21 SEC that was awarded to the IAAP, Iowa Army
22 Ammunition Plant, radiographers on July the

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1 5th, 2005.

2 The work group, the SEC Issues Work
3 Group met on January the 6th, 2006, and they
4 developed four criteria for assessing SECs.
5 And they named their final conclusions, Key
6 Considerations for Board Review, and they
7 noted timeliness, fairness, understandable,
8 and the fourth one was consistency.

9 And I want to read that, quote,
10 consistency in evaluating SEC Petitions, NIOSH
11 and the Board must try to be consistent in
12 applying relevant criteria to each petition.
13 Both NIOSH and the Board must be mindful of
14 precedents established in earlier reviews.

15 And I want to read you, therefore,
16 the precedent that was established by IAAP,
17 and this is directly relevant. Here is the
18 transcript from that IAAP radiographer
19 discussion by the Board from July 5th, 2005,
20 starting on page 178.

21 Dr. Ziemer notes -- and they're
22 talking now, the Board is talking about

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1 radiation sources, and what they were at IAAP
2 that the radiographers used. And this
3 discussion is between the Board and Dr. Neton
4 at NIOSH.

5 Page 178, Dr. Ziemer says, I have a
6 question. Maybe Larry or Jim can answer it.
7 Do we know whether these radiographers were
8 using X-ray equipment, or whether they used
9 nuclides, you know, industrial? Were they
10 sources or X-rays?

11 An unidentified person by the court
12 reporter says, sources, I'm sure.

13 Dr. Neton says, I believe they were
14 both. So there were some nuclides with
15 nuclide-based radiography equipment. I
16 believe that one of them may have been a
17 cobalt-60 source, if I'm not mistaken.

18 Dr. Ziemer says, so we have limited
19 information on what was used for -- I mean, I
20 would sort of make some -- raise some
21 questions similar to what Mark did.

22 Dr. Neton says, yes.

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1 Dr. Ziemer says, it seems to me
2 radiographers would be much easier to scope or
3 to envelope than others.

4 Mr. Elliott says, I think it again
5 shows how many were done in a given time
6 frame. We couldn't put a number on that,
7 couldn't quantify that, that amount of the
8 source.

9 Dr. Ziemer says, yes, well, you
10 know --

11 And Mr. Elliott says, or which
12 source was used, whether it was X-ray or
13 cobalt-60.

14 Dr. Ziemer says, well, you know, if
15 you tried to do this in a medical facility,
16 and I'm looking --

17 Dr. Anderson says, yes, right.

18 Dr. Ziemer says, you can figure it
19 pretty close, what physical -- how many
20 exposures you can physically make in a day. I
21 mean, there are some limits to it even for
22 fast workers. I was actually a little

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1 surprised that we couldn't scope this one out,
2 but you're right. We don't know exactly.
3 Adjust --

4 Mr. Elliott says, again, a hard
5 body to please.

6 And Dr. Ziemer says, obviously
7 there's a variety of issues. The shielding is
8 an issue. The distance is, apparently. No
9 dosimetry.

10 Well, the IAAP radiographers were
11 pretty much in the same situation as were the
12 GSI radiographers when all this began in 2005
13 and `06. And I think there are some
14 conclusions that form a precedent and that
15 need to be considered when you're considering
16 an SEC for the betatron operators at GSI.

17 For IAAP, NIOSH concluded it could
18 not use IAAP radiographer 1955 film badge
19 data, which it had, to extrapolate back to the
20 April 1948 -- back to the April 1948 to March
21 1949 SEC class period. There was, quote,
22 apparently no dosimetry for the SEC period,

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1 just as NIOSH stated was the case for GSI
2 during all 2005 and `06 when we first began
3 interacting about GSI.

4 The same situation exists for GSI.

5 There is badge data only for 1964-`66, but
6 none for 1953-`63 of the covered period. In
7 one case, NIOSH said it could not extrapolate
8 backwards. This time, NIOSH says it can
9 extrapolate backwards to the earlier time
10 period for GSI.

11 At IAAP, of great interest, an SEC
12 was actually awarded when no nuclear weapons
13 material was onsite at IAAP, and this is an
14 integral part of the transcript.

15 At IAAP, there were four workers
16 who were deemed eligible for the SEC for
17 radiographers, even though only one had a
18 radiographer job description.

19 Number four, the IAAP radiographer
20 SEC covered a shorter period than 250 days.

21 And finally, the Board recommended
22 the IAAP radiographers' SEC on 7/5/05 without

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1 being sure of the exact nature of all the
2 onsite radiography sources. This is certainly
3 the case now at GSI where the isotopes have
4 not yet been well characterized.

5 This was despite the fact that the
6 sources at IAAP had been described in an
7 earlier worker meeting held a few months
8 before on March the 21st `05.

9 And the minutes of that worker
10 meeting, page 414, state as follows, and I
11 quote, site description. [Identifying
12 information Redacted] next asked the groups to
13 address the site description section of the
14 document. The following issues were
15 discussed.

16 There was a flash X-ray. Six
17 million mega electron volt, MeV machines were
18 missing from the document entirely, one worker
19 noted. Explosions in progress were X-rayed
20 weekly, sometimes multiple shots, which would
21 have been a significant dose.

22 Then they have a couple of comments

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1 about the number of workers in the building.
2 And the final comment is this. One and two
3 million electron volt X-ray units were used
4 for high explosives, HE. A six MeV X-ray was
5 used at the firing site on at least a weekly
6 basis to monitor the hydro shots. And that's
7 the end of that.

8 The petitioners also challenged the
9 idea in OCAS IG-003 that all sources must be
10 considered only in the covered production
11 period, but not in the residual period as a
12 misreading of the EEOICPA as amended statutes.
13 This guidance needs to be revised, or at least
14 much better justified.

15 The key points for General Steel
16 and other sites is that, during the
17 operational period, there's no disagreement
18 that all sources must be considered in the
19 dose calculations.

20 Point number four of their
21 challenge is that, on October the 9th, 2008,
22 there was a worker outreach meeting sponsored

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1 by SC&A, and at that meeting, a consensus was
2 reached that the average GSI work week was 65
3 hours, versus only 46 hours noted in Appendix
4 BB.

5 This fact, that we consider
6 established, has not yet been incorporated
7 into Appendix BB or into GSI dose
8 reconstructions, even though more than 80
9 percent of all DRs given to NIOSH had been
10 completed. That factor alone could effect the
11 total dose for all those workers who have been
12 denied.

13 Point number five, McKeel on
14 11/10/08 requested to the TBD-6000 Work Group
15 that NIOSH furnish him with NIOSH film badge
16 dataset characterizations in return for their
17 request for him to share his data from GSI
18 from Landauer, which he had obtained in
19 January of 2007, 14 months before NIOSH
20 obtained their dataset, according to Mr.
21 Allen, in March of 2008.

22 I said that I would be unable to

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1 turn over my data unilaterally unless there
2 was some reciprocity, and some conditions were
3 met whereby we could exchange this privacy
4 protected information, and also that I was
5 able to learn something about the NIOSH
6 Landauer dataset, in particular interested in
7 the percent of that data that was readable.

8 SC&A admitted that their 1964 data,
9 a lot of it was illegible. I wanted to verify
10 with the Department -- I can't do this -- I
11 wanted NIOSH to verify with Department of
12 Labor that all the badge data that they had
13 was actually for GSI employees.

14 And then I was particularly
15 interested in disclosing the data capture
16 process and dates whereby they obtained the
17 Landauer data, because my data from Landauer
18 has fewer workers represented than NIOSH
19 claims it has, which variably, according to
20 SC&A and NIOSH, is 89 to 108 names, and in my
21 dataset, there are only 52 names, so there's a
22 discrepancy there.

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1 I also want to mention, again,
2 point number six, that there is a lot of
3 missing monitoring data. There is the scant
4 Landauer external film badge data for photons
5 only for '64 to '66. There is no bioassay
6 data. And I've already mentioned that the
7 peak year for the AEC uranium work was not
8 covered by the badge data available.

9 Now one thing that has not been
10 widely discussed --

11 CHAIRMAN ZIEMER: Dan, we're going
12 to interrupt a minute. We've got some noise -
13 - somebody's on the line that's competing with
14 your --

15 DR. McKEEL: There's a sawing noise
16 on the phone.

17 MR. KATZ: Yes, it sounds like
18 someone's sharpening a pencil or something.

19 CHAIRMAN ZIEMER: So others on the
20 line, if you're -- other than Dan, if you
21 would please mute your phones. Thank you. If
22 you do not have a mute button, use star six.

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1 Okay, Dan. Proceed.

2 DR. McKEEL: Thank you very much.

3 I wanted to --

4 CHAIRMAN ZIEMER: Well, the
5 scratching person is still scratching or
6 whatever that is. Again, please mute your
7 phones if you're not speaking.

8 Go ahead, Dan. Sorry about that.

9 DR. McKEEL: That's okay.

10 I wanted to mention that two
11 workers who were both isotope workers who
12 underwent the AEC training for isotope workers
13 at GSI actually furnished us, and we furnished
14 NIOSH, with three film dosimetry reports that
15 were headed AEC Annual Reports.

16 And at least one of those was from
17 1962, which is earlier than the 1964 date on
18 which the Landauer film badge data existed.

19 Now both of those men are alive.
20 We know them. They had kept these reports in
21 their personal possession until they shared
22 them with us.

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1 And what I think is extremely
2 important about that is they were not marked
3 as being from Landauer, but from another
4 corporation that subsequently was purchased by
5 Mallinckrodt. And we have those reports, and
6 they show external photon doses for the full
7 year.

8 So there must have been some
9 monitoring that was going on at GSI before
10 1964, and neither ourselves, nor NIOSH, nor
11 anyone has gotten those data. So there is
12 definitely existing but missing data somewhere
13 and I just think that needs to be considered.

14 The next section I have is that we
15 would like to point out a number of
16 uncertainties that we believe are in the
17 doses. One is that, of the two betatron
18 buildings, the new building built in 1963 was
19 located a few feet away from, and adjoined,
20 and was connected to building number ten,
21 where a lot of work went on.

22 And there have been calculations

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1 from SC&A, in particular, that the betatron
2 radiation, the shine, clearly went through the
3 wall. There was a thin ribbon door protecting
4 the railroad tracks and leading into building
5 ten. And that shine could go through those
6 doors and expose the men in building ten. And
7 we feel that those workers' doses have not
8 been well calculated.

9 We also know that there was a small
10 concrete wall roofless building in building
11 six, sort of an inner structure that held the
12 small cobalt-60 source, and was serviced by an
13 overhead crane operator.

14 And that small source was in pretty
15 much constant use for X-raying railroad truck
16 assemblies, and the badges -- there were many
17 badges -- there was an estimate of maybe 300
18 workers in that building who were very, you
19 know, right around that concrete block
20 building, who wore no badges.

21 So there were a group of exposed
22 but unmonitored doses, and nobody has made an

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1 attempt to calculate those doses at all.

2 As a matter of fact, if you listen
3 to Mr. Allen, and have read all of these
4 documents, there are no dose calculations
5 given for the two cobalt-60 sources, the
6 iridium-192 source, or for the portable 250
7 kVp source.

8 Another uncertainty that I would
9 like to correct is that all -- and this is in
10 reference to Ms. Munn's question -- the X-rays
11 were taken -- the film was exposed at GSI, and
12 adjacent -- and really as part of the betatron
13 building, and we've visited there and been
14 there, was a film development room, an
15 exposure room.

16 So the films were taken out of the
17 machine and read instantly, and there was a
18 class of workers at GSI called film readers.
19 And it was their job to look at the film right
20 away, even before it was dry, read it, see
21 where the big defects were, and, you know,
22 sign a checklist that was sent back to

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1 Mallinckrodt along with the X-rays themselves.
2 And the final reading was done at
3 Mallinckrodt, but the initial reading was done
4 on the spot at GSI so that the casting could
5 then be sent out to the floor to be
6 immediately repaired, fixed, and often sent
7 back to the betatron to be re-X-rayed to look
8 for defects. So that's a partial answer to
9 that.

10 The other point that is not very
11 well worked out in the NIOSH document is that
12 there were approximately, over time, perhaps a
13 hundred betatron operators, but there were
14 3,000 workers maximum at the GSI plant, so
15 that the betatron workers were a small part of
16 the workforce, and there were multiple sources
17 there, and many workers were exposed. Some
18 were betatron operators who would leave the
19 betatron building. We know that they
20 routinely left their badges when they exited
21 the betatron building.

22 They would go and do work in

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1 building ten or building six. They could be
2 re-exposed to shine there, or from the small
3 cobalt source in building six. Then they
4 would return back to the betatron building.
5 So there's that numerical thing.

6 Another fact that is true that
7 makes the dose very uncertain is that nobody
8 has obtained the AEC licenses for the sealed
9 isotopic sources or, you know, for the cobalt-
10 60 or the iridium-192 sources. And those
11 licenses would obviously help to fully
12 characterize the other sources, including
13 their strength and so forth, the amount of
14 curies.

15 Another point that relates to Dr.
16 Poston's comment is, although the NIOSH
17 document recognized the fact that steel metal
18 castings and uranium can be activated by a 24
19 five MeV betatron, they say that the main
20 activation product is iron.

21 And there are many studies in the
22 literature, including one by Dr. Ziemer and

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1 Guo, on medical X-rays, linear accelerators,
2 that show activation of instruments in a
3 radiography suite for medicine.

4 [Identifying information Redacted],
5 who was a researcher at the Milwaukee School
6 of Engineering, testified before the Board and
7 shared his data with them, where he was one of
8 the first people to show that, not only were
9 industrial castings activated by the
10 betatrons, very similar to the one at GSI, but
11 there were many more activation products than
12 iron alone.

13 And he mentioned in his published
14 work carbon-11, aluminum-28 and 29, chromium-
15 49, chromium-51, manganese-56, iron-52,
16 nickel-57, and nickel was definitely a
17 component of the film cassettes, cobalt-61,
18 copper-61, copper-62, copper-64, zinc-63,
19 zinc-65, silver-106, and silver-108, all of
20 which he had measured produced by betatron
21 irradiated industrial parts. And we've given
22 those references previously to the Board, to

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1 NIOSH, and to SC&A.

2 The NIOSH evaluation report also
3 makes the important assumption that recycled
4 uranium was used at GSI in 1953 to '66,
5 resulting in the following activation and
6 fission transuranic being present onsite. And
7 that reference would be TBD-6000, Section
8 5.2.1.2.

9 And I quote, therefore, for the
10 timeline evaluated in this report, and in the
11 absence of definitive information about the
12 origin of the processed uranium, it is assumed
13 that the uranium contained the following
14 contaminants: plutonium-239, neptunium-237,
15 technetium-99, thorium-232, and thorium-228,
16 end quote.

17 So we asked, were the effects of
18 the betatron 24, 25 MeV X-irradiation on these
19 orders by SC&A or NIOSH. We think they
20 probably were not.

21 And we would note that the
22 literature includes studies on such issues,

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1 and we mention one in particular, The Physical
2 Review, Volume 77, Issue 3, pages 329-336, of
3 exactly that betatron irradiation and its
4 effects on those transuranics.

5 Point D, another point is there
6 were no real neutron doses measured.
7 Proton/neutron ratios were not calculated,
8 although in one technical document, it was
9 noted that such a study was underway, but it's
10 never been reported as far as I'm aware at
11 GSI.

12 And we also have information from
13 [Identifying information Redacted], who was
14 [Identifying information Redacted]'s boss and
15 the Dean of the Milwaukee School of
16 Engineering. He has testified to us and given
17 us information about the large numbers of low
18 energy neutrons that are measured when linear
19 and circular accelerators activate concrete in
20 buildings, such as the old and new betatron
21 buildings at GSI. So that's another
22 unaccounted for source of exposure to these

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1 workers.

2 As I've mentioned, five of the six
3 source terms at GSI were ignored in Appendix
4 BB, and even in the evaluation report, and Mr.
5 Allen even just referred to them as some
6 isotopes.

7 But specifically, there were two
8 betatrons, there were two cobalt-60 sources,
9 there was one iridium-192 gamma source, and
10 there was a 250 kVp portable X-ray source.

11 Another error, we believe, in the
12 dose calculations at GSI is that the Appendix
13 BB, and the white paper, and SC&A's review of
14 the evaluation report all go into calculations
15 about the distance from the betatron cone to
16 the external target, whether it was six or
17 nine feet, and so forth.

18 But the fact of the matter is, and
19 we've provided many photographs of this, lots
20 of testimony from the workers, they were
21 often, during the setup period and the take
22 down period, when they were adjusting these

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1 activated film cassettes, they were lying on
2 the castings, their bodies were in physical
3 contact with the casting.

4 So all of those distance
5 measurements are really a futile exercise,
6 because they moved between the betatron nose
7 cone, when it was off, the casting, and as I
8 said, were in intimate contact with the
9 casting.

10 There is some confusion that
11 remains about the basically prohibited
12 practice of betatron head flipping is not the
13 same as the common practice, although somewhat
14 dangerous, of the betatron operators imaging
15 large castings that were on railroad cars on
16 the railroad tracks within the building, and
17 that they were not the same two procedures.
18 But anyway, these doses must be accounted for,
19 and they really have not been, we believe.

20 Mr. Allen mentioned that there was
21 some indication that betatron slices of
22 uranium were used, but the official documents,

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1 the purchase orders, mention, in addition to
2 the slices, that Mallinckrodt sent over ingots
3 and dingots, which we all know are so large
4 that it would be hard for any beam to pass
5 through them. But anyway, that's what the
6 purchase orders say the purchase orders were
7 for.

8 Let's see, we also have one
9 affidavit that was shared with SC&A, and we
10 assume, therefore, with NIOSH, of a worker, a
11 betatron worker, who was accidentally exposed in
12 the betatron building to the large cobalt-60
13 source. And although this may be not to the
14 level of exposure that would result from a
15 criticality incident, which NIOSH seems to
16 insist on, the gentleman was sent to the
17 hospital, and according to him, an AEC report
18 was generated from that incident.

19 We also have the use in the dose
20 calculations that NIOSH came up with, the use
21 of surrogate data from other places that
22 really belies the fact that Mr. Elliott

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1 admitted several times in 2005-6 that GSI,
2 because of the use of the betatrons and the
3 work they did there with the large castings as
4 well as the uranium, was a unique site.

5 Finally, there is confusion
6 currently in the dose reconstructions already
7 done as to exactly how the NIOSH is applying
8 the classes of workers that Mr. Allen
9 outlined. That is, there are some workers
10 classified as being betatron operators, and as
11 Mr. Allen said, it clearly is stated that
12 those people should include anyone who is
13 exposed to the activated castings within two
14 hours of coming out of the betatron.

15 But we know -- and then the other
16 group would be the non-betatron operators who
17 aren't exposed to the betatron or the castings
18 within that two-hour time frame. And
19 actually, that's pretty clear.

20 But we also note from individual
21 workers who have had claims assessed that
22 there is a confusion, and that some of them

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1 are being classed as non-betatron operators
2 when, in fact, they worked as film readers in
3 the betatron buildings. So we don't believe
4 those criteria are being used in the way that
5 Appendix BB indicates they should be.

6 The other thing I want to mention
7 is that it's pretty clear that a whole bunch
8 of purchase orders from Mallinckrodt and AEC
9 are missing. And that would be particularly
10 for the years 1953 up through 1957, when the
11 old betatron was operating, and when even
12 Mallinckrodt, the original Mallinckrodt
13 Destrehan Matrix, indicates that betatron
14 slices were made and sent over to GSI in 1953.

15 So those purchase orders are
16 missing, and that introduces another
17 uncertainty into the equation.

18 We also note that GSI produced
19 other things for Mallinckrodt than just X-
20 raying uranium. And we have one purchase
21 order, for instance, from Weldon Spring in
22 1962 that specifies piston rods per MCW Sketch

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1 360416.

2 And it mentions the weight and 50-
3 pound material was austenitic manganese steel,
4 et cetera, and patterned per MCW sketch. So
5 GSI was doing other work for Mallinckrodt
6 Downtown and probably for Weldon Spring as
7 well.

8 And then we need to mention that
9 nobody has recovered the large amounts of
10 missing betatron shot records, which is the
11 log sheet of exposures, exposure times tied to
12 particular castings. None of the X-ray film
13 reports that were sent back to Mallinckrodt or
14 the checklists showing that the X-rays were
15 actually taken have been recovered.

16 None of the uranium shipping
17 manifests that would absolutely prove how much
18 uranium was shipped back and forth to
19 Mallinckrodt, none of those have also ever
20 been captured.

21 So that's the dose uncertainty
22 measures that we want to mention. And we are

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1 getting there to the end fortunately.

2 There are a number of still
3 unresolved findings between SC&A, NIOSH, and
4 the Board on GSI technical reports. Appendix
5 BB has 13 SC&A findings, the white paper about
6 seven. And hopefully if the SEC evaluation
7 report is reviewed by SC&A, there will be some
8 additional findings to be resolved.

9 There is an additional matter to be
10 resolved, which is [Identifying information
11 Redacted]'s statement, that film badges were
12 linear to one MeV photon but were not linear
13 for betatron 24/25 MeV photons.

14 And as I will say in a minute, Mr.
15 Neton admits that that needs to be
16 investigated. Dr. Neton, in fact, has pledged
17 to do so.

18 Finally, I'd like to mention that
19 the TBD-6000 Appendix BB Work Group met on
20 November the 10th and certainly discussed many
21 of these documents, not the SEC evaluation
22 report. But obviously there's much more work

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1 that needs to be done on resolving the
2 outstanding issues.

3 On November the 10th, Dr. Neton
4 gave a very useful summary of things that
5 needed to be done to resolve this SEC from
6 NIOSH's point of view. And from the
7 transcript of that work group, I'll mention
8 the following:

9 He said we need to develop dose
10 calculations for the two cobalt-60 and the
11 iridium-1992 gamma sources, the 250 kVp X-ray
12 machine, and that appears on pages 322, 329.

13 He said maybe we need to go back
14 and readdress some of those unmonitored
15 exposures. We haven't done that yet, at least
16 to anybody's satisfaction I can tell so far.
17 So key in on the cobalt-60 and the 250
18 millicurie, at least somehow address the 250
19 kVp and the iridium-192, either using what
20 [Identifying information Redacted] has
21 provided and other information.

22 And then he went on to say that we

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1 need to review the high doses that are in the
2 McKeel/Landauer datasets that apparently NIOSH
3 and SC&A have not identified. One would be a
4 reading from 1969 of an isotope operator at
5 GSI who got 38 rems in one year.

6 We need to, according to Dr. Neton
7 and I agree, we need to determine the
8 implications of workers not always wearing
9 film badges outside of the betatron
10 facilities.

11 And finally Dr. Neton says, and I
12 agree, that we need to resolve issues
13 regarding film sufficiency to accurately
14 capture betatron photon doses.

15 So, therefore, the petitioners
16 request the Board take several actions.

17 One, we ask that the Board task
18 SC&A to review the NIOSH SC&A evaluation
19 report. In the response to the November white
20 paper on page eight, SC&A states, some of
21 these issues are discussed in the SEC Petition
22 Evaluation Report for GSI, and they cite

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1 Buker, et al, 2008, we read but did not
2 formally review this report.

3 Second, we ask that the work group
4 on TBD-6000 complete the NIOSH SC&A dispute
5 resolution process to include Dr. Neton's
6 answers to carry over from that November the
7 10th work group meeting, to bound the doses
8 for the two cobalt-60 and the iridium-192 and
9 250 kVp sources, to establish the film
10 sensitivity as being accurate to betatron high
11 MeV radiation, and to resolve discrepancies
12 between my and the Landauer GSI film badge
13 datasets.

14 Hopefully, the work group will
15 eventually make a recommendation to the full
16 Board. The petitioners strongly believe the
17 correct recommendation will be to overturn
18 NIOSH recommendation to deny SEC 105.

19 We base our belief on the
20 timeliness considerations, on the missing 1953
21 to `63 purchase orders and film badge data, no
22 bioassay or real neutron data, consistency

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1 mandate from the January 2006 SEC Issues Work
2 Group regarding the IAAP radiographers when an
3 SEC was awarded when no nuclear weapons were
4 on site from 1948 in April to March of '49,
5 and the widely discrepant Landauer, NIOSH, and
6 SC&A film badge and computer modeling dose
7 estimates at GSI.

8 And we also point to the large
9 amount of probably difficult to resolve or
10 maybe irresolvable technical issues that came
11 into focus at the November 2008 TBD-6000 Work
12 Group meeting.

13 I thank the Board for listening and
14 I certainly appreciate their time and efforts
15 on this matter.

16 CHAIRMAN ZIEMER: Thank you very
17 much, Dr. McKeel.

18 I want to see if Patricia Coggins
19 is still on the line. Patricia, are you
20 there?

21 Patricia, if you have muted your
22 phone to need to un-mute it. We're not

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1 hearing you if you are responding.

2 DR. McKEEL: Patricia, are you
3 there?

4 MS. COGGINS: Hello?

5 CHAIRMAN ZIEMER: Okay, Patricia,
6 is that you?

7 MS. COGGINS: Yes.

8 CHAIRMAN ZIEMER: Okay. Do you
9 have some additional comments for us this
10 afternoon?

11 MS. COGGINS: I think Dan covered
12 it quite well. Just one thing that I wanted
13 to add, I was reading through some literature
14 that I found online and I came across this
15 draft and it is really ironic that Dr. McKeel
16 was talking about uncertainties.

17 This is the possible implications
18 of draft for the ICRP recommendations, 2005.
19 And it is the Nuclear Energy Agency. But
20 basically it deals with uncertainties and they
21 do have to -- it's on page 13 of the draft --
22 but that they have to be taken into

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1 consideration for the dose models or the
2 management, the assessment, require use of
3 assumptions, this sort of thing.

4 And another question I suppose I
5 have is, is it possible that I could be in the
6 same room and receive the same dose as you but
7 it effect me differently? Is that an
8 uncertainty? You know I wonder about things
9 like this? Is my immune system maybe
10 different than yours? Am I more susceptible
11 due to my DNA?

12 That's why I have problems with the
13 dose reconstruction. It's almost like it is
14 all just black and white. And that we aren't
15 all different.

16 Another part of that draft under
17 the exclusions page is -- it was at B at the
18 bottom. And it says in terms of exclusion of
19 natural sources based on specific activity, it
20 was agreed that it is hard to control the
21 health impact of radionuclides by only
22 considering the specific activity. In

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1 different situations, the same specific
2 activity could lead to very different doses.

3 So these kinds of things when I
4 read it, I just -- you know without proper --
5 without enough data, without correct
6 monitoring, I don't know how they come to this
7 conclusion, you know?

8 So that's just basically all I had
9 to say.

10 CHAIRMAN ZIEMER: Oh, okay. Thank
11 you.

12 MS. COGGINS: Yes.

13 CHAIRMAN ZIEMER: We appreciate
14 your comments as well.

15 Board members, one thing is evident
16 on this particular case, and as you know, we
17 do have a work group that has been dealing
18 with TBD-6000, 6001, which includes -- and
19 Appendix BB, which covers General Steel
20 Industries. And SC&A has been working with us
21 on this.

22 However, we do not have a tasking

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1 for SC&A specifically on reviewing the
2 evaluation report. It would be in order for
3 us to formally task SC&A to do that. And, in
4 fact, is the next logical step in terms of
5 where that work group has to go in order to
6 address many of these issues that have arisen
7 both in terms of the questions the Board has
8 asked of NIOSH and the issues raised by the
9 petitioners.

10 So I would like to entertain a
11 motion to task SC&A to begin the review of the
12 evaluation report. If the Board is in
13 agreement with that, I would entertain such a
14 motion.

15 MEMBER CLAWSON: How about if I
16 second it? You've already --

17 CHAIRMAN ZIEMER: The Chair doesn't
18 make motions.

19 MEMBER CLAWSON: Okay, I'd like to
20 make a motion that we task SC&A to look into
21 this.

22 CHAIRMAN ZIEMER: Okay. The

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1 tasking is to ask SC&A to review the -- or to
2 evaluate the review -- let's get the right
3 words here -- review the review. And they
4 will work with -- they would then work with
5 the work group and the normal process would
6 ensue to resolve this.

7 There are issues on TBD-6000 yet
8 and that matrix has been developed. And there
9 are some open issues on that as well as on the
10 Appendix BB. So this would be an extension
11 really of that work.

12 MEMBER BEACH: I'll second that.

13 CHAIRMAN ZIEMER: And the motion
14 has been seconded.

15 Any discussion on the motion?

16 All in favor just raise your hands
17 quickly.

18 Okay, and Mike, if you're on the
19 phone --

20 MEMBER GIBSON: Yes.

21 CHAIRMAN ZIEMER: -- and Mike votes
22 yes.

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1 The motion carries. And we
2 officially are tasking then SC&A to formally
3 begin that particular part of the process.

4 Also, the -- well, I guess I'll
5 report this later but we do have a proposed
6 date for the next meeting of that group. And
7 I'll talk about that when we report on the
8 work groups later.

9 Any other discussion on this
10 particular item right at the moment before our
11 break? Or questions for either the
12 petitioners or for NIOSH?

13 MS. DONEGAN: Yes, I have a
14 question.

15 CHAIRMAN ZIEMER: Yes, is this
16 Patricia?

17 MS. DONEGAN: No, this is Anita
18 Donegan.

19 CHAIRMAN ZIEMER: Okay, Anita, I'll
20 allow the question although normally this is
21 not the public comment period. But I will
22 allow the question.

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1 MS. DONEGAN: Okay. I had -- I was
2 not initially able to secure my father's
3 medical records before NIOSH did their dose
4 reconstruction. And the Department of Labor
5 reviewed them.

6 And I don't think that they were
7 sufficient. I don't think that their staff or
8 whoever reviewed it, you know, reviewed it
9 correctly.

10 CHAIRMAN ZIEMER: Okay. What I'm
11 going to suggest, if you would --

12 MS. DONEGAN: He worked there for
13 22 years. He's been dead 35 years.

14 CHAIRMAN ZIEMER: Yes. Since this
15 Board cannot deal with individual cases, I'm
16 going to ask that once we take our break here
17 and go offline, that you leave a contact
18 number with our designated federal official so
19 he can get you in touch with the proper person
20 to deal with your particular issue if that is
21 all right.

22 So stay on the line for just a

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1 moment.

2 MS. DONEGAN: All right.

3 CHAIRMAN ZIEMER: And we're going
4 to recess here. We will recess then for 15
5 minutes. And then we need to come back
6 shortly after three. We're scheduled to
7 address the next petition on the Hood
8 Building.

9 (Whereupon, the above-entitled matter went off
10 the record at 2:56 p.m., and resumed at 3:14
11 p.m.)

12 CHAIRMAN ZIEMER: We are ready to
13 resume. We are going to consider now an SEC
14 Petition, an 83.14 Petition, which is
15 designated as the Hood Building. And we'll
16 learn a little bit more about where the Hood
17 Building is.

18 And the presenter on that is Dr.
19 Glover. Sam, welcome back to the podium. And
20 he will present the evaluation report from
21 NIOSH.

22 DR. GLOVER: Thank you, Dr. Ziemer.

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1 Am I close enough to this mic?

2 CHAIRMAN ZIEMER: Yes, get as close
3 as you can.

4 DR. GLOVER: Get as close as I can.
5 It makes it hard because we're trying to look
6 at the report. So we'll do the best we can.

7 This is actually something we
8 started over a year ago. And it was started
9 out as an MIT 83.14. And as we presented
10 that, it was actually pulled back because of
11 the site definition. And we're going to
12 explain the nuances of that.

13 There may be some descriptions and
14 some comments by the Senators from the state.

15 So I hope to provide some response and
16 understanding of why we had to do what we did.

17 So this is an 83.14 petition. It
18 was submitted by an EEOICPA claimant whose
19 dose reconstruction could not be completed by
20 NIOSH due to sufficient dosimetry-related
21 information. The claimant was employed by MIT
22 during the DOE period as a machinist.

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1 I want to provide a little bit of
2 background about MIT because the Hood Building
3 starts in 1946 but it hit the ground running
4 because its activities were transferred from
5 the Massachusetts Institute of Technology.

6 So MIT begins as an AWE with the
7 formation of the Manhattan Engineering
8 District in 1942. They had a diverse mission,
9 including uranium extraction, which began in
10 `42 and expanded in July of `44.

11 The work included melting casting
12 uranium metals, extracting uranium from low-
13 grade ores, and they worked with a wide range
14 of enriched uranium for the production of
15 uranium and uranium alloys.

16 One of the things that they were
17 particularly involved with was beryllium
18 crucible development. And that's where Los
19 Alamos got their crucibles to actually cast
20 the first plutonium materials.

21 That beryllium activity is what
22 drove for the consolidation of all those

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1 activities at MIT to be put offsite in a
2 single facility known as the Hood Building.
3 So they actually were getting beryllium, the
4 first occupational beryllium diseases.

5 So this facility was a four-story
6 facility known as the Hood Building. The AEC
7 purchased a former ice cream plant and
8 warehouse from the Hood Milk Company located
9 at 155 Massachusetts Avenue.

10 Now as we talk about this site
11 description, memos indicated by NIOSH indicate
12 that the earliest the move could have occurred
13 was May 9th, 1946. And so that's why we start
14 this class definition as of May 9th, 1946.

15 And the move was documented to be
16 completed as of August 14th, 1946. All MIT
17 work for the AEC was consolidated into the
18 Hood Building in 1946.

19 So although the Hood Building is
20 included in the DOE facility listing for MIT,
21 the Department of Labor considers this a
22 separate designated facility from 1946 to

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1 1963. And I provided a copy of the description
2 by DOL what the designated facility is.

3 MIT operated that facility from `46
4 to `54 at which time it ceased to operate it
5 and a new company known as Nuclear Metals,
6 Incorporation assumed responsibility for the
7 Hood facility. They left the building in 1958
8 at which point the Hood Building then was
9 demolished in 1963.

10 So as I mentioned, the actual
11 facility description, a facility is actually a
12 physical entity so in this case, the Hood
13 Building is not part of MIT.

14 The original SEC we were going to
15 put forward was based on MIT. And so,
16 therefore, it mixed two separate facilities.
17 We had to pull that back.

18 We followed up with multiple
19 organizations to get better documentation to
20 understand this transformation and how
21 different things occurred for the record, the
22 information.

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1 We conducted interviews with 16
2 former workers of the Hood facility with
3 employment starting all the way back to 1947.

4 And they were -- their patience -- they were
5 just outstanding in giving us information and
6 being willing to show us and take time, really
7 just amazing for them to show up.

8 We conducted certainly a lot of
9 additional data captures, making sure we
10 understood as best as we possibly could all of
11 the activities that occurred in the Hood
12 facility. This has really provided only -- I
13 don't certainly expect you to read this. It's
14 in the packet. It also describes the website
15 where you can read the facility as it exists
16 now. There are still some things that need to
17 be resolved and we'll talk about those.

18 So as we talk about the Hood
19 facility, diverse activities occurred. They
20 dealt with metallurgical work involving
21 uranium, uranium alloys, as well as thorium.
22 They extruded uranium, highly enriched uranium

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1 as well. They worked with thorium powder and
2 alloy preparations.

3 They did enriched uranium work,
4 again including highly enriched uranium. They
5 conducted research on a wide range of tracers
6 and radioactive materials, looking at
7 activation of fission products and organic
8 properties, a variety of standard research-
9 type activities -- that main radiological --
10 that big metallurgical research in thorium and
11 highly enriched uranium, however, is the main
12 concern.

13 As we talk about this -- that class
14 definition, if you go to the cases we have
15 now, there are currently no cases listed as
16 the Hood Building. It is something that has
17 to be developed -- the Department of Labor has
18 to put people in a particular facility.

19 Right now they are either listed as
20 MIT from `46 to `54 or Nuclear Metals, Inc.,
21 from `54 to `58, at which time they occupied
22 the Hood facility. So these are things the

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1 Department of Labor will have to work out as
2 we go forward with this class.

3 So they need to review the MIT and
4 the NMI cases to determine their eligibility
5 in the Hood Building. Currently MIT also does
6 not have a residual contamination period so
7 that's something -- that is an action that is
8 going to be in our shop for dealing with the
9 MIT period. So those activities that occurred
10 in a separate facility, not part of this Hood
11 Building description, but as part of the MIT
12 description.

13 There is also a separate facility
14 known as the 224 Albany Street. And it was
15 basically an outgrowth.

16 When the business was going so
17 well, about a quarter mile down the road, they
18 rented a facility. That also needs to be
19 vetted by the Department of Labor whether
20 that's part of the Hood Building or whether it
21 is a separate entity.

22 But the activities were similar,

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1 were part of the Hood Building. The
2 operations would be like Los Alamos renting a
3 facility offsite.

4 So information related to the
5 radiation exposures during the DOE period --
6 so we have operations involving uranium ore,
7 metals, enriched uranium, and thorium. We
8 feel there is insufficient information to
9 determine the source term or complete range of
10 chemical forms of these materials.

11 External sources of radiation
12 include beta and photon sources primarily from
13 uranium and thorium progeny and from X-ray
14 radiographing testing. Many operations and
15 sources of internal and external dose existed
16 throughout the Hood facility -- Hood Building
17 I should say.

18 So available information for dose
19 reconstruction, we have limited documentation
20 on job titles or assignments. We do have some
21 documented radionuclides, including uranium,
22 natural and highly enriched, thorium in a

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1 variety of chemical forms and for many
2 different activities, as well as other fission
3 products.

4 So internal monitoring data, some
5 claims had uranium urinalysis for natural
6 uranium but these were very limited and only
7 for a few years. We found a few results of
8 uranium by activity in 1957 and 1958. And
9 these ranged up to 200 dpm. This would have
10 been associated with highly enriched uranium
11 results. So they clearly were having some
12 fairly high exposures.

13 No thorium or fission product
14 bioassay monitoring is available.

15 External monitoring data, based on
16 interviews, essentially everyone at the
17 facility was issued a badge. However, we've
18 only received results -- some results from
19 1947 and 1951 through '58. These are very
20 limited. We certainly do not have all of the
21 data.

22 So feasibility of internal dose

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1 reconstruction. NIOSH has obtained uranium
2 bioassay and breathing zone samples for a
3 handful of workers in the Hood Building during
4 a few years. Doses from highly enriched
5 uranium and thorium operations cannot be
6 reconstructed with sufficient accuracy. Based
7 on that, health endangerment determination is
8 required.

9 So summarizing, we feel that using
10 existing methods, that natural could be
11 evaluated for internal dosimetry but not
12 enriched uranium or thorium. For external, we
13 don't have all the data but we would certainly
14 use whatever data is available. In medical X-
15 rays, we would use our standard approaches.

16 So for health endangerment, the
17 evidence reviewed in this evaluation indicates
18 that some workers in the class may have
19 accumulated chronic radiation exposures
20 through intakes of radionuclides and direct
21 exposure to radioactive materials.

22 Consequently, NIOSH is specifying

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1 that health may have been endangered for those
2 workers covered by this evaluation who were
3 employed for a number of work days aggregating
4 at least 250 work days within the parameters
5 established for this class or in combination
6 with work days within the parameters
7 established for one or more other classes of
8 employees in the SEC.

9 So dose reconstruction for the Hood
10 Building, given the lack of complete personal
11 external monitoring records, workplace
12 monitoring records, and incomplete source-term
13 information, it is not feasible to completely
14 reconstruct all external or internal doses.

15 For non-presumptive cancer claims,
16 NIOSH will use individual external and
17 internal monitoring data that are available to
18 complete dose reconstructions. NIOSH will
19 also reconstruct internal dose for natural
20 uranium metal handling operations using
21 existing methods such as TBD-6000.

22 NIOSH will reconstruct medical

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1 doses using the complex-wide TBD for
2 Occupationally Related Diagnostic X-rays,
3 which you guys are very familiar with.

4 So our recommendation for the
5 period May 9th, 1946 through December 31st,
6 1963, NIOSH finds that radiation dose cannot
7 be reconstructed with sufficient accuracy,
8 feasibility, no, and we believe there is a
9 health endangerment.

10 Our proposed class includes all
11 employees of the DOE, its predecessor
12 agencies, and their contractors and
13 subcontractors who worked in the Hood Building
14 in Cambridge, Massachusetts, from May 9th,
15 1946 through December 31st, 1963 -- I think we
16 read this. I won't read that all the way
17 through.

18 I'll take any questions.

19 CHAIRMAN ZIEMER: Thank you very
20 much, Sam.

21 This is another one where there
22 appears to be a gap between the designated

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1 years -- I guess it's DOL-designated years or
2 DOE, whichever. And the years covered by the
3 petition, that is the petition goes to `63 but
4 the facility -- let's see, looking at your
5 description, I think it went to `68, was it?

6 DR. GLOVER: It was destroyed in
7 `63. It was demolished.

8 CHAIRMAN ZIEMER: Oh, it was
9 demolished in `63.

10 DR. GLOVER: Yes, sir.

11 CHAIRMAN ZIEMER: I guess I read
12 this wrong.

13 DR. GLOVER: So for the entire
14 period of -- the Department of Labor has
15 established the Hood facility --

16 CHAIRMAN ZIEMER: Okay. So they do
17 coincide. I guess I read that wrong.

18 Okay, thank you.

19 Wanda Munn?

20 MEMBER MUNN: Do we have any idea
21 who was responsible for all those badges? Was
22 it a part of the MIT operation? I think it is

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1 a shame they all just disappeared into the
2 dust somewhere. But I'm wondering who was
3 responsible for them originally. Do we even
4 know?

5 DR. GLOVER: Through the worker
6 interviews, I believe we do know. I believe
7 that was Landauer. MIT, they are looking at
8 some of their records to try to reconstruct
9 that.

10 During our worker interviews, they
11 actually, unbelievably remembered the task
12 number that was associated with this -- the
13 guys from 1947 remembered this. And so using
14 that information, that's how MIT ties their
15 dosimetry records with what task you were
16 working on. And so they are looking at those
17 to make sure that we use as much available
18 information as we can.

19 MEMBER MUNN: It's a shame they're
20 not there. Thank you.

21 CHAIRMAN ZIEMER: Sam, I now see
22 where -- what gap I was looking at. You have

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1 the MIT designation for the period `46 to `54.

2 You have the NMI designation from `54 to `58.

3 Okay.

4 Now I'm really asking about what is
5 the status after `58 up to `63. Did somebody
6 else operate that or own that building?

7 DR. GLOVER: To the best of our
8 knowledge, it was unoccupied.

9 CHAIRMAN ZIEMER: Unoccupied.

10 DR. GLOVER: But that is to the
11 best -- we certainly have not been able to
12 verify that. That was from a news clipping.

13 CHAIRMAN ZIEMER: Okay.

14 Okay, Jim, you have a comment?

15 MEMBER MELIUS: The other gap would
16 be the years prior to 1946?

17 DR. GLOVER: The Hood Building was
18 not being used. But there was activity at MIT
19 and I believe that is what was covered in the
20 original evaluation report.

21 MEMBER MUNN: I don't think I've
22 heard a complete explanation for what's going

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1 on there -- sort of what's happened to the MIT
2 years.

3 DR. GLOVER: It would, of course,
4 have to be a separate SEC evaluation. We
5 would have to have a separate class definition
6 because it is a separate facility. So by law,
7 I can't -- because they're separate.

8 However we have no claims at MIT.
9 And so it would create a situation where I
10 create an SEC -- or not -- that we recommend
11 an SEC for a facility with no claims.

12 MR. RUTHERFORD: One minor
13 clarification.

14 CHAIRMAN ZIEMER: Hold off a
15 second, they're having trouble hearing on the
16 phone.

17 MR. KATZ: Could you please just
18 try to speak a little closer to the mic if
19 possible?

20 MR. RUTHERFORD: One minor
21 clarification is it is not that we don't have
22 any claims. We don't have any claims with a

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1 presumptive cancer at this time. However, we
2 are reviewing additional things with those
3 claims as well to see if things like -- that
4 happened -- that occurred with Tyson Valley
5 may occur at this facility as well.

6 But we are looking at that. And --
7 but as Sam mentioned, we have no claims of
8 presumptive cancers.

9 CHAIRMAN ZIEMER: Ask if everyone
10 on the phone is having trouble.

11 MR. KATZ: Is everyone on the phone
12 having difficulty hearing?

13 This is not Blockson. It's the
14 Hood Building.

15 CHAIRMAN ZIEMER: MIT.

16 MR. KATZ: MIT.

17 CHAIRMAN ZIEMER: Yes, Blockson is
18 at four o'clock local time here, which would
19 be six o'clock East Coast time and five
20 Central.

21 Okay, go ahead.

22 MEMBER MELIUS: Just a related

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1 question. The other facility that was used,
2 what is the status of that in terms of its
3 designation?

4 DR. GLOVER: We're going to provide
5 all the information that we have to the
6 Department of Labor who can choose to include
7 that under the Hood facility description. But
8 it will be based on their determination.

9 Right now though it is a separate
10 entity. It is separate from the actual
11 facility. So at this time, it's not part of
12 this designation.

13 MEMBER MELIUS: Can I just ask
14 procedurally what -- how this works in terms
15 of the SEC recommendation that we make?

16 CHAIRMAN ZIEMER: Well, are you
17 asking -- on this petition if we, for example
18 --

19 MEMBER MELIUS: Are you -- the way
20 I just heard it described, it sounded as if
21 this petition would then somehow encompass
22 that other area. Or would we need a new

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1 petition?

2 CHAIRMAN ZIEMER: It would not
3 encompass the other campus area, right Sam?

4 MEMBER MELIUS: No, I'm talking
5 about the neighboring building, not the MIT.

6 DR. GLOVER: Right.

7 CHAIRMAN ZIEMER: Oh, the
8 neighboring, oh.

9 DR. NETON: I think I can answer
10 that question. The Hood Building, as it
11 currently stands is a single stand-alone
12 facility but there is this other facility --
13 the Albany Street facility or whatever it is
14 called -- currently that has no status at all
15 as an AWE.

16 If the Department of Labor added as
17 part of the Hood Building as a covered
18 facility, it would just be subsumed into that
19 facility definition.

20 MEMBER MELIUS: Yes, but --

21 DR. NETON: It would not require
22 another SEC Petition. It would be -- that's

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1 the facility.

2 MEMBER MELIUS: Yes, but our
3 definition is the Hood Building.

4 DR. NETON: Right. The Hood -- it
5 would probably stay the Hood Building and
6 other -- much like what happened at Chapman
7 Valve. Chapman Value now includes that other
8 -- remember that other -- the Dean Street
9 facility was added. And they didn't change
10 the Chapman Valve designation. They just
11 added Dean Street to the Chapman Valve
12 coverage.

13 MEMBER MELIUS: Yes, but what
14 happens to what we're approving as an SEC?
15 The class definition that we're basically
16 approving, would that automatically encompass
17 something that's -- this refers to the Hood
18 Building. It wouldn't refer to the --
19 necessarily to the neighboring building. I
20 mean this is sort of an odd --

21 DR. NETON: Well --

22 MEMBER MELIUS: -- I understand why

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1 you did it but --

2 DR. NETON: -- well, what's odder
3 is currently there are no covered cases --
4 covered claims under this definition.

5 MEMBER MELIUS: Well, that was one
6 of my other questions.

7 DR. NETON: That's a different
8 issue. But, you know, you raise a good
9 question. I'm not certain because we went
10 through the Dean Street facility at Chapman
11 and we went to great pains to determine was
12 there really covered exposure at that
13 additional portion. But --

14 MEMBER MELIUS: I'm just worried
15 about our recommendation then getting --

16 DR. NETON: Well, I suspect if the
17 recommendation covered the Hood Building and
18 the address was provided, then it would be
19 okay. I don't know. I guess I really can't
20 answer what happens if the Albany facility was
21 added then.

22 CHAIRMAN ZIEMER: Well, let me

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1 raise a related question. In principle, we
2 don't know what went on at the other building.

3 We don't know, for example, if you could, in
4 fact, construct doses there. Perhaps you
5 would find out you had good information. I'm
6 just hypothesizing.

7 But we don't know the status of the
8 workers in the other building so to
9 automatically add it just because it is an
10 expansion of this program seems to me to have
11 some pitfalls.

12 DR. NETON: I agree, yes.

13 MEMBER MELIUS: I mean not only
14 what you say but we really, as a Board, we
15 have not considered that building. It would
16 be one thing if we had the information and DOL
17 was just -

18 CHAIRMAN ZIEMER: Right.

19 MEMBER MELIUS: -- had to make a
20 decision --

21 CHAIRMAN ZIEMER: Well, that's
22 basically the point I was making.

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1 MEMBER MELIUS: Yes, yes, right,
2 right.

3 DR. GLOVER: You raise a good
4 point.

5 MEMBER MELIUS: And then the other
6 question I have, while you're -- don't go
7 away, Jim.

8 DR. NETON: Don't go away?

9 (Laughter.)

10 MEMBER MELIUS: He is anyway.

11 DR. GLOVER: I would briefly speak
12 to that if you'd like. The 224, we did
13 discuss some of it in the report. We did
14 research that. They did use radioactive
15 materials. And people were transient back and
16 forth. It was the overflow facility.

17 They were doing similar works,
18 including extruding uranium at that facility.

19 They were storing uranium rods and all the
20 material. And I understand it is a
21 complexity. And I didn't know how else to
22 address it.

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1 MEMBER MELIUS: Well, I think you
2 just helped a lot. Because I think we just
3 need to make sure we have on the record some
4 consideration of that and some information on
5 that particular building.

6 CHAIRMAN ZIEMER: Right. So
7 everything you said about the, quote, Hood
8 Building, actually applied to both is what
9 you're telling us.

10 DR. GLOVER: Yes, sir.

11 CHAIRMAN ZIEMER: That's an
12 important point.

13 MEMBER MELIUS: Yes. Can I ask a
14 follow-up question? It was why are we
15 considering this when we don't have a case? I
16 mean --

17 DR. GLOVER: Those individuals did
18 work -- I mean I can't say they -- the DOL
19 puts people in places.

20 MEMBER MELIUS: Okay, okay.

21 DR. GLOVER: But they were clearly
22 Hood facility workers.

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1 DR. NETON: Yes. This is just
2 clearly an artifact of the way this situation
3 evolved.

4 MEMBER MELIUS: Okay. Okay. But
5 you just sounded more doubtful than skeptical.
6 It was like well, we don't have any.

7 CHAIRMAN ZIEMER: Wanda Munn?

8 MEMBER MUNN: And isn't the concern
9 with the other building -- isn't the concern
10 with the other building the Department of
11 Labor's concern not ours?

12 CHAIRMAN ZIEMER: Well, it is. The
13 point I was trying to make is if that building
14 were tacked on after the fact and we had not
15 evaluated -- and Sam has assured me now that
16 we have -- but had we not evaluated what went
17 on there, it would be a little awkward to say
18 that we had properly addressed our
19 responsibility to assure that whatever work
20 went on there was eligible for the SEC. That
21 was the only point I was making.

22 MEMBER MUNN: Well, it just seems

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1 to me that the whole issue is the Department
2 of Labor's issue and not really one for us.

3 CHAIRMAN ZIEMER: Well, I think at
4 this point, it is, yes.

5 Other comments or questions?

6 Thank you, Sam.

7 I don't think we have a petitioner
8 for this but we do have a comment, I believe,
9 from Sharon Block of -- oh, Jason, you're
10 going to read a letter first. And then we'll
11 hear from Sharon. Thank you.

12 MR. BROEHM: Yes, Sharon asked me
13 to read this letter from Senators Edward
14 Kennedy and John Kerry from Massachusetts.
15 It's actually written to Dr. Christine Branche
16 as Acting Director of NIOSH but we'd like to
17 read it into the record here to get the issues
18 on the record:

19 Dear Dr. Branche:

20 We're writing to bring your
21 attention to a Special Exposure Cohort
22 Petition filed on behalf of former employees

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1 of the Massachusetts Institute of Technology
2 of Cambridge, Massachusetts, pursuant to the
3 Energy Employees Occupational Illness
4 Compensation Program Act.

5 MIT was involved in radiological
6 operations from the 1940's through the 1960's
7 in a number of different capacities. During
8 this time, its employees were exposed to
9 radiation materials in their work.

10 On February 4, NIOSH issued an SEC
11 Petition Evaluation Report on the MIT SEC
12 Petition. The report recommends approving the
13 addition to the Special Exposure Cohort of all
14 the MIT employees who worked at the Hood
15 Building, 155 Massachusetts Avenue, from May
16 9, 1946 through December 31, 1963. The report
17 will be presented to the Advisory Board on
18 Radiation Worker Health at the Board's
19 February 18, 2009 meeting.

20 We support the recommendation by
21 NIOSH to add the workers to the cohort, but we
22 are concerned that the scope of NIOSH's

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1 recommendation is too narrow and leaves out
2 workers who deserve to be included. Our
3 concern relates to both the time period and
4 locations covered. Specifically, NIOSH's
5 recommendation does not include MIT employees
6 who performed uranium extraction studies from
7 1942 to 1946 or who conducted research and
8 testing on processes for melting and casting
9 uranium metal from 1944 to 1946. In addition,
10 NIOSH's recommendation does not include
11 workers at the facility located at 224 Albany
12 Street, adjacent to the Hood Building. The
13 NIOSH report confirms that there were
14 radiological activities during the 1942 to
15 1946 time period and at the 224 Albany Street
16 facility, but it gives no explanation why
17 workers employed during this time or at this
18 location were excluded from the
19 recommendation.

20 When Congress enacted EEOICPA, it
21 was our intent to compensate sick workers for
22 their extraordinary sacrifice to the nation's

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1 nuclear weapons program. The Act's goals can
2 be met only if SEC Petitions are processed
3 fairly and expeditiously. Narrowly construing
4 the class of workers covered by the Cohort
5 does not accomplish this goal. Consequently,
6 we would appreciate an explanation of the
7 decision by NIOSH to exclude employees who
8 worked during the 1942-1946 time period or at
9 the 224 Albany Street location from its
10 definition of the scope of the MIT Special
11 Exposure Cohort Petition.

12 Thank you for your consideration of
13 this issue. If you have any questions or
14 additional information to provide, please
15 contact Sharon Block in Senator Kennedy's
16 office at 202-224-5441.

17 With respect and appreciation,

18 Sincerely,

19 Edward M. Kennedy and John Kerry

20 CHAIRMAN ZIEMER: Thank you, Jason.

21 And am I correct in assuming that Dr. Branche
22 or her staff will be replying to that letter

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1 since it's not really directed to the Board
2 per se? Is that correct?

3 Thank you.

4 Then we'll hear from Sharon Block,
5 who is on Senator Kennedy's staff. Sharon,
6 are you one the line?

7 MS. BLOCK: I am, yes.

8 CHAIRMAN ZIEMER: Thank you.
9 Please proceed.

10 MS. BLOCK: Thank you. And, you
11 know, I think the letter, you know, basically
12 expresses Senator Kennedy's and Senator
13 Kerry's concerns. And, you know, I want to
14 thank the Board for looking into these issues.

15 And, you know, Senator Kennedy's
16 concern always is that the process is made as
17 easy and expeditious as possible for his
18 constituents and for all the former energy
19 workers.

20 And so we just appreciate the
21 Board's consideration of this petition in a
22 way that won't require other workers to have

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1 to come back and file separate petitions or
2 start this process over again. And just to be
3 sure that this one is proceeding in a way that
4 covers, you know, as many workers as are
5 eligible and deserve to be covered.

6 So anyway, we appreciate your time
7 and attention to this. And look forward to
8 getting Dr. Branche's answer to the letter.

9 CHAIRMAN ZIEMER: Okay. Thank you
10 very much for that input as well.

11 The Chair is trying to determine
12 what we can use. We want to keep the Blockson
13 discussion at a time certain at four o'clock.

14 We do have --

15 MEMBER MELIUS: We need to finish
16 this up.

17 CHAIRMAN ZIEMER: Oh, we need to
18 finish this, yes. I'm -- we're so streamlined
19 that I thought we had already done what we're
20 thinking about doing.

21 MEMBER MELIUS: I had that quick
22 nap.

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1 CHAIRMAN ZIEMER: Right, okay.

2 Well, the Chair will allow us to
3 finish, I think, in all good conscience, it
4 would be good.

5 MEMBER MELIUS: That will keep us
6 alert if we could just move things around
7 enough.

8 CHAIRMAN ZIEMER: Okay. Well, this
9 time of day, you know, it's six o'clock in
10 Lafayette so that's my excuse and I'm sticking
11 to it.

12 (Laughter.)

13 Okay. Here we go. Further
14 discussion on the Hood Building SEC -- Brad
15 Clawson?

16 MEMBER CLAWSON: I'm just
17 questioning what was going on from '42 to '46?
18 What -- was that building in the process or
19 what?

20 CHAIRMAN ZIEMER: Sam, can you
21 answer that question?

22 DR. GLOVER: Yes, the Hood facility

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1 did not become part of the process until 1946.

2 CHAIRMAN ZIEMER: Sam, hold on just
3 a minute. We got some talking on the line.
4 If you're on the phone line, would you please
5 mute your phones? Thank you.

6 Sam?

7 DR. GLOVER: So the Hood facility
8 was basically a milk company, which the AEC
9 purchased. So it had not activities nuclear
10 related to this AEC stuff until 1946. All the
11 work, it was done at the MIT campus. And then
12 it was shifted to the Hood Building as of May
13 9th, 1946.

14 MEMBER CLAWSON: Okay. So we're
15 separating out just the Hood Building. I
16 guess I wanted to make sure - how are we not
17 missing the work that was done at MIT? I
18 guess the campus -- I realize there's no
19 petitions or whatever but so that we don't
20 have to revisit this.

21 DR. GLOVER: Unfortunately because
22 one is an atomic weapons employer, the other

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1 is a -- it is a separate -- truly a separate
2 facility and designation. I don't think they
3 can be encompassed with one another.

4 MEMBER CLAWSON: Okay.

5 CHAIRMAN ZIEMER: So the work they
6 did there at MIT specifically would have to be
7 handled in a separate petition, for example.

8 MEMBER BEACH: Okay. The only
9 other question I have on the dates as well is
10 with the Albany Street building. The
11 petitioner or this letter states it was from
12 1942 to 1946. And if we write our
13 recommendation for later years, how would
14 those earlier years be covered?

15 DR. GLOVER: That was -- that's the
16 MIT campus itself, not the 224 Albany Street.

17 MEMBER BEACH: Okay, I was thinking
18 --

19 DR. GLOVER: 224 Albany Street
20 would have occurred during the Hood Building
21 time frame.

22 MEMBER BEACH: Okay, okay. Thank

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1 you. So it's fine.

2 CHAIRMAN ZIEMER: Jim, you have an
3 additional question?

4 MEMBER MELIUS: No. Brad --

5 CHAIRMAN ZIEMER: Okay, we're good.

6 MEMBER MELIUS: -- stole my
7 question.

8 CHAIRMAN ZIEMER: Okay. Other
9 comments?

10 PARTICIPANT: I have a question.

11 MR. KATZ: On the phone, this is
12 Board deliberation.

13 CHAIRMAN ZIEMER: Okay. If there
14 are no more questions on this one, it would be
15 in order to have an appropriate motion.

16 MEMBER PRESLEY: So moved if Jim's
17 got one ready to go.

18 CHAIRMAN ZIEMER: Okay, Mr. Presley
19 is moving. And is there a second?

20 MEMBER SCHOFIELD: Second.

21 CHAIRMAN ZIEMER: Okay. Phil has
22 seconded the motion to recommend approval of

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1 this -- or recommends that we approve -- I
2 don't want to use the word approve -- the
3 motion is to recommend to the Secretary that
4 there be this class added to the SEC. It has
5 been seconded.

6 And, Mr., Dr. Melius -- Mr.
7 Professor Dr. Melius, do you have an
8 appropriately worded statement that we will
9 use?

10 MEMBER MELIUS: And I would hope
11 that Mr. Presley would consider it to be a
12 friendly statement.

13 MEMBER PRESLEY: Always.

14 MEMBER MELIUS: The Board
15 recommends the following letter be transmitted
16 to the Secretary of Health and Human Services
17 within 21 days. Should the Chair become aware
18 of any issue that in his judgment would
19 preclude the transmittal of this letter within
20 that time period, the Board requests that he
21 promptly informs the Board of the delay and
22 the reasons for this delay, and that he

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1 immediately works with NIOSH to schedule an
2 emergency meeting of the Board to discuss this
3 issue.

4 The Advisory Board on Radiation and
5 Worker Health, the Board, has evaluated SEC
6 Petition 00101 concerning workers at the Hood
7 Building in Cambridge, Massachusetts under the
8 statutory requirements established by EEOICPA
9 and incorporated into 42 CFR Section 83.13 and
10 42 CFR Section 83.14. The Board respectfully
11 recommends Special Exposure Cohort status be
12 accorded to all employees of the Department of
13 Energy, its predecessor agencies, and their
14 contractors and subcontractors who worked at
15 the Hood Building, Cambridge, Massachusetts
16 from May 9th, 1946 through December 31st,
17 1963, for a number of work days aggregating at
18 least 250 works days occurring either solely
19 under this employment or in combination with
20 work days within the parameters established
21 for one or more other classes of employees in
22 the SEC.

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1 The Board notes that although NIOSH
2 found that they were unable to completely
3 reconstruct radiation doses for these
4 employees, they believe that they are able to
5 reconstruct portions of the external and
6 internal doses for some workers.

7 This recommendation is based on the
8 following factors:

9 1. The Hood Building was involved
10 in a variety of operations related to atomic
11 weapons development and production.

12 2. NIOSH was unable to locate
13 sufficient monitoring data or source-term
14 information at this site in order to be able
15 to complete accurate individual dose
16 reconstructions for the potential internal and
17 external radiation exposures to which these
18 workers may have been subjected. The Board
19 concurs with this conclusion.

20 3. NIOSH determined that health
21 may have been endangered for the workers
22 exposed to radiation at this facility during

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

3 Based on these considerations and
4 the discussions held at our February 18th
5 Advisory Board meeting in Albuquerque, New
6 Mexico, the Board recommends that this Special
7 Exposure Cohort petition be granted.

8 Enclosed is the documentation from
9 the Board meeting where this Special Exposure
10 Cohort class was discussed. The documentation
11 includes transcripts of the deliberations,
12 copies of the petition, the NIOSH review
13 thereof, and related documents distributed by
14 NIOSH. If any of these items are unavailable
15 at this time, they will follow shortly.

16 CHAIRMAN ZIEMER: Okay. You've
17 heard the motion as seconded. Are you ready
18 to vote? Any further discussion?

19 Bradley?

20 MEMBER CLAWSON: I just want to
21 make sure, especially with this letter here,
22 that I guess we help Dr. Branche out or NIOSH

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1 does, that the people understand why we have
2 to divide this like this, especially them
3 calling out the years because it was kind of
4 confusing to me and until Sam explained it to
5 us, it was totally separate -- the years, the
6 MIT era of it, that this be taken care of.

7 I just want to make sure that they
8 understand the legalities of why we did what
9 we did. I just --

10 CHAIRMAN ZIEMER: Certainly that
11 will be in the transcripts. I would be
12 reluctant to discuss that in the letter
13 because that would probably confuse --

14 MEMBER CLAWSON: Right. I just
15 want to make sure --

16 CHAIRMAN ZIEMER: Right.

17 MEMBER CLAWSON: -- that as they
18 respond to this letter --

19 CHAIRMAN ZIEMER: Right. Right.
20 And Christine, I think, will make that clear
21 in her letter. And those who are advising her
22 will make sure that that is the case.

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1 MEMBER MELIUS: Can I just --

2 CHAIRMAN ZIEMER: Yes.

3 MEMBER MELIUS: I would also, after
4 we've dealt with this particular motion, I
5 would like to offer possibly a motion but
6 certainly some discussion of a way of dealing
7 with the Albany Street facility so that we
8 can, you know, be efficient in terms of how we
9 deal with that depending on what Department of
10 Labor does and so forth.

11 CHAIRMAN ZIEMER: Right.

12 MEMBER MELIUS: But let's -- I
13 think we need to do that after we've dealt
14 with this.

15 CHAIRMAN ZIEMER: And before we
16 vote -- and I want to follow that up with one
17 comment. If we're able to, we still would
18 like to get hard copies of the motions for the
19 Board members for tomorrow.

20 MEMBER MELIUS: Yes.

21 CHAIRMAN ZIEMER: And particularly
22 for the staff people, I want to make sure Jeff

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1 sees those.

2 MEMBER MELIUS: Yes.

3 CHAIRMAN ZIEMER: And if we need
4 some alternate wording that would allow the
5 other building once the determination is made
6 to be tacked on readily, if we need to say
7 anything, we need to catch that early.

8 MEMBER MELIUS: Yes.

9 CHAIRMAN ZIEMER: I mean the intent
10 is there.

11 MEMBER MELIUS: Yes, two things.
12 One is as soon as we finish this, I will give
13 Nancy the letters so we can get them printed
14 off and so forth for that. We're just waiting
15 until we got the third letter done.

16 Secondly, actually what I was going
17 to propose was that we, you know, designate
18 you, Dr. Ziemer, to, you know, depending on
19 the timing of when this happens and what the
20 ruling is, see I don't think we can add the
21 Albany Street facility until DOL has made a
22 determination.

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1 CHAIRMAN ZIEMER: Right.

2 MEMBER MELIUS: So we can't include
3 it in the letter. But if something needs to
4 be modified to do that and it can be done
5 easily, you know, then I think we can
6 designate --

7 CHAIRMAN ZIEMER: Well, that's why
8 I want to -- I would like to make sure that
9 if Labor thinks, for example, it would be
10 helpful to say something like the Hood
11 Building and its associated facilities or
12 something like that --

13 MEMBER MELIUS: Right.

14 CHAIRMAN ZIEMER: -- we could do
15 that easily. We obviously don't want to name
16 a building that is not yet part of the
17 consideration. So in any event --

18 MEMBER MELIUS: Can I just say that
19 what I was going to do was offer a motion --

20 CHAIRMAN ZIEMER: Okay.

21 MEMBER MELIUS: -- to the effect
22 that that is the understanding of the Board.

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1 That should these facilities be included in
2 the definition, that then, you know, we would
3 consider them as part of this SEC.

4 CHAIRMAN ZIEMER: I think we will
5 formalize that so it is in the record. So
6 we'll do that as soon as we vote. Let's have
7 a roll call vote on this one.

8 MR. KATZ: Ms. Beach?

9 MEMBER BEACH: Yes.

10 MR. KATZ: Mr. Clawson?

11 MEMBER CLAWSON: Yes.

12 MR. KATZ: Mr. Gibson?

13 (No verbal response.)

14 MR. KATZ: That's a yes.

15 Mr. Griffon?

16 MEMBER GRIFFON: Yes.

17 MR. KATZ: Dr. Lockey?

18 MEMBER LOCKEY: Yes.

19 MR. KATZ: Dr. Melius?

20 MEMBER MELIUS: Yes.

21 MR. KATZ: Ms. Munn?

22 MEMBER MUNN: Yes.

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1 MR. KATZ: Dr. Poston?

2 MEMBER POSTON: Yes.

3 MR. KATZ: Mr. Presley?

4 MEMBER PRESLEY: Yes.

5 MR. KATZ: Dr. Roessler?

6 MEMBER ROESSLER: Yes.

7 MR. KATZ: Mr. Schofield?

8 MEMBER SCHOFIELD: Yes.

9 MR. KATZ: Dr. Ziemer?

10 CHAIRMAN ZIEMER: Yes.

11 The motion carries, 12 for, none
12 against, and no abstentions.

13 Now the Chair recognizes Dr.
14 Melius.

15 MEMBER MELIUS: I would like to
16 offer a motion that the Board go on record
17 that in our review of this, that should the
18 Albany Street -- 224 Albany Street facility be
19 included in the site designation for
20 definition for the Hood Building site, that it
21 would be, you know, the determination of this
22 Board that the Special Exposure Cohort

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1 provision should also apply to work in that
2 facility.

3 CHAIRMAN ZIEMER: Okay.

4 Is there a second?

5 MEMBER CLAWSON: I second it.

6 CHAIRMAN ZIEMER: Okay.

7 Any discussion?

8 And this would appear in the
9 transcript as a supporting document so that if
10 there was a need to change that designation --
11 remember the final designation really gets
12 made by the Secretary.

13 MEMBER MELIUS: Right.

14 CHAIRMAN ZIEMER: It's not by us
15 and it's not by NIOSH. We are both advising
16 the Secretary. We don't make the
17 determination. The Secretary will.

18 And perhaps by the time that gets
19 through the chain of things, that final
20 decision will have been made on the auxiliary
21 building.

22 So are you ready to vote? I don't

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1 think -- well, just for the record, let's do a
2 roll call again on this since it could effect
3 what's in the SEC.

4 MR. KATZ: Sure.

5 Ms. Beach?

6 MEMBER BEACH: Yes.

7 MR. KATZ: Mr. Clawson?

8 MEMBER CLAWSON: Yes.

9 MR. KATZ: Mr. Gibson?

10 MEMBER GIBSON: Yes.

11 MR. KATZ: Mr. Griffon?

12 MEMBER GRIFFON: Yes.

13 MR. KATZ: Dr. Lockey?

14 MEMBER LOCKEY: Yes.

15 MR. KATZ: Dr. Melius?

16 MEMBER MELIUS: Yes.

17 MR. KATZ: Ms. Munn?

18 MEMBER MUNN: Aye.

19 MR. KATZ: Dr. Poston?

20 MEMBER POSTON: Yes.

21 MR. KATZ: Mr. Presley?

22 MEMBER PRESLEY: Yes.

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1 MR. KATZ: Dr. Roessler?

2 MEMBER ROESSLER: Yes.

3 MR. KATZ: Mr. Schofield?

4 MEMBER SCHOFIELD: Yes.

5 MR. KATZ: Dr. Ziemer?

6 CHAIRMAN ZIEMER: Yes.

7 The motion carries. Thank you very
8 much.

9 We are pretty much on schedule here
10 now. And we are ready to move to a report on
11 Blockson Chemical SEC. At the moment, the
12 status of this is that there actually is a
13 motion that has been tabled over the last
14 couple of meetings.

15 But the work group has gone back
16 and done some additional things. So we'll
17 hear from Wanda Munn, the Chair of the work
18 group. And also, I believe we have some of
19 the petitioners who may wish to comment by
20 phone on this as well.

21 Ms. Munn, I believe, has a more
22 formal presentation here. So she'll approach

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1 the podium and we have some visuals to assist.

2 MEMBER MUNN: The first dozen of
3 these slides will be absolutely nothing new.
4 Everyone on this Board has had them forwarded
5 to you. You've seen the first 12 of them at a
6 prior meeting. We're going through them
7 primarily to make sure that the record, again,
8 reports the early activities of this group and
9 what the group is consisting of.

10 The first thing I have to do is
11 decide how to get down to the next slide.

12 CHAIRMAN ZIEMER: They're having
13 trouble hearing you on the phone, Wanda. So
14 if you can get any closer --

15 MEMBER MUNN: I don't think I can
16 get much closer to it. Oh, all right. I'm
17 trying up and down instead of sideways. Thank
18 you.

19 CHAIRMAN ZIEMER: Stand by. We're
20 trying to get the slides going here as well.

21 MEMBER MUNN: The work group
22 members, as you know, consist of myself as

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1 Chair, Mike Gibson, Dr. James Melius, Dr.
2 Genevieve Roessler, Bradley Clawson is our
3 alternate.

4 You know that we had two SEC
5 Petitions that were qualified in 2006. The
6 technical basis document underwent a total
7 revision before we ever undertook our work.
8 We had a couple of near-site meetings with
9 workers and rather extensive conversations
10 with others.

11 We had the technical contractor,
12 SC&A, review both the site profile and the SEC
13 Petition as well as the evaluation report.
14 They issued seven findings. Those seven
15 findings you have seen before. I don't think
16 I'm going to go through them. That doesn't
17 serve us. You know what they are. We have
18 discussed each of them at great length.

19 From now to the present, we have
20 had the work group operating. We've had
21 technical teams operating. We've interacted
22 with the workers. We have issued white papers

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1 and internal papers for permanent records.
2 Every finding has been resolved to the
3 satisfaction of both NIOSH and SC&A. And
4 we've had additional detailed questions
5 addressed from each meeting to each meeting.

6 We've brought this to the Board
7 before and we will -- I'm going to make every
8 effort to try to fully embrace the scope of
9 what we've done.

10 As a responsive action to the
11 requests from some of the early morning
12 meetings of the Board, the work group
13 revisited indicated concerns. We had three
14 questions asked of the members at one of our
15 earlier meetings.

16 We asked them about the SC&A
17 review, the NIOSH SEC report, and the site
18 profile. The questions specifically were of
19 the seven identified findings of significance
20 from SC&A, they reported all issues resolved.

21 Do you accept this report? The answer was
22 yes.

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1 Question number two was NIOSH has
2 sought information in depth for all activities
3 on this site. And as reported, they have
4 adequate data to reconstruct or bound
5 radiation doses. Do you accept this report?
6 Two members voted yes, two said no.

7 With respect to the site profile,
8 which has been completely rewritten, reviewed,
9 and revised at length, do you accept the
10 current site profile? Two members voted yes,
11 two voted no.

12 At our meeting in June of 2008, the
13 work group Chair made the recommendation that
14 we accept the NIOSH position. The statement
15 that I made at that time was accurate data
16 exists to reasonably bound with sufficient
17 accuracy any radiation exposure which could
18 have resulted from employment at Blockson
19 Chemical Company during its contract period as
20 an atomic weapons employer. That statement is
21 supported by our contractor.

22 At that time because several of the

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1 reports that the work group had been involved
2 with had only recently come forward, there was
3 some concern of Board members that they had
4 not had full opportunity to review those
5 materials.

6 At that meeting in St. Louis, we
7 were requested to table my motion with the
8 expectation that it would allow additional
9 information to be disseminated to whoever
10 wished to have it. Specifically the request
11 was more information about radon.

12 Pertinent supporting documents were
13 to be distributed and reviewed. And we left
14 the issue as tabled. We did that.

15 We provided in August a radon white
16 paper, which was produced by SC&A and was
17 distributed to the full Board. I provided
18 previously issued contractor reports, which
19 indicated the closed seven initial findings
20 and other salient internal working documents.

21 And at that time, several
22 transcripts of our meetings, which had been

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1 backed up, were released so that
2 simultaneously you received access to the
3 minutes of not only the meetings of the Board
4 that were pertinent to our discussion but also
5 to all of the work group meeting minutes.

6 In September at that meeting, the
7 Board opted to leave Blockson tabled. The
8 report that I made to you at that time had to
9 do with the activities that had occurred and
10 exchanges between the work group members,
11 NIOSH, and SC&A.

12 The Board felt that additional
13 attention needed to be paid to the radon
14 issue. They were not content with the
15 material that we brought.

16 We had a teleconference on December
17 12th to attempt to move that issue forward.
18 We had more technical exchanges, rather
19 extensive discussion on the validity of the
20 model. NIOSH and SC&A concurred on the
21 process. Two members of our work group
22 disagreed.

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1 We had an additional teleconference
2 on January 23rd, 2009. We reviewed the
3 history. We reaffirmed the radon resolution.

4 One work group member questioned the model.
5 And we requested that a written basis be
6 provided to us for our relaying that
7 information to you. The member indicated that
8 he would prefer to bring his own
9 recommendations.

10 NIOSH and SC&A have agreed that
11 some site profile issues remain. But that all
12 of the SEC issues have been resolved.

13 The current status is that we have
14 sent you an additional report with the
15 compilation of the history of what this work
16 group has done. We sent it to each of you
17 with specific references so that you would
18 have easy access to the URLs that would direct
19 you to the documents with the most effect on
20 what we were doing. One work group member
21 rejects the model and will comment to you
22 later today.

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1 CHAIRMAN ZIEMER: Stand by just a
2 minute. Wanda, we're having some phone line
3 trouble.

4 MR. KATZ: People on the line,
5 there is a discussion going on. Are you
6 having a hard time hearing the discussion?

7 CHAIRMAN ZIEMER: It's pretty loud
8 here in the room so I'm not sure what the
9 problem is. Is it a phone line problem? Here
10 in the room it is very loud.

11 MEMBER MUNN: Is the reporter
12 saying he also does or does not hear the phone
13 line?

14 COURT REPORTER: I hear you fine.
15 I just am not hearing the people on the
16 telephone.

17 MEMBER MUNN: He's not hearing the
18 phone lines. So the problem is with the phone
19 line.

20 CHAIRMAN ZIEMER: The phone line is
21 not picking this up. I don't know if it is
22 faulty equipment or what the problem is here.

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1 MEMBER MUNN: Well, it doesn't seem
2 to be working either direction.

3 MR. KATZ: Are you hearing Ms. Munn
4 right now?

5 CHAIRMAN ZIEMER: We're trying to
6 get it as loud as we can here without --

7 MEMBER MUNN: Well, the Court
8 Reporter can't hear them well.

9 COURT REPORTER: I'm hearing you
10 fine.

11 MEMBER MUNN: But he's hearing me
12 fine.

13 COURT REPORTER: Yes.

14 MEMBER MUNN: So it's not this
15 microphone. The problem is with the phone
16 line clearly.

17 CHAIRMAN ZIEMER: Well, I think it
18 is either the phone lines or the equipment.

19 MR. KATZ: I can't say but I think
20 if everybody on the phone would mute -- if
21 everybody -- they have a mic here. If
22 everyone on the phone would just mute their

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1 phones, Wanda will speak as loudly as she can.

2 But if it is a problem with the phone line,
3 I'll check with the people that deal with the
4 phone line. But there's nothing else we can
5 do, I think, at this point.

6 PARTICIPANT: Mr. Katz, we can hear
7 you perfectly clear. Can Wanda use your
8 chair?

9 MR. KATZ: That's fine, yes, if
10 that will work.

11 MEMBER MUNN: I'll need to move my
12 computer equipment if I do that. That doesn't
13 seem reasonable.

14 CHAIRMAN ZIEMER: Will this mic
15 work? Take this mic over -- it's a hand held.
16 I don't know if it is the mic or the location
17 in the room or what.

18 MEMBER MUNN: Do you hear me any
19 better now on the line? Did we get any
20 response from the people on the line when I
21 speak into this microphone?

22 CHAIRMAN ZIEMER: Is that any

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1 better?

2 MR. KATZ: Is that any better?

3 MEMBER GIBSON: It seems --

4 MEMBER MUNN: How about A-B-C-D-E-
5 F-G-H-I-J --

6 MR. KATZ: Is that clear?

7 MEMBER GIBSON: That's better.
8 Okay, carry on.

9 MEMBER MUNN: Better?

10 The current status, as I was
11 saying, is that the Board has our entire
12 referenced history and has, I hope, had
13 adequate opportunity now to revisit whatever
14 you wish to revisit. One of our work group
15 members rejects the model and wants to make
16 comments and other recommendations today.

17 One of our Board members who is not
18 a member of the work group still questions
19 stratification of radon. We've fortunately
20 had a late report from Dr. Anigstein sent to
21 all the members of the Board addressing that
22 question with respect to the stratification of

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1 radon and airflow within the building, the
2 single building which, as you will recall, is
3 the focus of our attention here.

4 We had, during that teleconference
5 on January 23rd, we reviewed the history, and
6 we reaffirmed the radon resolution. We still
7 have the question respective to the model.
8 And it is going to give us -- it was asked a
9 written basis for that position. NIOSH and
10 SC&A agree. Some site profile issues remain
11 but the SEC issues are closed.

12 And the recommendation of the work
13 group Chair that I had made earlier, you have
14 already seen. That is still currently on our
15 scope as being tabled. It's time for it to
16 come off if we're going to make any definition
17 with respect to a decision today.

18 There is no further action that can
19 be seen that this work group can take. We
20 have nothing further to bring to the Board.

21 CHAIRMAN ZIEMER: Okay. Thank you
22 very much.

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1 Let me ask Board members, do you
2 have any questions for Wanda or comments at
3 this point? There is a tabled motion, which I
4 will ask or call for a motion to bring it off
5 the table unless there's other discussion
6 because we cannot debate a motion to un-table.

7 Yes, Mark?

8 MEMBER GRIFFON: I just want to
9 clarify on the presentation, Wanda; I think
10 you said there was a report on the
11 stratification. I think that was based on my
12 comments on concentration gradients.

13 MEMBER MUNN: Yes.

14 MEMBER GRIFFON: But I don't think
15 there was a report. I know there was an e-
16 mail reply to my question. But I don't think
17 there has been any formal report from SC&A.

18 CHAIRMAN ZIEMER: I think your mic
19 is kicking in and out. Is it? Is his mic
20 kicking in and out?

21 MEMBER MUNN: No, it was not a
22 formal report.

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1 MEMBER GRIFFON: Okay, yes.

2 MEMBER MUNN: Dr. Anigstein gave to
3 us the information that he had placed, I
4 believe, in earlier reports -- internal
5 reports that the work group and SC&A had been
6 involved with. I don't believe that there was
7 anything new. I think it was a recompilation
8 if I am correct. Am I correct Dr. Anigstein
9 or John -- one of you?

10 DR. ANIGSTEIN: There were two --

11 CHAIRMAN ZIEMER: Use the mic.

12 DR. ANIGSTEIN: There were two
13 later reports --

14 CHAIRMAN ZIEMER: Get real close
15 and talk real loud.

16 DR. ANIGSTEIN: Excuse me?

17 CHAIRMAN ZIEMER: Get close and
18 talk loud.

19 DR. ANIGSTEIN: Okay. There were
20 two later reports. There was the original
21 report that was submitted in June -- no,
22 excuse me, in July -- towards the end of July

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1 and then there was a PA cleared version of the
2 same report produced in August.

3 MEMBER MUNN: Yes.

4 DR. ANIGSTEIN: That was in
5 response to the direction that we got at the
6 June St. Louis meeting to produce -- actually
7 it was requested by Mr. Gibson, I believe --
8 sorry -- it was Mr. Griffon.

9 Was to have a more detailed model.

10 There was a very preliminary model presented
11 at that meeting. And then Mr. Griffon asked
12 for more clarification and more explanation of
13 the model, equations. And that led to the
14 production -- that led us to produce this much
15 longer report which included a Monte Carlo
16 analysis, which would take in all the
17 variability.

18 The idea was the first -- the one
19 that was presented at the June meeting had a
20 bunch of what-ifs. If the radon release was
21 this and it was A, and if the air exchange
22 rate was B, then the radon concentration would

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1 be C. And then if you had different values,
2 there would be different radon concentrations.

3 And Mr. Gibson questioned that. He
4 said well, we need more than one -- you know
5 we can't have a bunch of numbers. We need one
6 number. So that inspired us to say well, if
7 you do it as Monte Carlo calculation, you can
8 pick off say the 95th percentile or the median
9 and you will have, you know, concrete values
10 we can do.

11 So we just did a much more detailed
12 model, documented it, presented equations.
13 Since then -- afterwards there were some
14 comments back from NIOSH and we went back and
15 looked at it a little further.

16 And there was also a request by Dr.
17 Roessler at the meeting where this original
18 report was presented, I believe it was October
19 15th in Cincinnati that we narrow the gap --
20 we narrow the range of the two very variable
21 parameters. We narrowed the ventilation rate
22 in Building 40 and we narrowed the range of

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1 the radon releases from the sulphuric acid.

2 So we did some further
3 investigation and decided that the radon
4 releases can't be any higher than 70 percent
5 that was measured in showers. And we thought
6 that the agitated tank is not going to be any
7 higher than that. And then also we managed to
8 pro rate the ventilation rate based on the
9 building size and we came with a narrow range
10 of that.

11 So that report was sent out later.

12 And I have the report here -- in December --
13 it was produced in December. And the -- yes,
14 I have it right here, December, it is dated
15 here December 2nd. And that was basically a
16 rework of the Appendix B of the previous
17 report. And simply produced a narrower range.

18 And because this was a narrow
19 range, the 95th percentile was reduced from
20 something like, if I recollect, 60-odd
21 picocuries per liter and it came down to 36
22 picocuries per liter. And other parts of the

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1 distribution also came down somewhat lower.

2 And then there was a three-page
3 report that was produced as a result of some
4 exchanges with NIOSH about ventilation rates.

5 NIOSH had produced a memo from Dr.
6 Naomi Harleyha questioning whether the
7 ventilation rates could, in fact, be as low as
8 we had assumed when our assumptions were based
9 on measurements done by Pacific Northwest
10 Laboratory on some buildings I think in
11 Washington State.

12 And, again, we narrowed that down -
13 - I'm sorry, I'm losing track. I had already
14 gone over that.

15 We produced a three-page report
16 answering why -- defending our ventilation
17 rates. And that was -- I transmitted those to
18 you, Wanda, just a couple of days ago. You
19 had them earlier but I just thought as a
20 reminder.

21 But I did not address the
22 stratification of radon. We really had no

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1 basis for that.

2 I'll just, as long as I'm at the
3 microphone, to save time, I'll just restate
4 Dr. Mauro's comment was that even though there
5 may have been different concentrations of
6 radon in different parts of the building,
7 workers typically did not stay in any one
8 location.

9 The workers testified they had
10 different duties and they moved around so even
11 if there was a radon hot spot, no one worker
12 would have been there for every one of his,
13 you know, eight hours, 250 days a year in that
14 one spot.

15 MEMBER GRIFFON: I mean that gets
16 at my precise question. I didn't ask whether
17 that scenario you just described, I would
18 agree with that. But I asked if there was a
19 chance that the gradients achieved -- you know
20 this model assumes instantaneous mixing.

21 DR. ANIGSTEIN: That is correct.

22 MEMBER GRIFFON: So if the

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1 gradients are established in this building,
2 and I'm not sure number one how wide are the
3 gradients that are there, that exist, you
4 know, in terms of picocuries per liter, what
5 is the range of values we might see in
6 different operations?

7 And number two, if you assumed an
8 occupancy say -- and I think John's words in
9 the e-mail were randomly moved around the
10 building, I don't think people would have
11 worked randomly around the building. I think
12 they probably would have been in different
13 process areas for -- they worked throughout
14 the buildings. I wouldn't dispute that.

15 But could they have been at one of
16 the higher operation areas where, you know,
17 with a higher gradient for enough hours -- say
18 two hours out of their work day that it would,
19 in fact, not be bounded by the current model
20 on the table.

21 And then the second part of my
22 comment here is that we don't have a current

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1 model on the table. That's the other problem.
2 You know because this is SC&A's report. And I
3 think that NIOSH is agreeing with the general
4 model but not necessarily the parameters used
5 in the model. I may be wrong on that one.

6 DR. ANIGSTEIN: No --

7 MEMBER GRIFFON: But anyway my
8 first point is that I'm not saying eight hours
9 per day, 250 days a year. I'm saying could
10 there be a scenario. Because we have to look
11 at can we bound doses for all workers, you
12 know, all cancers, that sort of thing. So
13 that's the question.

14 DR. ANIGSTEIN: Again, in my
15 opinion, there could be gradients. Actually
16 the fact that it would always be the same
17 concentration everywhere in the building
18 actually it is unrealistic. So this is a
19 simplified model.

20 However, the response to that
21 objection is we recommend that you use the
22 95th percentile. And that already accounts

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1 for these variations. In other words, if we
2 knew that this model exactly modeled within
3 the best likelihood of what the concentrations
4 experienced by the workers were, then it would
5 be logical to use the 50th percentile. This
6 is the most probable resolution.

7 But by using the 95th percentile,
8 which is considerably higher, the 50th
9 percentile is about six picocuries per liter.

10 The 95th percentile is 36 picocuries per
11 liter. So you are allowing for these
12 excursions from the, you know, from the mean,
13 from the median.

14 And also just -- I can just take
15 advantage of this opportunity to throw in an
16 additional comment as to the wide range --
17 there were some wide ranges of input
18 parameters. But the actual distribution has a
19 GSD of approximately three, which does not
20 seem to be an unreasonably wide range.

21 This wasn't done with very precise
22 definition. I just looked at the median --

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1 because it's not actually normal but I looked
2 at the median and the 95th percentile, took
3 the ratio, and said were it to be a log
4 normal, it would be a GSD of three.

5 And if we did it more precisely,
6 you might get a slightly different number.
7 But I don't think it would be very different.

8 MEMBER MUNN: And Dr. Neton has a
9 comment with regard to this same issue, I
10 believe.

11 CHAIRMAN ZIEMER: Right. Let's
12 hear from Neton and then back to Mark.

13 DR. NETON: Well, I'd just like to
14 respond to a couple things that Mark brought
15 up. First at the working group, in several
16 instances the last two times we've had
17 meetings, NIOSH has put a model on the table.

18 We're embraced the model that would
19 have a geometric mean of three picocuries per
20 liter with a 95th percentile of 17 picocuries
21 per liter, which is slightly different than
22 the upper bound on the SC&A model. And those

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1 two differences really surround the
2 ventilation rate, the lower bound of the
3 ventilation rate.

4 Actually, that's the only
5 difference we disagree on right now is what is
6 the lower bound of ventilation rate in the
7 1950s air building. So there is a model that
8 NIOSH has proposed to use.

9 And I'm on the record several times
10 stating this I think as recently as the last
11 Board meeting or as late as the last Board
12 meeting.

13 Secondly, though, this
14 concentration gradient thing was never really
15 brought up in the working group session. I
16 mean this is a new issue that you are raising
17 here but there's a number of things that can
18 be said about that.

19 First, is the model makes no
20 adjustments for seasonal variation. I mean it
21 assumes essentially that the ventilation rate
22 in that building stays constant throughout the

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1 entire year.

2 Secondly, one has to look at the
3 way these tanks were structured. These
4 digesting tanks, to my recollection now and I
5 haven't looked at this for a little while, ran
6 the entire length of the building. And they
7 went almost to the ceiling of a two-story
8 building.

9 So we're not talking about a small
10 little vat in the middle of the room where
11 somebody would be routinely looking in and
12 mixing and adding reagents or such. It's a
13 huge tank that would, you know, evolve radon
14 essentially linearly throughout the entire
15 building, going down the whole length of the
16 building near the ceiling which had openings.

17 There's still some debate whether
18 there was active exhaust ventilation but
19 nonetheless, there were openings for that to
20 escape. So for a worker to be exposed to a
21 highest concentration gradient, which would be
22 right at the release point, one would have to

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1 be up on that deck --

2 MR. KATZ: Excuse me. Could the
3 people on the telephone who are having a
4 conversation please mute your phone? Thank
5 you.

6 DR. NETON: One would have to be on
7 the top of that deck peering into those tanks
8 on a routine basis to have some sort of
9 concentration gradient like you're talking
10 about.

11 Thirdly, our model that we've
12 adopted here, we feel comfortable with because
13 it is not only based on the SC&A parameters
14 that were put forth to develop this Monte
15 Carlo model but there is also a weight of the
16 evidence issues behind this.

17 We provided to the working group a
18 summary of all available radon monitoring
19 information in the wet phosphate processing
20 industry that were available. None of the
21 values that were recorded in those studies
22 approached anything close to what we are

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1 proposing to use in this model.

2 Admittedly, those were more later-
3 era measurement -- I think the earliest one
4 was in the `70s -- but nonetheless, it is
5 consistent with what we're trying to present
6 here.

7 The other issues, we had a
8 measurement in Blockson in 1985 or
9 thereabouts, I forget the exact date, and it
10 was extremely low in the building that was
11 measured at that time frame. I forget what it
12 was but it was well below what we're proposing
13 to use here.

14 The third thing that we provided to
15 the working group was that if one looks at the
16 evaluation done by Oak Ridge Associated
17 Universities, not for this project, for an
18 epidemiologic project that was done years ago
19 of the Mallinckrodt workers, the reconstructed
20 radon exposures for workers at Mallinckrodt
21 are equal to or below the upper bound of the
22 SC&A proposed value.

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1 And that is a facility that
2 processed uranium ore in very high
3 concentrations of uranium. I forget the exact
4 number but hundreds if not thousands of times
5 higher -- more highly concentrated uranium
6 than what was processed at Blockson.

7 For those reasons, we feel very
8 comfortable that the distribution we're
9 proposing adequately bounds the radon
10 exposures for workers at Blockson Chemical.

11 CHAIRMAN ZIEMER: Okay. Thank you,
12 Jim.

13 Mark, do you have a follow up on
14 that?

15 I want to give the petitioners an
16 opportunity to comment if they are on the
17 line. Okay, if either of the petitioners are
18 on the line and wish to comment, this would be
19 the time to do is. Are either of the
20 petitioners from Blockson on the line?

21 MS. PINCHETTI: Yes, this is Kathy
22 Pinchetti.

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1 CHAIRMAN ZIEMER: Okay, Kathy.
2 Thank you. We'd appreciate getting your
3 comments.

4 MS. PINCHETTI: Well, I think the
5 work group knows where I stand. I still have
6 a problem with the comparison between Joliet
7 and Florida. I know they had a phosphorous
8 plant there and that's maybe where the Rocky
9 Flats came from but there is a big difference
10 in weather and, you know, just the ability to
11 ventilate that often as, you know, if it was
12 80, 90 degrees outside as opposed to 85 below
13 wind chill.

14 And also just the idea about the
15 25-year-old spot of radon that was found, it
16 sounds like that's what they're basing the
17 radiation in order to, you know, postulate
18 what happened 60 years ago.

19 So I know this is all very
20 scientific but I just can't get a grasp of,
21 you know, why we're basing the decision on
22 those things because it just seems like

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1 grasping on straws. And we've been at this
2 for going on three years now.

3 And I appreciate all the work that
4 the work group and the Board has put into it
5 but it just doesn't seem like we can come to a
6 conclusion where it is unanimous.

7 And so I just feel that maybe the
8 Board should consider accepting Blockson as an
9 SEC.

10 CHAIRMAN ZIEMER: Okay. Thank you,
11 Kathleen, for those comments.

12 There may be an additional
13 petitioner on the line. Is there?

14 DR. McKEEL: Dr. Ziemer, this is
15 Dan McKeel.

16 CHAIRMAN ZIEMER: Yes, Dan, I think
17 we have to limit this right now to the
18 petitioners on Blockson.

19 DR. McKEEL: Well, I'm not really
20 the petitioner but I did participate in the
21 work group and there is a major document, I
22 believe, that hasn't been discussed this

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1 afternoon. So somebody needs to bring it to
2 your attention. And I'm asking to please
3 allow this exception.

4 CHAIRMAN ZIEMER: All right. We'll
5 allow it.

6 DR. McKEEL: Very quickly, SC&A has
7 mentioned John Mauro several times. They have
8 applied the draft surrogate data criteria to
9 Blockson. And I don't believe I've ever seen
10 that report made but I assume it exists.

11 And I wonder if, you know, that
12 doesn't need to be taken up and considered
13 before this SEC is voted upon because as Kathy
14 just said, the Board's conclusion and the work
15 group's conclusion depends a lot on surrogate
16 data that fills in the gaps from those few
17 numbers of urine samples that they had at
18 Blockson.

19 CHAIRMAN ZIEMER: Okay. I
20 understand your comment, Dan. I'm going to
21 let Jim Neton reply because I don't believe
22 that they are asserting that they're using

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1 surrogate data per se.

2 DR. NETON: Right. There's a
3 couple of issues here. One is I was going to
4 say that the Congressional staff person who
5 talked about using the Florida phosphate data,
6 I'd like to correct for the record that we're
7 no longer proposing to use that Florida
8 phosphate data, which was surrogate data.

9 We have now fully adopted the Monte
10 Carlo source-term model, which is allowed for
11 under our regulation. So that's not a
12 surrogate data issue.

13 I thought that's where Dr. McKeel
14 was going but then he mentioned something
15 about urine data. The urine data was used at
16 Blockson was from actual Blockson workers. We
17 did not use surrogate urine data to
18 reconstruct --

19 DR. McKEEL: My point was that SC&A
20 applied the surrogate data criteria and I
21 wonder why they did that if it doesn't apply.

22 DR. NETON: Well, I think they did

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1 that because originally we had proposed --
2 NIOSH had proposed a surrogate model using
3 Florida phosphate industry data, which we have
4 since abandoned.

5 CHAIRMAN ZIEMER: So that no longer
6 is the approach being used. And Dr. McKeel's
7 point was that actually the surrogate data
8 criteria have not been formally approved by
9 the Board at this point. So that would have
10 been an issue otherwise.

11 So but thank you, Dan, for the
12 comment.

13 Again, let me check again to see if
14 the other petitioner is on the line.

15 Okay, apparently not.

16 Dr. Melius has a comment.

17 MEMBER MELIUS: Yes, can I just
18 clarify a couple of points since I've been
19 referred to here today? One was actually what
20 Jim just said which was I think you have to
21 remember where we started with this was using
22 the procedure based on basically -- mostly the

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1 Florida phosphate data. And that had some
2 limitations as it applied to Blockson which
3 led to where we are now.

4 To just clarify what Jim said, I
5 think, if I remember right from the last time
6 I asked you, you would still use that in other
7 circumstances. You are saying you are only
8 abandoning that procedure relative to
9 Blockson?

10 DR. NETON: We would reserve the
11 right to use that data if it were more
12 appropriately --

13 MEMBER MELIUS: Yes.

14 DR. NETON: -- more appropriate for
15 a given facility. But right now, yes. It's
16 off the table for Blockson, that's correct.

17 MEMBER MELIUS: I just wanted to
18 avoid you being quoted a year from now or --

19 DR. NETON: Thank you.

20 MEMBER MELIUS: -- at another site.

21 Secondly, and I'm not trying to
22 cast blame on this issue but I think it has

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1 also been complicated by the fact that somehow
2 SC&A got put in -- we had a reversal of roles.

3 SC&A got put in the position of developing
4 the methodology. And then NIOSH reviewing it.

5 And when Jim says they've adopted
6 this model with certain parameters, that's
7 true. But it has sort of been, I think, a
8 piecemeal process is a fair way of putting it.

9 And I think one of the difficult
10 things is trying to wrap your arms around this
11 whole issue because there are bits and pieces
12 of information in various places. And no
13 single document that sort of adequately
14 summarizes the proposed model nor one that --
15 the one that NIOSH appears to be adopting nor
16 a document that adequately and comprehensively
17 critiques it and supports one or the other.

18 But I really have some serious
19 concerns about SC&A being put in the position
20 of developing procedures and models and so
21 forth. I think there is a point at which that
22 can be useful in terms of critiquing or

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1 pointing out alternative approaches.

2 But I really think we need to try
3 and keep our roles separate. And that NIOSH
4 should be the one developing and proposing at
5 least the final procedures that will be
6 developed.

7 As I said, I don't think this was
8 badly intentioned but I think it certainly
9 complicates our ability to sort of move
10 forward and understand and have an independent
11 review of a procedure or model that's about to
12 be adopted.

13 I don't think this was something
14 that -- I also should add that NIOSH proposed
15 it happened.

16 CHAIRMAN ZIEMER: Let me comment on
17 that as well because I know there has been
18 some conversation back and forth on that
19 issue. And Board members all know that one of
20 my ongoing issues is to make sure that our
21 contractor does not do NIOSH's work. So I
22 agree with that in principle.

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1 However, we do know that over the
2 past five years, there are a lot of things
3 that have emerged at various sites. And I'll
4 just cite as an example the high-fired
5 plutonium issue which really had its origin, I
6 think, in the SC&A critiques. And now has
7 become part of the program in a way.

8 And it's often, particularly in our
9 work group activities, it often happens as
10 these ideas arise, it's not always clear whose
11 idea it really is. It comes out of the joint
12 efforts of the Board and the work group or the
13 work group and the contractor and NIOSH to
14 address some of these issues.

15 And to some extent, I think this
16 occurred here with good intentions to try to
17 address the issue. So whose model it is, it's
18 not quite clear. I know that Jim had proposed
19 things and NIOSH -- or SC&A had proposed some
20 ideas. So they sort of came together.

21 DR. NETON: Yes, I'd just like to
22 suggest that this is part and parcel to the

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1 way the comment resolution process has been
2 established. I can point back to the very
3 early days with Bethlehem Steel where exactly
4 this sort of scenario emerged where SC&A had
5 some serious criticisms of our models.

6 We went through various discussions
7 and deliberations over a period of almost a
8 couple years, I believe. And what emerged was
9 sort of a composite model of NIOSH's approach
10 that incorporated the relevant or the good
11 portions of the comments that SC&A had
12 provided. And I think that we were better off
13 for it.

14 I don't see that this is really
15 that different from what happened at many of
16 the sites. Nevada Test Site is undergoing the
17 current same situation. So I think it is a
18 good thing. I'm not --

19 MEMBER MUNN: And essentially every
20 resolution process that can be called to
21 memory instantly, NIOSH has produced its
22 product, SC&A has reviewed that product, has

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1 brought before us the issues that they felt
2 were of major concern.

3 And the next step, which usually
4 takes a number of months in complicated cases,
5 is a resolution process which involves a great
6 deal of technical exchange between the
7 contractor and NIOSH.

8 DR. NETON: Yes.

9 MEMBER MUNN: That is the
10 resolution process as has been presented to us
11 in the past. What comes out of that
12 resolution process, whether it was initiated
13 by NIOSH or whether it was initiated by the
14 contractor is our attempt to do the best
15 science possible and to serve resolution.
16 That appears to be what has occurred here.

17 MEMBER MELIUS: I'd strongly
18 disagree. And I think if one looks at the
19 reports and the transcripts of those various
20 meetings, I think what one sees is that what
21 was a critique of the use of the Florida data
22 and suggestion of an alternative approach then

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1 became in the next document a fully developed
2 model for adoption.

3 And then what one sees is that then
4 NIOSH being SC&A -- well, NIOSH critiquing the
5 SC&A model and suggesting other parameters and
6 so forth. So as I said, I don't think it was,
7 you know, badly intentioned or whatever.

8 On one hand, I can claim I wasn't
9 at the meeting where this was assigned to SC&A
10 to do but I can also probably say that if I
11 was at that meeting, I'm not sure I would have
12 objected at the time. It's just as it
13 evolved.

14 And frankly I would feel different
15 probably about it if I didn't still have
16 ongoing concerns about the basic model and
17 approach that's being approached. And I think
18 it still comes back to the basic thing is I
19 don't believe that for reasons -- a number of
20 technical reasons that this is an adequate
21 model. And that it provides a sufficient
22 basis for accurate individual dose

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1 reconstruction.

2 And it is mainly this issue of
3 mixing with that -- it's very hard to model
4 concentrations within a building. And the
5 more complicated that becomes, the less good
6 the models are.

7 CHAIRMAN ZIEMER: Okay. Thank you.

8 Any other general comments?

9 I guess at this point I want to ask
10 the Board if you feel like you are ready to
11 take action and to do that, we would require a
12 motion to remove the original motion from the
13 table.

14 The original motion -- and I may
15 need some help in recalling this so I'll
16 paraphrase it but I believe the original
17 motion that was before us was a motion to
18 concur with the NIOSH recommendations.

19 Now it is possible I have that
20 reversed. But I believe that was the motion.

21 MEMBER MUNN: No, that was the
22 motion. It was the motion that was made as an

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1 individual, not as the Chair of the working
2 group, simply because we did not have
3 consensus of the work group.

4 It was my action. It was my
5 motion. And it was tabled at the request of
6 Josie and the majority of the Board.

7 CHAIRMAN ZIEMER: Right. The
8 motion was tabled. And what I'm saying is if
9 you are ready to take action, then the next
10 step is for a motion to remove that from the
11 table and it will be before us for discussion.

12 MEMBER MUNN: I so move.

13 CHAIRMAN ZIEMER: Motion to remove
14 the original from the table --

15 MEMBER PRESLEY: Second.

16 CHAIRMAN ZIEMER: -- and second.
17 This is not a debatable motion. It takes a
18 majority to remove it from the table. If the
19 motion passes, then we have before us a motion
20 to concur or agree with the NIOSH
21 recommendation on Blockson.

22 I'm going to ask for a roll call

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1 vote on the motion to bring the Blockson
2 petition or the Blockson motion from the table
3 to put it before us.

4 MR. KATZ: Ms. Beach?

5 MEMBER BEACH: No.

6 MR. KATZ: Mr. Clawson?

7 MEMBER CLAWSON: No.

8 MR. KATZ: Mr. Gibson?

9 MEMBER GIBSON: No.

10 MR. KATZ: Mr. Griffon?

11 MEMBER GRIFFON: No.

12 MR. KATZ: Dr. Lockey?

13 MEMBER LOCKEY: Yes.

14 MR. KATZ: Dr. Melius?

15 MEMBER MELIUS: No.

16 MR. KATZ: Ms. Munn?

17 MEMBER MUNN: Yes.

18 MR. KATZ: Dr. Poston?

19 MEMBER POSTON: Yes.

20 MR. KATZ: Mr. Presley?

21 MEMBER PRESLEY: Yes.

22 MR. KATZ: Dr. Roessler?

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1 MEMBER ROESSLER: Yes.

2 MR. KATZ: Mr. Schofield?

3 MEMBER SCHOFIELD: No.

4 MR. KATZ: And Dr. Ziemer?

5 CHAIRMAN ZIEMER: Yes. And the
6 motion, therefore, fails. And the Blockson
7 document remains on the table which means we
8 will not act on it today.

9 I would like to ask the Board -- I
10 don't know if the work group is in a position
11 to do anything further but nonetheless if this
12 Board wishes to instruct along those lines,
13 then it is certainly in order, yes.

14 Mark?

15 MEMBER GRIFFON: Yes, I think, you
16 know, the one and maybe this item, Jim, I
17 apologize if this wasn't officially on the
18 record as a question, but, you know, I don't -
19 - this is sort of for the good of the order
20 too, I don't think we're definitely at
21 loggerheads on this. I think, you know, that
22 we will come to a point where we will get it

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1 off the table and vote on it.

2 But I still have remaining
3 questions about this concentration gradient
4 issue. And, you know, I'm sitting here
5 thinking in my mind with the 95th value that
6 SC&A lays out there, quite a bit higher than -
7 - about double, I guess, of the one that NIOSH
8 is proposing, you know, does that value
9 establish based on instantaneous mixing bound
10 some of these gradient situations? And I'm
11 not sure I accept Dr. Anigstein's argument.

12 But I would like to see that maybe
13 assessed in a document that I can look at and
14 look at the model myself. So I'm not saying
15 that it can't be done.

16 The other question is, you know, I
17 think Jim mentioned today, and I wasn't aware
18 of, I think it is an entirely differently
19 study that you referenced today, the ORAU
20 study done outside of this program I guess.

21 DR. NETON: It was done outside
22 this program by Oak Ridge Associates.

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1 MEMBER GRIFFON: Right so some of
2 these other values --

3 DR. NETON: It's included in our
4 site profile though. We've documented it and
5 I've provided that to the working group.

6 MEMBER GRIFFON: But I think part
7 of --

8 DR. NETON: It's available.

9 MEMBER GRIFFON: -- part of the
10 confusion for me in this process has been I
11 was invited to one or two work groups maybe
12 but then I'm not formally on the work group
13 often. So sometimes I've asked these
14 questions.

15 But they weren't in the work group
16 discussions because I wasn't a member of the
17 work group. But I would like that assessed if
18 possible.

19 CHAIRMAN ZIEMER: Let me suggest
20 something as a possible way forward. And it
21 appears to the Chair that further work group
22 sessions on this may not be so fruitful but

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1 perhaps -- and the focus seems to be on the
2 radon gradients and the model -- I wonder if
3 it would be of help for NIOSH to give a formal
4 presentation to the Board on the model at our
5 next meeting with, perhaps, advanced copies of
6 that made available.

7 Now I'm concerned about the
8 possibility that then we get into a cycle
9 saying now we need SC&A to critique this and
10 it goes on and on. But it appears that at
11 least part of this is understanding the
12 parameters and the conditions of the model and
13 its limitations and those various issues
14 surrounding that.

15 And, again, I'm throwing this out
16 because I want some reaction from the Board
17 members. Would you find this helpful so that
18 we can see if we can resolve this or come to
19 some kind of closure on that issue and try to
20 -- in fairness to the petitioners to try to
21 not keep the Blockson thing sort of
22 perpetually in limbo?

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1 Dr. Melius, a comment?

2 MEMBER MELIUS: Yes. I think the
3 concept is good because I think it is
4 important that all of the Board members hear
5 the technical issues because that is what
6 we're talking about. And I think it would be
7 helpful. And, frankly, I think helpful to at
8 least -- I can say for myself on the work
9 group, to hear how other people view those and
10 other people on this Board do that.

11 I think it would be helpful to the
12 extent that that is feasible to do for their
13 also to be a document developed by NIOSH that
14 lays out comprehensively what their proposed
15 approach will be.

16 And thirdly -- and I'm not sure
17 that this needs to be done in conjunction with
18 what you just proposed, Dr. Ziemer -- but it
19 is something that -- I have a major concern
20 with -- that sort of SC&A has lost its
21 independence in reviewing this issue. We've
22 had -- once they moved from the group that is

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1 now proposing how the dose reconstructions
2 will get done, how can they be the independent
3 reviewer of that process?

4 And that we think of another mode
5 or another way of getting an independent
6 review of this approach, which I think, would
7 be helpful and so forth.

8 I don't think I would propose that
9 as the first step. I think what you proposed
10 may be sufficient.

11 CHAIRMAN ZIEMER: Well, I'm a
12 little reluctant to have us go down that path
13 because that can continue -- people protecting
14 their own good ideas, including ones that
15 NIOSH picks up from the contractor in the
16 future.

17 But if necessary, I think we could
18 ask our contractor to bring in a different
19 person to critique -- I mean you have access
20 to other experts. I don't know the extent to
21 which SC&A is sort of taking great pride of
22 ownership in this idea but we need to give

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1 that some thought.

2 I understand what you're saying.
3 I'm not sure how one would do that it an
4 efficient way that would be useful.

5 Jim?

6 DR. NETON: I'd just like to raise
7 another question that is in my mind and that's
8 the issue of the difference between this being
9 an SEC issue versus a site profile issue.

10 In the past, you know, we've been
11 able to come -- move forward if there has been
12 general agreement that the issue at hand is no
13 longer an SEC issue. That is it is generally
14 agreed that we can establish some plausible
15 upper bound for that exposure scenario.

16 And then move that back to a site
17 profile issue, which would be debated, you
18 know, just like through the comment resolution
19 process like any other issue.

20 And somehow that seems to be not
21 available in this situation. I've not heard
22 any discussion about can there be a plausible

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1 upper bound.

2 SC&A and NIOSH still disagree on
3 what the plausible upper bound might be but,
4 you know, we still agree that it can be
5 established in one way or another. So I'd
6 like some feedback for our sake, you know, on
7 this issue.

8 CHAIRMAN ZIEMER: Okay. Mark, do
9 you want to add to that? I think you were
10 asking about that.

11 MEMBER GRIFFON: Yes. I mean I
12 think you have my comment that -- I guess
13 that's what I was asking to be assessed --
14 whether the model on the table which, you
15 know, would be NIOSH's, would bound these
16 scenarios where you have concentration
17 gradients for workers occupying those
18 locations a little more frequently that --

19 DR. NETON: Right. But there's a
20 difference between saying NIOSH's model could
21 bound it or a plausible upper bound could be
22 established using that model. I've never been

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1 able to get agreement from the working group
2 that using this approach is even valid. I
3 mean it has been -- the legality of this
4 approach has even been challenged several
5 working group meetings ago.

6 So I'm reluctant to go and make all
7 those, you know, elaborate development on an
8 effort when the basic premise of using a Monte
9 Carlo probabilistic model is not acceptable.
10 And I have no assurance from anyone that that
11 type of approach is acceptable.

12 MEMBER GRIFFON: Well, I guess part
13 of what I'm thinking about is the reality, I
14 think, is that the radon is not going to
15 instantaneously mix.

16 So if we accept that as the first
17 premise, then that's my question is if you
18 have, you know, if the model is not realistic
19 enough, then maybe we can't use it. So I
20 think that gets to what you were just saying.

21 CHAIRMAN ZIEMER: But let me point
22 out, and this is more generic, Mark, but you

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1 never have instantaneous mixing in practical
2 situations. And so all models are based on
3 the fact that that doesn't occur.

4 Now if the mixing -- there's a
5 difference between instantaneous and really
6 slow. There's some things where those
7 gradients -- well, we can't -- we don't need
8 to have the debate here but models are exactly
9 what they are. They are models. They are --
10 and models are only as good as they
11 effectively predict something to some agreed-
12 upon level, in our case, if there is
13 sufficient accuracy. And that's sort of a
14 debate on its own.

15 But whether you're talking about
16 let's say a weather model, I almost hesitate
17 to bring this up because this could make
18 things worse, but I always like the quote that
19 one of my colleagues makes about models. And
20 he is a model person -- a model expert, not a
21 model person. I'm going to get in big trouble
22 here.

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1 Anyway -- and he says basically all
2 models are poor but some are helpful. And we
3 need to really assess that, I think, is what
4 you're saying. You're not going to have
5 instantaneous.

6 And what you're really saying is to
7 what extent is that an important issue? Does
8 this model really allow you to fairly bound
9 the doses?

10 Jim, I'm not sure when you're
11 talking about the legality of the
12 probabilistic approach or the Monte Carlo
13 approach. That's like -- that's a very
14 accepted technique. It's like saying can I
15 use calculus to calculate something.

16 What -- I didn't quite follow what
17 --

18 DR. NETON: Well, there was some
19 challenges raised about use of a source-term
20 model, and in particular a source-term model
21 using probabilistic assumptions. And, you
22 know, I don't know. I mean is that on the

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1 table? I guess I think it is.

2 MEMBER MUNN: It seems to be from
3 the Chair's point of view. That's one of the
4 reasons why I said there's no way we can go
5 any further.

6 But if some of the statements that
7 were made during work group sessions are not
8 going to be the nexus of any presentation that
9 NIOSH makes with respect to the model, then,
10 of course, it makes perfect sense for the
11 entire Board to see what the model is going to
12 be and to have the entire Board that wishes to
13 participate and comments with that model
14 before them to make comments.

15 CHAIRMAN ZIEMER: Okay.

16 MEMBER MUNN: But if we're going to
17 take the position that -- which has been
18 suggested -- that no model is possible or no
19 model is acceptable, then there's -- this is
20 an exercise in futility.

21 So first one needs to accept, I
22 think, the Board members sitting around this

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1 table need to accept the fact that if NIOSH is
2 going to bring us something, there is a
3 possibility that it can be accepted.

4 CHAIRMAN ZIEMER: Okay. Thank you.
5 John, comment?

6 MEMBER POSTON: Well, with all due
7 respect to SC&A and also to what Dr. Melius
8 had to say, I interpreted your comment and
9 your suggestion that we should serve as the
10 experts. I mean yes, we have SC&A to assist us
11 in doing NIOSH evaluations.

12 But Mark is perfectly capable of
13 doing an evaluation of the model. I'm
14 perfectly capable. And most of the people
15 sitting here at this table are perfectly
16 capable of looking at scientific facts and
17 making a decision.

18 So I interpreted your remark that
19 let's do something as a Board instead of
20 relying on our contractor. So if there is a
21 concern about the contractor is compromised in
22 some way, your suggestion eliminates that

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1 because we're not asking them to look at the
2 model. We're asking ourselves to look at the
3 model and exercise our own judgment.

4 CHAIRMAN ZIEMER: Well, I think you
5 are supporting what I said. I was concerned -
6 -

7 MEMBER POSTON: Very much so.

8 CHAIRMAN ZIEMER: -- that if we
9 asked NIOSH to present this, that we would not
10 say let's turn it back to SC&A for another
11 iteration. But let's see if we can come to
12 closure on it.

13 But let's look at other comments.
14 Jim?

15 MEMBER MELIUS: It's also why I
16 agreed with your suggestion, Dr. Ziemer. I
17 think that's helpful.

18 CHAIRMAN ZIEMER: Okay.

19 MEMBER MELIUS: And I think
20 secondly, I would just like to clarify for the
21 record that while I would be willing -- I
22 would be willing to accept to a source-term

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1 model in this case, I will say that I am very
2 skeptical of it. But I can be convinced. So
3 I think it is worth the time and effort to do.

4 And it is something that we're
5 going to have to look at in other situations
6 also. So we might as well deal with it now
7 and talk it through as a Board. And I think
8 that is the best way to do this.

9 I think the work group has done
10 what it could. And has accomplished a lot.
11 But there is this one issue that we really
12 need to deal with as a Board.

13 CHAIRMAN ZIEMER: I don't know if
14 we are at a consensus point on that. And,
15 Jim, I'm not even completely clear what it is
16 I've asked you to do.

17 And it may be that we would want to
18 return to this tomorrow.

19 The general idea here, I think, was
20 for NIOSH to present to us what there are
21 proposing to do to bound the doses and to
22 consider these issues.

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1 I'm not even sure fully what that
2 looks like. But it appears to me to be a
3 model with some parameters and perhaps some
4 conditions of how it is used and that kind of
5 thing.

6 John, did you have a comment? And
7 then we'll go back to Jim.

8 MEMBER POSTON: I want to make sure
9 that we don't let the thought drop. You
10 original suggestion was that we would be
11 provided with a document prior to this
12 briefing --

13 CHAIRMAN ZIEMER: Or in advance, in
14 advance.

15 MEMBER POSTON: -- so that we would
16 have time to review it.

17 CHAIRMAN ZIEMER: Right. But I
18 want --

19 MEMBER POSTON: And think about it.

20 CHAIRMAN ZIEMER: -- I'm not even
21 sure what it is -- that's why I say what I'm
22 asking you for. If I'm not sure, I'm not sure

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1 Jim is sure.

2 DR. NETON: Well, I think I have a
3 sense for what you are looking for. And I'm
4 fairly confident we can provide a revised --
5 whether it would be a revised site profile or
6 an addendum to the site profile or something
7 of that nature that would outline the
8 parameters of the model and how we would use
9 it in dose reconstructions along with some
10 example dose reconstructions using that model.

11 We'd be more than happy to do that
12 by the next Board meeting. I'm very confident
13 we can do that because the parameters are all
14 there. The model has been developed.

15 I think we'd need to do some
16 shoring up to address maybe some of Mark's
17 concerns that I'm hearing today. But we'd be
18 happy to do that.

19 CHAIRMAN ZIEMER: Anyone? Let me
20 ask if there are any Board members that would
21 feel that that is not the direction to go at
22 this moment. Otherwise I'm going to take it

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1 by consent that we will proceed along those
2 lines. If you have additional thoughts,
3 insights, or brilliant ideas tomorrow during
4 our Board work session that pertain to this,
5 we'll have perhaps an opportunity to further
6 elucidate the path that will be followed.

7 MEMBER MELIUS: We'll schedule a
8 session tomorrow evening.

9 CHAIRMAN ZIEMER: Right.

10 (Laughter.)

11 MEMBER MELIUS: And ask for
12 brilliant ideas.

13 CHAIRMAN ZIEMER: Okay. Thank you.

14 I think that brings us to at least
15 temporary closure on this agenda item -- not
16 closure but closure for today.

17 We are going to recess until 7:00
18 p.m. at which time we will have our public
19 comment period. So I think you all for the
20 good work today in helping us get through all
21 these issues. And we'll see you at seven
22 o'clock.

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1 MR. KATZ: And thank you, everyone
2 on the phone, for bearing with us and all our
3 technical difficulties.

4 (Whereupon, the above-entitled matter
5 went off the record at 5:02 p.m., to resume at
6 7:05 p.m.)

7 E-V-E-N-I-N-G S-E-S-S-I-O-N

8 7:05 p.m.

9 CHAIRMAN ZIEMER: Well, okay, we're
10 going to give it a whirl and see what occurs
11 here.

12 So I'd like to welcome the folks
13 who are here assembled as well as those who
14 are on the phone. This is the public comment
15 session of the Advisory Board on Radiation and
16 Worker Health.

17 We do need to remind you of the
18 ground rules again. First of all, we ask that
19 you -- if you are speaking, there is a ten-
20 minute time limit. So in courtesy to others
21 who wish to speak, please -- oh, Dr. Roessler
22 has asked to reduce that to five -- only

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1 joking, Gen -- no, it is a ten-minute time
2 limit. And please adhere to that in order to
3 allow others the time that they need as well
4 toward the end of the session.

5 Mr. Katz, our designated federal
6 official, will remind you of the ground rules
7 as far as the redaction policy.

8 MR. KATZ: Right. Just to remind
9 everyone, there is a verbatim transcript being
10 taken. So whatever you say will be there and
11 it will be up on the NIOSH website. If you
12 give us your name, then your name will appear
13 in the transcript.

14 If you identify other people,
15 though, third parties, generally speaking
16 their name will be redacted and some of their
17 information might be redacted as well to
18 protect their privacy.

19 Let's see what else I need to cover
20 here. I think that -- the policy for this --
21 for people who are here, the policy is on the
22 back table. And for people who are not here

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1 but can get to the website, the full policy is
2 on the website with the agenda for this
3 meeting.

4 CHAIRMAN ZIEMER: Okay.

5 MR. KATZ: I think that covers it
6 pretty well.

7 CHAIRMAN ZIEMER: Okay. Thank you
8 very much, Mr., Katz.

9 We have several individuals who are
10 here by phone this evening. We're going to
11 begin with Jan Lovelace. Jan, are you on the
12 line?

13 MS. LOVELACE: Yes, I am. Can you
14 hear me?

15 CHAIRMAN ZIEMER: Yes, we can, Jan.
16 So if you would proceed, that will be fine.

17 MS. LOVELACE: I've been having a
18 terrible time with my phone and I've listened
19 in some today and it has been very sporadic in
20 what I could hear.

21 CHAIRMAN ZIEMER: Well, please
22 proceed. We can hear you quite well here.

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1 MS. LOVELACE: Okay. Well, my name
2 is Jan Lovelace. I'm 67 years old. And I'm a
3 living widow from the Oak Ridge, Tennessee
4 area.

5 I thank you for allowing me to
6 speak on behalf of my [Identifying information
7 Redacted], as his wife and authorized
8 representative.

9 I have typed notes out here as I
10 want to say the correct things and not, you
11 know, jump around.

12 He has been sick -- worker claims
13 program -- he has been in the program for
14 seven years and five months. And perhaps what
15 I have to say will help others.

16 I was hesitant as I have been told
17 by our previous attorney if you ask questions
18 or cause trouble, DOL will deny you for sure.

19 I don't want to believe that statement.
20 We've already had five denials. And
21 [Identifying information Redacted].

22 My [Identifying information

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1 Redacted] has five [Identifying information
2 Redacted] and medical illnesses. He is
3 bedridden or recliner-ridden -- you know,
4 that's the only two places he is.

5 We've had five denials on Part B
6 and one denial on Part E. We and others
7 believe that these errors -- and a call to
8 NIOSH sent my head spinning last week when it
9 was confirmed over some of the things we have
10 been told.

11 I hope you'll forgive my voice as I
12 have a cough and I'm also a hillbilly,
13 speaking with a fast Southern.

14 I think this meeting is important
15 and I've been listening in as best as I could.
16 Most voices are not picking up and I hope I'm
17 speaking clearly enough.

18 I'll try to be brief and hit only
19 the high spots or as I consider the low spots
20 in our case. Perhaps at this meeting are
21 persons from DOE and DOL that can make
22 changes. And because of that, I am making a

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1 statement.

2 I realize this meeting is mostly
3 for the SEC Petitions but many sick workers
4 across this nation need to have files examined
5 and the SEC classifications passed for more
6 sites. We also need more forums around the
7 country where discussions can be held and an
8 easier claims process.

9 I'll try to be brief. As I stated,
10 [Identifying information Redacted] has been in
11 the claims system for seven years and five
12 months. We've had 15 different claims
13 examiners whose names I have and several
14 others we've talked with. Most have
15 compounded the errors.

16 Seven plus years is a long time to
17 keep trying to proving your job made you sick.
18 It's hard not to make this personal but
19 perhaps others can be helped.

20 I was told by an examiner last
21 summer and I quote, since you're wanting
22 something from DOL, you should not be critical

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1 of errors. Well those errors have effected by
2 [Identifying information Redacted]'s files and
3 his denials. The examiner's statement has
4 scared me from making some statements and
5 relaying some events even tonight.

6 While I'm happy so many have been
7 paid, many more a denied. Much good has come
8 from the program along with much heartache,
9 tears, frustration, and even anger at times.

10 I believe missing records and
11 errors have added to the frustration of
12 claimants and I know the administration cost
13 of the program has risen from errors.

14 The problem of missing files and
15 errors appears nationwide. My question being
16 one, who is accountable or responsible to make
17 changes in claimant's files or find their
18 missing files? And I know this is going up so
19 maybe if someone can respond to that later.

20 As a former DOE worker, my section
21 head asked me to shred papers numerous times.

22 Some were sexual harassment files, alcohol on

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1 the job, incident reports, lab accidents, and
2 other reports. I followed orders, never
3 dreaming 25 years from then other workers
4 might need those files. We did our job, never
5 realizing how dangerous even an office job
6 could be.

7 The sick workers would much rather
8 have had their lives and their families intact
9 rather than continually having to make claims
10 and live in hospitals and doctor's offices.
11 And many have gone to their graves.

12 Money cannot give back lives but it
13 can ease the burden of sick workers' families
14 and make the workers' last days easier.

15 [Identifying information Redacted]
16 is [Identifying information Redacted] now and
17 considered [Identifying information Redacted].
18 His one doctor asked me last week will he
19 outlast the claims process. After being in
20 the claims program for seven years and five
21 months, I don't know. Today he told me, I
22 will not [Identifying information Redacted]

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1 yet. He knows I'm truly involved in this for
2 his sake and others.

3 His doctors have written letters
4 and boxes have been furnished and the 1990
5 Industrial Safety Report from ORNL, Oak Ridge
6 National Laboratory. It states he received
7 numerous pure chemical and radiation exposures
8 plus carbon monoxide daily.

9 How do the dose reconstruction
10 personnel overlook such obvious data? Even
11 the DMC did not have the 1990 Industrial
12 Safety Report with his exposures or illnesses
13 listed.

14 It appears that sending a remand
15 back for dose reconstruction sometimes only
16 produces the same words, the same denials, and
17 even reduced probability. Lists of buildings
18 and toxic exposures are not acknowledged.

19 Most recently [Identifying
20 information Redacted]'s FAB branch examiner on
21 October the 10th, 2007, requested another
22 remand for his fourth cancer. That sent his

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1 file to storage. It did not get back to the
2 district examiners. It took me calling daily
3 and weekly to different people until December
4 the 8th to find his file.

5 Now five months since the remand
6 and now [Identifying information Redacted] has
7 been diagnosed and biopsied. His file has
8 just gone this month to NIOSH. They told me
9 in October we would have an answer within two
10 months from the remand. Will it be two more
11 months added to the five already past? His
12 [Identifying information Redacted] December
13 20, 2008 has taken a large toll on him. This
14 is not the first time his file has disappeared
15 for a month.

16 Thirty-two years of working for the
17 Department of Energy in Oak Ridge, Tennessee
18 at two sites, the Y-12 weapons plant in 1959
19 to 1964, and the ORNL X-10 plant from 1974 to
20 2000 -- and only the last eight years he
21 worked are records available with a few
22 scattered files from the other 24 years are

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1 available. How can that be a fair evaluation
2 of a worker's claim?

3 His file we received from
4 Department of Labor contained five other
5 worker's files and social security numbers. I
6 asked who received [Identifying information
7 Redacted]'s other records. This has happened
8 to others also, which I'm sure you have heard
9 about.

10 Who is responsible to help us? Why
11 does a sick worker have to continually prove
12 there are sick from working in a nuclear
13 plant? Facts prove it, but when the records
14 are missing, that does not mean the exposures
15 did not happen.

16 We know of his exposures, and those
17 years are missing. We also question if the
18 other workers' medical files we received were
19 used to deny his claim.

20 When you see the year in question
21 missing from a medical file, it is a problem.

22 He has page eight listed as 1986, page nine

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1 is missing, and page ten picks up with the
2 year of 1988.

3 Mr. Turcic -- I hope I said his
4 name correct -- wrote to our Congressman, Zach
5 Wamp in 2005 that [Identifying information
6 Redacted] did not work a monitored job. He
7 did. He worked the same job as a fireman for
8 27 years, and 1987 is the year we reported two
9 definite exposures, his call ins, and his
10 dosimeter readings off the chart.

11 All his cards now have the same
12 zero, same handwriting and all. Why must sick
13 workers prove they became sick from working
14 their jobs at a nuclear facility? The facts
15 are known. The contamination is there in
16 laboratories, in buildings, and even on the
17 ground, particularly the nuclear burial
18 ground.

19 Over 400 buildings are to be
20 demolished and destroyed due to contamination
21 at Y-12 and ORNL, which is also called X-10.
22 And that's the list I have from 2008. And

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1 maybe more have been added.

2 My question has been, before, are
3 employees still in these buildings? Yes, they
4 are. [Identifying information Redacted] went
5 to the nuclear burial ground every day he
6 worked. And even recently, 70 mason jars of
7 radioactive material were found on the near
8 surface.

9 The fireman had to drive there to
10 check for fires and put out fires. And also
11 to get the dead animals from under the
12 reactors. Eight firemen working this same job
13 at ORNL have been diagnosed with cancer below
14 the waist. Six received their settlements in
15 2001 and 2002 with no problem. And I'm very
16 happy for those.

17 The eighth was recently diagnosed
18 with colon cancer, and filed his claim in
19 December 2008. But [Identifying information
20 Redacted] was singled out as a low exposure
21 position. Who is accountable to make a change
22 to classify him as a high exposure position?

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1 I have written and called all offices about
2 this for many years.

3 These firemen were HAZMAT-trained
4 workers, first responders trained to handle
5 chemicals and radiation fields or alarms.
6 Daily, the firemen answered alarms, and then
7 sometimes they might find out what they
8 stepped into. Surely they should all be
9 classified as high exposure.

10 They go to the alarms with their
11 badges and dosimeters underneath their
12 fireproof turnout gear. How can that give a
13 fair reading?

14 [Identifying information Redacted]
15 remembers standing in liquids spilling out of
16 barrels from the underground storage nuclear
17 areas. He said that was frightening to him
18 even then, not knowing what it was or what was
19 going to happen.

20 When I called about his
21 classification to Jacksonville into NIOSH last
22 week, the NIOSH representative -- her

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1 statement stopped me cold. And I quote, you
2 know when you file for other cancers, it
3 usually lowers the percentages. It certainly
4 has happened to us already.

5 NIOSH lowered his [Identifying
6 information Redacted] from 30.262 rems in 2004
7 to 1.825 rems when we submitted [Identifying
8 information Redacted] number two and
9 [Identifying information Redacted] number
10 three. And that was his denial in 2005.

11 The statement in each denial, and I
12 quote, we have better computer modules to
13 determine exposure. That sure stings. NIOSH
14 and DOL will still have him listed as a
15 laborer, foreman, fire inspector, and up to
16 commander, like he was a foreman, not a
17 HAZMAT-trained worker going to the nuclear
18 burial grounds, and every contaminated
19 building, lab, and grounds every day he
20 worked. A nuclear fireman for 27 years is not
21 a low-exposure position as stated in each
22 denial.

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1 Well, I stuck my pages together
2 here, just one more please, and we've had 15
3 claims examiners, and each one has made an
4 error, and even compounded the errors from the
5 previous person.

6 Who has the authority to make these
7 changes? I've asked NIOSH. They say DOL.
8 DOL says NIOSH has to make it. Our problems
9 have been errors and lost files. And many of
10 my letters about errors have been written from
11 the hospital. My laptop, my printer, and I
12 follow the ambulance to make a personal
13 statement.

14 It is a terrible life to live
15 packed up to go to the hospital for the last
16 ten years. More horrible and heartbreaking is
17 to go first thing each morning, all during the
18 day, and any time I'm up at night -- and the
19 last thing I do at night is to see if
20 [Identifying information Redacted] is
21 [Identifying information Redacted].

22 So far I've been able to care for

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1 him by myself, as we do not qualify for any
2 services, even from Veterans, since we have a
3 small bank account. Private nursing is our
4 only option, and our savings will not allow
5 that.

6 Unexplained [Identifying
7 information Redacted], and other medical
8 problems sure ruin your life, as does months
9 at a time in the hospital.

10 Tennessee Senator Bob Corker's
11 office called today to ask for an update, if I
12 had heard anything. Senator Lamar Alexander's
13 office and Representative Zach Wamp's offices
14 have also been involved. Mostly their
15 questions have been answered by form-type
16 letters, and no resolution to getting his job
17 classification changed from low exposure to
18 high exposure.

19 Senator Corker's aide today stated
20 this job classification for high exposure
21 seems to be black and white. And she also
22 stated, we've called and written everyone at

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1 the top of DOL and NIOSH, and we can't get an
2 answer. Who can?

3 I could go on for hours about the
4 problems we face, and frustration, and wanting
5 [Identifying information Redacted] to have the
6 best care he can have keeps me questioning.
7 Even with insurance, our savings are going
8 down fast. The 401(k)s we saved when we both
9 worked have diminished, and may not last.

10 When you receive a 1,074 dollar, a
11 572 dollar, and a 275 dollar-type co-pay,
12 which were just both from last week, it does
13 not take long for us to have to take out
14 15,000 to 20,000 dollars for the last five
15 years to pay his medical bill

16 Please make the claims process
17 easier for the sick workers, and consider
18 other sites and years for Special Cohort
19 Exposure.

20 I thank you for your time, and
21 hopefully, clarification of [Identifying
22 information Redacted]'s file.

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1 CHAIRMAN ZIEMER: Thank you very
2 much.

3 Just to remind others who are on
4 the line, when you're not speaking, please
5 keep your phones on mute. We are having some
6 feedback from other sidebar conversations.

7 And thank you, Jan, for your
8 comments to us.

9 Next we'll hear from Jennifer
10 Thompson, who is a petitioner representative.

11 Jennifer, are you on the line?

12 MS. THOMPSON: Yes, I am.

13 Good evening. This is Jennifer
14 Thompson. I am the designated petitioner
15 representative for Rocky Flats Special
16 Exposure Cohort Petition 00030.

17 I wanted to begin by saying that
18 I'm very disappointed in the ongoing delays
19 that have been experienced by individual Rocky
20 Flats claimants, and throughout the Rocky
21 Flats SEC Petition process. And this is just
22 one more example where delayed actions have

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1 resulted in injustice for Rocky Flats workers.

2 And what I'm speaking to is the
3 issue regarding the Ruttenberg dataset that
4 has been a topic of conversation for the last,
5 I guess, eight months or more. And this is
6 just another example of where the delayed
7 actions have resulted in an injustice for
8 Rocky Flats workers.

9 It is also another in a long track
10 record of inaccuracies from determining what
11 facilities had ionizing radiation, to
12 determining what particle size to use for dose
13 reconstruction. And now the statements
14 regarding the Ruttenberg data.

15 This program has had a track record
16 of NIOSH confidently stating something as a
17 fact that later turns out to be an error. The
18 only question is, did the individuals making
19 these comments know they were in error, or
20 simply is it just a matter of ignorance?

21 In either case, the result is the
22 same. Rocky Flats workers with cancer have

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1 died waiting for NIOSH and our government to
2 make good on a long-standing promise.

3 The Rocky Flats SEC petitioners
4 would like to have the following questions
5 answered:

6 Why did the Office of Compensation
7 Analysis and Support state that the NIOSH and
8 Ruttenberg dataset overlapped 100 percent?

9 What took so long for NIOSH to
10 obtain the Ruttenberg dataset and examine it
11 closely?

12 How many workers, how many Rocky
13 Flats workers have been denied compensation
14 under the SEC because of the negligence in
15 obtaining this crucial data, and in examining
16 it closely?

17 What will be the protocol for NIOSH
18 when comparing the Ruttenberg/Rocky Flats
19 dataset with the NIOSH set, and how long will
20 it take for NIOSH to make that comparison?

21 Will SC&A be tasked to participate
22 in the Rocky Flats dataset comparison of the

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1 NIOSH versus Ruttenberg data, and then what
2 impact does this have on the Rocky Flats
3 Special Exposure Cohort Petition?

4 Then that's all I have.

5 CHAIRMAN ZIEMER: Jennifer, while
6 you're on the line, and Mark Griffon is here,
7 who's making some notes, but on your first --
8 the first question you raised, the line broke
9 up a little bit, and we didn't catch that
10 fully. Would you mind repeating that first
11 question, because Mark Griffon is making --

12 MS. THOMPSON: The first question I
13 read?

14 CHAIRMAN ZIEMER: Yes.

15 MS. THOMPSON: Okay, why did the
16 Office of Compensation Analysis and Support
17 state that the NIOSH and the Ruttenberg
18 dataset overlapped 100 percent?

19 CHAIRMAN ZIEMER: Okay. Thank you
20 very much.

21 As I said, Mark Griffon was making
22 some notes on those comments. And as you

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1 know, he's working with that work group, and
2 we'll keep you apprised as things proceed.

3 Thank you very much.

4 MS. THOMPSON: You're welcome.

5 CHAIRMAN ZIEMER: Next we have
6 again on the line Terrie Barrie. Terrie, are
7 you with us?

8 MS. BARRIE: Hello, Doctor. I
9 really didn't have comments prepared.

10 CHAIRMAN ZIEMER: Okay. I wasn't
11 sure. I know that perhaps you were there in
12 supporting Jan, but --

13 MS. BARRIE: Questions to
14 Jennifer's questions -- or answers to
15 Jennifer's questions need to be forthcoming
16 immediately. This database issue has been
17 going on for some time now, and I think the
18 Rocky Flats claimants need an answer as soon
19 as possible. Thank you.

20 CHAIRMAN ZIEMER: Right. Thank
21 you, Terrie.

22 We also are in possession of some

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1 Congressional letters which will be read into
2 the record, and I believe Jason is prepared to
3 do that for us this evening.

4 And I think, Jason, are there three
5 letters that need to be read into the record?

6 MR. BROEHM: Yes, I have three
7 statements.

8 CHAIRMAN ZIEMER: Thank you.

9 MR. BROEHM: So the first is from
10 Congressman John Shimkus.

11 So it says, Dear Board Members,
12 Thank you so much for allowing me the chance
13 to have this letter read into the record. I
14 know you've heard from many other elected
15 officials, concerned citizens, and most
16 importantly, former workers over the last two
17 days.

18 For the last seven years, I have
19 been intricately involved in the on-going
20 battle on behalf of the workers of Dow
21 Chemical in Madison, Illinois, many of whom
22 live in my district. Recently, dose

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1 reconstructions finally started taking place,
2 and within the last month, some of the former
3 workers finally began receiving their
4 compensation.

5 For your longstanding attention and
6 work on this, I thank you. However, we still
7 have much work to do, both legislatively with
8 the Act itself, and through the existing
9 process.

10 Dr. Denise DeGarmo is with you
11 tonight. Dr. DeGarmo has been very helpful to
12 many of the workers and to my office on
13 continuing to find information that might be
14 useful to extend the SEC for the Dow workers.

15 I commend her and her work, and
16 thank her for her dedication. It is worth
17 noting Dr. DeGarmo neither gets compensated
18 for this, nor reimbursed for her trips to your
19 Board meetings. She acts out of an interest
20 for the workers.

21 Dr. DeGarmo submitted materials to
22 the Department of Labor in November --

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1 CHAIRMAN ZIEMER: Hold on just a
2 minute.

3 MR. KATZ: Folks on the telephone,
4 I know it's probably not that easy to hear,
5 but it's got to be more difficult to hear if
6 you're carrying on conversations, as well.

7 So please, if you would mute your
8 phones, we will try to crank up the volume
9 here as much as possible. But that will help,
10 as well.

11 Thank you.

12 CHAIRMAN ZIEMER: Sit here, Jason,
13 and maybe that will help. We're going to have
14 the individual reading the comments come
15 closer to this phone speaker. Perhaps that
16 will help.

17 I know there's apparently still a
18 buzz on the line, but we'll try this.

19 MR. BROEHM: Okay.

20 Dr. DeGarmo submitted materials to
21 the Department of Labor in November that
22 directly impact the Dow case. At that time,

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1 she was told the review would be complete well
2 in advance of this meeting. Unfortunately,
3 such review is not complete, and we are in yet
4 another waiting game, a game we find ourselves
5 in all too often when it comes to Dow.

6 I realize as a Board you do not
7 control the Department of Labor, but I would
8 urge you to urge the Department, as I have, to
9 proceed as expeditiously as possible on this
10 review.

11 Additionally, I would like to also
12 take this opportunity to thank Dr. McKeel for
13 his help with the Dow case, and also urge
14 quick action on his FOIA requests. Sincerely,
15 John M. Shimkus, Member of Congress.

16 And now I have two statements from
17 Senator Schumer, Senator Charles Schumer, from
18 New York. The first one is on the Linde
19 Ceramics SEC Petition.

20 Thank you to the Board for
21 affording me this opportunity once again to
22 petition for Linde Ceramics' application to

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1 have an extended time frame at their site
2 added to the Special Exposure Cohort. I
3 understand that these meetings are very long,
4 and I appreciate how accommodating the Board
5 has been in allowing me to offer my support
6 for this important application.

7 I'm extremely supportive of the
8 Linde SEC Petition, and I respectfully urge
9 you to recommend adding the extended time
10 period at this facility to the SEC. In the
11 past, there had been some issues with this
12 particular petition, but I hope that this year
13 will yield some progress.

14 The Linde Ceramics facility,
15 located in Tonawanda, New York, produced fuel
16 for the Department of Energy for years. In
17 the process, many employees, both during these
18 years and in the residual period, were exposed
19 to toxic and radioactive uranium.

20 The site profile for this facility
21 does not adequately take into account a number
22 of factors, and there is strong reason to

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1 believe that it will underestimate applicants'
2 exposure, and thus the probability of
3 causation.

4 To risk uniformly and consistently
5 underestimating the probability of causation
6 at a site violates the statutory requirement
7 of a claimant-friendly process. In a case
8 such as this, it is imperative that the Board
9 acknowledge the shortcomings of the available
10 information, and recommend adding the site and
11 time in question to the SEC.

12 Especially in light of the fact
13 that there is already a class of the SEC at
14 this site, it is readily apparent to me and to
15 many of my colleagues that there is simply a
16 paucity of reliable information for this
17 location.

18 It is unacceptable to delay adding
19 these other time periods to the SEC, as well.

20 These men and women are ill and dying.
21 Simply said, they cannot afford to wait any
22 longer.

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1 Our country built this nuclear
2 arsenal, and with it, our global dominance on
3 the backs of Linde Ceramics' plant's workers.

4 After everything that our government has done
5 to these men and women, after everything that
6 they sacrificed for our continued safety, we
7 must take action.

8 Their great sacrifice merits our
9 greatest thanks, and we can show some small
10 share of what we owe to these men and women by
11 supporting their appeals for restitution.

12 Again, thank you for allowing me to
13 submit testimony for your consideration. I
14 respectfully request that you recommend
15 granting this petition, and I thank you for
16 your time and consideration.

17 And now I have a second statement
18 from Senator Charles Schumer from New York,
19 this one relating to the Bethlehem Steel SEC
20 Petition.

21 Thank you for allowing me to
22 address the Board today on the critical issue

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1 of admission to the Special Exposure Cohort
2 for Bethlehem Steel, located in Lackawanna,
3 New York. As you all know, I have been
4 strongly advocating the creation of a class in
5 the Special Exposure Cohort for Bethlehem
6 Steel for many years now.

7 The veterans of this facility are
8 sick, and many are dying. We owe it to these
9 men and women to recognize their service and
10 their sacrifice with an admission to the SEC.

11 Today, members of the Bethlehem
12 Steel Action Group are advocating for the
13 site's admission to the SEC. I'm humbled by
14 the self sacrifice and tenacity of their
15 members in continuing this fight.

16 I hope that I and all of my
17 colleagues in the Congress who are supporting
18 this application are able to live up to the
19 high standard that these wonderful activists
20 have set.

21 In constructing its site profile
22 for Bethlehem Steel, NIOSH relied very heavily

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1 on data from Simonds Steel in Lockport, New
2 York to fill in the gaps in the available data
3 for Bethlehem.

4 In the years since the site profile
5 was completed, it has become apparent that the
6 use of surrogate data in Bethlehem site
7 profile is much higher than in most other
8 profiles. Furthermore, the accuracy of the
9 comparison between Bethlehem and Simonds has
10 been challenged time and again by former
11 workers. It is my strong belief that the
12 estimated surrogate profile cannot, by any
13 means, accurately reflect the situation in
14 Bethlehem Steel.

15 In light of all of the unknown
16 variables at this site, I think it only
17 reasonable for the Board to acknowledge that
18 the available data is not sufficient to create
19 a workable profile. The profile that exists
20 now cannot live up to the statutory mandate of
21 a, quote, claimant-friendly, unquote,
22 assessment.

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1 Bethlehem's admission into the SEC
2 is the only appropriate course of action in
3 such a case. The SEC's broad reach is the
4 only tool that will guarantee that the former
5 workers of Bethlehem Steel receive the care
6 and compensation that Congress has rightly
7 deemed their recompense.

8 Please recommend adding a class to
9 the SEC for this site as quickly as is
10 reasonably possible. The men and women who
11 have worked for Bethlehem Steel, manufacturing
12 fuel for the nation's nuclear weapons, are
13 veterans of America's brutal Cold War,
14 although they may not wear the uniforms that
15 we commonly recognize in our veterans.

16 We owe our continued safety to
17 their hard work and sacrifices. These heroes
18 deserve our gratitude and rightful
19 compensation. With so many of these veterans
20 aging and ill, it is imperative that this be
21 done as quickly as possible. Simply said,
22 they cannot afford to wait any longer.

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1 Again, thank you for the chance to
2 address you today, and thank you for the
3 careful consideration that you give to this
4 and all of the petitions you consider.

5 CHAIRMAN ZIEMER: Thank you very
6 much.

7 And next, we'll hear from Wayne
8 Knox.

9 MR. KNOX: I'll go last.

10 CHAIRMAN ZIEMER: Wayne wants to go
11 last, okay. Then we'll skip to Donna Hand,
12 and I'm going to suggest that all of the
13 participants now sit here by this phone
14 receiver or speaker for the benefit of those
15 on the line.

16 Those on the line are you still --
17 I know there's probably still a buzz, but can
18 you hear better this way?

19 PARTICIPANT: No, we can't hear
20 you.

21 CHAIRMAN ZIEMER: Yes, well, we're
22 doing the best we can, I think, so -- and

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1 we're getting the speakers right up here by
2 this phone unit, so that's about as good as we
3 can get it.

4 And here's Donna Hand.

5 MS. HAND: My name is Donna Hand.
6 I'm from the Florida Nuclear Workers of
7 Florida organization. I'm a claimant
8 advocate, as well as an authorized
9 representative.

10 I would like to establish that
11 there are some issues concerning the SEC
12 Petitions qualification procedures, that
13 within the statute or the regulations 83.9, it
14 says that, if you go underneath the claimant
15 end of it, that you must include certain
16 identification material.

17 That was done in the Pinellas Plant
18 SEC Petition. However, on January the 26th,
19 '09, we received a letter stating that our SEC
20 Petition did not qualify after their
21 evaluation.

22 Now according to the 83.9, you must

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1 include the proposed definition specifying
2 facility. We did, Pinellas Plant. Location,
3 we did all areas within the boundary plus the
4 temporary plant.

5 It was in the very sentence of the
6 qualification period, it says, we cannot
7 include the temporary plant because it's not
8 in the site profile. However, in two of the
9 site profiles and in the SC&A audit review, it
10 has the temporary plant. This process was
11 started at the temporary plant, and they
12 completely ignore that.

13 The third issue is job titles
14 and/or job duties. We did that. We did the
15 job titles and our job duties. That was
16 required, and we even included first and
17 second tier subcontractors. This was
18 administration, janitors, construction
19 workers, maintenance assemblers, processors,
20 testers, and et cetera.

21 Then it says the period of
22 employment relative to a petition. We did

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1 that, from 1956, so the small, temporary
2 building would be covered, all the way up
3 until 1997.

4 The processes and everything ended
5 up in about 1994. But from '94 to '97, they
6 were decommissioning and decontaminating.
7 Those workers stayed on and decommissioned and
8 decontaminated that site. Therefore, 1997
9 would be the cutoff date.

10 Again, it did not qualify, and
11 according to the regulations, the satisfying
12 requirements under 83.9 means the petition
13 will -- which is mandatory -- will receive a
14 full evaluation by NIOSH, the Board, and HHS
15 as described under 83.13 through 83.16.

16 We did the qualification, we met
17 the requirement, and we included that. Then
18 why are they denying us a qualification? Why
19 are they denying us a full review?

20 You already had an issue today in
21 the SEC Petition about a temporary building.
22 This is coming up again. That's why I knew

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1 that I needed to put that temporary building
2 in there.

3 And to deny the qualification
4 because it wasn't there, I'm bringing it to
5 their attention. If they're not using it,
6 that means they're missing that dose
7 reconstruction for those workers and those
8 claimants.

9 If the classified information is
10 not available to you, last night I gave you
11 the sites and the regulations that said, this
12 still has to be done in a timely manner. And
13 in a timely manner means, you treat that
14 documentation as if you don't, so therefore,
15 if you do not have that data, you have to give
16 them a SEC Petition, because you cannot do it
17 with sufficient accuracy.

18 They keep on saying significant and
19 primary. Nowhere in the law do I see the
20 words significant and primary. I see,
21 characterize your occupational environment,
22 and if they're unmonitored, the potential

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1 exposure to radiation. And it defines
2 radiation.

3 The law, as far as I've seen -- so
4 please, will somebody point it out to me where
5 it says, only use significant and primary?

6 I went ahead and checked how NIOSH
7 defines significant. Well, in 10 CFR Part
8 83.5, Appendix D, significant contamination is
9 contamination in excess of those found in
10 current occupational radiation protection
11 service contamination values. So if you're
12 going to use that, then you'd better use those
13 values to say that that's significant.

14 Thank you very much.

15 CHAIRMAN ZIEMER: Thank you very
16 much, Donna.

17 Next is -- it looks like Danny
18 Beavers. Is it Beavers? Yes, Danny. Again,
19 if you will come up here, Danny, hopefully our
20 folks on the line will be able to hear it a
21 little better.

22 MR. BEAVERS: Thank you. I didn't

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1 really know I'd signed up to talk, but I will.

2 CHAIRMAN ZIEMER: Well, I don't
3 know.

4 MR. BEAVERS: I have dealt with
5 this program since it started, since we
6 started the program. And in working with it,
7 I worked in Los Alamos for many years as a
8 pipefitter. And I think the program was set
9 up to do the right thing, and pay people that
10 worked doing these projects, and not always
11 knowing what the outcome was going to be for
12 their health.

13 It just seems like obstacles have
14 been put in their way, and anything we can do
15 to make it easier for them to be compensated
16 for what they did, or their spouses or loved
17 one, to not have to put them through the --
18 what they are having to go through now to get
19 compensated, it seems like it would be morally
20 the right thing to do.

21 And to see the money that is spent
22 even right now through these types of meetings

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1 and situations all over the country, it just
2 seems like it's going backwards. And I don't
3 understand why it's so difficult, why it's
4 trying to be made so difficult when the
5 Government did the right thing by passing the
6 law initially, and it's gotten to the point of
7 where they have -- I've seen the difference in
8 payments since the SEC for Los Alamos was
9 passed recently. I know members of mine whose
10 fathers passed away years ago, and their
11 claims are readdressed, and they were
12 compensated now.

13 Some of them, their mothers have
14 died, and they're the survivors, so they got
15 compensated, but their parent, or their mother
16 went through all those years in debt for
17 medical bills left for a spouse that passed
18 away working in an environment that, at the
19 time, he may not, or probably did not know
20 what it may cause to his health while he was
21 doing his job.

22 And all of us go there just to do

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1 our job. You don't know that you're going to
2 -- I don't think any of us would go work in an
3 environment where they would say, you're going
4 to die in ten years after you work here.

5 So I mean, the right thing to do is
6 just try and make it as easy as we can for the
7 surviving members or the person that's ill to
8 live their last days knowing that their spouse
9 or their family will be taken care of when
10 they're gone. And I think that was the intent
11 of the law initially, and I would just speak
12 in favor of the petition that was submitted
13 for Los Alamos.

14 Thank you.

15 CHAIRMAN ZIEMER: Thank you for
16 your comments.

17 And then Sammie Hayes.

18 MS. HAYES: Since I am vertically
19 challenged, I'm glad you didn't want me to
20 stand.

21 CHAIRMAN ZIEMER: Right. You're
22 welcome to sit here by the telephone speaker.

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1 MS. HAYES: I just wanted to thank
2 the Board for sitting here and listening to
3 all of us. It must be really depressing --

4 CHAIRMAN ZIEMER: Just get close to
5 the phone.

6 MS. HAYES: -- very -- okay -- very
7 depressing to sit here and listen to all of
8 the suffering that has gone on because of
9 people's work environment.

10 I'm Sammie Hayes, and my husband
11 died May of 2005, and he was the claimant, and
12 after he passed away, I continued his claim.

13 He worked for LANL at MAC 1 in Shop
14 13. Now what is Shop 13? Shop 13 is the shop
15 where they cut all those exotic metals. One
16 of them was uranium. Others were beryllium
17 and lithium.

18 And he was an operator/technician.

19 His job included cleaning up the machines,
20 and they also had to store or pack the chips
21 that these machines put out after the machined
22 item was finished. He was exposed to all of

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1 this stuff, the cleaning fluids, the
2 radiation, and all of the nasty stuff that was
3 there.

4 One of his other positions, and one
5 of the other things within his job, he assumed
6 the position or the task as a nuclear
7 materials custodian. Do you know what that
8 means?

9 That means that he had to account
10 for every ounce, or very small amounts of
11 nuclear materials that went into that shop and
12 came out. This is a hands-on task. So
13 further exposures.

14 I listened to NIOSH try to defend
15 why they did not recommend approval of this
16 petition, and I was very upset with the fact
17 that they said they had new -- new data. My
18 question is, where did that data come from?
19 That data was not there between the years of
20 2001 and 2005 when this process started.

21 I worked for Johnson Controls in
22 Human Resources, and I worked with the

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1 individuals who were gathering the data from
2 LANL. They couldn't find it. It was not
3 there.

4 So where did this data come from if
5 they are filling in all of these holes in
6 data? I would like to know. When did they
7 find it? Did they pull it out of their hat or
8 something?

9 The other thing is, is it reliable
10 data? If they didn't have it in those
11 previous years, and they now have it, where
12 did it come from? I know this is -- I'm
13 repeating myself, but it does not make a whole
14 lot of sense.

15 I'd like to know also how they
16 could -- how they figured my husband's dose
17 reconstructions, either as an
18 operator/technician, which he was, or the
19 nuclear materials custodian. I mean, this is
20 two -- one position that includes two very
21 important pieces.

22 Where did they -- how did they do

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1 this? They denied his claim. They've denied
2 it twice or three times. And they can never,
3 ever explain exactly why they denied it,
4 because they have all of these charts, these
5 charts that nobody but them can read.

6 Frustration level is very high.
7 I've listened to a lot of these people here
8 who have had untold illnesses. I watched my
9 husband die for three years. When you watch
10 somebody you love, the person who was your
11 soul mate, die, you want to take somebody out
12 and wring their neck, because you know that,
13 in their environment, they were exposed to
14 stuff that causes -- he had three separate
15 cancers, and he was exposed to stuff that
16 caused stuff.

17 NIOSH is in the business of
18 guesstimating. They call it probabilities.
19 It's guessing. And they cannot prove that
20 it's not.

21 I state my case.

22 CHAIRMAN ZIEMER: Thank you,

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1 Sammie, for sharing that with us.

2 The last speaker on the list is
3 Wayne Knox. And is Wayne with us? Okay.
4 We'll stand by just a minute.

5 MR. LEYBA: Do the people on the
6 phone get an opportunity to get involved?

7 CHAIRMAN ZIEMER: Yes, we will do
8 that here in just a moment.

9 Mr. Knox, are you ready to go, or -
10 - I have someone on the phone that wishes to
11 speak. Do you have some materials that you
12 need to distribute? Why don't you start
13 distributing those, and gentleman on the
14 phone, if you wish to comment, tell us your
15 name, and then you may proceed.

16 MR. LEYBA: My name is Jerry Leyba.
17 I'm with LAPOW, Los Alamos Project on Worker
18 Safety. And I'm also a claimant.

19 I worked as an RCT, radiological
20 control technician at GA-55 and at CMR, and I
21 want to make a comment for the SEC for Los
22 Alamos National Laboratory.

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1 I feel that the Radiation Advisory
2 Board, NIOSH should approve this SEC for LANL
3 due to the lack of data that is correct data
4 that was given by the Institute of
5 Occupational Medicine to NIOSH for dose
6 reconstruction under the IREP model, which I
7 feel has nothing to do with the workers at Los
8 Alamos and other nuclear facilities around the
9 country, because they are based on survivors
10 of Hiroshima and Nagasaki.

11 And also, a lot of the people that
12 are involved with LAPOW who have been denied,
13 denied, denied, when we look at the statistics
14 on Department of Labor's website, I believe
15 there's about 17,000 who have filed claims for
16 LANL, and only approximately 130 of them were
17 approved, and that is less than one percent.

18 I feel that the things that took
19 place at GA-55 over at CMR during the Tiger
20 Team, all the chemicals that we had there that
21 we took out by dump truck loads, and also with
22 the physicians, a lot of the physicians in Los

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1 Alamos are not willing to give medical
2 evaluations. And I wonder why that these
3 doctors are not as cooperative, and make the
4 claimants go in circles.

5 I feel that -- I've been denied
6 myself four times. As an RCT, I worked at
7 doing bag outs, or filters, or
8 decontamination. I felt a lot of the exposure
9 that came from PU-238, 239, we worked with
10 cobalt-60, cesium-137, and I know there is a
11 lot of exposure for people who worked there
12 for more than 30 years, and yet when they get
13 their records, how can their records being
14 showing 0.001 millirem. That is incorrect
15 data.

16 And we know that the Department of
17 labor and Department of Energy had to tell the
18 Los Alamos National Laboratory, Institute of
19 Occupational Medicine, that the data that they
20 were sending for dose reconstruction was not
21 accurate.

22 And I feel that the LANL SEC should

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1 be approved, because there are many claimants
2 who are really having a hard time. It's
3 frustrating. They're very depressed. They
4 don't know what more they have to do with
5 sending medical information to you folks.

6 I feel that it is time for the
7 Radiation Advisory Board and NIOSH to face up,
8 as I heard the comments last night by
9 [Identifying information Redacted], and what
10 happened to her [Identifying information
11 Redacted], and also to [Identifying
12 information Redacted], and also the testimony
13 that [Identifying information Redacted] gave,
14 and the petition that [Identifying information
15 Redacted] presented to you folks.

16 As a representative of the Los
17 Alamos Project on Worker Safety Nuclear Group
18 Study, and also for UPTE, University of
19 Professional and Technical Employees, it is
20 time for the Radiation Advisory Board and
21 NIOSH to give serious consideration on this
22 LANL SEC Petition.

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1 I thank you much for listening.

2 CHAIRMAN ZIEMER: Okay. Thank you
3 very much for those comments.

4 Next we'll hear from Wayne Knox.
5 Wayne? Stay very close to there.

6 MR. KNOX: Okay. Great. I feel
7 privileged to be up here. Now I can make some
8 decisions.

9 Thank you very much for inviting me
10 to come up to the head table and talk.

11 The Board has heard a tremendous
12 amount about problems that have occurred at
13 the site, and I know it's difficult to believe
14 that all of these things actually go on. No
15 one, to my knowledge, has come up and shown
16 you anything in writing and proof as to what
17 really went on.

18 I have that proof, and I want to
19 present it to you in terms of documentation,
20 and in terms of a video. I have supplied to
21 you more documentation over there, and I have
22 provided four videos that actually show what

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1 is going on in terms of the exposures of
2 people at the DOE sites, in particular, one
3 site.

4 I am not suggesting that this
5 occurs at all DOE sites, but I'm taking one
6 case, and running through a dichotomy of it,
7 and show you what really has happened.

8 I provided you some examples of
9 what is contained in this package. I have a
10 stack more of this documentation available to
11 provide further support to what I say if you
12 need it.

13 So let's start with number one.
14 Number one is a certification whenever waste
15 is analyzed, disposed of, it has to be
16 certified. This certification here is a
17 certification from the Department of Energy
18 Plant Manager and a Project Manager which
19 certifies that, to their best knowledge and
20 belief, true -- that this information is true,
21 accurate, and complete.

22 And they also acknowledge that they

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1 are submitting this with the understanding
2 that there are possible fines and imprisonment
3 for knowing violations.

4 Number two is the information that
5 was presented to me as a Project Manager,
6 which states the amount of tritium that was
7 contained in the sludge that we were supposed
8 to mix. You will note that, under tritium in
9 the sludge, it has NA. However, if you will
10 move over further to the right to the last
11 column, you'll note that, in the liquid
12 potion, the liquid sitting on top of the
13 sludge, there is some tritium.

14 I consider this to be unusual.
15 Tritium generally does not behave in this
16 manner unless there is some weird chemistry
17 going on.

18 I inquired about this
19 inconsistency, and they said they had an 800-
20 page validation and verification report that
21 was performed by SAIC which said no tritium
22 was in the sludge. You needed no protection

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1 from tritium.

2 Westinghouse wrote the radiation
3 work permit. And as you can see where I have
4 circled there, there are no provisions for
5 protection from tritium. There is no
6 monitoring of tritium. And just as a note,
7 tritium requires specialized protection, and
8 it requires specialized monitoring.

9 Number four, being a good health
10 physicist, I said that we should cut this tank
11 in this manner just in case, because the first
12 thing you think about as a radiological
13 engineer is the engineering design to prevent
14 exposures from people.

15 I submitted this engineering
16 design. It was rejected. It was rejected
17 because they said, if one of my workers were
18 to cross hands, were to cross this imaginary
19 boundary, it would be a confined entry
20 violation. I don't think that's true.

21 The next sheet, number four, we
22 started mixing the sludge inside of a tank.

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1 And this report says that the levels of
2 organic compounds, the smell inside of the
3 tent, rose very high, and we had to evacuate
4 the tent. At that time, no tritium was in the
5 sludge. There were, obviously, organic
6 compounds.

7 We evacuated the tent.
8 Westinghouse provided no organic filters,
9 because nothing was going to be released.
10 They provided no -- no organic filters on the
11 exhaust of the tent, which I requested that
12 they do. They refused. They also refused to
13 elevate the exhaust point, so there was a
14 ground level release of material so strong
15 that the radiation technician refused to go
16 near the exhaust to collect the sample.

17 Number six, you'll see the IH --
18 the Industrial Hygiene people came over and
19 made measurements inside of the tent, and in
20 the viewing gallery where we were standing, we
21 could smell it. They made these measurements
22 inside of the tent.

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1 Now, these are measurements of
2 organic compounds. Tritium can be bound with
3 organic materials. The dose conversion factor
4 for organic-bound tritium is greater than that
5 of tritium and water, and certainly of tritium
6 and air.

7 I have provided you a list, and
8 number 7A and B, of all of the individuals
9 that were exposed to this, believe it or not,
10 there were 32 inspectors evaluating the work
11 of seven people. All of them were exposed,
12 unknowingly, to tritium at this point.

13 I have the names, the event, and
14 you can go back to my records and see when
15 they signed in and out of my site. I took the
16 sludge samples and split it. I gave one to
17 Westinghouse to analyze, and another one to a
18 laboratory, an independent laboratory to
19 analyze.

20 Westinghouse analyzed the sample
21 and refused to give me the results of the
22 analysis. I had to go through the Freedom of

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1 Information to get this. They refused to give
2 me, the Project Manager, the analysis of the
3 sludge.

4 And as you can see in 8A, you have
5 the split sludge sample. If you flip back to
6 the back, Westinghouse reports the tritium
7 concentration is 4,176 picocuries per gram.
8 Perhaps not that exciting to most, but why
9 would you not give the results to me?

10 And by the way, it was in my
11 contract that I would evaluate all of the data
12 and turn it over to Westinghouse as the
13 Project Manager.

14 And going through the Freedom of
15 Information Act, which took about three years
16 to get this information, I find that there is
17 -- it looked like acid. If you look at nine,
18 where I have acid, you can go over and you can
19 see the sample number is 1143898. It was
20 exposed to acid.

21 You should never use acid in
22 analyzing tritium -- preparing tritium. I

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1 talked to the radio chemist about this, and he
2 said, that's what they used. They used acid
3 in preparing sludge and soil samples for
4 tritium analysis.

5 The procedure that they used is in
6 number ten, which I again got through the
7 Freedom of Information Act. It says that you
8 that for analyzing the tritium.

9 Number 10B is a statement from them
10 concerning the soil samples and they indicate
11 that they use this procedure for tritium but
12 tritium is lost during the process because
13 they use concentrated nitric acid. So we are
14 analyzing tritium in soil -- are we? Or are
15 we boiling it off?

16 That material was packaged.
17 Whenever you package tritium, you are required
18 to monitor the offgass because tritium will go
19 any place it wants to go, trust me. You have
20 to monitor any container of tritium. You
21 didn't do that because there was no tritium
22 there. That tritium was shipped and stored

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1 for three years.

2 The results of the -- I finally got
3 the results from the laboratory -- again going
4 through the Freedom of Information Act -- it
5 was 37,000 picocuries per liter -- per gram,
6 I'm sorry, in there.

7 Now this material was shipped. I
8 have the shipping record. Its number -- I
9 brought mine out. But I have the shipping
10 record where no tritium is specified in the
11 shipping manifest. So you have a situation
12 where all of these people along the line have
13 been exposed to tritium. Sitting in the
14 warehouse, sitting in storage for three years,
15 and then shipped from Savannah River up to Oak
16 Ridge.

17 Oak Ridge again measures the
18 tritium before they incinerate it -- before
19 incineration -- and they get roughly 57,000
20 picocuries per liter with one sample. Now
21 this is after three years of decay and, of
22 course, that is a 12-year half-life but you

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1 also have offgassing for a three-year period.

2 You can see the value of the
3 tritium measured up at Oak Ridge here on page
4 13B. Now why did all of this happen? There
5 were a number of possibilities. Well, they
6 wanted to save money. They wanted to complete
7 it fast because the faster they complete it,
8 the more money they make.

9 They were under an incentive awards
10 program, the Mod-100 program, which offered
11 them an incentive award for getting the work
12 done fast and cheap. And workers don't
13 matter.

14 The same philosophy was adopted
15 when we were building the bombs and
16 maintaining it. Workers didn't matter because
17 it is going to be difficult for anyone to go
18 back and reconstruct what we did.

19 If you look at number 14, another
20 reason. In 1996 -- by the way, this work
21 occurred in 1998 so I have been digging for
22 ten years now -- but in 1996, Westinghouse

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1 sent tritium-bearing waste to Oak Ridge and
2 mischaracterized it. I have the report.

3 And Oak Ridge said no, you can't
4 bring any more waste into this state. The
5 State of Tennessee prohibited Westinghouse
6 from shipping tritium-bearing waste into the
7 state.

8 So how else can I get rid of
9 tritium-bearing waste is for it to be not
10 there and for us to take advantage, we overly
11 exposed workers in order to get rid of this
12 tritium-bearing waste. By the way, this
13 tritium-bearing waste was burned in Oak Ridge
14 along with plutonium -- I didn't tell you --
15 there are a lot of other stories, sidelines to
16 this -- but that tritium-bearing waste was
17 burned in Oak Ridge in excess of the
18 incinerator burn limit.

19 The plutonium that was there was
20 burned in an excess. Westinghouse found
21 cyanide in the first preliminary sample but
22 refused to analyze it in the second sample,

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1 shipped it based upon the results of the
2 second sample, again to Oak Ridge, it was
3 burned up there. It was re-analyzed at Oak
4 Ridge and burned.

5 All along this pathway, workers
6 were exposed. I challenge you -- I have all
7 of the data, I have the videos, you have my
8 sworn statement, you have the names of all of
9 the people who know what went on. I challenge
10 you now to reconstruct that dose.

11 And may I say since people have
12 claimed that they could accurately do this,
13 please show me that you can accurately
14 reconstruct this dose. I have all of the
15 available data.

16 Thank you.

17 CHAIRMAN ZIEMER: And thank you.
18 Wayne, were you wanting this distributed to
19 the Board members? Is that -- --

20 MR. KNOX: Oh, well that, I would
21 assume -- I think Dr. Elliott said that if I
22 provided him information, he would look at it.

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1 CHAIRMAN ZIEMER: Okay. We'll pass
2 it on to NIOSH. Thank you very much.

3 I want to check with the folks on
4 the phone. Was there anyone else on the phone
5 line that wished to address the assembly this
6 evening?

7 MR. RINGER: Yes, I would.

8 CHAIRMAN ZIEMER: Okay. Proceed.
9 Give us your name please.

10 MR. RINGER: Yes, my name is Jerome
11 W. Ringer, calling from Phoenix, Arizona, and
12 this is in regards to Blockson Chemical
13 Company.

14 CHAIRMAN ZIEMER: Okay.

15 MR. RINGER: Okay? I kind of wrote
16 this out but this is in response to the
17 decision of our fathers and my brothers on the
18 other -- on the line with me here -- my
19 father's claim in regards to Blockson Chemical
20 Company.

21 Our father's case number, and I'll
22 just put down the last four numbers,

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1 [Identifying information Redacted], it was
2 determined that our father was present. His
3 percent was 48.4 percent. This did not come
4 as a surprise to me or my brother. As was
5 usual, we fell short again -- 1.6 percent.

6 This is hard to believe since my
7 father started working at Blockson Chemical
8 Company in the month and year of October of
9 1950, a year before the reconstruction even
10 started. And what was different than the
11 conditions there between `50 and `51.

12 As we stated in the previous
13 letters that my father worked as a laborer,
14 which means he was employed -- his employment
15 conditions would have been to do what no one
16 else would want to do. I'm sorry to be
17 stumbling here. I'm just a little tired in
18 Arizona here tonight.

19 Handling trash, sweeping, and I'm
20 sure he was going into buildings to remove
21 unwanted items which I believe that were
22 contaminated. We believe just because our

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1 father was not assigned to a certain area, his
2 exposure to contamination materials would have
3 been greater than someone that was assigned to
4 a hazardous area.

5 With less safety procedures that
6 were advised, if any, to our father, he would
7 have had no idea of what type of material he
8 was handling and coming in contact with.

9 Also as a laborer, we are sure that
10 he had many foremen that would advise him of
11 where to go and what to do without considering
12 the safety and the health hazards of our
13 father.

14 I was employed as a laborer at
15 Joliet Army Ammunition Plant and I can say
16 without a doubt I was directed into two places
17 for clean up where other personnel at the
18 location had safety equipment and protective
19 clothing, which I did not.

20 Personally what upsets me the most
21 is my father was in the United States Navy
22 protecting our shores and saving lives and in

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1 return his life was taken by -- from
2 employment from a chemical plant in the United
3 States of America with no medals or
4 compensation. What kind of justice is there
5 for our father?

6 CHAIRMAN ZIEMER: Okay. Thank you
7 very much.

8 Were there any others on the phone
9 lines that wish to comment?

10 MS. CLAYTON: Yes, this is Dorothy
11 Clayton.

12 CHAIRMAN ZIEMER: Okay. Repeat
13 your name for us.

14 MS. CLAYTON: Dorothy Clayton.

15 CHAIRMAN ZIEMER: Thank you, please
16 go ahead Dorothy.

17 MS. CLAYTON: Okay. I believe the
18 Board has a copy of SC&A Nevada Test Site SEC
19 Report, Interview, and Evaluation of Clayton
20 Records. I was wondering where the other
21 interviews are. They seem to be missing.

22 Is there anyone there from SC&A

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1 that can -

2 CHAIRMAN ZIEMER: Dorothy, we may
3 have to get back to you on that. When we
4 leave the line here, if you'll stay on, I'll
5 get a contact number from you and then we'll
6 follow up. Is that agreeable?

7 MS. CLAYTON: And also in the
8 report, they only list minors as being exposed
9 to high dose rates of radiation. There were
10 all types of crafts working there,
11 electricians, plumbers, pipefitters,
12 carpenters. But it only refers in here to
13 minors. And they were a valuable part of the
14 test site, of course, but not the only ones
15 there at that site.

16 And also, another thing, there was
17 a news release on the DOL website dated
18 February 4th of this year which states that
19 48,510 claimants across the country have been
20 paid more than five billion dollars in
21 compensation.

22 And I'd like to ask someone --

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1 maybe [Identifying information Redacted], she
2 was mentioned in this article, in this news
3 release -- why have only 167 dose
4 reconstruction claims been paid to the Nevada
5 Test Site claimants since the beginning of
6 this program in 2001.

7 That number, 167, comes from the
8 DOL website. I personally doubt that it is
9 that high of claimants that have been paid
10 because everyone that I'm working with, all
11 the widows, they have not been paid. Every
12 claim is being denied and has been for years
13 since I've been working with them.

14 So I'd like to find out why only
15 167 dose reconstruction claims have been paid.

16 CHAIRMAN ZIEMER: [Identifying
17 information Redacted] is not here. She was
18 here yesterday but was having to leave this
19 morning, I believe. So she's not here.

20 I will answer in kind of a general
21 sense. In essence I think what is reflected
22 there is that that number -- and I don't know

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1 personally that's the correct number -- but in
2 any event, the number of claims paid by Labor
3 would reflect the number of cases for which
4 the probability of causation was found to be
5 50 percent or greater. So that is what that
6 number should be reflecting.

7 And to the best of my knowledge,
8 and I don't know how up to date their website
9 is, but it was my understanding it is fairly
10 up to date. But I can't personally verify
11 that.

12 MS. CLAYTON: I was given that
13 information from one of the employees at
14 Department of Labor.

15 CHAIRMAN ZIEMER: Yes.

16 MS. CLAYTON: But it is on their
17 website. But I was sent a memo -- now this
18 back when the program first started -- but I
19 just received this just a little while back
20 that might shed a little bit of light on that.

21 This was a memo from Jeff Eagan of
22 the DOE when the DOE has the program instead

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1 of the DOL. This memo went from Jeff Eagan to
2 Dr. Lew Pepper, Boston University NTS Project.
3 And this is what he was telling -- Mr. Eagan
4 was telling Dr. Pepper to do.

5 He says here is our proposed
6 process to expedite the filing of silicosis
7 claims under the EEOICPA. These cases will
8 have special handling because of the unique
9 nature of their illness. Have your workers
10 contact Ms. Judy Keating --

11 CHAIRMAN ZIEMER: Right. Right.

12 MS. CLAYTON: -- ASAP. They should
13 identify themselves to her as NTS workers with
14 silicosis referred by you. She will get the
15 names, addresses, and phone numbers and
16 expedite a claims packet out to them with a
17 personalized letter offering them full support
18 to fill out these claims forms.

19 There will be special tracking for
20 this group of referrals.

21 CHAIRMAN ZIEMER: Dorothy, on those
22 Part E claims, I should make you aware that

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1 this Board does not get involved in the Part E
2 of the program. So you would need to deal
3 directly -- it now is fully under the
4 Department of Labor. So you would need to
5 contact the Labor people on that particular
6 thing.

7 But if you will stay on the line
8 after we complete here this evening, I'll get
9 a phone number from you because we have a
10 person here that can follow up with you on the
11 SC&A question that you asked.

12 MS. CLAYTON: Okay. I will stay on
13 the line.

14 CHAIRMAN ZIEMER: Thank you.

15 Anyone else on the phone lines
16 tonight that needs to make a comment?

17 Is there anyone here in the
18 assembly yet this evening that has further
19 comments?

20 If not, I thank you all and the
21 Board will reconvene again in the morning for
22 those that are interested in participating.

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1 Thank you all for your comments and
2 participation tonight. We are recessed.

3 And Dorothy, stand by.

4 (Whereupon, the above-entitled
5 matter was concluded at 8:23 p.m.)
6
7

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