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CENTERS FOR DISEASE CONTROL

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NATIONAL INSTITUTE FOR OCCUPATIONAL
SAFETY AND HEALTH

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ADVISORY BOARD ON RADIATION AND
WORKER HEALTH

+ + + + +

104th MEETING

+ + + + +

THURSDAY
MARCH 26, 2015

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The meeting convened at 8:30 a.m., Pacific Time, in the Red Lion Richland Hanford House, George Washington Way, Richland, Washington, James M. Melius, Chairman, presiding.

PRESENT :

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JAMES M. MELIUS, Chairman
HENRY ANDERSON, Member
JOSIE BEACH, Member
BRADLEY P. CLAWSON, Member
R. WILLIAM FIELD, Member*
DAVID KOTELCHUCK, Member
RICHARD LEMEN, Member*
JAMES E. LOCKEY, Member
WANDA I. MUNN, Member
JOHN W. POSTON, SR., Member
DAVID B. RICHARDSON, Member*
GENEVIEVE S. ROESSLER, Member
PHILLIP SCHOFIELD, Member*
LORETTA R. VALERIO, Member*
PAUL L. ZIEMER, Member
TED KATZ, Designated Federal Official

REGISTERED AND/OR PUBLIC COMMENT PARTICIPANTS

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Adjourn

1 (8:30 a.m.)

2 CHAIRMAN MELIUS: Good morning,
3 everybody. We're here for our second day of
4 Meeting 104, the Advisory Board on Radiation and
5 Worker Health. And I'll turn it over to Ted to do
6 the roll call and other work here.

7 MR. KATZ: Thank you. Good morning,
8 everybody. Just a couple of preliminaries before
9 the roll call. The agenda and all the materials
10 for the meeting are in the back of the room here
11 for people in the room. And for people online,
12 those materials could be found at the NIOSH
13 website, under the Board section, under the
14 schedule of meetings, today's date.

15 So you can find all of these documents
16 that we're discussing today there and follow along
17 with the discussion. And you will also see the
18 agenda for today there, and the agenda has on it
19 the Live Meeting link if you want to follow along
20 with the presentation in real time as it is
21 presented here.

22 It'll show on your screen at your

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1 computer at home. So that takes care of that.
2 Another thing, for people listening on the line,
3 please mute your phone and keep your phone muted
4 for the meeting.

5 There is no public comment session
6 today. The petitioners for the petitions we're
7 discussing today will have an opportunity to speak,
8 but there is no general public comment session.

9 In terms of phone etiquette also,
10 please don't put the phone on hold at any point,
11 but hang up and dial back in if you need to leave
12 the meeting for a time.

13 So, roll call. I'll do this
14 alphabetically again and I'll speak to any
15 conflicts that are relevant for today's agenda as
16 we get to them.

17 (Roll call.)

18 MR. KATZ: Great. And then just to
19 note, of all of these, the only conflict today, Mr.
20 Clawson has it, and he'll recuse himself in the INL
21 session. And that takes care of roll call. And,
22 Jim, it's your meeting.

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1 CHAIRMAN MELIUS: Did you do the *6?

2 MR. KATZ: I thought I said that, maybe
3 I didn't.

4 CHAIRMAN MELIUS: Okay, good.

5 MR. KATZ: Dr. Poston?

6 MEMBER POSTON: Yes. Mr. Chairman, I
7 move that the Advisory Board on Radiation Worker
8 Health take this opportunity to wish a happy
9 birthday to Josie Beach, and many, many more.

10 MEMBER BEACH: Thank you.

11 (Applause.)

12 MEMBER SCHOFIELD: Congratulations,
13 Josie.

14 MEMBER BEACH: Thanks, Phil.

15 MEMBER VALERIO: Happy birthday,
16 Josie.

17 MEMBER BEACH: Thank you.

18 CHAIRMAN MELIUS: Do I have to prepare
19 a letter for --

20 (Laughter.)

21 CHAIRMAN MELIUS: We did do the
22 birthday card, so I guess that's the letter. And

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1 it was approved by the attorney. In fact, they
2 signed it.

3 Okay. The first order of business
4 today is the view of the Dow Chemical Pittsburg,
5 California SEC Petition. And LaVon Rutherford
6 will do the presentation, then followed by Board
7 questions. And then we'll hear from the
8 petitioners, and then we will have further
9 discussion and possible action on that petition.

10 So I will just tell, just for the other
11 Board Members, I think what we'll do if we finish
12 this up early and so forth -- I guess the next
13 session people may be on. So between then and ten
14 o'clock, until we start the next session, we may
15 catch up on some more of our Board work, so just
16 don't go running off.

17 And, LaVon. We're anxious to hear from
18 you.

19 MR. RUTHERFORD: Alright, thank you.
20 I'm going to talk to you about NIOSH's Petition
21 Evaluation of the Dow Chemical Company.

22 The Dow Chemical Company was an Atomic

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1 Weapons Employer facility in Pittsburg,
2 California. It covered the time period from 1947
3 to 1957. Dow was contracted during that time
4 period to do small scale research on uranium
5 recovery from phosphate residues, which I will talk
6 about a little further.

7 A little background. Our petition was
8 received on June 12, 2014. The petitioner
9 petitioned that there was a -- as a basis, that
10 there was a lack of monitoring data. We reviewed
11 our records, and from our records we concurred with
12 the petitioner and qualified the petition for
13 evaluation on August 5th, 2014.

14 The Class evaluated was for the entire
15 operational period, 1947 to 1957, and there is no
16 residual period for the Dow site. We are going to
17 recommend a Class today of all workers at Dow
18 Chemical through the entire operational period,
19 and I will get into further discussions on why.

20 A little history. Back in the late
21 '40s, a lot of the domestic ore hadn't -- the AEC
22 was looking for more of a routine supply of uranium

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1 ore, and a lot of the domestic ores had not been
2 identified at that time.

3 It was recognized that the phosphate
4 ores contained a small percentage of uranium within
5 that ore matrix. And so what they looked at was,
6 is there a process that we can employ to actually
7 extract that uranium?

8 So they contracted with Dow to look at
9 various extraction methods with residues and raw
10 materials. That contract lasted more than nine
11 years. It included small scale extraction
12 experiments, bench top and pilot plant scale
13 production operations.

14 The idea was that, after they went
15 through these processes and approaches, they would
16 scale up and put this into a production mode at
17 other sites.

18 The Pittsburg site is 513 acres. Most
19 of that is wetlands. Forty-one of those acres are
20 used by Dow. During the AEC operational period,
21 the second floor of the research laboratory was
22 used for AEC operations. The first floor was

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1 commercial activities.

2 Stu, I don't know your pin number.

3 MR. HINNEFELD: Oh.

4 MR. RUTHERFORD: I was right in the
5 flow of things there.

6 Okay, so the AEC used the second floor
7 of the research building at Dow. The first floor
8 was the commercial work.

9 The Dow research portion consisted of
10 roughly seven rooms, 4200 square feet. Again, as
11 I mentioned, the commercial work was on the first
12 floor.

13 They employed -- roughly 100 workers
14 were involved in this operation. That did not
15 include support personnel. And then also, you
16 know, that number fluctuated up and down. There
17 was actually indications from Dow reports that they
18 actually got some of their commercial engineers,
19 engineers that were working commercial work,
20 involved in some of the AEC work whenever they
21 needed additional support.

22 Also, in addition, because I know this

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1 question is going to come up, the site is -- you
2 know, I've gotten various indications on the actual
3 site population. Today, the site has roughly 350
4 Dow workers and 250 contractor employees. So
5 that's roughly 600 people. And there's one report
6 that indicates that during AEC operations there was
7 up to 800.

8 However, one of our workers was
9 indicating 400. So, that gives you an idea. The
10 population surely adjusted over time during that
11 period, 400 to 800, but it does give you a feel for
12 how many people were at the site.

13 The main three processes they looked at
14 in uranium extraction was precipitation, ion
15 exchange, and solvent extraction. There were a
16 number of other activities involved in this, other
17 different analyses that they looked at other than
18 these three main process approaches. But
19 precipitation, ion exchange, solvent extraction
20 were the main ones that they used for recovering
21 the uranium.

22 Precipitation is the actual method that

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1 was used at Blockson Chemical. The ion exchange
2 method, they looked at that process and then they
3 recognized ultimately that it was not going to be
4 a very economical process.

5 They moved to solvent extraction.
6 Solvent extraction was the process that became the
7 process of choice and was the one that a significant
8 -- well, a number of sites moved to implement.

9 However, around 1960, or in the late
10 '50s, it was recognized that there was plenty of
11 domestic ore, uranium ore, that the recovery of
12 uranium through the phosphate process was really
13 not practical. And so around 1960 these
14 operations pretty much ceased.

15 The raw materials involved at the site
16 were residues and ores, phosphoric acid, and
17 phosphate rock. The significance of the
18 phosphoric acid: phosphoric acid was used as
19 basically the starting point for each of these
20 three processes. And the phosphoric acid, because
21 of the process of converting it to the acid from
22 the phosphate rock, it actually removed the uranium

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1 progeny. And so the radium and polonium and such
2 were actually moved into another matrix and were
3 not part of the acid.

4 So when we initially looked at this in
5 wet processes we thought we really didn't have that
6 issue to deal with. However, upon further
7 research, we recognized that there was a
8 considerable amount of work with residues and ores
9 and the phosphate rock that contained those items.

10 There is no indication of thorium
11 separations that took place under this AEC
12 contract. Actually, there was documentation that
13 indicated that there could've been thorium ores,
14 however we have not seen anything.

15 Okay. Now, this is the Claims Tracking
16 System. We have one claim for this site. It's
17 during the operational period. And it's kind of
18 weird, we have dose reconstruction completed
19 outside of the SEC period. Well, since the SEC
20 period is the whole period it's kind of a moot
21 point.

22 We did attempt to do a dose

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1 reconstruction on this one claim. We looked at
2 using Texas City Chemicals, some of the actual
3 modeling that we did at Texas City Chemical.
4 However, after further review, during the SEC
5 evaluation, we recognized that there are so many
6 other processes involved in the work that was done
7 at Dow. Not just the solvent extraction, you had
8 the precipitation, the ion exchange, some
9 additional work on particle sizing of the phosphate
10 rock and so on, that we recognized that Texas City
11 Chemical was probably not a good surrogate data
12 approach for that one claim, nor would it be a good
13 approach for the entire Class.

14 So the one claim does not have internal dosimetry
15 or external dosimetry.

16 Where we looked for information. We
17 have 166 documents on the Site Research Database,
18 and we looked at the claim file. The petitioner
19 and petitioner's son provided us some additional
20 information, which was very valuable and it
21 actually gave us some different places to pull the
22 string, basically, and look for more information.

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1 We contacted Dow Headquarters.
2 Landauer, the reason we went to Landauer is because
3 we interviewed three former workers and one of the
4 workers indicated that they were badged and they
5 believed that it was a contractor that provided the
6 badging and reading the badges.
7 So we assumed that Landauer may be the holder of
8 those records, so we contacted them. However, we
9 did not get anything.

10 Searches on OSTI. We recognized that
11 a number of the Dow reports, if you look at some
12 of the reference documents that are identified, the
13 Dow 162 report identifies a large number of reports
14 that were produced during this operation. And,
15 you know, it's kind of obvious, because you can look
16 at 162 and you can see there is one statement in
17 162 that mentions over 248,000 uranium analyses
18 were conducted during the contract period.

19 But that report in itself also
20 identifies all these different things that Dow was
21 doing at looking at different approaches,
22 different things to maximize uranium recovery, and

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1 all different kinds of things in support of this
2 operation. So we were able to retrieve a number
3 of the documents, the Dow documents, from OSTI.

4 We also did, as I mentioned, the worker
5 interviews which we discussed the operations in
6 itself. And, you know, although the workers felt
7 that the exposure potential was low, they also
8 identified that there was no monitoring. So,
9 nobody knew exactly from an internal perspective
10 what they would be getting.

11 All of the wet chemistry work was
12 conducted in a hood, and with the wet chemistry work
13 you would not expect a major internal exposure
14 anyway, but the reason it was conducted in a hood
15 was because of the flammability. It was not
16 conducted in a hood because of potential exposure
17 potential.

18 All the bench scale work, the pilot
19 work, the grinding and operations, all the other
20 things for the product material were conducted
21 outside of the hoods. And when one of the
22 interviewees was asked about respiratory

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1 protections, he said "respiratory protection was
2 on the wall in case of an emergency, but we did not
3 use respiratory protection."

4 So, our internal exposure potential, I
5 just kind of identified some of it. Uranium and
6 progeny, if contained raw materials -- and I say
7 "if contained in the raw materials" because, as I
8 mentioned, the phosphoric acid in itself, the
9 progeny, was extracted.

10 Now, there is something to think about
11 with that as well, though. There is indication
12 that they did work with the actual phosphate rock
13 and the ores. One indication, which we don't know
14 for sure was conducted onsite, but up to a ton of
15 ore was worked with on the site.

16 And one of the things that we were doing
17 was actually taking the phosphate rock and breaking
18 it into different sizes and doing acidification
19 with it, with that phosphate rock, at different
20 sizes to see if they could increase the amount of
21 uranium production based on that.

22 So you had that operation occurring.

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1 And, again, other than the dealing with the -- I
2 mean, the grinding and such, all the operations
3 would have been conducted outside the hoods.

4 Thorium and progeny, as I indicated, we
5 have found nothing to support the thorium-bearing
6 ores. Again, this was a FUSRAP report, it
7 indicated that the site did uranium work, worked
8 with uranium ores and thorium-bearing ores. At
9 this time, we have found nothing. That doesn't say
10 that there wasn't something done there, but we have
11 found nothing to prove that there was thorium work
12 at the site.

13 As I mentioned, uranium, polonium, are
14 typically not carried into the phosphoric acid
15 during the phosphate rock process. External
16 exposures would've mainly been from product
17 material, beta and photon.

18 Our data. We have no internal or
19 external monitoring data. We have no air sampling
20 or air survey data available.

21 Source term information. Without a
22 good idea of the source concentration -- and these

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1 phosphoric acids and phosphate rock came in from
2 not only the Florida mining, but also West Coast
3 mines. It came from all over the place.

4 We also have some indication that
5 raffinate, believe it or not, raffinate material
6 from Mallinckrodt may have been processed. And
7 the idea would be such that, I would think, that
8 low amount of uranium in the raffinate, may have
9 been looking to recover that residual uranium, I
10 don't know.

11 But the source term information, we
12 don't have a good feel for the throughput on the
13 product material. There is indication from the
14 reports that they produced UF4 and UF4 was sent out
15 to other sites for further processing. So, not
16 good source term information.

17 Process information. You know, the
18 Dow reports are really good at identifying the
19 process and how the process -- I mean, the process
20 of producing, how it actually works. But from a
21 health and safety perspective and quantities and,
22 you know, the throughput, we don't really get that

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1 feel, so that makes it very difficult.

2 And there is no medical occupational
3 exposure information available, as well.

4 So our feasibility is, based on the
5 available monitoring records, process
6 information, source data, they're insufficient to
7 complete dose reconstruction with sufficient
8 accuracy for the evaluated work Class.

9 Our evidence reviewed and the
10 evaluation indicates that some workers in a Class
11 may have accumulated chronic exposures through
12 intakes of radionuclides and direct exposure to
13 radioactive materials. Consequently, NIOSH feels
14 health may have been endangered.

15 Our proposed Class is all Atomic
16 Weapons Employer employees who worked for the Dow
17 Chemical Company in Pittsburg, California, from
18 October 1, 1947, through June 30, 1957, for a number
19 of work days aggregating at least 250 days.

20 Our feasibility table, again, we really
21 felt we couldn't come up with a good approach for
22 reconstruction of any of our internal or external

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1 components. However, if any personal or area
2 monitoring does become available we will use our
3 standard procedures and apply them for partial dose
4 reconstructions. We also do feel that we can do
5 occupational medical x-rays. And that's it.

6 CHAIRMAN MELIUS: Okay. Thank you,
7 LaVon. Board Member questions? Yes, Paul?

8 MEMBER ZIEMER: The thought that was
9 occurring to me was that, at least for the external,
10 it would seem, sort of intuitively, that if it's
11 bench top and pilot-types of studies one might be
12 able to bound the source terms in terms of amounts.

13 MR. RUTHERFORD: From an external
14 exposure.

15 MEMBER ZIEMER: Yeah. And knowing
16 that, one might be able to bound external. What
17 are your thoughts on that? Maybe you could discuss
18 that.

19 MR. RUTHERFORD: Well, you know, I
20 definitely initially felt that way. I felt that,
21 I mean, from an external perspective, I mean, we
22 would expect that the external exposures would be

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1 low. However, the problem we got into is there's
2 so much information that doesn't give a clear
3 indication of where it was done, meaning that the
4 one indication where we had phosphate ores at the
5 site with up to a ton of phosphate ores. And you
6 say, okay, well, we could bound that, probably come
7 up with a decent bounding number to that. Then you
8 hear, well, there could've been raffinates from
9 Mallinckrodt. Okay, well, how does that change?
10 Then our product materials that were produced. It
11 just becomes, you know, you're almost at a guessing
12 game of where do you put that bound, you know, where
13 do you set it at, from an external perspective?

14 The internal perspective, I don't know
15 exactly where you'd go, you know, because there was
16 just so many different throughputs of different
17 types of materials involved, and you got different
18 exposure points with that.

19 You know, the grinding and crushing of
20 the product, the grinding and the crushing of the
21 phosphate rock, where did the phosphate rock
22 originate from? You know, was this phosphate rock

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1 Florida phosphate rock, was it Western part of the
2 United States? There's just a number of different
3 things that we really felt like it was going to be
4 very difficult.

5 Also, if the phosphate rock was there,
6 the radon exposures, you know, would've been an
7 issue as well. We don't know anything about that.

8 MEMBER ZIEMER: Yeah. So you had
9 given some thought to that, because, particularly
10 for those who don't meet the SEC criteria in terms
11 of time or cancer type, it would be useful to be
12 able to at least reconstruct the external.

13 MR. RUTHERFORD: Right. I think that
14 something that we could always -- you know, if
15 additional information or if we feel like a method
16 comes up, we could always revisit that, the
17 external portion of it.

18 You know, and you bringing that up
19 reminded me of another thing, the claims. Because
20 right now we only have one claim. And I know one
21 of the questions would be, why do you think we only
22 have one claim for a site that's, you know, 600 to

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1 800 people, whatever?

2 And I think that's two-fold. One of
3 them, in our interviews with the workers, the three
4 workers that we interviewed, they did indicate that
5 most of the people were deceased.

6 In fact, the one guy said, "Everybody
7 I knew at the site is deceased." So, you know,
8 that's one issue with the survivors probably not
9 recognizing -- and the other issue was initially
10 the site was identified as Dow Walnut Creek, A.K.A.
11 Pittsburg. In our review, we recognized that
12 actually Pittsburg and Walnut Creek are two
13 separate facilities. And the Walnut Creek
14 facility was not built until around 1960 and the
15 actual AEC work was done at the Pittsburg site in
16 '47 to '57.

17 So, another thought could've been that
18 -- and we've got that changed through the
19 Department of Energy -- but another thought
20 could've been that workers or survivors looked and
21 said, oh, well, my father or grandfather, so on,
22 they worked at Pittsburg. This is a Walnut Creek

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1 thing, I can't -- so we may get more claimants that
2 will come, which would mean that we may need to have
3 a partial dose reconstruction approach for.

4 CHAIRMAN MELIUS: Just to follow up on
5 that, because I think that is the key question that
6 I had when I read the report, and also what Dr.
7 Ziemer raised, and I thought you covered in the
8 report and more here and addressed that issue. I
9 just things there's, you know, just such a paucity
10 of information to be able to do anything with any
11 confidence there.

12 One of the things, though, that may help
13 would be if the outreach group, whatever it's
14 called, could do a session out near there, and it
15 might bring some more people forward. Because,
16 again, I'm not sure the external would, you know,
17 help people that much, but it might, and you might
18 get some more information that would be useful for
19 that.

20 But at least an outreach session would
21 also at least get more people aware of it and maybe
22 do away with this confusion between Walnut Creek

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1 and Pittsburg.

2 Any other Board Members? Yes, Dr.
3 Poston?

4 MEMBER POSTON: LaVon, good report.

5 MR. RUTHERFORD: Thank you.

6 MEMBER POSTON: I just wanted
7 clarification here, because on Slide 14 you say
8 occupational medical X-rays can be reconstructed,
9 but on Slide 10 you said you didn't have any data.
10 So I'm wondering what kind of magic wand you might
11 have. It wasn't clear in the write-up that --

12 MR. RUTHERFORD: We actually have -- I
13 think it's a TIB, OTIB -- a TIB that we used that
14 actually pulls in information from the era and we
15 come up with a dose approach for all of the
16 facilities. So we've been able to get support, I
17 think, from the Board and SC&A to use that approach
18 for reconstructing medical exposures.

19 We don't have any information, you are
20 correct, and that is correct in here, but we have
21 a site-wide kind of OTIB for doing occupational
22 medical exposures.

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1 MEMBER POSTON: Okay. You just didn't
2 explain it too well and I said, "Wait a minute, I'm
3 fully awake here, I was just" --

4 MR. RUTHERFORD: And I appreciate
5 that. I appreciate that.

6 CHAIRMAN MELIUS: Wanda?

7 MEMBER MUNN: LaVon, refresh my
8 memory, what's the highest concentration of
9 uranium that was actually handled? My memory from
10 the report was that it was exceedingly low.

11 MR. RUTHERFORD: Yeah, I mean, on
12 average, or what they were saying, it was only 0.01
13 percent, very, very low. And you are absolutely
14 right, from an actual amount, that is a very low
15 concentration, but the processing in and of itself
16 and the actual producing of the product we really
17 felt like, you know, we didn't have enough
18 information from the processes, the throughput,
19 the amount of the material that was produced, to
20 really come up with a good bounding approach for
21 it.

22 I agree with you, it is a very low

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1 concentration in the actual matrix itself.

2 MEMBER MUNN: Of course, this is not
3 our first rodeo with this kind of process.

4 MR. RUTHERFORD: No.

5 MEMBER MUNN: And it still is very
6 difficult to come to grips with the possibility
7 that one could be radiologically harmed by this
8 kind of process.

9 MR. RUTHERFORD: Right.

10 MEMBER MUNN: I can understand how a
11 dust inhalation over a period of nine years would
12 affect the lungs, but it's difficult for me to
13 understand, at that concentration, how -- I've
14 never seen any documentation anywhere that would
15 lead me to believe that that kind of low exposure
16 could be detrimental radiologically.

17 DR. NETON: But I think the incoming
18 material had that very low concentration of
19 uranium, but the whole point of this process was
20 to concentrate -- enrich is the wrong word, but to
21 concentrate the uranium. So they ended up with
22 quantities of uranium tetrafluoride and purified

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1 uranium that were pure uranium compounds.

2 Now, how large a mass of that material
3 is, we don't know. They did run these pilot plant
4 columns that were fairly large, within the building
5 themselves, to concentrate it. But the fact of the
6 matter is we just don't know. There was purified
7 uranium there, but the quantity that was generated
8 is unknown.

9 MEMBER MUNN: Yeah, I never saw
10 anything that led me to believe it was really
11 production-level quantities.

12 DR. NETON: That's correct, but you
13 can't think of it as 0.2 percent uranium in a
14 product. It's the purified product that we're
15 worried about.

16 MEMBER MUNN: No. Yes, I know, but
17 that's different than what people were handling
18 generally in the plant.

19 DR. NETON: True.

20 MEMBER MUNN: Yeah.

21 CHAIRMAN MELIUS: Josie?

22 MEMBER BEACH: Yeah, you mentioned

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1 that, in the Evaluation Report, neutrons aren't a
2 big issue and were only mentioned on Page 25, but
3 when I was looking at the Evaluation Report under
4 your table for summary of feasibilities, neutron
5 is X'd as not reconstructable, and here it says N/A.
6 So I was just wondering --

7 MR. RUTHERFORD: It's N/A. It should
8 be N/A.

9 MEMBER BEACH: So it is definitely N/A?

10 MR. RUTHERFORD: Yes.

11 MEMBER BEACH: Okay.

12 CHAIRMAN MELIUS: Okay. Board
13 Members on the telephone, do you have any
14 questions, comments at this point?

15 MEMBER LEMEN: None for Lemen.

16 CHAIRMAN MELIUS: Okay. Hearing
17 none, I'll assume you're okay. I think next we'd
18 like to hear from the petitioners.

19 MS. TAIT JOYNT: That's me. Thank
20 you. I'm Marcia Joynt, Marcia Tait Joynt, and my
21 father worked at Dow Chemical as a scientific
22 apparatus glassblower. I'm going to read my

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1 statement here so I don't forget anything.

2 He worked at Dow at the time on projects
3 and investigation. As a glassblower, he had a
4 background in chemistry and engineering, as well
5 as five years of working as a glassblower at the
6 National Bureau of Standards from 1941 to 1946.

7 I have read the petition and
8 recommendation for adoption, and it is, in whole,
9 the outcome I had requested, I have requested.
10 Although I wanted proof that my Dad died from his
11 exposure to dangerous levels of uranium or thorium,
12 what I have is a thorough investigation by NIOSH
13 that has not revealed any records that will prove
14 or disprove anything.

15 No records of invoices, production,
16 accidents, or incidents, monitoring, safety
17 inspections, deliveries of raw materials by truck,
18 van, rail, or ship have been found.

19 I might point out that the Dow Pittsburg
20 plant is located on a slough where there is rail
21 accessibility and ship. At the time they were
22 bringing things in from all over.

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1 No budget records, dose badges, medical
2 reviews, or hazard reports have been located, so
3 I must accept that those records are now gone.

4 The NIOSH report looked at what records
5 are available and clarified the misunderstanding
6 that the physical plant where the Atomic
7 Weapons-contracted work of Dow was performed was
8 in Pittsburg, California, rather than Walnut
9 Creek. They are about 13 miles apart.

10 And we've seen aerial photos now that
11 show that the Dow Chemical plant in Walnut Creek
12 wasn't even started until '62, so we know that. I
13 first started my claim almost -- oh, and there's
14 been sort of a misunderstanding about that because
15 a FUSRAP report had said that it was done at the
16 Walnut Creek location.

17 I first started my claim almost three
18 years ago. From the first phone call to EEOICPA,
19 I have been treated with respect and compassion,
20 even when I expressed occasional frustration at the
21 pace of the process.

22 Last year, my son called Josh Kinman to

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1 see if a petition to establish Dow Walnut Creek,
2 A.K.A. Pittsburg, might qualify as a special
3 cohort.

4 At this time, I would like to thank Mr.
5 Kinman, LaVon Rutherford, Stuart Hinnefeld, Monica
6 Harrison-Maples, and the whole team at ORAU within
7 NIOSH who put this Petition Evaluation together.
8 And I recognize I may be not clear on all my
9 initials, I may have that wrong.

10 They have worked on this report for nine
11 months and we, my son and I, have been kept informed
12 as the work progressed. I am very grateful for
13 their work and their expertise.

14 Josh Kinman has been very helpful and
15 gracious when dealing with the many questions and
16 concerns voiced by my son or myself. Thank you,
17 Members of the Advisory Board, for your time and
18 consideration on this petition. Thank you.

19 CHAIRMAN MELIUS: Thank you very much.
20 You actually brought up two more questions. One
21 is that I am hoping the FUSRAP was done in the right
22 area, not 15 miles away, or 12 miles, whichever it

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1 is.

2 MR. RUTHERFORD: Yeah. Actually, the
3 FUSRAP, they did not do any decontamination because
4 that wasn't necessary, what they did was they put
5 together a report. And in that report they had
6 identified Walnut Creek but clearly the surveys
7 that were taken, it was indicated they were done
8 at Pittsburg.

9 CHAIRMAN MELIUS: The other question,
10 and you mentioned it in the report, and I've
11 forgotten until it just was brought up, but did Dow
12 cooperate with this effort to get information?

13 MR. RUTHERFORD: Yeah, actually, Dow
14 was fairly cooperative, and they had indicated that
15 most of the information had been archived. And
16 they did give us some information that was really
17 kind of proprietary information, so they've been
18 very cooperative.

19 CHAIRMAN MELIUS: Good, because there
20 was mention earlier on that there was some trouble
21 getting information.

22 MR. RUTHERFORD: Well, I shouldn't say

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1 it easy. Initially it was tough, so, yeah.

2 CHAIRMAN MELIUS: Okay. But they
3 eventually did, okay. Any other comments or
4 questions on that? If not, do we hear some
5 suggestion for some action by the Board?

6 MR. JOYNT: This is Gabe Joynt. I had
7 a brief comment to make.

8 CHAIRMAN MELIUS: I'm sorry, I didn't
9 realize you were going to also be making comments.
10 Okay, go ahead.

11 MR. JOYNT: Yeah, sorry. I don't
12 think I announced myself. So, if it's
13 appropriate, I have a few words to say.

14 CHAIRMAN MELIUS: No, please, go
15 ahead.

16 MR. JOYNT: I'm Marcia's son, you know,
17 representative or co-petitioner on this, and I also
18 wanted to say just thank you, for the Board, for
19 considering the petition, and for NIOSH for really
20 what's been, you know, an impressive amount of work
21 done to work with the evidence available and kind
22 of describe what was going on using the science and

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1 evidence available at the time.

2 The effort is impressive, and, you
3 know, I've learned enough about kind of the science
4 involved to appreciate how thoroughly NIOSH has
5 pursued this and appreciate it.

6 As a student of history and kind of my
7 own, you know, family history, I wanted to address
8 a couple comments around the plant that can't
9 really be described based on the scientific
10 evidence and yet I still think are useful contexts
11 to put around the site.

12 And for simplicity, I want to focus this
13 on just one interview that was conducted with Frank
14 Woods McQuiston, who was the former head of the AEC
15 Raw Materials Division, who oversaw procurement of
16 uranium for the AEC prior to and during at least
17 the beginning of the Dow contract.

18 The document is called "Metallurgists
19 for Newmont Mining Corporation and U.S. Atomic
20 Energy Commission, 1934 to 1982, Oral History
21 Transcript, 1986, 1987." So, this is an interview
22 that was conducted with McQuiston in, I believe,

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1 '86 and carried on into '87 shortly before he passed
2 away.

3 To put one thing into context, I'm
4 mainly just going to read directly from it because
5 I don't want to paraphrase it too much, and it's
6 fairly short.

7 Wilhelm Hirschkind was the head of
8 research at Great Western Chemical. It was a
9 company acquired by Dow, and Hirschkind oversaw
10 research basically of this contract. And the
11 plant, the Great Western Chemical plant, was at one
12 point the largest chemical plant in the Western
13 U.S., and it is the site of the current Dow
14 Pittsburg location.

15 Hirschkind was a German -- or Austrian,
16 I believe, native and he was actually enlisted
17 during -- kind of right after World War II to go
18 and investigate German nuclear facilities and
19 activities. So he was kind of a known expert in
20 this area. And at this point I'll just go into the
21 interview quotes. And I'll try to read this just
22 as directly as I can so it's not me paraphrasing,

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1 but if I do paraphrase I'll let you know.

2 So, quoting the McQuiston, he said, "I
3 had a discussion with Dr. Hirschkind, who was a
4 Director for Research at Dow Company at the
5 Pittsburg Plant in California. He was a very
6 brilliant man and was very keen to be part of this
7 project in South Africa." He was talking about
8 kind of the initial procurement of uranium
9 following the war.

10 Interviewer: "Were you still trying to
11 be secretive about all of this also?" McQuiston:
12 "Oh, anybody who worked on it had to be." Swent,
13 or interviewer: "Did you have to go through
14 clearance to talk to these people about supplies?"
15 McQuiston: "Oh, no, I just told them we had to build
16 the plants. They didn't know what kind, but I said
17 they were vital to the U.S. government. But no,
18 we didn't. But we had certain men in certain
19 companies, like Hirschkind, he finally got his
20 clearance, many of them did. We already had
21 clearance for the MIT people at Watertown Arsenal.
22 We had clearance for those at Battelle."

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1 Interviewer: "I was wondering if it was
2 an extra delay to have to get these commercial
3 contacts cleared?"

4 McQuiston: "I was fortunate enough to
5 foresee that we would need this, so I went to Dow
6 Chemical, oh, almost nine months before. I went
7 to Dow Chemical with Rohm and Haas, who were leaders
8 in the development of ion exchange," dot, dot, dot,
9 "because I had a feeling, if we couldn't work
10 carbonate in then we would use ion exchange
11 pellets."

12 I'm going to skip here for a moment. And
13 then he says, "The Dow Research people at
14 Pittsburg, California, finally made the
15 breakthrough and we erected a small plant, made
16 uranium solutions by using uranium chemicals in --
17 that was a secret plant, very, very secret."

18 Interviewer: "Out here at Pittsburg?"

19 McQuiston: "Yes. And Dr. Hirschkind devoted, I
20 would say, 95 percent of his time, he practically
21 took retirement to devote full-time to this
22 project."

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1 So, that's kind of the conclusion of
2 that context, but for me it just painted a picture
3 that this was, especially at the very early part
4 of this campaign, or this research effort, it was
5 very, very close to the head of the kind of raw
6 materials at AEC, and, you know, there's not a shred
7 of scientific evidence in that passage, but it does
8 certainly seem to suggest to me, kind of, from that
9 history lens, that there was potentially a lot
10 going on there.

11 It was very urgent in trying to get that
12 team ready to go deploy a plant in Africa and to
13 do other work that was needed to kind of get this
14 work launched.

15 One other just brief comment, just to
16 echo something that LaVon had said about kind of
17 the city. Walnut Creek, California, is an
18 affluent suburb. 2800 Mitchell Drive, where kind
19 of this work had been initially attributed or
20 described to, was one of the first, literally one
21 of the first, suburban office parks built in the
22 Western U.S.

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1 It's kind of the place that if you go
2 there now you'd have medical offices, there's a
3 Kaiser facility, there's, you know, a daycare and
4 a storage facility right next to it. It is a
5 tree-lined, quiet little street.

6 If your dad or if your grandfather
7 worked at a busy chemical plant, you would never
8 think that that happened in Walnut Creek. So, it's
9 only 13 miles away, but if you read in the paper,
10 in the USA Today, Wall Street Journal, saw
11 something else that said workers in Walnut Creek
12 are entitled to compensation, and you knew that
13 your dad worked at a chemical plant, there would
14 just be no connection between those two places.

15 Pittsburg is a bustling chemical
16 facility on the Bay of San Francisco surrounded by
17 rail lines and other chemical facilities. It's
18 just a fundamentally very different place.

19 It's not just that they are different
20 cities, the character of those communities is quite
21 different. And so if somebody had heard that there
22 was, you know, an ability to file a claim or

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1 something, they wouldn't have necessarily
2 connected the two places together even though they
3 were both potentially Dow facilities. That's all.

4 CHAIRMAN MELIUS: Okay. Thank you
5 very much for the comments. I've been to Walnut
6 Creek and I agree with your description.

7 MR. JOYNT: Yeah.

8 CHAIRMAN MELIUS: Josie?

9 MEMBER BEACH: Yes. I'd like to make
10 a motion that we accept NIOSH's proposal to add a
11 Class for Dow Chemical in Pittsburg for the years
12 stated, 1947 through '57, June 30th.

13 MEMBER CLAWSON: I second it.

14 CHAIRMAN MELIUS: Okay. We have a
15 motion and a second to that. Any further
16 discussion?

17 Okay, if not, I'll ask Ted to do the roll
18 call, please.

19 MR. KATZ: Dr. Anderson?

20 MEMBER ANDERSON: Yes.

21 MR. KATZ: Ms. Beach?

22 MEMBER BEACH: Yes.

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1 MR. KATZ: Mr. Clawson?

2 MEMBER CLAWSON: Yes.

3 MR. KATZ: Dr. Field?

4 MEMBER FIELD: Yes.

5 MR. KATZ: Dr. Kotelchuck?

6 MEMBER KOTELCHUCK: Yes.

7 MR. KATZ: Dr. Lemen? Dr. Lemen, are
8 you --

9 MEMBER LEMEN: Yes. This is Dr.
10 Lemen, yes.

11 MR. KATZ: Thank you. Dr. Lockey?

12 MEMBER LOCKEY: Yes.

13 MR. KATZ: Dr. Melius?

14 CHAIRMAN MELIUS: Yes.

15 MR. KATZ: Ms. Munn?

16 MEMBER MUNN: Abstain.

17 MR. KATZ: Dr. Poston?

18 MEMBER POSTON: Yes.

19 MR. KATZ: Dr. Richardson?

20 MEMBER RICHARDSON: Yes.

21 MR. KATZ: Dr. Roessler?

22 MEMBER ROESSLER: Yes.

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1 MR. KATZ: Mr. Schofield?

2 MEMBER SCHOFIELD: Yes.

3 MR. KATZ: Ms. Valerio?

4 MEMBER VALERIO: Yes.

5 MR. KATZ: And Dr. Ziemer?

6 MEMBER ZIEMER: Yes.

7 MR. KATZ: And the yeas have it and the
8 motion passes.

9 CHAIRMAN MELIUS: Okay. Thank you,
10 and thank you for your comments and attention.

11 And by the way, on the Dow, I have a
12 letter ready which is being copied, we'll do that
13 later today when we have time and when the letter
14 gets copied.

15 (Pause.)

16 CHAIRMAN MELIUS: Okay. So, let me
17 read it into the record. "The Advisory Board on
18 Radiation and Worker Health, the Board, has
19 evaluated a Special Exposure Cohort Petition 00216
20 concerning workers at the Dow Chemical Company
21 Facility in Pittsburg, California, under the
22 statutory requirements established by the Energy

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1 Employees Occupational Illness Compensation
2 Program Act of 2000, incorporated into 42 C.F.R.
3 Section 8313.

4 "The Board respectfully recommends
5 that SEC status be accorded to all Atomic Weapon
6 Employer employees who worked for Dow Chemical
7 Company in Pittsburg, California, from October
8 1st, 1947, through June 30th, 1957, for a number
9 of work days aggregating at least 250 work days,
10 occurring either solely under this employment or
11 in combination with work days within the parameters
12 established for one or more other Classes of
13 employees included in this Special Exposure
14 Cohort.

15 "This recommendation is based on the
16 following factors: individuals employed at this
17 facility in Pittsburg, California, during the time
18 period in question worked on research for the
19 production of materials to be used for nuclear
20 weapons.

21 "The National Institute for
22 Occupational Safety and Health, NIOSH, review of

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1 available monitoring data, as well as available
2 process and source term information, for this
3 facility found that NIOSH lacked the sufficient
4 information necessary to complete individual dose
5 reconstructions with sufficient accuracy for
6 internal and external radiological exposures to
7 uranium to which these workers may have been
8 subjected during the time period in question. The
9 Board concurs with this determination.

10 "Third, NIOSH determined that health
11 may have been endangered for employees at this
12 facility during the time period in question. The
13 Board also concurs with this determination.

14 "Based on these considerations and the
15 discussion at the March 25th and 26th, 2015, Board
16 Meeting held in Richland, Washington, the Board
17 recommends that this Class be added to the SEC.
18 Enclosed is the documentation from the Board
19 Meeting where this SEC Class was discussed. The
20 documentation includes copies of the petition that
21 NIOSH reviewed thereof and related materials. If
22 any of these items are unavailable at this time they

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1 will follow shortly."

2 So, it's in the record. If you have
3 comments or questions let me know we can still make
4 some changes. The lawyers have looked at it.

5 (Pause.)

6 MEMBER ANDERSON: Are we ready?

7 CHAIRMAN MELIUS: Yes.

8 MEMBER ANDERSON: Unlike the others
9 which we're going over today, our SECs, in our
10 Committee, and I think most of the Committees, we
11 give priority to moving SECs as quickly as
12 possible, and, when time allows, get caught up on
13 the Site Profile reviews. And this is one of those
14 at the DuPont Deepwater Works in Deepwater, New
15 Jersey.

16 It's a site that was laboratory
17 research producing UF6 in early 1942. They
18 started production in '43. And you can see that,
19 as with a lot of these sites, they used different
20 sets of processes to concentrate and arrive at
21 uranium.

22 The site operated from, as you see

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1 there, at the start of '42, '43, through '48. So
2 it's a fairly early site. And site
3 decontamination occurred in 1948. There was a
4 final site survey done at the end of December 1948.
5 And then there's a long residual period from '49
6 through March of 2011.

7 As far as a chronology of our activity,
8 this is one of those that started out as assigned
9 and was being operated and managed through the
10 TBD-6001 with an initial report in January of 2008.
11 Then there was a TBD in February of 2011, when it
12 became a freestanding Technical Basis Document, or
13 Site Profile, replacing the Appendix B. And that
14 TBD was revised in March of 2011.

15 It was assigned to be reviewed, and in
16 August 2011 SC&A did a review of the document and
17 had seven findings. In September of '12, the Work
18 Group met and discussed those findings.

19 In 2013, in March, the SC&A critique was
20 then reviewed by DCAS and they provided a written
21 critique of the findings. Then SC&A reviewed
22 those again and we had a report response in June

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1 of 2013. In September, the findings were reviewed
2 at the Work Group meeting, and in October we
3 reviewed the Work Group reports at the Board
4 Meeting.

5 At that time, on the resolution of the
6 findings, there was some activity to begin to look
7 at the review of some of the procedures, and in
8 December of 2013 there was more comments.

9 By 2014, we were pretty well caught up
10 and had a White Paper on the extent to which the
11 earlier findings have been resolved in the Rev 1
12 of the TBD. And then we had a teleconference where
13 we basically closed out most of the findings.

14 And then one of the issues that had been
15 discussed, and I think we were at one point waiting
16 for the TIB-9 review, but an issue came up that at
17 this work site the length of the work day was more
18 than the typical 8-hour work day. And for the TIB-9
19 procedures, really, the work days' conversion to
20 calendar days was an issue, that for the workers
21 who had longer hours in the work day, some
22 discussion of how were hours assigned, and then in

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1 a facility like this where a workday was longer than
2 the standard workday that the TIB-9 was working
3 with.

4 This resulted in a discussion of did it
5 cover it or not? And the discussion was, yes, it
6 would, and that the conversion would be done on an
7 hour in a workday basis rather than just a generic
8 workday, and that would result in a small increase,
9 about 9 percent, in the daily ingestion rate.
10 Again, this is the residual period with dust and
11 ingestion at the time.

12 So, basically, everything was resolved
13 and now we're just waiting for -- as you can see
14 here, we feel we can close this out, that we would
15 approve it, ask the Board to approve it, with the
16 caveat that the document, Rev 1, would be amended
17 to ensure that this calculation of the ingestion
18 doses would be consistent with the TIB-9 that I
19 think now has been reviewed. I think you folks
20 have reviewed and closed it out, so everything
21 should be copacetic right now between the various
22 Work Groups.

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1 And so that's what we are right now
2 asking to close this out, and to accept this with
3 this statement as you see it here. Here is the
4 references. I don't think, unless you'd really
5 like to belabor the issue and go through what our
6 findings were and the resolution of those, I think
7 you all received that, so I don't think I need to
8 go through that unless -- I got a couple extra
9 slides at the end here, but I'm not going to go
10 through those unless you have specific issues to
11 raise.

12 It's pretty straightforward, and the
13 issue on the hours was one of unusual wording, I
14 guess, of what's a workday versus a calendar day.

15 So, any questions? I've got you all
16 thoroughly confused after six years of working on
17 this?

18 CHAIRMAN MELIUS: Any Board Members on
19 the phone have questions? I was going to say, it
20 seemed pretty straightforward.

21 MEMBER ANDERSON: Yeah.

22 MEMBER LEMEN: Lemen, no.

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1 CHAIRMAN MELIUS: Then I believe the
2 action will be the Board -- the Work Group is
3 recommending to the Board that we essentially close
4 out this Site Profile review.

5 MEMBER ANDERSON: Yes.

6 CHAIRMAN MELIUS: So it's a motion,
7 essentially, from the Work Group.

8 MEMBER ANDERSON: From the Work Group,
9 yeah, so you don't need a motion from the floor.

10 CHAIRMAN MELIUS: Unless there's
11 further comments. If not, all in favor, say aye.

12 (Chorus of ayes.)

13 CHAIRMAN MELIUS: Opposed?
14 Abstained? Okay, thank you.

15 Well, you've helped the Board earn
16 maybe a little extra time on the break. What I'd
17 like to do now is start and finish up the Work Group
18 reports.

19 And, Henry, your Work Group, I don't
20 know if you have anything additional for your Work
21 Group besides what you just presented to us?

22 MEMBER ANDERSON: No, that's the last

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1 active one. I think we have a couple of other sites
2 assigned to our group and we're waiting for those
3 reports to come out. So we'll be active again once
4 we get those documents.

5 CHAIRMAN MELIUS: Okay. The next
6 group I have that I believe is active is Weldon
7 Spring. Dr. Lemen? I think we're also waiting on
8 a report.

9 MEMBER LEMEN: There is nothing new to
10 report on Weldon Spring at this time.

11 CHAIRMAN MELIUS: Okay, thank you.
12 And someone who reminded me yesterday that their
13 Work Group was being forgotten because it's the
14 last in the alphabet, the listing: Worker Outreach.
15 Josie?

16 MEMBER BEACH: Yeah, that's been
17 forgotten before, so I was just assuming. Okay,
18 Worker Outreach, I reported to the Board in July
19 of last year looking for recommendations on what
20 to do with Worker Outreach. And to be honest, that
21 is all I've done since then. So I think, Jim, maybe
22 we'll have a conversation offline and kind of

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1 decide where this Work Group will go. That's all
2 I've got, thanks.

3 CHAIRMAN MELIUS: Okay. So that
4 finishes up our Work Group reports.

5 MEMBER KOTELCHUCK: Pardon me. Dave
6 Kotelchuck. We do lots of things, calculations,
7 analyses, that many of the claimants, most of the
8 claimants, feel not able to understand because it
9 involves perhaps some advanced technical
10 knowledge.

11 And I wondered, in terms of Worker
12 Outreach, if it would make sense, it's a thought,
13 to develop some sort of educational material on our
14 website that would introduce basic ideas in nuclear
15 physics and radiation hazards.

16 Obviously, there are statistical
17 analyses that are done that probably would be
18 difficult. On the other hand, Dr. Neton's paper
19 that he produced yesterday on the coworker data
20 certainly gave me ideas that we could simplify or
21 outline processes of how we do things.

22 Now, I don't think it's a matter of our

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1 writing a book. I mean, people teach courses about
2 this, many of us have taught such courses, and there
3 is lots of material around. It may be just a
4 question of identifying some such material.

5 And I wondered, Josie, if your Worker
6 Outreach Committee, whether that's something that
7 might be done. And I think it would be worthwhile.
8 So, I just wondered, it's an idea, and I put it out
9 for comment, thought.

10 MEMBER BEACH: Thank you. We'll look
11 at that.

12 CHAIRMAN MELIUS: Stu, do you have a
13 comment?

14 MR. HINNEFELD: Yeah, this is Stu
15 Hinnefeld from DCAS. I would just offer that there
16 are some materials like that on our website.

17 There's at least one video. I think two
18 videos: one video series is from all three
19 agencies, DOE, DOL, and ourselves, describing the
20 program and our role in the program.

21 There is an older video that, as far as
22 I know, is still up on our website, where several

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1 of our staff talk about various aspects of what's
2 done in dose reconstruction.

3 We have a Worker Outreach contractor
4 who assists us, and lately much of their work has
5 been done in the SEC investigation world. We get
6 them incorporated in the SEC investigation to get
7 worker input during Evaluation Report time. But
8 they also host a dose reconstruction and SEC
9 workshop each year in Cincinnati where we invite
10 interested parties from around the sites. That is
11 a two to two-and-a-half day workshop.

12 And they have an abbreviated workshop
13 that they will take once or twice a year to
14 interested parties at specific sites. And I
15 believe we're going to Idaho Falls in the spring,
16 later on in the spring. So, we do some things along
17 those lines that may not be readily apparent to the
18 Board.

19 MEMBER KOTELCHUCK: Oh, there's no
20 question that we do such things. I wondered, for
21 example, some of the materials in that course,
22 might they be put online?

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1 MR. HINNEFELD: There's probably
2 nothing that would prevent us from putting those
3 on our website.

4 MEMBER KOTELCHUCK: I mean, I assume
5 that, for claimants, many of the claimants never
6 have looked at issues of radiation hazards,
7 radiation physics, and they are brought to it by
8 their claims. And it may then be an appropriate
9 teaching point to have them -- they might be looking
10 for materials then, and if it were onsite it would
11 be helpful.

12 It's not so much criticism of what we
13 haven't done, but essentially thinking about
14 outreach a little more to claimants.

15 MR. HINNEFELD: Right. There could be
16 some more fundamental information like you
17 described: radioactive decay, radiation versus
18 contamination, some things like that, that
19 probably are not specifically addressed in the
20 training and materials we have so far.

21 So there might be -- I guess we could
22 look into, you know, some topics like that, or if

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1 the Board would like to suggest topics to us that
2 we think would be helpful to put public
3 communication or training materials together on we
4 might be able to do that.

5 Like you said, chances are we can just
6 find them and link to it rather than right them
7 ourselves.

8 MEMBER KOTELCHUCK: Oh, yes. I
9 thought maybe the Worker Outreach Committee might
10 be the appropriate place from the Board to take a
11 look at it and talk with you.

12 MR. HINNEFELD: Okay.

13 CHAIRMAN MELIUS: We'll let Josie
14 follow up next time. I think one -- I'm sorry, go
15 ahead, Gen.

16 MEMBER ROESSLER: As long as we're on
17 the subject, and as far as radiation fundamentals
18 goes, that's been done a lot. I would recommend
19 maybe Josie take a look at the EPA website, and I
20 can show you how to get there.

21 You might think I'm a little biased, but
22 I think on the Health Physics Society website we

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1 have an extensive amount of information on the
2 fundamentals. And maybe I can just point it out
3 to Josie and see if some of this could be linked
4 from the CDC website.

5 MEMBER KOTELCHUCK: Excellent.

6 CHAIRMAN MELIUS: Okay. There's one
7 important clarification, Dave, and you may have not
8 been around when we talked about this, though. We
9 got to be a little careful. The Board is not
10 charged with, you know, doing outreach and in the
11 legislation we have particular topics we're
12 supposed to focus on, particular tasks. So I think
13 we have to be a little careful.

14 We're not charged with developing
15 outreach materials for the program. NIOSH can ask
16 us to review materials or ask for advice on what
17 to do, but, really, much of this is outside our
18 scope. And we've struggled with that with the
19 Worker Outreach Work Group, because it is something
20 we're not charged with doing.

21 So, again, we can talk about this more
22 maybe at the next meeting, Josie, but it is a

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1 limitation and we need to stay focused on what we
2 are charged with doing, for the most part.

3 MEMBER KOTELCHUCK: Thanks.

4 CHAIRMAN MELIUS: Wanda?

5 MEMBER MUNN: Well, just a comment, a
6 follow-on to what you were saying, Jim. Sometimes
7 it's instructive to go back and read our actual
8 charge.

9 I did that recently and one forgets
10 exactly what we were charged to do here and the fact
11 that we do have some limitations. So it was just
12 a thought, that it surprises me a little when I go
13 back and read what we're actually supposed to do,
14 and it does limit us.

15 CHAIRMAN MELIUS: Okay. I would like
16 to turn next, which I think will be relatively
17 straightforward. If you go to the materials that
18 you were sent, we had received correspondence to
19 the Board from Bonnie Klea, and also I think that
20 was preceded by a letter, I believe, from Terrie
21 Barrie that was transmitting Bonnie Klea's but in
22 her own letter, I think, is how it came in.

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1 They are raising concerns about
2 comments that the Boeing Corporation had submitted
3 after our last meeting near the Santa Susana site
4 objecting to that and wanting the letters in your
5 materials, essentially, we somehow reject that,
6 those comments or something. And so the letter,
7 which I think is relatively straightforward, but,
8 you know, is that we do welcome public comments and
9 we aren't going to, you know, sort of pick and
10 choose in terms of who's allowed to provide those
11 comments and that.

12 So let me just read my draft response
13 into the record. So it would be: "Dear Ms. Klea,
14 thank you for your letter of February 23rd, 2015,
15 to the Advisory Board on Radiation & Worker Health
16 concerning comments submitted to the Board by the
17 Boeing Company regarding NIOSH's and the Board's
18 ongoing evaluation of the Santa Susana Field
19 Laboratory site.

20 "While the Board understands your
21 concerns the Board has long maintained a policy of
22 welcoming public comments about matters before the

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1 Board. This submission will be submitted in the
2 same manner as any other public submission. We
3 also appreciate your efforts to provide the Board
4 with information useful for our review and
5 deliberations and hope that this response
6 clarifies the reasons for also accepting these
7 comments from Boeing."

8 And I think we can copy that to Terrie,
9 or a similar letter. So if there are no comments,
10 we'll put that on official stationary and send it
11 out.

12 Ted, while we have everybody here why
13 don't we at least start the discussion on timing.

14 MR. KATZ: Sure. If all of you will pull
15 out your calendars, looking pretty far forward,
16 but, as you know, we need to do this pretty far
17 forward.

18 I had included possible dates in some
19 annotation I gave you. We're scheduled through
20 the rest of this calendar year. So the next
21 appropriate teleconference date, or period for a
22 teleconference, is approximately the week of

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1 January 17th or 24th. So that's what I'd be
2 looking for. Of course, we can move outside that
3 range.

4 CHAIRMAN MELIUS: 2016, yes?

5 MR. KATZ: This is 2016 we're talking
6 about, right. The week of the 17th and the week
7 of the 24th, those two weeks are sort of about the
8 right ballpark, but if those don't work we can move
9 outside that ballpark.

10 We're just talking about a
11 teleconference so we're talking about really an
12 11:00 to whatever, 1:00 or 2:00 p.m.

13 (Off-microphone comments.)

14 MR. KATZ: So the 21st, is that what you
15 are suggesting? Okay, the 20th. Anyone on the
16 line have a problem with the 20th, of January 20,
17 2016?

18 MEMBER LEMEN: That works for me, Dick
19 Lemen.

20 MR. KATZ: Thanks, Dick.

21 MEMBER VALERIO: That works for me,
22 that's Loretta.

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1 MR. KATZ: Right, that's an 11:00 a.m.
2 Eastern start time. And do we still have you,
3 Bill, on the call? I knew he had to leave, but --

4 MEMBER SCHOFIELD: I don't have any
5 problem with that, this is Phil.

6 MR. KATZ: Okay. So let's say that,
7 then, the 20th, 11:00 a.m. Eastern Time.

8 Okay, then going to the next meeting,
9 and approximately the right dates for that are the
10 weeks of March 14th, 21st, or 28th, those weeks,
11 2016.

12 CHAIRMAN MELIUS: Yeah, I can't do it
13 the week of the 13th into -- between the 13th and
14 the 22nd I'm tied up, but I can do it after the 22nd.

15 (Off-microphone comments.)

16 MR. KATZ: So how is the 23rd, 24th, for
17 everyone, of March?

18 MEMBER MUNN: Very good.

19 MR. KATZ: On the line?

20 MEMBER LEMEN: Did you say the 23rd?

21 MR. KATZ: Yeah, the 23rd or 24th of
22 March of 2016.

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1 MEMBER LEMEN: Either one is all right
2 for Dick Lemen.

3 MR. KATZ: Yeah, both days. Okay.

4 (Off-microphone comments.)

5 MR. KATZ: And the dog is welcome, yes.

6 CHAIRMAN MELIUS: Yeah, Easter is
7 early that year, so that's on the 27th.

8 MR. KATZ: Okay. So does that make
9 sense?

10 CHAIRMAN MELIUS: Yeah, the 23rd and
11 24th.

12 MR. KATZ: Okay. The 23rd and 24th of
13 March.

14 (Pause.)

15 MR. KATZ: Wait, do you have a
16 question, Jim, that I didn't hear?

17 CHAIRMAN MELIUS: We just want to
18 review when our next meeting dates are.

19 MR. KATZ: Oh, sure, yeah, one second,
20 let me give you that.

21 CHAIRMAN MELIUS: Okay.

22 MR. KATZ: Okay, so, moving out from

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1 today --

2 MEMBER BEACH: It's July 22nd or 23rd.

3 MR. KATZ: That's the face-to-face,
4 July 23rd through -- wait, no. July 23rd through
5 24th.

6 MEMBER BEACH: Yeah, I had 23rd, 24th,
7 and then someone else, I think Jim, said he had
8 22nd, 23rd.

9 MR. KATZ: Yeah, it's 23rd through
10 24th. That's this next face-to-face, the 23rd
11 through 24th of July.

12 The teleconference by the way, backing
13 up, is June 9th. June 9th is the teleconference,
14 but then the 23rd through 24th --

15 MEMBER LEMEN: You're back in 2015 now?

16 MR. KATZ: Yeah. We're back in more
17 present time right now, yes.

18 MEMBER LEMEN: Okay, thank you.

19 MR. KATZ: Yeah, sure thing. So those
20 are the next two meetings coming up. And the 23rd
21 through 24th, should we talk, Jim, about locations?

22 CHAIRMAN MELIUS: Yeah, let's talk

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1 about -- we've been talking about locations in
2 terms of where we will be, and there's usually two
3 factors. One, where are we in terms of an SEC
4 evaluation? But also where do we need additional
5 information that would be useful in evaluating an
6 SEC, and particularly public comments and
7 otherwise.

8 We had talked about where we'd be:
9 Denver, Kansas City, and INL. I think I've talked
10 to some of you already about this. We had some
11 discussions, and we'll come to INL later, but I
12 think there's a number of issues related to that
13 site and there are additional reports coming from
14 NIOSH that they have areas of that report that
15 they've reserved.

16 I think at least the consensus of some
17 of us trying to sort of figure this out was that
18 going back to INL would probably make the most sense
19 in terms of being productive for the Board in terms
20 of getting information that we need for making some
21 decisions, and particularly some public comments
22 and input from people around the site, because

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1 we'll have, I think, some specific questions in
2 particular specific areas and so forth.

3 Not that that will be the only way we
4 will follow up on INL, but it'll be one way. And
5 we weren't as sure of where we would be with Kansas
6 City or Denver, and we've already done a fair amount
7 of outreach in those places, and we have more
8 scheduled. I believe that's gotten clarified now.

9 (Off-microphone comments.)

10 MEMBER VALERIO: This is Loretta.

11 MEMBER KOTELCHUCK: -- perhaps another
12 hotel in Idaho than the one we used last time.

13 MR. KATZ: Oh, my feelings are hurt.
14 No, the trouble with hotels is we have pretty strict
15 guidance about sort of lowest bidder and so on. So
16 we'll do the best we can. I know it wasn't a happy
17 place for everybody. My room was great, but we'll
18 try to do -- there are not a lot of options that
19 can host a meeting, is the problem, in that town.

20 MEMBER KOTELCHUCK: You will note that
21 this is the first time I have raised such an issue
22 in many meetings. So, enough said.

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1 MEMBER SCHOFIELD: There is plenty
2 empty spud cellars.

3 CHAIRMAN MELIUS: Do you want to go
4 through the times for the rest of the year?

5 MR. KATZ: Oh, sure, one second. Right.
6 So, following July, the next teleconference is in
7 September. September 23rd.

8 That's a teleconference, 11:00 a.m.
9 Eastern Time, September 23rd.

10 (Off-microphone comments.)

11 MEMBER VALERIO: Ted, this is Loretta,
12 can you hear me?

13 MR. KATZ: Yes, we can hear you,
14 Loretta.

15 MEMBER VALERIO: Okay. You're
16 breaking up. It kind of fades out. So, the July
17 face-to-face meeting, was that decided on to be in
18 Idaho?

19 MR. KATZ: Yes, that's in Idaho.

20 MEMBER VALERIO: And that's a 2-day
21 meeting?

22 MR. KATZ: That's a 2-day meeting

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1 probably.

2 MEMBER VALERIO: Okay, got it. Thank
3 you.

4 MEMBER KOTELCHUCK: Dave Kotelchuck.
5 I just checked. The Wednesday the 23rd is the
6 holiday Yom Kippur. I will not attend and I am
7 hoping perhaps others may not be able to. It's a
8 major Jewish holiday and it starts the evening
9 before.

10 So if it were possible to change that
11 day, either the day after or the day before, but
12 not that day. That's a request, otherwise I will
13 just recuse myself.

14 MR. KATZ: Why don't we try to do that
15 right now.

16 MEMBER MUNN: Couldn't we do the 24th?

17 MR. KATZ: How's the 22nd for
18 everybody?

19 MEMBER MUNN: Well, wouldn't the 24th
20 be better since sundown is an issue on the 24th --
21 I mean, the 23rd?

22 MR. KATZ: Well, it's evening on the

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1 22nd, right? You're okay the 22nd at 11:00 a.m.?

2 MEMBER KOTELCHUCK: Absolutely.

3 MR. KATZ: Yes. So is the 22nd, does
4 that work for everybody on the line, too?

5 MEMBER LEMEN: Would you say which
6 month again? I'm confused.

7 MR. KATZ: I'm sorry, Dick. It's
8 September 22nd.

9 MEMBER LEMEN: Thank you.

10 MEMBER MUNN: 2015.

11 MEMBER LEMEN: That works for me.
12 This is Dick, that works for me.

13 MR. KATZ: That's super. That's
14 super.

15 MEMBER SCHOFIELD: Works for me.

16 MR. KATZ: Great.

17 MEMBER VALERIO: This is Loretta, that
18 works for me.

19 MR. KATZ: Okay. That's my wedding
20 anniversary, super. Works for me.

21 (Laughter.)

22 MEMBER KOTELCHUCK: I'm sorry, just to

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1 double check, I have originally Thursday the 24th
2 for that and you said it was, but you announced
3 verbally that it was Wednesday the 23rd, is that
4 correct?

5 MR. KATZ: That's correct.

6 MEMBER KOTELCHUCK: Yeah, and we've
7 moved it to the 22nd and I thank you.

8 MR. KATZ: Right. Okay, that's super.
9 Okay, then, following that, the next meeting
10 face-to-face is November 18th to 19th, November 18
11 through 19. No location yet.

12 CHAIRMAN MELIUS: We would decide that
13 at our next meeting, next in-person meeting.

14 Okay. I'd like to move on to some
15 discussion on the Dose Reconstruction Review
16 Subcommittee. Dave, first, I don't know if you
17 have an update on the Committee. That would be
18 helpful. And then we'll talk about the going
19 forward issue.

20 MEMBER KOTELCHUCK: I do. Just an
21 update for the Board, we had a scheduled meeting
22 on February 27th that was canceled due to lack of

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1 a quorum. We are one Member short, at least in
2 terms of a current Subcommittee. We have our next
3 meeting scheduled for April 14th. Basically, as
4 I think I may have indicated yesterday, we have
5 finished 10 through 13. That has gone very slowly.

6 We put that as our highest priority
7 because we wanted to be able to get to a report
8 quickly to the Secretary. But a number of issues
9 were raised yesterday, and important ones, and I
10 personally concur with the notion that we have to
11 rethink the way the Committee is structured and how
12 we go about our tasks.

13 I have the files that were sent to us
14 by SC&A. Really, sets 14 through 21 are really
15 quite valuable. I don't know. They deserve a bit
16 of statistical analysis soon, and also I think we
17 need to do a similar job for 10 through 13 -- that
18 is, the ones that we've already been through -- to
19 see how things have changed.

20 If you are interested, if the Board is
21 interested, I did not type it up, but I did some
22 simple calculations, which is to say I added the

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1 columns, and I'm not sure they are absolutely
2 perfect but they're pretty good, I think.

3 And just to give you a sense of that,
4 14 through 21, there are a couple sets for blind
5 review. But there are 166 cases. They were
6 evaluated between 2004 and 2014. The number of
7 findings was 305. So the number of findings that
8 SC&A had were, as I say, 305, which is 1.84 per case.
9 So a little under two findings per case.

10 Interestingly, I looked at those SC&A
11 reports that had zero findings and I found that 52
12 of them, which is to say 31 percent of those that
13 were reviewed had no findings, zero findings.
14 Which is at one level fine, it means that there's
15 agreement between the NIOSH review and the SC&A.

16 And on the other hand, that's a lot of
17 work put in for materials where there would be no
18 change in the NIOSH findings. That is, they were
19 fine, and it would be lovely to think of a way of
20 sensing what those might be.

21 Looking at the categorization of the
22 52, is there anything that identifies them to us

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1 a priori? In terms of types of finding, you'll
2 remember the Board has set up A, B, C, D, E, F. And
3 I'll do quickly the findings A about location in
4 the plant. There were only two findings, that is
5 1 percent of all, that was in disagreement between
6 SC&A and NIOSH, or DCAS. So that's really yielded
7 very little information.

8 Particle type, B, 17, ten percent.
9 Surprisingly, to me, item C, external exposure:
10 disagreements 86; 52 percent. That is, more than
11 half of those there is a difference in the findings
12 for external.

13 For internal exposures, the
14 differences were 34 in number, or 20 percent. So
15 20 percent of the findings there was a disagreement
16 internally. And, of course, there are multiple
17 findings for different cases, so this is not
18 rigorous, it's just a quick count of the columns.

19 We are debating within the Work Group,
20 and we have not had a chance as a Work Group to go
21 over these. There is an Item E, Quality Concerns.
22 And there were 68 Quality Concerns representing 41

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1 percent of the cases. And F, Other, which is very
2 large, not surprisingly. F, 100. Sixty percent
3 of them there is some other difference that is not
4 well classified by A through E.

5 On the other hand, the quality
6 assurance findings, which we are trying to do in
7 the future, and the Committee has talked with SC&A
8 about that, and there are a total of 206 quality
9 assurance findings that SC&A found.

10 We will discuss them, you know, with the
11 findings with the DCAS, with the Committee and with
12 DCAS. Which is to say there are one-and-a-quarter
13 QA findings per case.

14 And, finally, the number of
15 observations, which the Committee, for the other
16 Board Members, in terms of observations, we simply
17 -- we observe. We do not pass on them, but those
18 are discussed in terms of -- presented and
19 different points of view are presented and then
20 it's so noted. But we don't act on them.

21 There were 146 observations in 14
22 through 21, which is to say 0.9 per case. So about

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1 one per case, so one finding per case roughly. So
2 one finding per case -- excuse me, one observation
3 per case and two findings per case, just as a quick
4 summary. So perhaps that's useful to the Board as
5 an outline. Thanks.

6 CHAIRMAN MELIUS: Thank you. Dave,
7 could you give us an update on the blind reviews,
8 where that stands?

9 MEMBER KOTELCHUCK: There has not been
10 progress on blind reviews. The Committee is
11 focused on getting 10 through 13 finished. We are
12 now ready to consider going forward on the blind
13 reviews.

14 So we just have the six that were done
15 long ago, and it is on our agenda at the next meeting
16 -- and the next meetings, if need be -- to move ahead
17 on that. We admit we prioritized completing 13.

18 MR. STIVER: This is John Stiver from
19 SC&A, and I would just like to kind of expand on
20 that a little bit.

21 We have completed the Set 20 of blind
22 reconstructions, but we have not completed the

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1 comparison studies yet at this point. And we've
2 kind of changed up the process a bit to where
3 instead of reporting out our blinds at one meeting
4 and then, you know, sometimes a year later we
5 finally get around to discussing the comparison
6 reports, what we're going to do now is just go ahead
7 and complete the comparison report as soon as we
8 get the information back from NIOSH, and then just
9 do one report and then we just discuss that. It
10 makes a lot more sense, and it's something that Ted
11 had suggested, and we're going to run with that.

12 CHAIRMAN MELIUS: I guess my comment
13 would be that I think we -- I know we've put this
14 off for a while, but I'd be a little concerned about
15 trying to move forward with a letter to the
16 Secretary without having some possibility of
17 addressing the blind reviews.

18 I mean, they were an important part of
19 our original plans. And lots of reasons that they
20 got the delayed in that, and to me they would, in
21 some ways, be more of a priority than trying to move
22 forward with 14 through 21, though I don't think

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1 those are mutually exclusive issues.

2 MEMBER KOTELCHUCK: Our goal was not
3 moving ahead on 14. Our goal was finishing 10
4 through 13, and that was finished. We really have
5 only started 14 and we are ready to move in other
6 directions. And doing the blind reviews, I am most
7 open, and you have mentioned that before and it is
8 a priority, and I think the Work Group perhaps
9 should move that as its highest priority
10 immediately.

11 And some of us are working on trying to
12 look at 14 through 21 and looking at the data and
13 comparing it for 10 through 13 to see how we might
14 streamline the process of dose reconstruction for
15 the future. So I agree and I'm open and I trust
16 the Subcommittee is open to that.

17 CHAIRMAN MELIUS: Ted, do you have a
18 comment?

19 MR. KATZ: Well, I just wanted to say,
20 and maybe this is what you intended, but I had
21 always assumed that we would -- because we had it
22 on our agenda we just weren't able to meet -- but

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1 I always assumed the six blinds that we have now
2 complete with the Subcommittee, I'd have assumed
3 that we would address those before we write the
4 letter to the Secretary so it would cover those.

5 CHAIRMAN MELIUS: Okay. Yes, Wanda?

6 MEMBER MUNN: Yeah, just a thought with
7 respect to 14 through 21 that's upcoming. It was
8 very heartwarming for me to hear Dr. Kotelchuck's
9 brief overview of just what he saw taking a look
10 at those, because I had only scanned them and hadn't
11 made any attempt to parse them.

12 If might be worthwhile, given the tenor
13 of what he believes he sees there, for us to make
14 sure that the Subcommittee has an opportunity to
15 at least partially verify some of what he's saying,
16 because although they probably would not
17 appropriately be a major topic of a report to the
18 Secretary, it seems to me that, since our entire
19 objective in the Dose Reconstruction Subcommittee
20 was to try to assure that the dose reconstructions
21 were being done in an appropriate and efficient
22 manner, the raw data that Dr. Kotelchuck just

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1 reported indicates to at least the casual observer
2 that the number of findings have decreased markedly
3 over the period of time we've been doing this.
4 Which, of course, would logically be the aim of our
5 Subcommittee.

6 So it might be worthy of at least taking
7 a look at those more closely before we continue very
8 far on the report to the Secretary, just to be able
9 to say that it appears that the fruits of the labors
10 of the Subcommittee are being seen to some degree.

11 CHAIRMAN MELIUS: Paul?

12 MEMBER ZIEMER: Well, I certainly
13 agree with Dr. Melius on the need to get the blind
14 reviews addressed and include that in the letter
15 to the Secretary. And then I just want to
16 reemphasize, you know, we've only addressed this
17 once in the last roughly 15 years to the Secretary,
18 and it's the bottom line of what we're charged to
19 do as a Board. And so I think we just need to keep
20 that letter as a high priority and let's get it
21 done.

22 CHAIRMAN MELIUS: Yeah, I concur,

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1 though I agree with Wanda that we need to -- the
2 Subcommittee and the Board need to take a look at,
3 you know, the data on 14 through 21.

4 This was put together fairly quickly.
5 And I thank SC&A for it. This was, what, the last
6 week or so, two weeks, I don't know how long they've
7 been charged. It is helpful. But I also agree
8 with Paul that the focus on the letter ought to be,
9 you know, 10 through 13 and get this moving along
10 and this whole process and so forth.

11 And so to get that complete, along with the blind
12 reviews. And it's not to say that we can't make
13 other comments, but they will be maybe not as
14 rigorous a review as what we've already done and
15 that should stay as the focus.

16 So I think if we think about this, our
17 sort of priorities, one is to complete what needs
18 to be done for the letter to the Secretary. Number
19 two, we have to figure out how do we resolve 14 to
20 21? Do we change procedures for doing that?
21 They've already been reviewed, but we need that.
22 And number three is, what do we do going forward

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1 in terms of do we change the methodology that we're
2 using for doing the reviews?

3 And so I think, in some ways, those may
4 overlap, but they're also are sort, you know, have
5 different -- you probably can't obviously change
6 the methodology if it's already been done, so for
7 what's already been reviewed maybe we look at how
8 we do those reviews.

9 We did get some comments from SC&A
10 suggesting that, for 14 through 21, we only should
11 look at the findings and not look at where there
12 wasn't a finding. And I think that has some merit,
13 but I'm a little concerned that, really, the Board
14 is supposed to be making a finding, not our
15 contractor. We're not hiring, you know, a
16 contractor to make our decisions for us. And so
17 there has to be some way of resolving that, whether
18 it requires as much of a review on how we go about
19 that may be different, but we need to talk about
20 it and make sure we're doing our due diligence on
21 that.

22 Secondly, we also need to, you know,

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1 maybe to some extent for resolving 14 through 21,
2 but going forward is there a way that we can focus
3 on what are the more important parts of the dose
4 reconstructions that are more likely to raise
5 concerns that the Board should be paying attention
6 to? Is it a change in the methodology? Is it a
7 site we haven't looked at in detail before? So
8 it's applying maybe, you know, a general OTIB to
9 a new site and, you know, does that apply, you know,
10 to a Site Profile maybe -- or some of these sites
11 we don't have Site Profiles. So it's going to be
12 looking at that.

13 There may be others that I'm not, you
14 know, thinking of off the top of my head. And I
15 think we need to see if we can come up with a
16 methodology that would allow us to look at a higher
17 proportion of the cases but in a way that's more
18 likely to be productive. Not to find NIOSH
19 mistakes, but to address and make sure we're doing
20 the right thing and that we're looking at what are
21 the more important exposures, say, for a person at
22 a particular site. Or there may be more

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1 inconsistencies where it may be a higher, a more
2 likelihood that, because of the nature of the
3 procedure or something, that a mistake or something
4 would need to be corrected in that.

5 That's not something I don't think we
6 can do sitting here. Yes, Dave?

7 MEMBER KOTELCHUCK: You suggested
8 yesterday that we set up a special subcommittee to
9 look at what were -- a special subcommittee of the
10 Subcommittee to look at what you have said are
11 really Items 2 and 3, how do we go forward, how might
12 we change procedures?

13 And, to me, that's a very good idea and
14 that would allow the existing Subcommittee to
15 complete the letter to the Secretary, which is to
16 particularly look at the blind reviews. And then
17 also, at our April meeting, we could do -- we want
18 to look as a Subcommittee at 14 through 21, at the
19 results that I just preliminarily went over, and
20 have other people's thoughts to give to the
21 Subcommittee, so that I would see our Subcommittee
22 as doing Item 1 and having a discussion at the next

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1 meeting of 14 through 21, how we view the results
2 from SC&A. And then pass on Item 3, how do we go
3 forward and the changes and procedures that follow
4 from that discussion, for the special ad hoc
5 committee to review.

6 To me, that would be a good way of going
7 forward, that we have two groups looking at two
8 rather different tasks.

9 CHAIRMAN MELIUS: Just one correction.
10 My suggestion was a work group that would include
11 some people from the Subcommittee and some other
12 Board Members to look at, I guess, what you're
13 calling 2 and 3 here.

14 MEMBER KOTELCHUCK: Fine.

15 CHAIRMAN MELIUS: But, again, one is
16 because I think the Subcommittee's energies are
17 best focused on the other priority, number one.

18 MEMBER KOTELCHUCK: Yes, absolutely.

19 CHAIRMAN MELIUS: And second, I mean,
20 I think other people, you know, Board Members have
21 input into this, and any decision we make is going
22 to be the decision of the whole Board.

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1 MEMBER KOTELCHUCK: Right, that's
2 correct.

3 CHAIRMAN MELIUS: I mean, you know, as
4 Wanda has reminded us, this is one of our key
5 charges in the legislation, so it's up to the Board
6 to decide what we need to do. And so we would have
7 to have a process that involves everyone in the
8 Board in that.

9 Again, we also have some timing things.
10 We don't want to spend three years deciding what
11 to do and so forth, and we have a contractor that
12 has some resources and we need to keep moving
13 forward and appropriately utilizing those
14 resources to get our work done. So I think we have
15 to find sort of the right balance between all those
16 and that.

17 And, again, not criticizing what the
18 Dose Reconstruction Review Subcommittee has done
19 or not done, or whatever. I think they've been
20 doing excellent work, and it's a lot of work, and
21 a lot of work on the part of SC&A and NIOSH staff
22 to get through these resolutions and do this.

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1 I would also just add one more sort of
2 complicating factor. We have to also remember
3 that these are not, you know, random selection of
4 cases. We've been targeting sites. And that's
5 changed over time, the approach that's used, which,
6 again, is appropriate, but so when we're looking
7 at any data from there we have to remember that it's
8 not a random sample.

9 We don't have to get into OPOS
10 statistics or anything crazy, but it has changed
11 over time. And that may be part of the
12 recommendations, too, is how do we sample? It's
13 just not what do we look at, but which sites and
14 which kinds of cases and so forth.

15 So I guess my question would be, to the
16 Board, is the Board -- is there a consensus, does
17 this make sense in general as a way of going
18 forward?

19 MEMBER KOTELCHUCK: And I'm looking at
20 Subcommittee Members, especially, personally, to
21 see how you're feeling.

22 CHAIRMAN MELIUS: Wanda always agrees

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1 with me, so --

2 MEMBER MUNN: Always. Absolutely
3 always.

4 MEMBER BEACH: I agree.

5 CHAIRMAN MELIUS: Yes, Josie, okay.
6 So I think we need a motion, then, to form a Work
7 Group to move forward to look at the process of
8 doing dose, how we should move forward on both
9 resolving 14 through 21, as well as how we should
10 go in the future in terms of doing the dose
11 reconstruction review process on that.

12 I would hope that that Work Group would
13 actually be a very short-lived work group. Not all
14 of our Work Groups are as short-lived as we expect,
15 but this one should be.

16 And I would even hope that we could at
17 least provide some recommendations back to the
18 Board at our June 9th conference call, rather than
19 waiting another two months until the Board Meeting
20 at the end of July, or fairly far into July. But
21 first can we get a motion or --

22 MEMBER KOTELCHUCK: Can I?

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1 CHAIRMAN MELIUS: Yeah, sure.

2 MEMBER KOTELCHUCK: So moved. That
3 is, that we establish a special Working Group, dose
4 response, to report back to the Board at its next
5 meetings, it's next teleconference, to first
6 report at the next teleconference, and that the
7 existing Subcommittee continue to work on
8 completing the blind reviews and doing their review
9 of 14 through 21.

10 CHAIRMAN MELIUS: Do I have a second to
11 that?

12 MEMBER BEACH: I'll second that.

13 CHAIRMAN MELIUS: Okay. Further
14 discussion on that? I guess the understanding
15 would be the Work Group would be made up of people
16 from the current Subcommittee as well as other
17 Board Members.

18 MEMBER BEACH: And this may not be the
19 appropriate time, but I think maybe one of those
20 new Members should -- well, it sounds like we need
21 to add another Member to the Subcommittee as well.

22 CHAIRMAN MELIUS: What I plan to do,

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1 since not everybody's on the call and so forth, is
2 we need to -- I'll do a solicitation out to the
3 Board.

4 We also, I think, will need a Grand
5 Junction Work Group. We've got someone we need to
6 add to LANL. We need an addition to the
7 Subcommittee, and we also have this new Work Group.
8 So there will be a menu and people can pick, choose,
9 and volunteer. I've already got one volunteer,
10 Gen, but I think it's important we leave it open
11 to everybody, even people that couldn't make it
12 here today.

13 MEMBER BEACH: Oh, absolutely.

14 CHAIRMAN MELIUS: Good. And, also,
15 you know, we can also, once we get the Work Group
16 in place and so forth, charge SC&A with doing some
17 more data evaluation for us. And, again, we would
18 like to keep moving forward on dose
19 reconstructions. And that's one reason, you know,
20 given the resources and personnel at SC&A, I do
21 think we need to try to keep that moving and get
22 them assigned also.

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1 MR. KATZ: We need to vote on that
2 motion.

3 CHAIRMAN MELIUS: Yes, we do need to,
4 thank you. Our parliamentarian reminded us we had
5 not voted on the motion. I think we can do orally,
6 yes. So, all in favor of this new Work Group, say
7 aye.

8 (Chorus of ayes.)

9 CHAIRMAN MELIUS: All opposed?
10 Abstain? Okay, good. I think we have now earned
11 a break until 10:45. Again, try to be back here
12 directly at 10:45 because we have an SEC petition
13 to review and evaluate. So we'll see you back here
14 then. Thanks.

15 (Whereupon, the above-entitled matter
16 went off the record at 10:21 a.m. and resumed at
17 10:47 a.m.)

18 CHAIRMAN MELIUS: Next on our agenda
19 we'll hear from Jim Neton, who will give us an
20 update on -- there he is, I couldn't see you hiding
21 behind the podium. This will be the Grand Junction
22 complex. It's the continuation, a few years

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1 later, of the Grand Junction SEC.

2 DR. NETON: All right. Thank you, Dr.
3 Melius. I am indeed here to talk about the Grand
4 Junction Facilities. I should point out at the
5 outset here that the name has been changed as of
6 November last year. The Department of Energy
7 changed it from Grand Junction Project Office, or
8 Program Office, to Grand Junction Facilities. So
9 you'll see several -- it was hard to change them
10 all and be consistent. So you'll see some various
11 different designations here, but they all refer to
12 the same facility.

13 I'd also like to say at the beginning
14 that Tom Tomes is the DCAS point of contact and did
15 most of the work here. I'm just presenting the
16 presentation. So I think Tom may be on the phone
17 in case I get stuck with some difficult questions
18 that I'm not prepared for.

19 The was SEC, originally, SEC 175. And
20 we are going to be discussing today an addendum to
21 that SEC petition. I'll get into that a little bit
22 later, but first a little background information,

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1 because we haven't talked about this for a while.

2 It's the Grand Junction Facilities.
3 It's a Department of Energy facility located in
4 Grand Junction, Colorado. Its covered period
5 covers a wide range: 1943, one of the first
6 facilities, one of the oldest facilities that we
7 have, through the present day. I think in around
8 2001 it became a remediation facility. But it
9 still is on our list.

10 It did a lot of things. They did a lot
11 of things at Grand Junction. But most importantly
12 for our discussion today, they processed a lot of
13 samples, thousands of samples per month over
14 certain periods of time, that included uranium ores
15 and tailings that were, of course, elevated not
16 only in uranium but all the uranium along the
17 progeny that tend to be in ores.

18 Numerous projects use large
19 quantities, as I said, of these ores and tailings
20 for materials. And what's going to be of central
21 interest to us today is to talk about these
22 calibration pads.

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1 At one point they started to make, I'll
2 call them elaborate check sources, but they're
3 really calibration pads for survey instruments to
4 go out into the field. You go out in the field and
5 try to measure and survey for uranium or thorium.
6 And you need to figure out what your sensitivity
7 of your detection instruments are. So they made
8 these large concrete pads that were labeled,
9 radiolabeled, with various isotopes. We'll talk
10 about that a little bit later.

11 As I mentioned, the site started its
12 operations in 1943. The U.S. Army established it
13 as the Colorado Area Engineer Office. It later
14 became the Grand Junction Operations Office. As
15 I mentioned, now it's referred to as the Grand
16 Junction Facilities.

17 The first operations on the site, in
18 '43, was the construction of a refinery to make
19 uranium concentrates for the MED. They took what
20 they called green sludge that was left over from
21 vanadium mining operations and used that to recover
22 significant quantities of uranium, uranium ore

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1 concentrates, at that point.

2 The plant only ran a couple of years,
3 1943 to '45. After 1945, Grand Junction became the
4 center of uranium ore exploration, procurement,
5 processing and sample activities.

6 Up through '75, they did a lot of
7 assaying of ores. People would produce ore
8 products in the area and samples would come to Grand
9 Junction to be assayed to look at the purity and
10 that sort of thing.

11 Over that time period, through '75, a
12 substantial quantity of concentrates were
13 received, sampled and assayed. This slide says
14 there was almost 350 million pounds of that
15 material. So these weren't like little laboratory
16 samples. Quite of material came through there.

17 But the last of the drums were shipped
18 offsite in January of '75. So all of the major
19 source term was gone by that point.

20 MEMBER ANDERSON: Did it all come in
21 drums?

22 DR. NETON: I believe so, yes. I could

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1 be wrong on that. But the majority of it, at least,
2 was in drums. They did operate -- and we'll talk
3 about it a little bit later -- an ore processing
4 plant, a pilot plant. So they may have received
5 some ores not in drum state. I'm not sure about
6 that.

7 This next slide talks about these two
8 pilot plants in the '50s. They were trying to
9 develop methods for extracting uranium, trying to
10 improve the efficiency, that sort of thing. The
11 tailings from those ore processing plants were
12 buried onsite, which led to some significant
13 contamination around that facility.

14 Of interest to us today, though, is this
15 last bullet. They managed, between 1974 and '84,
16 the National Uranium Resource Evaluation Program.
17 And that program was targeted at the exploration
18 and sampling of the nation's uranium reserves.
19 They would accept core samples that were taken
20 around various uranium areas to determine the
21 uranium content of those materials. And they did
22 literally thousands of those samples a month during

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1 this time period.

2 This slide, I know it's pretty
3 difficult to see on the screen here, but I think
4 you have it in your presentation. It's just sort
5 of a graphic of the various operations that were
6 conducted. The long bar you see on the bottom is
7 the laboratory operation that extended from the
8 beginning of the Grand Junction operation's
9 inception all the way through around 2000.

10 The bar right on top of that is green
11 on my computer. I can't tell what color it is up
12 there. It looks sort of orangish. The bar right
13 above the second one from the bottom is the
14 uranium/vanadium assay and brokerage period. And
15 that's the period where they were doing all the
16 assay of those drums, those 300-and-something
17 million pounds of assay.

18 Two up from that, though -- well, all
19 the way at the top you'll see the National Uranium
20 Resource Evaluation Program. And that's really
21 where we're going to focus today, that ten year
22 period where they analyze these core samples. And

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1 also, at that same period, they constructed these
2 calibration pads.

3 The other bars on the right-hand side
4 really more refer to remedial action projects that
5 were conducted primarily offsite. They provided
6 offsite support services for the Grand Junction
7 Project Office's Remedial Action Program, Grand
8 Junction Remedial Action Project.

9 Workers were stationed, located, at the
10 Grand Junction Project Office, but their work would
11 actually be performed in these remediation sites,
12 although some samples would come back to the site
13 for analysis in the laboratory.

14 So, to get into the petition history,
15 SEC 175 was received in June of 2010 and qualified.
16 And the petition requested that it cover all onsite
17 personnel who worked at the operations office from
18 January 1, '43, through July 2010.

19 At the Augusta Board meeting in 2011,
20 I checked this, LaVon actually presented the SEC
21 Evaluation Report where we recommended that we add
22 a Class from the beginning of the plant, the

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1 facility's operations, in '45, through January
2 31st, 1975.

3 The Board heard our recommendation and
4 agreed with it. And that Class has subsequently
5 been added to the SEC. So, right now, Grand
6 Junction is covered all the way through the end of
7 January '75.

8 But at that time, even though our SEC
9 Evaluation Report said that we thought we could
10 reconstruct the remainder of the dose, just prior
11 to the release of the Evaluation Report, we
12 received a lot of additional data.

13 So we informed the Board at the time we
14 delivered the presentation that this new data
15 source was available, had not yet been reviewed by
16 NIOSH, and we would evaluate the data in light of
17 that and report back to the Board.

18 So that's what we're doing today, we're
19 reporting our analysis of where we are in light of
20 -- I think, originally we had something like 675
21 documents. And now we're up to, like, 1,600. So
22 there's about 1,000 new documents that were

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1 recovered for us to review.

2 So, after our analysis of all those
3 data, we drafted an Evaluation Report Addendum,
4 which we're talking about today. And we are going
5 to propose a Class that goes beyond 1975. And
6 we'll discuss the rationale behind that, but we
7 believe the Class should go from '75 through
8 December 31st, 1985. And after that we believe we
9 can do dose reconstructions. So that's a little
10 bit of a preview of what we're going to talk about.

11 So, after 1975, I mentioned all the
12 drums were gone, the drum samplings were gone. So
13 all that was really left at the site was legacy
14 contamination of the soil and the buildings from
15 the prior work. And there was considerable
16 contamination. I think it covered 19 buildings,
17 over 23 acres, or something like that, of
18 contaminated land still existing at the site after
19 '75.

20 Again, the buried uranium ore tailings
21 from the pilot plants was out there. But there
22 were continuing operations that remained. The

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1 sampling project for this National Uranium
2 Resource Evaluation program. I'm not sure how you
3 pronounce it. I couldn't figure that out. But
4 anyway, the NURE program was the bulk of the
5 continuing operations that involved radioactivity
6 onsite. Although I did mention that there are a
7 number of other activities that occurred offsite,
8 like these remedial projects offsite that they
9 provided assistance with. But the sample
10 processing at the site provided the greatest
11 potential for exposure.

12 That processing involved the crushing
13 and grinding of samples of ores and tailings. Now,
14 these samples were not very particularly
15 radioactive. The NURE program was not really a
16 uranium exploration program. It was a program
17 that took samples that went out to determine where
18 conditions may be favorable for uranium to exist.
19 So it wasn't really going and taking samples in
20 well-known, established uranium deposits. So the
21 bulk of these samples were barely, you know, higher
22 in uranium than what you would consider to be a

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1 normal distribution.

2 So there were exposures associated with
3 these samples that were processed in the
4 laboratories. But, again, the radiological
5 implications of exposures were not that great for
6 those type of samples.

7 The analytical laboratory continued to
8 operate through 2003 to support the various site
9 projects, including the analysis of these samples
10 that were processed in the crushing and grinding
11 operations.

12 The bottom three bullets that are on
13 this slide are the ones that really are not relevant
14 to what we want to talk about today exposure-wise
15 because these activities, by and large, took place
16 offsite. They were supported by the site
17 administratively, but the exposures, since they
18 were not acquired on the facility itself, are not
19 considered covered exposures for this program.

20 Okay, a little bit more about the
21 crushing and grinding. It happened in Building
22 7A, which was an addition on to Building 7 in 1956.

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1 This was something that we really hadn't considered
2 a lot in the original SEC Evaluation Report. It
3 is the greatest source of internal exposure from
4 onsite operations after '75. It was a very dusty
5 operation. They had these inverted V blenders
6 where they would blend the samples and then dump
7 them, take samples, that sort of thing.

8 And it was a sufficiently dusty
9 operation that they actually had a ventilation
10 system that vented the materials to a baghouse.
11 And they would fill up a couple of 55-gallon drums
12 from the dust from that operation every year. So
13 it was somewhat messy of an operation.
14 But as I said, the radiological implications of
15 that dust were not too bad, because these were not
16 particularly highly concentrated uranium samples.

17 But the last bullet, I think, is the
18 most relevant here. They ground uranium ores,
19 tailings and thorium ores to specific mesh size
20 prior to downblending the referenced materials for
21 use in calibration pads.

22 This is what was not understood in the

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1 original SEC Evaluation Report. They made these
2 concrete pads and bore hole calibration standards
3 that could vary from five feet in diameter, two feet
4 thick, to 30 by 40 feet, where they actually built
5 four of those large pads and installed them at an
6 airport so that people could actually do flybys and
7 calibrate their detection survey meters from the
8 air. They also supported drive-throughs and that
9 sort of thing.

10 But they made a number of these samples.
11 I think we know of at least 27, I think, that were
12 made during this particular period. And to start
13 making those samples, they actually had to grind
14 fairly highly concentrated ores, five to ten
15 percent uranium-by-weight ores and blend them.
16 And then they would dilute them down to make the
17 calibration standards.

18 They started with thorium ore that was
19 fairly concentrated. And in some cases, they
20 started with monazite sands, which are highly
21 elevated in thorium content.

22 So this is the operation that we were

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1 saying we really don't have any idea of what kind
2 of exposure potentials were occurring in this time
3 period.

4 The analytical laboratory, as I
5 mentioned, supported the operations in Building 7.
6 And they did the assay of the ores and such. And
7 they did have an upper concentration of incoming
8 samples. I think they wouldn't accept any samples
9 that were greater than 2,000 picocuries per gram.
10 And so some of these monazite ores and such had to
11 be blended down so that the laboratory could
12 actually assay them. Again, as I mentioned, the
13 samples were prepared in 7A. And the laboratory
14 was actually permanently closed in 2003.

15 So, our usual list of sources of
16 available information, we use our already existing
17 Technical Information Bulletins and procedures, of
18 course. There were interviews conducted with nine
19 former employees. We've looked through claimant
20 files. There was some documentation provided by
21 the petitioner. And we also looked at the files
22 that we had captured in our Site Research Database.

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1 As I mentioned earlier, 1116 additional
2 documents have been added to that Site Research
3 Database since we last presented this site's
4 Evaluation Report in 2011. And that was obviously
5 a result of additional data capture efforts that
6 took place since 2000. Well, some of the data came
7 in prior to that. But there's a lot of additional
8 data here.

9 Of course, we always look, where we can,
10 at the AEC documentation, DOE OpenNet. Internet
11 searches are standard now. CEDR is also a source
12 of information for exposure data. NARA and other
13 DOE sites.

14 As far as claims go, there are 75 claims
15 from Grand Junction that have been submitted to
16 NIOSH, 48 that have employment in this time period
17 that we're talking about today.

18 Forty-seven of those were completed, and only ten
19 of those claims had a PC, Probability of Causation,
20 greater than 50 percent. Six of the claims had
21 some type of internal dosimetry data.

22 Some monitoring was conducted. We'll

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1 talk about that in a little bit. But it's pretty
2 sparse in the earlier years.

3 And 22 of those claims had some type of
4 external dosimetry data. I think the criteria was
5 at least one film badge measurement, or one TLD
6 measurement.

7 As far as external exposure sources,
8 you could imagine, this is uranium ore and thorium
9 ore type exposure, so you have direct radiation
10 from the handling and processing of the ore and
11 tailings. One could also get exposure from being
12 submerged in a contaminated air cloud, although
13 that's not usually a very high exposure pathway for
14 external anyway. And then one could receive
15 exposures just from walking around the
16 contaminated grounds and buildings at the site.

17 There were also some sealed sources
18 that were used for data logging. They were used
19 offsite primarily, but they were stored onsite.
20 And there were some potential exposures to those
21 data logging sources.

22 So, from those source terms, the

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1 thorium and uranium, of course you have photon
2 exposures from uranium progeny. The largest
3 source, of course, would be the radium.
4 Radium-226 has some shorter-lived progeny that
5 emits some fairly energetic, high abundance
6 photons.

7 That's the main source of exposure
8 there, beta exposures, of course, from uranium
9 progeny, protactinium-234m, most notably. And
10 then, as I mentioned, the neutron exposures would
11 occur from those data logging sources:
12 californium-252, as well as -- this is something
13 new to me - a zetatron, which is a vacuum-tube
14 neutron generator. It's a
15 deuterium-tritium-containing device that
16 accelerates the material and generates neutrons
17 back via that pathway. So, that is, neutrons are
18 legitimate potentials for some exposures at this
19 facility.

20 As far as external dose reconstruction,
21 we have dosimetry data in the claimant files, as
22 I indicated. Twenty-two of the claimants had some

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1 type of dosimetry in them.

2 They measured, early on, before '81, I think, with
3 film, and after '81 with was TLDs. We also have
4 access to the REMS database, which gives summary
5 -- you know, summary and categories of exposures
6 for various years. And we can use that.

7 We've modified that to account for
8 missed dose. For example, if you took the 95th
9 percentile in the REMS database and said, okay,
10 it's one rem -- or not one rem, let's say the highest
11 exposed person had 100 millirem, then if we knew
12 that there were, like, so many other badging
13 periods, we would give them the MDA for the
14 remaining badging periods.

15 So we would assume that that annual
16 roll-up occurred in one monitoring period. And
17 then it's not a missed dose. That's a sort of
18 standard technique that we use.

19 But beta exposures, we've adopted a
20 beta-gamma ratio to supplement the individual
21 records. I think the beta-gamma ratio used in the
22 ER is 1.5.

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1 And, again, neutron exposures,
2 although not many people are exposed to neutrons,
3 it was possible, some people were monitored. The
4 neutron data are in REM starting in 1985. And
5 we're assuming, in prior years, the exposures were
6 pretty similar.

7 So we believe that there's enough
8 information to estimate external doses from
9 operations starting February 1st, '75, all the way
10 through July 31st, 2010, the period that we
11 evaluated. We also believe that we can estimate
12 with sufficient accuracy the medical X-ray dose
13 using our existing program technical
14 documentation.

15 Okay. Now, some of the more fun stuff,
16 in my mind: the internal sources of exposures. You
17 have uranium exposures, of course. But you also
18 have the progeny, thorium-230 and radium-226.
19 Thorium-232, it says limited quantities. It's
20 limited compared to some sites, but we're talking
21 in the hundreds of kilograms. I think at one time
22 they had a couple hundred kilograms onsite that

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1 they were using for these calibration pads.

2 Now, that's a one shot deal. I don't
3 know how many times that was replenished and such.
4 But there was at least a couple hundred kilograms
5 at one time onsite. And you always have the
6 progeny associated with the thorium, including
7 radon or thoron gas, which is one of the short-lived
8 progeny of thorium.

9 So the internal sources would be
10 inhalation and ingestion from the sample
11 preparation of the ore used in those calibration
12 -- they're called models here, but I call them
13 calibration reference sources, or reference pads.

14 They would have to crush, grind and dry
15 those materials in Building 7A. And then they
16 would downblend them and then actually mix them
17 with concrete to create these, you know, five-foot
18 diameter pads that can be used to calibrate these
19 reference instruments.

20 There was also sources of exposure from
21 residual contamination from previous operations at
22 the site. I mentioned the site was contaminated,

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1 so if you weren't working in Building 7 and you were
2 in another facility, there are known levels of
3 contamination around the site. And, of course,
4 from resuspension of those materials, there's
5 another additional exposure pathway.

6 Not much in the way of bioassay data at
7 this facility. None, actually, from '75 to '83,
8 that we found, at least that we had located, and
9 very few samples for onsite workers in '84. Most
10 of the samples appear to have been baseline
11 samples. So they're not of much use if you didn't
12 take a follow-up sample.

13 There are some fecal samples which will
14 become relevant in a little while, for these
15 workers in Building 7A, in 1986. After around '86,
16 the monitoring program became somewhat more
17 robust, and we have some indications that there
18 were time-weighted air samples, some fecal
19 sampling going on. They were very conscious of the
20 potential exposures from some of these higher level
21 concentrated thorium and uranium sources.

22 And there are some bioassay samples

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1 starting in 1991 when the requirements earlier of
2 10 CFR -- or DOE Order 5480.11 came into effect.
3 There was some very good documentation, Technical
4 Basis Documents, for the site that were written in
5 that time period that described, at least on paper,
6 a pretty substantial knowledge of the hazards and
7 how to go about monitoring for them.

8 Again, not much in the way of air
9 samples in this time period, '75 to '79. There is
10 a maximum air sample result reported for that
11 sample prep lab, that's the Building 7A laboratory,
12 taken in July of 1980, although it's a very low
13 sample. It only measured about three picocuries
14 per gram.

15 As I mentioned, most of the samples that
16 were processed by this laboratory were these sort
17 of core samples that were taken from the field, not
18 necessarily in areas that were highly enriched or
19 highly concentrated in uranium. So it's somewhat
20 deceptive. And this is what we were basing our
21 last presentation on, in '75, that this was the type
22 of exposure that occurred there.

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1 Now, this is true. This is, in
2 general, the type of air concentrations that one
3 would see. But when you start processing these
4 higher reference materials, the five to ten percent
5 uranium concentrated materials and the monazite
6 ores, you could get much higher -- you know, they
7 used the same equipment, it was the same equipment
8 that was used -- you get much higher air
9 concentrations.

10 And in fact in this next bullet, in
11 1986, they did an MPC hour tracking sample in the
12 prep lab. And for the first quarter of 1986, for
13 this one operation, they estimated up to a 307
14 MPC-hours of exposures.

15 So, those of you familiar with how this
16 works, 520 MPC-hours would be the limit for that
17 quarter. So these people's potential exposures
18 were bouncing up against the limit in that time
19 period.

20 I will say that there is some indication
21 that respiratory protection was used. But it's
22 not clear how often and what type. I mean, it's

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1 sort of spotty. We couldn't really determine. We
2 weren't comfortable enough to say that the
3 respiratory protection factor was effective for
4 limiting these exposures. There is also some air
5 sample results in the sample prep lab in 1990 that
6 were pretty good.

7 There's some indication of onsite
8 environmental samples taken in '85. They were
9 discontinued in '94 after the land was remediated.
10 These are of not much use for us in dose
11 reconstructions, though.

12 However, during the site remediation
13 effort that started around 1988, there are records
14 of air monitoring, surface contamination, and
15 worker bioassay that are pretty substantial. I
16 think we have somewhere in the neighborhood of 600
17 air samples taken during this period, as well as
18 a good indication of bioassay and why it was taken.

19 I'll talk a little bit about radon at
20 the site. When you have uranium ores, you're
21 always going to have a radon situation. And not
22 much was taken in the earlier years, up until 1990,

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1 as you can see on this slide.

2 However, in 1985, and this is prior to
3 the D&D operations, the after all the drums were
4 gone, the source term, but prior to cleanup, they
5 took 300 air samples in three different buildings
6 which were thought to be the highest buildings
7 where radon could have existed. And we have those
8 values. They aren't very high at all. I think the
9 highest four samples were around four picocuries
10 per liter or something like that.

11 They were actually measured in working
12 levels. I think they were reported about 0.02
13 working levels, which, at 50 percent equilibrium,
14 would come out about four picocuries.

15 So you really don't have evidence of a
16 lot of radon exposure, although we would certainly
17 consider this to be occupationally derived,
18 because it's ADC source term. But, again, they are
19 not very high.

20 So as far as internal dose feasibility
21 goes, the sample preparation processing of these
22 ores and tailings and the reference materials, we

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1 just believe there's insufficient data and
2 information to reconstruct internal dose from
3 February 1st, '75, through December 31st, '85.

4 We do believe that we can reconstruct
5 exposures, internal exposures and external
6 exposures, from January 1st, '86, through July
7 10th, 2010. And we'll talk a little bit about
8 that, why we think we can do that.

9 As far as intakes uranium, thorium and
10 their associated long-lived -- yeah, so we're
11 saying we can't reconstruct the intakes from
12 thorium and uranium in that time period. And
13 here's the reasons listed why. But we do think we
14 have methods that we can use to estimate radon,
15 radon progeny, after '75 through 2010, for the
16 reasons I just mentioned.

17 We have those 300 radon measurements
18 prior to the remediation period after the drums
19 were taken offsite. And they're fairly low,
20 they're in the maximum four picocurie per liter
21 range. So we would be using those values to
22 reconstruct radon exposures at the facility.

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1 As far as uranium, thorium and
2 long-lived progeny after January 1st, '86, again,
3 the most significant exposures were either from the
4 sample prep lab or from the site remediation and
5 building demolition, which actually happened
6 starting in around 1988.

7 So let's just talk about the sample prep
8 lab first. I mentioned we have that one sample in
9 1986, the 300-and-something MPC-hours. They were
10 clearly using the occupational limit to control
11 exposures at that point. So we believe that if we
12 assigned the maximum intake of 520 MPC-hours per
13 quarter during this time period, it would
14 sufficiently bound exposures to workers during
15 this period.

16 I will say that there's only a couple
17 instances where those calibration pads, as far as
18 we know, were produced after 1980, in this time
19 period that we're talking about.

20 Of course, the intakes from the site
21 remediation and building demolition from '88
22 through '91, we have, as a I mentioned, a lot of

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1 air samples, 600 or so. And we have analyzed those
2 data.

3 We would assign the highest dose to what
4 we call the operator category based on the 93rd
5 percentile of those air samples. Other personnel
6 would be assigned using a graded approach as listed
7 in TBD-6000, which is 50 percent for the non-rad
8 worker types and then ten percent for
9 administrative people. That's a fairly standard
10 prescription that we use out of TBD-6000.

11 Okay. After 1992, as I mentioned, DOE
12 5480.11 came in, subsequently followed by 10 CFR
13 835. There's a pretty good Technical Basis
14 Document out there that talks about limiting
15 exposures internally to 200 DAC-hours per year
16 prior to taking airborne -- prior to requiring
17 bioassay samples.

18 And intakes for non-rad workers will be
19 bound and based on a 40 DAC-hour per year trigger,
20 which is pretty standard these days. That would
21 result in 100 millirem internal dose.

22 So this chart is our standard chart that

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1 summarizes what we think we can and cannot do at
2 the facility. And you see, from February 1st, '75,
3 through 12/31/1985, we say that dose
4 reconstruction is not feasible for internal
5 exposures, and that would include thorium and
6 uranium. Radon can be reconstructed, as well as
7 all external doses. And after 1/1/86, we think we
8 can reconstruct both internal and external
9 exposures in all categories.

10 So, health endangerment, we believe
11 that some workers may have accumulated chronic
12 exposures through intakes of nuclides and direct
13 exposures. We are specifying, then, that health
14 may have been endangered for these workers.

15 And our recommendation is for the
16 period March 23rd, 1943, through -- well, that's
17 the last SEC period. So let's just skip to the
18 proposed Class. That's what happens when cut and
19 pasting occurs. Sorry about that. I'm surprised
20 I didn't notice that.

21 So, at any rate, to summarize, our
22 proposed Class here is all employees of the

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1 Department of Energy, its predecessor agencies,
2 and contractors and subcontractors who worked at
3 the Grand Junction Facilities site -- and this is
4 correct -- February 1st, '75, through December
5 31st, 1985, for a number of work days aggregating
6 at least 250 days, with the standard caveats after
7 that. And I think that concludes my presentation.

8 CHAIRMAN MELIUS: Thank you, Jim.
9 That was almost what I -- before the last meeting
10 I had actually sent around a letter for review where
11 I had copied an old letter, and I had not only the
12 wrong dates but the wrong decision, because I had
13 changed it, but I hadn't saved it and I ended up
14 sending out the old, saved letter that I was copying
15 from. I got this real, you know, shock --

16 DR. NETON: What's sad is I looked at
17 this thing at least six times. I must be getting
18 old. That's all I can say.

19 CHAIRMAN MELIUS: Just one thing for
20 the record. I had this question earlier to Jim.
21 There is no Site Profile for this site.

22 DR. NETON: That's correct.

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1 CHAIRMAN MELIUS: Right. And so
2 there's no prior review by the Board or SC&A of any
3 of this information, really, other than the earlier
4 SEC. And I think that one we just accepted. So
5 I don't think SC&A has ever looked at this site at
6 all.

7 DR. NETON: They have not.

8 CHAIRMAN MELIUS: Yeah. Questions,
9 Gen?

10 MEMBER ROESSLER: Jim, as you went
11 through the whole sequence, it looked to me like
12 there were a lot of changes in the mid-'80s in
13 activities and monitoring and so on.

14 And as I look at it, I think you could
15 have picked a date to end in '83, or it could have
16 been '88. And I'm wondering what was the most
17 significant thing that determined the December
18 1985 for the end date?

19 DR. NETON: Yeah. It really was that
20 air sample that estimated the
21 300-and-whatever-it-was DAC-hour or MPC-hour
22 exposures, where they really were consciously

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1 monitoring and taking air samples during the
2 processing of some highly elevated ores.

3 And I didn't mention this, I don't
4 think, but they also took fecal samples associated
5 with that. So we have some ways of sort of doing
6 a sanity check. Do the air samples really match
7 up with what the fecal samples are trying to tell
8 us? So they were doing the right things at that
9 point.

10 Originally, we were thinking about
11 using that and saying, well, we can go back in time
12 and use that to bound exposures. But we just
13 didn't feel comfortable doing that. But from that
14 point forward, it seems like there was more of a
15 conscious effort to control, or at least monitor,
16 these workers during that time period.

17 CHAIRMAN MELIUS: Henry?

18 MEMBER ANDERSON: Yeah, I just had a
19 question about that 307. That was a single? I
20 mean, to say, well, because the standard and the
21 guideline at the time was 520, to use that as your
22 bounding, if all you ever had is one sample at 307,

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1 that doesn't encourage me that they were closely
2 tracking to keep their exposures below what the --

3 DR. NETON: Yeah, we could discuss
4 that, I suppose. But I don't know that it was one
5 single sample. It was for the quarter. So that
6 was a cumulative, you know, MPC-hours. So it was
7 sampling over the quarter. But it was one
8 campaign. I'll grant you that.

9 However, as I mentioned, we only know
10 of about 27 of these campaigns in this ten-year
11 window. It seems it took about a month for each
12 of these reference things to be made. So, part of
13 the issue is we don't know. I mean, in the case
14 of 27, were there more that we don't know about?
15 That sort of thing.

16 MEMBER ANDERSON: Are there any
17 letters or documentation that they were paying
18 close attention to the 520?

19 DR. NETON: Oh, yes. There's a memo
20 associated with this, actually --

21 MEMBER ANDERSON: Okay, okay. I'm
22 just looking for, you know, is that a reasonable

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1 thing to use, in the light of this? Or was it just
2 serendipity that it was only 307?

3 DR. NETON: No, no. There was a memo.
4 And remember, they did use some sort of respiratory
5 protection. But it's somewhat vague, to me, as to
6 what they used.

7 They had one type of respirator they
8 were recommending at that point. Then they
9 switched to another one. And, you know, we
10 certainly don't have any indication of any kind of
11 a respirator fit program or that sort of thing.

12 And typically in our program, we don't
13 have any of that information. We just assume it
14 didn't happen. So, in all likelihood, the
15 exposures are less than that 307. But it
16 certainly, in our opinion, is the maximum.

17 CHAIRMAN MELIUS: Any Board Members on
18 the phone have comments or questions?

19 MEMBER VALERIO: This is Loretta. I
20 have a question.

21 CHAIRMAN MELIUS: Go ahead.

22 MEMBER VALERIO: It's on that same

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1 slide. And it was breaking up a little bit. I
2 don't know if you were stepping away from the
3 microphone. But I'm not clear on the air sample
4 results that were reported for the sample prep lab
5 in 1990. Are those sample results reported for
6 that MPC-hour tracking that was done in 1986?

7 DR. NETON: No, no. The air samples
8 that were taken in 1990, I don't exactly remember
9 now what they -- I don't believe that they were the
10 MPC-hour tracking.

11 By 1990, they were switching over to the
12 5480.11 implementation. But honestly, I can't
13 tell you the nature of those samples off the top
14 of my head. If Tom Tomes is on the phone and he
15 knows, maybe he can chime in.

16 MR. TOMES: Yes. This is Tom Tomes.
17 We don't have any indication they were MPC-hour
18 tracking samples in 1990. But there was a -- we
19 have a table of results that they were looking for,
20 mostly thorium-230 was the isotope of concern.
21 But they were not MPC-hour tracking results.

22 MEMBER VALERIO: Thank you.

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1 CHAIRMAN MELIUS: Thanks, Tom. Dr.
2 Ziemer?

3 MEMBER ZIEMER: I don't recall is you
4 mentioned this in the original document or not, but
5 in the Grand Junction case, unlike many other DOE
6 facilities or AEC facilities, the operations
7 office and the operational stuff seem to be sort
8 of combined. But there clearly are administrative
9 people on this site. Could you clarify the extent
10 to which people have access to all the facilities?

11 DR. NETON: Yeah. That's a good
12 point. I meant to include that in the presentation.
13 I don't think it's mentioned in the ER. But much
14 like many other sites that we encounter, we're not
15 aware of any controls that would prohibit anyone
16 from entering these areas.

17 So we're not going to be able to exclude
18 anybody, you know, from the Class. It's going to
19 have to be all employees, just because we really
20 don't know who had access to which areas or when.
21 I meant to include that. Thank you.

22 CHAIRMAN MELIUS: Any other Board

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1 Members on the phone have questions?

2 MEMBER LEMEN: None for Lemen.

3 CHAIRMAN MELIUS: I would just have one
4 comment to sort of follow-up to my earlier question
5 to Jim.

6 Given that we have not reviewed this
7 site at all, other than the original SEC, while I'm
8 comfortable with their SEC recommendation, I think
9 a little more due diligence on the follow-up period
10 would be helpful.

11 I don't have any specific doubts, but
12 I think there's enough uncertainty there that we
13 ought to pay some attention to that. I don't think
14 it would necessarily take a lot of effort, but it
15 should take some to make sure that, given some of
16 the questions that have been asked and given some
17 of the changes that have occurred at the site and
18 so forth.

19 But that's just my sort of personal
20 sense from when I looked at the report last week
21 and wrote the letters.

22 MEMBER ANDERSON: Kind of focusing on

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1 the end point area.

2 CHAIRMAN MELIUS: The end point and
3 sort of the methods. Since we haven't done a Site
4 Profile review, or they haven't done a Site Profile
5 and we haven't done a Site Profile review, again,
6 not that it was necessary, but I think this is our
7 one opportunity to sort of review the site other
8 than the SEC.

9 MEMBER ANDERSON: I think we should
10 send it to the 6000 group. Paul, I think they --

11 CHAIRMAN MELIUS: I had actually
12 suggested a new Work Group. I wasn't going to
13 burden --

14 MEMBER ANDERSON: This is going to pile
15 on Paul one more time, right?

16 CHAIRMAN MELIUS: He did kick me
17 several times when I started mentioning a further
18 Work Group review.

19 MEMBER BEACH: So, I agree with a Work
20 Group for this. But can we still do the tasking
21 today?

22 CHAIRMAN MELIUS: Yeah. No, I think

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1 there's no reason we can't do that. But first,
2 let's go back to the -- my understanding, by the
3 way, there is a petitioner, I'm not sure they are
4 even -- they may or may not be on the line. But
5 my understanding is that they don't wish to comment
6 today. So, just that for the record. And Josh is
7 indicating that's correct.

8 PARTICIPANT: I wish to make at least
9 a brief comment.

10 CHAIRMAN MELIUS: No, sir. You're not
11 a petitioner on this site.

12 PARTICIPANT: Okay. Oh, not on this
13 site, I'm sorry.

14 CHAIRMAN MELIUS: Yeah. It's just the
15 petitioner on this site. Those are the rules.
16 I'm sorry.

17 So, having said that, do I hear a
18 suggested action from Board Members?

19 MEMBER ANDERSON: Sure. I would move
20 that we accept and then create a Work Group to --

21 CHAIRMAN MELIUS: Why don't we do them
22 separately?

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1 MEMBER ANDERSON: Okay, fine.

2 CHAIRMAN MELIUS: Reading your intent,
3 one would be to recommend the SEC and the second
4 we'll move on and --

5 MEMBER ANDERSON: Yes, yes.

6 MEMBER BEACH: Jim, I'll second that.

7 CHAIRMAN MELIUS: Any further
8 discussion or comment? Then if not, go ahead, Ted.

9 MR. KATZ: Dr. Anderson?

10 MEMBER ANDERSON: Yes.

11 MR. KATZ: Ms. Beach?

12 MEMBER BEACH: Yes.

13 MR. KATZ: Mr. Clawson?

14 MEMBER CLAWSON: Yes.

15 MR. KATZ: Dr. Field, I believe, had to
16 leave. He hasn't returned, right? Dr. Field?

17 CHAIRMAN MELIUS: I think he's up in an
18 airplane.

19 MR. KATZ: Okay, that's right. Dr.
20 Kotelchuck?

21 MEMBER KOTELCHUCK: Yes.

22 MR. KATZ: Dr. Lemen?

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1 MEMBER LEMEN: Yes.

2 MR. KATZ: Dr. Lockey?

3 MEMBER LOCKEY: Yes.

4 MR. KATZ: Dr. Melius?

5 CHAIRMAN MELIUS: Yes.

6 MR. KATZ: Ms. Munn?

7 MEMBER MUNN: Yes.

8 MR. KATZ: Dr. Poston?

9 MEMBER POSTON: Yes.

10 MR. KATZ: Dr. Richardson?

11 MEMBER RICHARDSON? Yes.

12 MR. KATZ: Dr. Roessler?

13 MEMBER ROESSLER: Yes.

14 MR. KATZ: Mr. Schofield?

15 MEMBER SCHOFIELD: Yes.

16 MR. KATZ: Ms. Valerio?

17 MEMBER VALERIO: Yes.

18 MR. KATZ: And Dr. Ziemer?

19 MEMBER ZIEMER: Yes.

20 MR. KATZ: And the motion passes, and

21 I'll collect a vote from Dr. Field post-meeting.

22 CHAIRMAN MELIUS: The second part of

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1 that, Henry, if you want to continue with that now?

2 MEMBER ANDERSON: The second part was
3 to form a Work Group and task SC&A to review the
4 documentation that we have, specifically focusing
5 on, you know, the appropriateness of the end of this
6 period and the utility of the data and the
7 monitoring. Not a full-blown, but a careful look.

8 MEMBER BEACH: I'll second that.

9 CHAIRMAN MELIUS: We have a motion and
10 second. Any further discussion on that?

11 (No response.)

12 CHAIRMAN MELIUS: Okay. And then we
13 can do, yeah, just a -- we'll do a voice vote here.
14 So all in favor, say aye.

15 (Chorus of ayes.)

16 CHAIRMAN MELIUS: Opposed? Abstain?
17 Good.

18 MEMBER ANDERSON: And we do have SC&A
19 allocation time to work on this?

20 CHAIRMAN MELIUS: Yeah. No, we've
21 tasked them that as part of the motion.

22 MEMBER ANDERSON: Good, okay.

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1 CHAIRMAN MELIUS: Okay, yeah, Work
2 Group and task SC&A. So Ted will follow-up with
3 SC&A and work that out.

4 In the meantime, I will send out an
5 email to all the Board Members asking for
6 volunteers for this Work Group, as well as the
7 others we've talked about earlier.

8 So I don't believe we have any more
9 Board work to do. I think we've completed our
10 Board work period.

11 MEMBER ANDERSON: We missed the letter
12 from yesterday --

13 CHAIRMAN MELIUS: Actually, we can do
14 the letter, I can do that. And then, yeah, let me
15 do that now. Let me first start with the Grand
16 Junction letter.

17 So, the Advisory Board on Radiation and
18 Worker Health, the Board, has evaluated Special
19 Exposure Cohort, SEC, Petition 000175, concerning
20 workers of the Grand Junction Facility site in
21 Grand Junction, Colorado, under the statutory
22 requirements established by the Energy Employees

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1 Occupational Illness Compensation Program Act of
2 2000, incorporated into 42 CFR, Section 83.13.

3 The Board respectfully recommends that
4 SEC status be accorded to "all employees of the
5 Department of Energy, its predecessor agencies,
6 its contractors and subcontractors who worked at
7 the Grand Junction Facility site in Grand Junction,
8 Colorado, during the period from February 1st,
9 1975, through December 31st, 1985, for a number of
10 work days aggregating at least 250 work days
11 occurring either solely under this employment or
12 in combination with work days within the parameter
13 established for one or more other Classes of
14 employees included in the Special Exposure
15 Cohort."

16 This recommendation is based on the
17 following factors. Individuals employed at this
18 facility in Grand Junction, Colorado, during the
19 time period in question worked on research and
20 production for materials used in the production of
21 nuclear weapons. The National Institute for
22 Occupational Safety and Health, NIOSH, review of

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1 available monitoring data, as well as available
2 process and source term information for this
3 facility, found that NIOSH lacked the sufficient
4 information necessary to complete the individual
5 dose reconstructions with sufficient accuracy for
6 internal radiological exposures to thorium,
7 uranium and their progeny, to which these workers
8 may have been subjected during the time period in
9 question. The Board concurs with this
10 determination.

11 NIOSH determined that health may have
12 been endangered for employees at this facility
13 during the time period in question. The Board also
14 concurs with this determination.

15 Based on these considerations and
16 discussion at the March 25th and 26th, 2015, Board
17 meeting held in Richland, Washington, the Board
18 recommends that this Class be added to the SEC.

19 Enclosed is the documentation from the
20 Board meeting where this SEC Class was discussed.
21 Documentation includes copies of the petition, the
22 NIOSH review thereof and related materials. If

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1 any of these items are unavailable at this time,
2 they will follow shortly.

3 (Pause.)

4 CHAIRMAN MELIUS: While Ted passes
5 this out, I'll start reading it into the record.

6 The Advisory Board on Radiation and
7 Worker Health, the Board, has evaluated Special
8 Exposure Cohort, SEC Petition 000226, concerning
9 workers at the Hanford Site in Richland,
10 Washington, under the statutory requirements
11 established by the Energy Employees Occupational
12 Illness Compensation Program Act of 2000,
13 incorporated into the 42 CFR 83.13.

14 The Board respectfully recommends that
15 SEC status be accorded to "all employees of the
16 Department of Energy, contractors and
17 subcontractors (excluding employees of the Hanford
18 prime contractor during the specified time
19 periods: Battelle Memorial Institute, January 1st,
20 1984, through December 31st, 1990; Rockwell
21 Hanford Operations, January 1st, 1984, through
22 June 28th, 1987; Boeing Computer Services,

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1 Richland, January 1, 1984, through June 28th, 1987;
2 UNC Nuclear Industries, January 1, 1984 through
3 June 28th, 1987; Westinghouse Hanford Company,
4 January 1st, 1984 through December 31st, 1990; and
5 Hanford Environmental Health Foundation, January
6 1st, 1984 through December 31st, 1990) who worked
7 at the Hanford site in Richland, Washington, during
8 the period from January 1st, 1984, through December
9 31st, 1990, for a number of work days aggregating
10 at least 250 work days either solely under this
11 employment or in combination with work days within
12 the parameters established for one or more other
13 Classes of employees included in the Special
14 Exposure Cohort."

15 This recommendation is based on the
16 following factors. Individuals employed at this
17 facility in Richland, Washington, during the time
18 period in question worked on research and
19 production for materials used in the production of
20 nuclear weapons.

21 The National Institute for
22 Occupational Safety and Health, NIOSH, review of

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1 available monitoring data, as well as available
2 process and source term information for this
3 facility, found that NIOSH lacked the sufficient
4 information necessary to reconstruct internal
5 radiological exposures and thus unable to complete
6 individual dose reconstructions with sufficient
7 accuracy for the Class of employees as described
8 by the proposed Class Definition. The Board
9 concurs with this determination.

10 NIOSH determined that health may have
11 been endangered for the Class of employees as
12 described by the proposed Class Definition. The
13 Board also concurs with this determination.

14 Based on these considerations and
15 discussion at the March 25th and 26th, 2015, Board
16 meeting held in Richland, Washington, the Board
17 recommends that this Class be added to the SEC.

18 Enclosed is the documentation from the
19 Board meeting where this SEC Class was discussed.
20 The documentation includes copies of the petition,
21 the NIOSH review thereof and related materials.
22 If any of these items are unavailable at this time,

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1 they will follow shortly.

2 And I would add, at the next Board
3 meeting we're going to have a quiz on that Class
4 Definition to see if we can recall it from memory.
5 And we'll include the NIOSH staff in that.

6 (Laughter.)

7 CHAIRMAN MELIUS: I was very happy when
8 I was able to cut and paste that Definition.
9 Because I know if I had tried to type it out I would
10 have messed up.

11 So, I think we're all set with letters.
12 And I think that completes our work session items.
13 But we may have more later.

14 So we have another presentation at 1:30
15 on the Idaho site. And then we have our favorite
16 presentation of the day, of each meeting. LaVon
17 will give us the SEC update, status update, and so
18 forth. And then we'll see if we have other tasks
19 to do.

20 So we'll take a break now. We will
21 reconvene promptly at 1:30. We do expect to have
22 petitioners either on the line or here, I'm not sure

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1 which. I think they're on the line for the Idaho
2 presentation.

3 So we would very much like to start
4 promptly. So make your post-lunch nap short.
5 We'll have Ted call everybody's room if you're not
6 here. Anyway, thank you. And we'll reconvene at
7 1:30.

8 (Whereupon, the above-entitled matter
9 went off the record at 11:41 a.m. and resumed at
10 1:35 p.m.)

11 MR. KATZ: Good afternoon. I was about
12 to get started again. Let me check on the line and
13 see which Board Members I have with us.

14 (Roll call.)

15 CHAIRMAN MELIUS: Okay. We will start
16 with our afternoon session. And we have two
17 presentations left. The first one will be on the
18 INL site. And as you all know, a long report. I've
19 been kidding with Tim a little bit about the length
20 of his presentation and so forth. But we will bear
21 with him for a reasonable amount of time. We've
22 worked that out and so forth.

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1 And he told me he thought we weren't
2 kidding and we were going to put him on a timer.
3 But he checked through his PowerPoint before he got
4 up there, so we're all set.

5 But, no, this is a very thorough report
6 and one we're going to be working with for a while.
7 And there are parts of it that are reserved in terms
8 of decisions and so forth. So it's something that
9 we'll be using.

10 And for those of you that did notice,
11 there are two sets of presentations. One was his
12 earlier planned one, and we're getting the slightly
13 abbreviated version, 35 less. But we appreciate
14 everybody's effort on this site. And go ahead,
15 Tim.

16 DR. TAULBEE: Thank you, Dr. Melius,
17 Members of the Board. The presentation today will
18 be the Idaho National Laboratory Special Exposure
19 Cohort Petition Evaluation Report.

20 And before I get started here, I want to
21 recognize my ORAU evaluation team. There were
22 four health physicists working with me on this.

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1 The lead health physicist was Mitch Findley, Mike
2 Mahathy, Jason Davis, Brian Gleckler. And then we
3 had a large data capture support team: Bill
4 Connell, Jennifer Warner, Art Gutzman, Guy Babin
5 and Sally O'Neil.

6 We conducted five data captures on-site
7 from September through January of this year, as
8 well as one in the Seattle Federal Records Center.
9 So this was a very large effort. And the team did
10 a fantastic job with this report. And I just have
11 the privilege of presenting it to you today.

12 I'd also like to recognize the Department
13 of Energy, the Idaho National Laboratory site.
14 They did a phenomenal job of reviewing and clearing
15 our documents, documents that we would select
16 during data capture.

17 Since September, the data captures,
18 they've cleared somewhere between 80,000 to
19 100,000 pages of information that my team captured.
20 And they were able to get it to us so that we could
21 evaluate it and then present this report to you.

22 In particular, I'd like to thank Craig

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1 Walker there at the site. He was the one who was
2 kind of feeding everything there. And so I really
3 want thank the site for that effort.

4 A little bit of an overview of this
5 petition. The petitioner is an authorized rep for
6 an energy employee. We received this petition
7 back in July of 2014. The petition qualified on
8 September 16th.

9 We sent a notification to both the
10 petitioner and the Advisory Board that we were
11 going to be exceeding 180 days due to site
12 complexity and the need for multiple data captures
13 at multiple locations, again, Seattle as well as
14 on-site.

15 We got the Evaluation Report here sent to
16 the Board about two weeks ago, on March 12th. And
17 then after the final ADC clearance was received
18 from DOE, we sent it to the petitioner just one week
19 ago. So this has been a really crunched timeline
20 in order to meet this particular schedule.

21 The preliminary Class that was proposed
22 by the petitioner was all employees who worked in

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1 any area of the Idaho National Laboratory from
2 January 1st, 1949, through December 31st, 1970.

3 So the initial Class suggested by the
4 petitioner does not include the full site history.
5 It was just up through 1970. And the petitioner's
6 basis was that, to their knowledge, there was no
7 internal monitoring for plutonium, neptunium or
8 fission products.

9 And what we found when we were doing our
10 qualification process, there is a lot of fission
11 product bioassay for the site. But we did find
12 that there's very limited plutonium and neptunium
13 bioassay and monitoring. And so that was why we
14 qualified this particular petition.

15 The current dose reconstruction for
16 plutonium within the Site Profile and the TBD is
17 to use mixed fission product bioassay and apply a
18 ratio off of that, with the assumption that any
19 plutonium exposures would be associated with mixed
20 fission products, and so you could use this ratio
21 to bound what the plutonium exposures were.

22 What we found during the evaluation is

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1 that's not necessarily the case. And so to jump
2 to the end here, what we're actually recommending
3 is a Class of workers for the Idaho National
4 Laboratory, in particular the Chemical Processing
5 Plant.

6 And so I'll read the first part of this
7 proposed Class Definition, then I'll explain why
8 or how we came to this conclusion.

9 Our proposed Class Definition is: All
10 employees of the Department of Energy, its
11 predecessor agencies and their contractors and
12 subcontractors who worked at the Idaho National
13 Laboratory in Scoville, Idaho, and were monitored
14 for external radiation at the Idaho Chemical
15 Processing Plant.

16 And for an example, at least one film
17 badge or one TLD dosimeter from CPP between January
18 1st, 1963, and December 31st, 1974, for a number
19 of work days aggregating at least 250 work days.

20 So what you will immediately notice is our
21 initial evaluation period was '49 to '70, and we
22 are starting the proposed Class in 1963 and

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1 extending past our initial evaluation period to
2 December of 1974. And hopefully it will become
3 clear as to why we did that by the end of the
4 presentation.

5 One of the first things that we learned,
6 much to our surprise, was how complex the Idaho
7 National Laboratory site is. The original
8 petition included both INL and ANL West. The
9 energy employee who worked the majority of his
10 career at Argonne National Laboratory West, in
11 particular the early 1960s through 1995.

12 So, what we found was that, due to the
13 covered facility Definitions, we actually had to
14 break this into two petitions, one for the Idaho
15 National Laboratory and then one for Argonne
16 National Laboratory West. And the reason was,
17 again, due to these covered facility Definitions.

18 In 2005, the two sites were combined. So
19 when you talk about Argonne National Laboratory
20 West, to the current people at the site, there is
21 no Argonne West. It's all one site, INL.

22 The petitioner was gracious enough to

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1 submit a new petition for Argonne West so that we
2 could evaluate that one. We received that on
3 December 4th.

4 The petition, the slide, it needs to be
5 updated here that it's no longer in the
6 qualification process. It has qualified, and we
7 are beginning the evaluation. That was published
8 in the Federal Register this week.

9 And, in fact, next week the evaluation
10 team that I listed on that second slide there will
11 be headed back out to Idaho next week to begin the
12 evaluation of Argonne National Laboratory West.

13 The current evaluation for SEC 219 is just
14 the INL facilities. So, what am I referring to as
15 the Idaho National Laboratory facilities?

16 The boundary here, the black boundary, is the Idaho
17 National Laboratory as it is today.

18 But within this site, traditionally, this
19 little area here with EBR-II was considered Argonne
20 National Laboratory West. However, in 1949, that
21 area didn't exist. That site didn't come into
22 existence until around 1957. And so this area down

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1 here was Argonne National Laboratory West back in
2 the early years of 1952, being EBR-I, and ZPR and
3 BORAX.

4 So what were actually evaluating in this
5 petition are these blue boxes. This would be Test
6 Area North, Test Reactor Area, CPP and
7 miscellaneous reactor areas, Central Facilities
8 and the burial grounds. So that's what this
9 Evaluation Report is covering, is these facilities
10 that we're considering Idaho National Laboratory.

11 This red dot here in the center is the
12 Naval Reactor Facility, which is not even covered
13 under EEOICPA. So what you've got here is two
14 covered facilities and one facility that's not
15 covered, all within this boundary of Idaho National
16 Laboratory. So that was why we had to break this
17 out for the evaluation.

18 So the areas I'm going to talk about today
19 are the six main areas that I just showed you on
20 the map: the Chemical Processing Plant, Test
21 Reactor Area, Test Area North, miscellaneous
22 reactors, central facilities and burial grounds.

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1 The bulk of the presentation I'm going to
2 focus on the central or Chemical Processing Plant
3 because that's where we're recommending a Class.
4 And so a lot of the slides that got cut, from the
5 75 slides down to the 47 that we're at today, is
6 due to other things within these other areas where
7 we're not recommending a Class.

8 So, the Chemical Processing Plant, it's
9 comprised of multiple buildings, but the main
10 processing buildings would be the enriched uranium
11 reprocessing facility, the analytical
12 laboratories, there was a fuel storage building
13 where they received fuels from offsite before they
14 were dissolved down and the uranium extracted.
15 There's a remote analytical facility, there was a
16 solvent burning building, as well as the
17 calcination building.

18 Unlike Hanford and Savannah River, as far
19 as storing waste from the chemical separations
20 process, Idaho took that liquid waste and turned
21 it into calcine. So they went through that whole
22 process.

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1 So I'm going to start here with the
2 reprocessing facility of 601. The top floor is --
3 this is a diagram starting with, actually, the
4 operating floor. It was a very modest building
5 that was a process makeup area where they would
6 store chemicals and add into some of the tanks.
7 The operations corridors where the workers
8 primarily worked as far as making sure fuels were
9 being dissolved as they were going through the
10 process and then manipulating different valves.

11 Around this outer ring from this first
12 floor is what's called the sampling corridor. And
13 this was where the operators, as well as physics
14 technicians and others, would go.

15 And there were sampling stations where
16 they could monitor for each of the cells what was
17 going on inside the tanks. They could extract
18 chemicals, they could extract what the solution
19 was. And they would send them to the analytical
20 laboratories for analysis.

21 Below that is the service corridor where
22 piping changes would be done to move materials

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1 between cells if they needed to modify something.
2 And then the bottom was an access corridor.

3 All of these cells -- these are tall,
4 vertical cells, roughly three stories -- the access
5 to them was from the bottom. And that's where the
6 access corridor was. And I will get into that a
7 little bit more.

8 So, unlike the canyons of PUREX and
9 Savannah River, where nobody went back into the
10 canyons, they could go into these particular cells
11 and do modifications. It was designed to do
12 hands-on type of maintenance and reconfiguration,
13 if you will.

14 So, the picture down here at the bottom
15 is a worker in the operating corridor. This
16 happens to be L cell. It was the only cell that
17 had a window to it. But you see a lot of valves
18 and changes, things that they could do from that
19 operating corridor. So that was the main job of
20 the operations people there.

21 The general process of extracting uranium
22 was to first dissolve the fuel. And then there was

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1 a first stage separation where the mixed fission
2 products primarily went away. And you were left
3 with a solution of uranium, some mixed fission
4 products, plutonium, neptunium and other
5 transuranic radionuclides.

6 Generally, after the second and third
7 stages, the uranium was extracted. That was the
8 product. The product here was not plutonium at the
9 Chemical Processing Plant. It was just uranium,
10 enriched uranium.

11 So, generally, the raffinates then were
12 sent to the tank farms, recombined with the mixed
13 fission products. It would go to the calciner
14 then. And so from the Technical Basis Document
15 standpoint of our dose reconstruction method, using
16 the mixed fission products to estimate the
17 plutonium, it works quite well for the calciner and
18 for the general process that was going on here.

19 Where it didn't work well is for the one
20 campaign where they did separate plutonium and
21 neptunium. That took place from 1965 to 1972. And
22 so in talking a little bit about this campaign, in

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1 this case that raffinate that normally went out to
2 the tanks was actually collected and stored in N
3 cell.

4 It took about six years to reach the
5 capacity that they had there of leftover capacity
6 within N cell. They could have built more, but they
7 actually wanted to just get rid of it. They weren't
8 accumulating a lot of it, and so it wasn't a big
9 product for the particular facility.

10 Through interviews with workers, some of
11 the activities that were conducted during that six
12 years was they would be sampling the neptunium and
13 plutonium out of the tanks. With every different
14 uranium-235 batch of fuel that was dissolved, they
15 would then go, after the campaign was done, resample
16 from those tanks and analyze what was the
17 concentration change of the neptunium and the
18 plutonium.

19 They also did some chemical separations
20 work there in the analytical chemistry laboratories
21 in order to extract this. You've got people that
22 would be going into cells to do maintenance where

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1 they would have this particular material.

2 And when they got ready to do the final
3 extraction, they did some of these experiments. And
4 we interviewed the chemist who did them. And he
5 indicated it was a short duration project to him.
6 You know, by 1972 they pretty much knew how to
7 extract plutonium from uranium. The question,
8 really, that he was trying to solve at the time was
9 more of, what's the most efficient way for CPP to
10 do that?

11 So, this campaign was conducted, the
12 actual extraction of plutonium and neptunium, was
13 conducted during a three week time period in June
14 of 1972. The solution was pumped between various
15 cells and eventually to the multi-curie cell where
16 it was loaded into L-10 bottles, about 140 liters,
17 so it took 14 bottles to fill up this solution of
18 neptunium, plutonium and uranium.

19 And what you can see here is the actual
20 recovery of neptunium was about five kilograms. To
21 put this into a little bit of perspective as to why
22 they only did this once and didn't do it more --

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1 (Technical difficulties.)

2 DR. TAULBEE: Sorry about that. From
3 interviews with the workers when they did this
4 recovery, one worker actually did the actual
5 bottling of all of the solution, the 140 liters.
6 But there were a lot of observers, and health
7 physics was present, so it was kind of a big
8 production at the time.

9 So that was one of the potentials for
10 plutonium exposure there at CPP that didn't
11 accompany mixed fission products, that we ran into.
12 Another one that turns out to not be a significant
13 exposure potential but is worthy of mentioning here
14 was what was called the umpire qualification
15 program. And we ran into this by looking at
16 material transfers between different sites.

17 And the thing that really caught our eye
18 was 13 bird cages of plutonium being shipped from
19 Hanford to CPP. And we are, like, where is this
20 material going and what are they doing with it?

21 This was part of a round robin testing
22 qualification process where they were getting

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1 differences between receiver and shipping
2 laboratories. So they awarded a contract to CPP in
3 May of 1965 to manage this program and qualify
4 laboratories.

5 And so CPP and K-25 prepared uranium
6 standards; Rocky Flats and Hanford prepared
7 plutonium standards. And they were all sent to
8 CPP. And they were sent out from there to different
9 laboratories.

10 And the exposure potential appears to be
11 minimal, because --

12 (Telephonic interference.)

13 MR. KATZ: Excuse me, Tim. Folks on the
14 line, someone has not muted their phone, at least
15 one person. Can you please mute your phone.
16 Someone on the line? Is that me, an echo?

17 (Off-microphone comments.)

18 DR. TAULBEE: All right. And so we
19 haven't uncovered any evidence that they analyzed
20 any of the plutonium coming from Rocky Flats or from
21 Hanford. It was more of receiving these standards
22 and sending them out, is what this appears to be.

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1 But, of note, there were several people
2 in that analytical laboratory that were monitored
3 for plutonium exposure during this particular time
4 period. Not many, but a few.

5 So, now, I hope I've established that
6 there is a potential for exposure to plutonium or
7 neptunium without associated mixed fission
8 products associated at CPP.

9 And so I want to talk a little bit about
10 what I'm going to call the degradation of
11 radiological control. And what we found from the
12 RAD surveys from the 1950s -- 1961 here as an example
13 -- they had good control of contamination there
14 within the processing building.

15 This particular slide here is showing,
16 the note here in the center is less than RCG for
17 beta, gamma and alpha, which would be less than the
18 radiation control guideline. And the guideline at
19 the time period was 20 dpm per 100 square
20 centimeters, which is the current standard in 10 CFR
21 835 today.

22 So they were controlling contamination

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1 very well here in this time period, 1961 and
2 earlier. There will be time periods where they
3 would have a spill, and they would mop it up, clean
4 it up, and we would see, again, back to completely
5 clean areas.

6 And the reason that this was important is
7 that they were not doing routine bioassay for
8 plutonium, neptunium or any transuranics. They
9 were doing it based upon incident-based issues, to
10 where if an incident happened, then they would do
11 follow-up bioassays. So we do see some bioassay, but
12 it's really incident driven. And so they were
13 relying on identifying these incidents.

14 But by 1963, there doesn't appear to be
15 any severe contamination issues, but perhaps the
16 beginning of a slow degradation. And what you'll
17 see here is this small, little area here. And if
18 you zoom in on your slides, you'll see that that says
19 60 dpm alpha.

20 So now we're about three times what the
21 rad control guideline was, from 20 up to 60. And
22 a note there that they suggest cleaning this. So,

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1 again, there's times of it being clean and times
2 where it was contaminated.

3 By 1965, we're beginning to see a spread
4 of contamination in this access corridor. And what
5 you'll see here now is, instead of a small area,
6 you've got this whole area between the cells. And
7 the alpha level down here is now 80 to almost 2,000
8 dpm per 100 square centimeters.

9 So now you're looking at four to 100 times
10 that rad control guideline that was going on. And
11 so this is just, you know, a short four years after
12 that previous time period when everything was
13 clean.

14 When you jump to 1970, you'll notice the
15 whole area is contaminated. That SC means shoe
16 cover area. The only area here in the entire
17 corridor that was less than RCG is this small,
18 little area off to the right. That's the only clean
19 area within that entire corridor.

20 So we see this continual spread of
21 contamination and it getting worse over time. So
22 there was a slow degradation of the radiological

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1 control.

2 And like I said, in general, if you've got
3 good control and you're using incident-based
4 bioassay that Jim was talking about earlier, you can
5 identify the incidents, and you can do appropriate
6 follow-up.

7 What ends up happening is, as you get
8 continuous contamination, if you don't have a
9 routine bioassay you lose the ability to identify
10 those incidents and do proper follow-up bioassay.

11 And so what they've got is this noise
12 level coming up of contamination control, and they
13 didn't institute a routine bioassay monitoring
14 program.

15 What this led to was, in November of 1972,
16 there was a plutonium intake in the analytical
17 laboratories. Contamination was found, rather
18 severe contamination levels. And so they did
19 follow-up bioassay among the workers. And those
20 that were positive, they did further analysis to do
21 isotopic to figure out the plutonium-238 to -239.

22 And what they found was one of the workers

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1 had a different ratio than the other workers. And
2 it didn't match the material that was actually there
3 in the lab that was available for intake that the
4 other workers inhaled. And so they started doing
5 an investigation of what caused this. Where did
6 this worker work? What caused this intake?

7 And they narrowed it down to that they
8 concluded the intake occurred six months
9 previously, in May of '72, in another part of the
10 plant, in the X cell, during a cleanup activity that
11 was going on in one of those other cells in another
12 part of the building area.

13 So we went back and we looked at the survey
14 logs in X cell in that time period. And what we
15 found was the cell was severely contaminated with
16 alpha, and it was cleaned up. "Cleaned up," I say,
17 because after mopping there was still a few thousand
18 dpm of alpha in the cell. So the background levels
19 were so high there, they couldn't identify that an
20 incident occurred and a worker was actually
21 exposed.

22 And I am not doing that.

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1 (Telephonic interference.)

2 DR. TAULBEE: Okay. So the site took
3 this particular incident rather seriously, that
4 they knew they had a problem. They hired in some
5 health physicists to come back and help them conduct
6 the evaluation and see what they could do to improve
7 radiation control in that area. Stu?

8 (Technical difficulties.)

9 DR. TAULBEE: Okay. So the site hired
10 health physicists back, and then they began to
11 evaluate and propose upgrades of the radiation
12 contamination control for CPP.

13 This particular committee issued a report
14 in October of 1974. So if you think about the
15 timeline there, that incident happened in November
16 of '72. By the time they got the analysis, you're
17 looking at 1973.

18 (Technical difficulties.)

19 DR. TAULBEE: So this particular
20 committee went through and evaluated the program at
21 CPP and was to make recommendations to management
22 to improve their radiation safety. And so I want

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1 to read a couple of the excerpts that were in that
2 report from 1974.

3 One of them was the access corridor is
4 contaminated routinely to several thousand dpm per
5 100 square centimeters. That I showed you from the
6 radiation surveys.

7 They also indicate here at the bottom,
8 significant levels, greater than ten to the fifth
9 dpm per 100 square centimeters of plutonium
10 contamination, have been identified recently in a
11 number of cells.

12 And so they begin to recognize that they
13 have a plutonium contamination issue here that they
14 didn't know about previously, that was getting out
15 of control, effectively.

16 Other issues were that they were working
17 with higher levels of radioactivity on open bench
18 tops and in hoods where they should have been using
19 more glove boxes, at least compared to other
20 facilities.

21 And then, finally, they indicated that
22 bioassay samples, both fecal and urine, are

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1 collected and analyzed presently only when an
2 exposure incident is suspected.

3 So a routine bioassay program hadn't been
4 instituted yet. They were still on that
5 incident-based monitoring. This is why they
6 missed that one particular exposure, at least one
7 anyway.

8 They were adding a routine bioassay
9 program. It was being developed. And a draft of
10 that program was being submitted to management at
11 this time, in October of 1974.

12 So our Class recommendation for January
13 of '63 through December of 1974 is because there is
14 known alpha contamination in the analytical
15 laboratories, the processing cells, that access
16 corridor in the 1963 time period with very few
17 workers being monitored for plutonium exposure,
18 plutonium and transuranics. There is a potential
19 for routine exposure to these transuranics during
20 that campaign that was going on from '65 to '72 where
21 workers would be pulling samples from those sample
22 blisters around in the corridor.

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1 You have, at the same time, this
2 degradation of the radiation control program where
3 before areas were clean and now they can't identify
4 these particular incidents.

5 So the potential for exposure continued
6 past 1970. When we identified this particular
7 deficiency, we started looking for what's a logical
8 end date for now, at this standpoint. And so we
9 went through the end of 1974, based upon the review
10 committee's published report. Because prior to
11 that, there didn't seem to be any recognition by
12 management that they had a major issue that they
13 were going to be dealing with. After that
14 particular report, things began to change.

15 And so what we will do is, from our
16 standpoint, we're very confident that nothing began
17 to change before the end of 1974. That's why we've
18 designated the Class now from January 1963 through
19 December of 1974, with the intent of looking at the
20 years beyond that and potentially expanding the
21 Class through the 83.14 process.

22 But since we've identified this

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1 discrepancy or this issue in feasibility, we didn't
2 want to hold up any potential claims while we tried
3 to figure out a real end date for this potential
4 exposure.

5 Somewhere between 1974 and the 1980s,
6 operations began to improve. Now, whether that was
7 '75, '76, '78, '80, '85, I don't know. We only were
8 evaluating through 1970, and then we were looking
9 for a reasonable cut off for the Class to evaluate
10 further under 83.14.

11 Some of the things that changed that will
12 make this process more difficult, not as
13 straightforward, is that after 1974 we begin to see
14 more routine bioassay.

15 At the same time, there is significant
16 effort to decontaminate facilities. And we heard
17 about that through the interviews that were
18 conducted this past summer and in November where
19 there was concentrated efforts to clean up the
20 buildings and get the contamination back under
21 control.

22 So it's not going to be a very quick, very

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1 easy evaluation to find a good end date for this.
2 So, that covers the Chemical Processing Plants.
3 Now, briefly I'm to try and go through the remainder
4 of the areas.

5 Test Reactor Area, you've got three main
6 reactors: the material test reactor, engineering
7 test reactor and advanced test reactor. They
8 operated from May of '52 through present. ATR is
9 still running. But the main goal of these, they
10 were all materials test reactors that were
11 operating at various power levels of increasing
12 intensity so that you have a higher neutron flux
13 amongst those reactors.

14 Other facilities within the Test Reactor
15 Area that were of significant was the neutron
16 chopper. And for nuclear engineers, this is where
17 a lot of the neutron cross-section data came from.
18 There was a beam coming off of the side of MTR where
19 they would do cross-sectional measurements for
20 reactions.

21 There's a gamma spectroscopy laboratory
22 that was operating next to MTR. And those of us who

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1 are health physicists, in all of our initial
2 radiation measurements laboratories, we went
3 through looking at spectroscopy. We all used
4 Heath's simulation spectroscopy catalogue.
5 That's where it was developed, right next to MTR.

6 And then you've got chemistry labs that
7 did some exotic radionuclides. There was a gamma
8 building for cobalt-60 irradiations. And they had
9 an alpha hot cell which is a cave. And that started
10 operating around 1960.

11 Over 200 exotic radionuclides have been
12 identified as being produced at MTR and ETR.
13 Pretty much anything that they could irradiate,
14 they irradiated. The vast majority are beta-gamma
15 emitters. There were some actinides produced and
16 were separated in the alpha laboratories.

17 This particular picture is a chemist
18 that's working there at the alpha cave. You can see
19 its remote manipulator arms. It's not a hands-on
20 through a glove box type of operation.

21 So our recommendation for TRA is that
22 there's minimal potential for internal alpha

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1 exposure. There were a few workers exposed to
2 alpha materials. However, we do have plutonium and
3 other actinide bioassay available for these few
4 workers that we've identified.

5 So from the reports and other survey
6 records, we know some of the chemists that were
7 working in there. We went and pulled their
8 records, looked at it, and we see some plutonium and
9 other actinide bioassay. So we feel those workers
10 are covered, and we could reconstruct their dose.

11 Internal exposures throughout the Test
12 Reactor Area were generally controlled through
13 smear surveys and continuous air sampling. The air
14 samples accounted for both alpha and beta. And so
15 they were trying to keep tight control and keep
16 alpha at bay, such that they didn't see any alpha
17 contamination at all throughout the facility.

18 There were times when there were
19 incidents that did occur from that standpoint, and
20 there was significant bioassay follow-up
21 associated with those incidents.

22 Mixed fission products, we believe, can

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1 be reconstructed. However, a coworker model is
2 needed for the post-1967 time period. And let me
3 try and explain why we believe this.

4 If you look at the whole body counting
5 procedure in 1963, and this is very difficult to
6 see, and I apologize for that, but it's an exposure
7 potential based sampling scheme.

8 And so what you'll see is welders, and
9 fitters, as well as operators, in the far left
10 column, are monitored four times a year for whole
11 body count in 1963, whereas machinists in the
12 machine shop were only monitored once per year.
13 And clerks and secretaries were not monitored at
14 all.

15 So it's clearly those that had a higher
16 potential for exposure were being monitored from
17 the whole body count standpoint up until 1967. At
18 that point, it changed. The sampling methodology
19 went from exposure-based potential to one quarter
20 of the workforce per year.

21 So if a supervisor was to take his number
22 of workers, select one fourth of them, send them for

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1 a whole body counting, the next year a different
2 quarter, with the goal of a complete monitoring over
3 a four year period for mixed fission products.

4 So this is why we need a coworker model,
5 because if you have somebody that comes in and only
6 works two years, and they weren't monitored at any
7 time during that, we've got to rely upon the
8 coworker model test to make their dose.

9 They were more using this to make sure
10 that they were below the maximum permissible type
11 of limits at the time, is what they were doing.

12 So now I'll jump up to Test Area North
13 which is about 30 miles north of the rest of the
14 facility. And just as a little bit of a reference
15 here, actually Mound and Fernald are about the same
16 distance as Test Area North and the burial grounds
17 here. So these facilities are really not that
18 close together.

19 MR. KATZ: Excuse me. Someone's
20 listening, but they're not, they haven't muted
21 their phone. If you press *6, that'll mute your
22 phone.

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1 (Off microphone discussion.)

2 MR. KATZ: Well, there is no comment
3 right now. So please, whoever is on the phone and
4 is talking, mute your phone. Press *6. Thank you.

5 DR. TAULBEE: Okay. With Test Area
6 North, you've got the initial engine tests which
7 were run by GE. These are the aircraft nuclear
8 engines that were tested there in the 1950s.
9 You've got Test Area North hot shop. You've got an
10 actuator building, a low power test facility and a
11 shield test facility.

12 The pictures here, the one to the right
13 is actually the initial engine test. The reactor
14 was pulled into that building, hooked up to the
15 exhaust so that the exhaust came out a stack.

16 The workers were actually shielded here
17 inside a bunker. And the lower picture is the
18 workers looking through a periscope to look at the
19 operations that were going on. So the reactor
20 wasn't shielded, the workers were shielded, kind of
21 the inverse of what you typically see at a reactor.

22 The left hand picture happens to be the

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1 Test Area North hot shop where they could roll these
2 large aircraft engines in and do maintenance on them
3 remotely.

4 The key with Test Area North is that
5 fission products and actinides were not separated,
6 and they always appear to be together from the
7 radiological standpoint. So that methodology in
8 the TBD should be applicable for this particular
9 area because of the ratio.

10 And to illustrate this Test Area North hot
11 cell, this is a survey of it. And if you look at
12 some of these survey results, if you can zoom in,
13 and looking at them, what you'll see is, like, 14
14 counts per minute alpha and 800 counts per minute
15 beta. So you can definitely see that these two are
16 tied together from an exposure standpoint.

17 So the one exception here appears to be
18 the actuator building which was built in 1956 for
19 testing prototype control mechanisms. So think of
20 a building to just simply test control rod drives
21 going in and out of the aircraft engine.

22 Sometime after 1961, it was renamed to the

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1 Test Area North Fuel Handling Facility. So between
2 '61 and '63, they handled some fuel in that
3 particular building. Because by '63, during the
4 turnover from GE to Phillips Petroleum, it was found
5 to be contaminated with uranium.

6 And so we're reserving judgement on this
7 facility, because here we have an alpha exposure of
8 uranium not associated with mixed fission products.
9 And we don't really understand the full range of
10 this exposure or when this facility was
11 decontaminated and returned to clean.

12 We do know in later years that this
13 building was not contaminated with alpha. So this
14 is why we're reserving the judgement on this
15 particular area.

16 So our recommendation for Test Area North
17 is no appreciable exposure to actinides without
18 mixed fission products. The actinide exposures
19 can be bounded using the ratio methodology.

20 But given the decrease in urinalysis and
21 whole body counting from '67 to 1970 and beyond, by
22 the way, until they got more of a routine program

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1 reestablished, we recommend the development of a
2 coworker model to estimate the mixed fission
3 product doses to these workers.

4 We'll prepare an addendum to the
5 Evaluation Report for the actuator building from
6 the '61 through '70 time period once we can get to
7 evaluate that further.

8 Miscellaneous reactor areas, this will be
9 the special power excursion reactor tests,
10 auxiliary reactor area, which consisted of ARA-1
11 hot cell. There was not a reactor there. It was
12 just a hot cell.

13 ARA-2 is stationery low power where SL-1,
14 as most people have heard about, it operated from
15 '58 until January of 1961 when it had a catastrophic
16 accident. ARA-3 was the gas cooled reactor
17 experiment. ARA-4 is mobile low power unit, ML-1.
18 And then you have the organic moderated reactor
19 experiment which was the predecessor to the Piqua
20 Reactor.

21 Special power excursion tests were to
22 investigate the safety of water cooled reactors.

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1 What's important here is that you have a central
2 control point in the center here. And then you've
3 got SPERT-1, 2, 3, 4, all about a half mile or so
4 away from where the central control room was.

5 Personnel were evacuated from each of the
6 areas during the operation. There were continuous
7 air monitors on the facility exhaust for each of
8 these. And health physics was involved during the
9 re-entry during this.

10 So we believe dose reconstruction in
11 SPERT is feasible since the exposure is limited to
12 mixed fission products, and the workers were
13 monitored. ARA-2 through 4, dose reconstruction
14 we think is feasible because, again, it is limited
15 to mixed fission products. OMRE is the same thing.

16 ARA-1 is the exception here. Dose
17 reconstruction is feasible with the possible
18 exception of 1968 for protactinium-233 work, and
19 we're reserving it.

20 And the issue here is we ran into some
21 facility modifications that were taking place in
22 1968 to handle thorium fuels coming in and being

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1 dissolved down to extract the protactinium-233.

2 And so we feel we need to evaluate that
3 one further because of what was done with the
4 thorium, the waste, as well as the protactinium-233
5 at that hot cell. We need to investigate further.

6 Central facilities, the main potential
7 for exposure there would be the laundry. The
8 clothing coming in from all the facilities was
9 segregated by type and contamination level. It was
10 cleaned, and dried and monitored again, and each
11 type of clothing had a permissible contamination
12 level.

13 Any item over the limit was re-washed.
14 If it still wasn't clean, they would let it decay
15 for 30 to 90 days. If it's still not good, they'd
16 send it back to the site for disposal.

17 The laundry had a radiation detector over
18 the receiving room door and a CAM in the working
19 area. So any large, highly radioactive clothing
20 coming in would be caught by this radiation detector
21 over the door. And if either of those two alarms
22 sounded, the room was evacuated.

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1 And let me wrap up here with the burial
2 ground. And for those who've been out to Idaho
3 National Laboratory and have been to the
4 Radioactive Waste Management Complex, the burial
5 ground in the first 20 years is nothing like what
6 it is today, absolutely nothing.

7 The initial burials were dig a trench, put
8 waste in it, cover the trench up, dig another
9 trench, put waste in it, cover the trench up. So
10 that was the general process.

11 And the same thing with the Rocky Flats
12 waste. The waste would come in, they would stack
13 the barrels or, in this case in 1957, the first bulk
14 items were arrived in large glove boxes. They were
15 put into pits. And then once the pits were full,
16 they were covered up.

17 In 1958, the drums were actually stacked
18 by hand, and we've got photographs. If you look
19 through the extended slide version, you'll see
20 that, where they're actually rolling them out and
21 stacking them.

22 In 1961, they're using a crane to move

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1 them around and stack them neatly. 1963 they
2 decided to stop stacking them and start dumping
3 them. And so their method of dumping was a land and
4 sea container that you back up to a pit, grab a hold
5 of the front of it with a crane and dump it out the
6 back into a pit.

7 So that continued on through 1968 and
8 1969. But at the end of 1969 was the first
9 retrieval of plutonium drums from Rocky Flats. And
10 so things began to change at that point. And I'll
11 get to that more here in a minute.

12 The last burial there of 1970 burial PU
13 waste was discontinued. That just means they
14 weren't putting it into the ground. They were
15 still receiving it and putting it on storage pads.

16 At the burial ground in these early years,
17 there was restricted access. There was a locked
18 gate that people could not go in through without
19 health physics accompanying them.

20 There's a 1959 memo that indicates
21 workers were required to wear a film badge going
22 into the area issued out of Central Facilities.

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1 They had to wear anti-contamination clothing, and
2 they had to work under a safe work permit.

3 Workers were monitored by health physics
4 before leaving. And health physics was always
5 present during these dumpings. Air sampling
6 during the drum dumping was conducted during the
7 dumping of Rocky Flats waste. And then there were
8 radiological surveys of the burial ground.

9 So I want to go back to this drum retrieval
10 in 1969 to explain a little bit of why we're
11 reserving this particular operation. And what you
12 can see here from this photo is there are no
13 buildings here at this time period.

14 The first buildings for RWMC were built
15 in the early 1970s. So this was really an open
16 field that was covered up with dirt. But here they
17 went to extract some drums. So they had to dig
18 down, and then people get down in the holes in order
19 to pull them out. That's a very different exposure
20 potential compared to the previous operations.

21 And so now you're extracting drums that
22 have been rusting for 15 years or likely breached

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1 in some cases. You've got contaminated dirt.
2 This is very different than taking a drum off of a
3 truck that's been surveyed and cleaned on the
4 outside and stacking it. And so as a result, we
5 feel we need to evaluate this potential exposure
6 further.

7 In the 1970s, the first buildings were
8 erected, and then you begin to have continuous
9 worker presence there at the Radioactive Waste
10 Management Complex or the burial ground.

11 So we do believe doses can be
12 reconstructed in the period '53 through '68. We're
13 uncertain about the '69 drum retrieval and forward
14 from that standpoint.

15 We will prepare an addendum to the
16 Evaluation Report when we get into looking more
17 closely at these exposures in '69 and '70. And if
18 we end up recommending a Class during the addendum,
19 then we will certainly evaluate further the
20 post-1970 years and may expand the Class through an
21 83.14 type of process.

22 So this is the summary of the feasibility.

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1 The dark green here is the areas where we feel we
2 can reconstruct doses. The light green off the
3 right, '67 to '70, is all governed based upon that
4 coworker modeling and that decreased sampling from
5 exposure potential to one quarter of the work force.

6 The red is CPP, where we're recommending
7 a Class. The yellow here is that actuator building
8 in Test Area North with the uranium fuel handling
9 that was going on. ARA, that one block of yellow,
10 is that protactinium work. And then the burial
11 grounds are '69 and '70.

12 This is just another version of that same
13 feasibility summary in the form that you all are
14 familiar with.

15 And so for SEC Petition 219, we do feel
16 that some workers of the Class may have accumulated
17 chronic exposure through intakes of radionuclides
18 at CPP.

19 Therefore we're specifying that their
20 health may have been endangered, and those workers
21 monitored at CPP who were employed at least a number
22 of work days aggregating 250 should be included in

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1 the Class.

2 What about employees that worked at CPP
3 and not included in the SEC? There is some
4 plutonium bioassay for some of the lab workers but
5 not many of them, just a handful. If we have
6 bioassay data, we will use that data to try and
7 reconstruct their doses if they have a non-SEC
8 cancer.

9 And again, our proposed Class is all
10 employees of the Department of Energy, its
11 predecessors agencies, and their contractors and
12 subcontractors who worked at Idaho National
13 Laboratory in Scoville, Idaho, and were monitored
14 for external radiation at the Idaho Chemical
15 Processing Plant, CPP.

16 As an example, at least one film badge or
17 TLD dosimeter from CPP between January 1, 1963 and
18 December 31st, 1974 for a number of work days
19 aggregating at least 250 work days occurring either
20 solely under this employment or in combination with
21 work days within the parameters established for one
22 or other Classes of employees in the SEC.

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1 And with that, thank you very much. And
2 I'll be happy to answer any questions.

3 CHAIRMAN MELIUS: All right. Despite
4 our best attempts, that made it through, so good.
5 Thank you, Tim. You bet.

6 So next up we'll have questions from the
7 Board Members. And then we will give, I believe,
8 the opportunity for the, I believe the petitioners
9 on the line would like to make some comments. But
10 first we need to hear any questions from the Board.
11 And Paul, you're up first.

12 MEMBER ZIEMER: The requirement of one
13 external dosimeter is a little unusual. Why do we
14 require any external monitoring?

15 DR. TAULBEE: Idaho National Laboratory
16 is unique from the rest of the DOE complex, in that
17 to go into any of the areas you had to monitored.
18 You had to wear a dosimeter. And so it was governed
19 to the standpoint to where if you worked at CPP and
20 you went down to the Test Reactor Area, when you left
21 CPP you left your badge there. And you got a new
22 badge down at TRA.

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1 And then if you went from there up to Test
2 Area North, you got another badge. And so we have
3 this issue of multiple badging in the same cycle,
4 if you will. So from the missed dose standpoint
5 when we do dose reconstruction, we see multiple
6 dosimeters for a single person that did bounce
7 around.

8 You couldn't have done work, especially
9 in those cells or the analytical laboratories
10 without being monitored. Because you couldn't get
11 in through the gate.

12 The reason that we require one badge is
13 that, in the 1960s when they switched to TLDs, some
14 workers, secretaries in particular, didn't wear
15 monitors with a dosimeter, but they were on an
16 annual exchange frequency.

17 So they could have one dosimeter and have
18 been in that area for the entire year. There wasn't
19 anything to really restrict them from going into CPP
20 or into the processing building, 601. And so that
21 is why we have this unique language.

22 MEMBER ZIEMER: Well, could I follow-up

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1 on that? And I sort of understand the rationale,
2 because basically it confirms that they worked
3 there in a sense.

4 DR. TAULBEE: Yes.

5 MEMBER ZIEMER: Would there never have
6 been anyone that worked there that was given, for
7 example, only a pocket dosimeter?

8 DR. TAULBEE: No. From our interviews
9 with workers, it's the one thing that's been very
10 consistent, is that every worker going into the area
11 said that they were monitored by wearing a film
12 badge dosimeter.

13 CHAIRMAN MELIUS: And how many
14 interviews was that?

15 DR. TAULBEE: About 60.

16 MEMBER SCHOFIELD: And how many
17 thousand?

18 CHAIRMAN MELIUS: Please, if you hold
19 your comments, you'll have a chance in a little
20 while. Oh, I didn't recognize the voice, Phil.
21 Other Board Members here? Yes, Dave?

22 MEMBER KOTELCHUCK: Dave Kotelchuck.

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1 Might it be, you gave convincing evidence why one
2 film badge or dosimeter was absolutely required.
3 Might it not be safe to say that you have to have
4 at least one a TLD or otherwise be able to establish
5 the presence in the plant? That's really all that
6 it's there for, is to establish that they're in the
7 plant.

8 Now, that would of course be a violation
9 of the rules and should not have happened. But that
10 doesn't mean it didn't happen.

11 And that allows, if the person can
12 establish, somehow, through records, that they were
13 in there, they would be compensated. Because they
14 satisfy the criterion that they worked in the plant
15 for 250 days. Might it not be wise to do that?

16 DR. TAULBEE: I don't disagree with that,
17 from that standpoint. You do run into one
18 particular issue. And that was when they were
19 doing some additional buildings that were not part
20 of that reprocessing facility, they would actually
21 move the fence line in and put dosimeters on the
22 outside of that fence line, so the construction

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1 would not have been monitored.

2 But those construction workers, if they
3 went inside the fence, would have to be monitored.

4 So you could have some people that were
5 established at CPP doing this new construction work
6 that were not going into the process cells or not
7 going down into that access corridor and not in
8 these analytical laboratories. So they wouldn't
9 have been exposed.

10 So that's the only downside I can see with
11 your particular recommendation there. But it is
12 another way that this could be done, I think. I
13 don't think it would be that difficult.

14 With the particular dosimetry reports,
15 they were issued by area. So in talking with the
16 Department of Energy and the Department of Labor,
17 this seems to be the easiest way for us to identify
18 workers, is to look at these area dosimetry reports
19 which will have construction trades on there,
20 Kaiser, as well as Fluor, and the operating
21 contractors and then other visitors coming in as
22 well. But even visitors though would have to

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1 establish 250 days of employment type of scenario.

2 So really the best way, in our opinion,
3 was to use these dosimeters, to use that gatekeeping
4 that was done by the health physics, actually the
5 security guards were the ones who were checking it.

6 Health physics wasn't continuously there
7 at the gate. But if somebody needed to go in,
8 didn't have a dosimeter on the board, then they had
9 to go get a dosimeter.

10 CHAIRMAN MELIUS: Henry?

11 MEMBER ANDERSON: I mean, I can see that
12 everybody had to have it. Have you done some
13 quality control to see, yes, they have it? Were
14 they all measured? I mean, there's not a single
15 page of records that was lost? Or, you know, was
16 there a log of people going in and out? I mean, how
17 certain are you that they got a badge and every badge
18 that was assigned actually was recorded and read?

19 DR. TAULBEE: We asked the Department of
20 Energy, their records, as to how complete they were.
21 And they believe they're complete all the way
22 through. There's 3,000 pages of these dosimeter

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1 records, and there's about 25 people per page on
2 this. So this is about 80,000 dosimeter readings
3 during this particular time period. So we feel
4 it's pretty complete.

5 MEMBER ANDERSON: But pretty complete
6 isn't enough. I mean, if you have any --

7 DR. TAULBEE: I do not have any sense that
8 is not complete, let me put it that way.

9 CHAIRMAN MELIUS: But you've not done any
10 evaluation of that. That's the question.

11 DR. TAULBEE: No, we have not.

12 MEMBER ANDERSON: I mean, from that
13 standpoint --

14 (Simultaneous speaking.)

15 CHAIRMAN MELIUS: I mean, I think you
16 understand our --

17 DR. TAULBEE: We asked the Department of
18 Energy if all visitors were included on those
19 reports, and the answer was yes.

20 CHAIRMAN MELIUS: But that's a
21 statement, not any sort of evaluation of that.
22 And, you know, I think you understand why we're

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1 skeptical. We've, you know, revised previous SEC
2 Class Definitions, we went through what we did at
3 Savannah River where we had pretty good evidence,
4 at least on the construction workers, that they
5 didn't fit the Definition there. Because records
6 were incomplete. And we will --

7 DR. TAULBEE: I would --

8 CHAIRMAN MELIUS: Let me finish, Tim.
9 And we will, you know, we are extremely skeptical,
10 at least I am, of any statement that's based on what
11 was policy without very much evidence that that is.

12 And it is, you know, difficult to prove
13 that records are perfect. But I think some
14 evaluation of that would be much more convincing
15 than just a policy, given our experience at many
16 other DOE sites.

17 And maybe this site was different. And
18 I hope it is, for the sake of the workers and others
19 involved. But at the same time, we want to be
20 careful on that.

21 DR. TAULBEE: I understand. I would
22 like to just clarify one particular point. You

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1 brought up Savannah River for example. We have
2 since gone back and looked at some that.

3 And during the time period where you have
4 these electronic records and we issued a report
5 about this, that we did not see any of the
6 discrepancies in the post-1960 time period there at
7 Savannah River.

8 All of the issues that were identified by
9 SC&A were prior to 1960. And so this Class that
10 we're recommending is in the mid-1960s through '72
11 where you've got better record-keeping than what
12 was conducted that caused some of the issues there
13 at Savannah River.

14 So it's just a clarification. But I
15 understand your hesitance, and I understand the
16 need to do this type of verification. And we're
17 certainly willing to do so.

18 CHAIRMAN MELIUS: Henry, then Wanda.

19 MEMBER ANDERSON: Follow-up. I mean,
20 another way to look at this would be how many of the
21 claims that people filed said, you know, a
22 determination was made, well, you didn't work there

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1 because you didn't have a badge.

2 I mean, do we know that all of, I mean,
3 the practical reality, yes, you could have missed
4 some. But if a person didn't develop disease and
5 file a claim, you know, then it, kind of, no harm
6 done sort of.

7 I shouldn't say no harm done, but no
8 claim. So do you have any sense of any of those that
9 have applied where they, you know, denied or told
10 no because they wouldn't have met this criteria?

11 DR. TAULBEE: I do not have a sense from
12 that standpoint as to how many of those would be --

13 MEMBER RICHARDSON: This is David
14 Richardson. Can I follow-up on that?

15 DR. TAULBEE: Sure.

16 CHAIRMAN MELIUS: Yes, go ahead, Dave.

17 MEMBER RICHARDSON: In Table 42 in the
18 report which has 1,000 claims that match the
19 Definition of the Class that was being evaluated,
20 of which approximately 71 percent of the claims had
21 external dosimetry records obtained for the years
22 in the evaluated Class Definition, I mean, it's not

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1 directly addressing Henry's point.

2 But it seems to me this appears, because
3 there aren't complete dosimetry records for all the
4 people who were filing claims, certainly.

5 DR. TAULBEE: Well, I guess I would
6 disagree a little bit there, David, in that you've
7 got the Central Facilities area which had a large
8 number of people that were not required to be
9 monitored. So you have all of your maintenance
10 shops and that type of operation going on at Central
11 Facilities.

12 What we're talking about is going into CPP
13 and that those people from, like I said, all of the
14 interviews we've conducted, they were required to
15 be monitored.

16 So how to tease out that 30 percent that
17 Dr. Richardson was just pointing from whether they
18 should have been monitored or not is not trivial.

19 CHAIRMAN MELIUS: Wanda, then David,
20 David Kotelchuck, I should --

21 MEMBER MUNN: I hesitate to ask this
22 question, because I don't know the answer to it.

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1 And I've been told you should never ask a question
2 unless you know the answer.

3 CHAIRMAN MELIUS: That's lawyers.

4 MEMBER MUNN: Yes. I should have gone to
5 law school, right? The question that I have is
6 whether we have any indication from any source other
7 than this Board that there might be people who are
8 being overlooked in this way?

9 DR. TAULBEE: I do not have any
10 indication other than the discussions here. But
11 the discussions here make sense in our experience
12 at other sites. And it is potentially something we
13 should look at from that standpoint.

14 But please keep in mind that Idaho was
15 different from the rest of the sites, that they had
16 multiple badging for each area that you went into.
17 Other sites you would wear your dosimeter into a
18 different area. Here it was a different badge
19 there at CPP.

20 CHAIRMAN MELIUS: We're not saying it's
21 impossible. We're just saying --

22 MEMBER MUNN: And one comment having

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1 absolutely nothing to do with this, thank you so
2 much for the completeness of your presentation and
3 especially for the horizontal colored bar graph
4 which finally made sense to me about where things
5 were and which people were monitored and which were
6 not. That was most helpful. Thank you.

7 DR. TAULBEE: You're welcome.

8 CHAIRMAN MELIUS: David Kotelchuck, I
9 think you're next.

10 MEMBER KOTELCHUCK: Yes. My thought was
11 if we simply -- I was going to suggest that, I was
12 initially going to suggest that we simply delete,
13 e.g., at least one film badge or TLD dosimeter.
14 Because that's an operational thing for us to
15 decide.

16 That doesn't have to be in the wording of
17 who was in the Class. But the problem is it does
18 say they have to be monitored for external
19 radiation.

20 We could, let me just see, if we talk about
21 who worked in the Chemical Processing Plant at the
22 Idaho National Laboratory in Scoville, and it

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1 leaves it to the Department to decide if that
2 happened. It doesn't force us into saying you must
3 have a badge or not, just in case. Would that take
4 care of it?

5 DR. TAULBEE: I would have to defer to Stu
6 Hinnefeld and our OGC. Because this particular
7 Definition was vetted through the Department of
8 Labor. And so to change that Definition as to
9 whether they could administer the Class that way,
10 I don't know.

11 MEMBER KOTELCHUCK: Yes.

12 MR. HINNEFELD: Yes. The question, this
13 is Stu Hinnefeld, the question comes down to have
14 we written a Class Definition that can be
15 administered?

16 And so before we come, you know, before
17 we present the evaluation, you know,
18 recommendations, we provide our Class Definition to
19 the Department of Labor. And oftentimes the
20 Department of Energy assists in those discussions.
21 And they determine that, yes, with this Class
22 Definition, we can administer it.

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1 If we're going to change the Definition,
2 it might be in our best interest to run that
3 Definition past the Department of Labor to see if
4 they can administer the Class.

5 And typically, the Department of Labor
6 has told us that the Class Definition is what they
7 rely on to administer the Class. They're not
8 really particularly interested in other
9 communications which wouldn't have the same
10 official weight as a Class Definition to sort of
11 work out the details of determining the Class.

12 MEMBER KOTELCHUCK: Thank you. I see
13 what the complication is.

14 CHAIRMAN MELIUS: Do Board Members on the
15 phone have questions or comments?

16 MEMBER SCHOFIELD: Yes. This is Phil.
17 I've got some questions here. One of the big ones
18 is it concerns me that, if you have people that don't
19 have security clearances at times or if you're
20 bringing in people from another area who typically
21 wouldn't work in the plant but because of their
22 expertise, whether it's some form of chemistry or

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1 whether it's a craftsperson, they could be brought
2 in and out of there under an escort. And maybe only
3 the escort is given a badge? I mean, has this been
4 vetted or not?

5 DR. TAULBEE: All indications that we
6 have at this time, Phil, is that each individual
7 person was given a badge to go into that area. So
8 a visiting person, a visiting chemist or something
9 to help out with a particular process would be given
10 a badge to do that.

11 And again, from the 60 or so interviews
12 that we've conducted in June and July, or June and
13 November, we asked every single person whether they
14 were required and whether they wore their film badge
15 going into the area. And all of them indicated yes,
16 they had to wear a film badge dosimeter to go into
17 the area.

18 MEMBER SCHOFIELD: What about people
19 working on the perimeter of the facility? I know
20 we know they've had spills, they've had
21 contamination that has gotten outside of the
22 building. I'm curious about those people who

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1 worked on the perimeter who didn't necessarily go
2 in the building, but they still have that potential.

3 DR. TAULBEE: Well, the potential for
4 exposure is really in the process cells in the 601
5 Building where those separations were conducted
6 down in the access corridor, the process cells, the
7 analytical laboratories.

8 Around the perimeter, the alpha
9 transuranic radionuclides are associated with the
10 mixed fission products that would be coming from the
11 calcine operations and the others that were going
12 on.

13 CHAIRMAN MELIUS: Any other Board
14 Members on the phone have questions or comments?

15 MEMBER VALERIO: This is Loretta. I
16 have a couple of questions.

17 CHAIRMAN MELIUS: Go ahead.

18 MEMBER VALERIO: My questions have to do
19 with the burial ground. It states that the health
20 physics was always present during dumping. Was
21 this prior to that 1959 memo as well? Or was this
22 as a result of that memo, that the health physics

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1 were there?

2 DR. TAULBEE: No. Our indication is
3 that they were there from the very beginning to
4 always be present while dumping was going on. We
5 have some photographs of some of the dumping that
6 was going on in, like, 1953 or something like that
7 -- I believe it's there in the extended slides --
8 that shows a health physicist standing beside the
9 truck measuring radiation levels during the dumping
10 process.

11 So our indication is that actually on gate
12 entrance it clearly says to gain access you had to
13 contact health physics at the central facilities in
14 order to get in.

15 MEMBER VALERIO: Okay. So then that
16 brings me to my second question. If they were
17 required to wear a film badge that was to monitor
18 for external radiation, what about internal
19 radiation when they were stocking these by hand?

20 DR. TAULBEE: The procedure was for the
21 drums to be surveyed. And we have some photographs
22 of health physicists or health physics technicians,

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1 rad techs, climbing into the trucks and taking
2 surveys of the drums before they were coming out to
3 make sure there weren't anything leaking or any
4 problems at that standpoint.

5 After they were done removing the drums,
6 the trucks were also surveyed. And in those
7 particular instances, there were a few occasions
8 where the trucks were found to be contaminated.
9 They were sent to CPP for cleaning. And health
10 physics was doing additional monitoring on those
11 particular workers that were involved during that
12 process.

13 Typically, we're looking at between three
14 to four workers during one of these unloading type
15 of operations, I guess, maybe as much as five.

16 MEMBER VALERIO: Okay. All right, thank
17 you.

18 CHAIRMAN MELIUS: Anybody else on the
19 phone, Board, any other Board Members on the phone
20 have questions?

21 MEMBER LEMEN: No. All of my questions
22 have been answered, thank you.

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1 MEMBER SCHOFIELD: I have another
2 question on that. When the RCTs were checking
3 things, were those smear samples? Did they just
4 take random smear samples, or were they using their
5 wands on their Pee-Wees, or exactly how were they
6 sampling for contamination?

7 DR. TAULBEE: Based upon what we can see,
8 it looks like they were monitoring for
9 contamination based upon hand held instrumentation
10 and that if they began to see something, then they
11 might take a smear. I believe there are some smear
12 data for the burial grounds, but it's pretty
13 limited.

14 CHAIRMAN MELIUS: Okay. Jim Lockey, did
15 you still have a question?

16 MEMBER LOCKEY: I was just curious. You
17 know, I asked you, Jim, this question going forward.
18 Because NIOSH has other work to do on this site and
19 the other sites. If they find that, in fact, where
20 people who worked at CPP who may not have been
21 badged, can this be modified going forward in the
22 future?

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1 CHAIRMAN MELIUS: We've done that in the
2 past, I think. So the question is sort of the
3 timing involved and the effort to go up to the
4 Secretary, get this approved and then, you know, to
5 come back, you know, in a short period of time, it
6 doesn't sort of make sense. If it was something
7 that was going to take two or three years or
8 something --

9 MEMBER LOCKEY: That's my concern.

10 CHAIRMAN MELIUS: Yes. Then I think we
11 do. And I'm not sure we can judge on that time
12 period right now.

13 MEMBER LOCKEY: And that's what I'm
14 concerned about. This is a complex process, and
15 site. And this could take more than months. And
16 it's a balancing act here.

17 CHAIRMAN MELIUS: Yes. Just, again,
18 hypothetically, if we decide not to take action
19 today doesn't mean we couldn't take action on our
20 Board call or the next meeting. I mean, nothing,
21 you know --

22 MEMBER LOCKEY: But I don't want it to go

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1 out three years --

2 CHAIRMAN MELIUS: No, no. I don't think
3 any of us would want to do that. But again, there's
4 sort of due diligence. And, you know, again, the
5 Class Definition is sort of the end of the process.

6 And in fairness to everybody involved,
7 both us, and NIOSH and so forth, this is, you know,
8 they really haven't had time to do a lot of the kind
9 of vetting and the kind of questions we're asking
10 them to do. And I think we have to decide what is
11 it going to take to do that and how long, what's
12 appropriate. And we have a Work Group formed and
13 so forth, again, sort of the next step. David?

14 MEMBER KOTELCHUCK: After the discussion
15 of how, Stu's discussion and the time that it will
16 take, I don't want the perfect to be the enemy of
17 the good.

18 And therefore, I'm going to support the
19 Class as it stands so that the people who worked in
20 the site, were badged, will be able to get their
21 compensation and hope that somehow we could
22 communicate to DOL that the people who are turned

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1 down, if they feel that this missed them
2 inadvertently, then we can make a change in the
3 future.

4 But for the moment, let's get it, I say
5 let's get it done. This is a good resolution to
6 help lots of people, hopefully almost everybody.

7 CHAIRMAN MELIUS: Paul? And after Paul,
8 I want to turn it back to the, we need to give the
9 petitioners an opportunity to talk.

10 MEMBER ZIEMER: I think on this issue,
11 there's two possibilities. One might be a little
12 -- I have a little angst about one is, was everyone
13 truly badged? That's one part of it.

14 The other is if they were all truly
15 badged, is some of the information lost? Two
16 different questions. But I'm willing to go ahead
17 and say, yes, everyone truly was badged.

18 And if we have a claimant for whom there
19 is not a badge, I think the claimant would be in a
20 position of saying, yes, but I had a badge. And
21 then it would be a matter of establishing that
22 either the information was lost or some other thing

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1 occurred.

2 But I don't think the Definition, as it
3 stands, will necessarily exclude someone if truly
4 everyone had a badge. Because the claimant would
5 say, yes, I had a badge, if truly that was the case.

6 But I suppose what we're looking for at
7 some point, if we're going to have follow-up, is to
8 demonstrate, in fact, from the actual data that
9 there is this correspondence. You don't find any
10 cases where people didn't have a badge that were in
11 CPP.

12 DR. TAULBEE: If I could add also to this
13 document, to follow on with what Dr. Kotelchuck was
14 saying, in that if we were to go and evaluate this
15 further in order to try and satisfy some of the
16 questions that you've been raising here, keep in
17 mind the evaluation team is the same team that's
18 currently working on the Argonne West SEC petition
19 which we're under timelines to try and produce and
20 the petitioner himself actually worked at the
21 Argonne National Laboratory during the bulk of this
22 time period that we're talking about currently.

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1 CHAIRMAN MELIUS: Okay. All right. If
2 the petitioners are on the line and wish to speak,
3 you may speak now.

4 MR. ZINK: This is Brian Zink. I'm the
5 petitioner. Can you hear me?

6 CHAIRMAN MELIUS: Yes, we can.

7 MR. ZINK: I was listening, and I just
8 received the report a week ago or so. So I don't
9 have a specific comment on any of the details that
10 Tim talked about.

11 On this question that's been bantered
12 about with the badge issue, I would comment, and I
13 certainly don't want the Class not to go forward as
14 it's described. As many of you have said, it's
15 better to have the folks that would fit into that
16 category and can prove that they had a badge to be
17 paid.

18 From a practical standpoint, as an
19 authorized representative for many cases, not just
20 at Idaho but all over the United States, the most
21 difficult process for a claimant, or even me as the
22 authorized representative, to prove is actually the

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1 employment unless, by some circumstance, the worker
2 kept a copy of his badge, or wrote it down or had
3 it on some document.

4 I really don't, being a suspicious sort,
5 I am a little concerned. And I'm not as confident
6 that all of those records still exist. You know,
7 whether it's one claimant that I get that says, yes,
8 I worked there, but he's not on the list, trying to
9 approve that, in knowing how it works with the
10 Department of Labor, becomes very difficult.

11 Because I know that, you know, the
12 Department of Labor is going to strictly scrutinize
13 the Class as identified. And without the proof of
14 that badge, that person would be eliminated.

15 Now, whether there are ancillary
16 documents to establish that he was there, you know,
17 they often ask about coworker affidavits, stuff
18 like that, certainly those would be out there as
19 possible sources of proof.

20 But I just wanted to add my two cents in
21 terms of the authorized representative coming in
22 and looking at a case and saying, okay, now we have

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1 to establish that you were monitored. And what is
2 your badge number, et cetera, et cetera? That
3 tracking, from a practical standpoint, oftentimes
4 that can be more difficult.

5 And it would be, I guess, the question
6 would be how well would the claims examiner or the
7 Department of Labor be able to access this list or
8 whatever it is that identifies every badged worker
9 that went in there. Those are some of my concerns.

10 I appreciate Tim's report. It was hard
11 to hear some of it. So that might be my own
12 telephone problem. But I just wanted to make sure
13 that you knew I was on the line, heard it. I believe
14 the actual worker, Mr. Wolz, has been listening.
15 But I don't know for sure. He may want --

16 MR. WOLZ: I'm on.

17 MR. ZINK: -- to comment.

18 MR. WOLZ: I'm listening.

19 CHAIRMAN MELIUS: Okay, Mr. Wolz, do you,
20 first of all, thank you for those comments. And I
21 think you did summarize up one of our concerns. And
22 I think we have to remember that if they cannot

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1 verify under the Class Definition, that means we
2 have to go through the whole 83.14 process. And
3 you're putting the burden on the worker to prove
4 that it's wrong.

5 And it's not an automatic, not even the
6 affidavit would help him in that particular case in
7 terms of getting into the Class. It would, I think,
8 refer back to NIOSH, and there would be a process.
9 It's not going to be ignored. But it's not a
10 straightforward process.

11 Mr. Wolz, do you wish to make any comments
12 at this point?

13 MR. WOLZ: No. I've had trouble
14 listening. It seemed like a good report, and I
15 appreciate the comments the Board has. The early
16 part of the presentation that had to do with CPP was
17 quite interesting to me, because I worked at CPP
18 during the years in the analytical lab and
19 particularly in the X cell in the years '55 to '58,
20 in those years. And it was a good presentation.

21 I note that most of my radiation that I
22 received throughout the course of my employment for

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1 nearly forty years at the site, I worked at CPP and
2 at MTR, ETR facilities. And then further, starting
3 in '94, you know, not '94, it'd be about '62, '63,
4 I was at Argonne National Laboratory.

5 My INL radiation dosimetry summary shows,
6 that they came up with over the multiple years, 40
7 years, and loss of badges, it shows a 6,671 deep and
8 a 11,440 shallow.

9 It doesn't show anything about internal
10 contamination I might have received. I know there
11 was some urinalysis. And I went through several
12 decontamination processes that, you know, as a
13 result of working in different capacities.

14 But I don't know what the records are as
15 far as urinalysis, and thyroid monitoring and
16 things like that. So I just, I don't have a record
17 of that.

18 And somebody mentioned on the Board,
19 which I appreciated, it's hard for people going back
20 from young man back in '55 to reconstruct and
21 remember all that.

22 But anyway, I know that we were young guys

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1 and total trustworthy on the system. And we really
2 didn't know what we were getting into or how
3 effective the monitoring was and so forth.

4 But having worked there over the years,
5 I understand a lot about geometry now, and where the
6 film badges are worn and where the radiation sources
7 were coming from in the streams.

8 And I just don't know how, with certainty,
9 we can always know whether the doses which we
10 received would have or would have not caused cancer.
11 So that's all your question. I recognize we went
12 into it with taking risks, so I guess we were
13 innocent to the fact we didn't know what they really
14 were.

15 Anyway, I appreciate your time. I hope
16 that my effort, most of all, would be helpful to
17 others in the future and they improve the systems
18 where they could be improved.

19 CHAIRMAN MELIUS: Okay. Thank you very
20 much. And I would just add, if you weren't
21 listening earlier, which you may not have been, was
22 that our next meeting, which will be towards the end

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1 of July, will be at INL. So we will be gathering
2 more information at that meeting and looking for
3 people to help us out. But thanks again for your
4 input.

5 MR. WOLZ: You're welcome.

6 CHAIRMAN MELIUS: Before we go forward,
7 I'd like to have some information so I understand
8 a little bit. We have an Argonne West SEC
9 evaluation which is mentioned, and I think it's in
10 LaVon's upcoming presentation. But do we have a
11 time on that, estimated?

12 DR. TAULBEE: Yes. Our current schedule
13 is projecting that that report will be delivered to
14 the Board the middle of September, is what the
15 current schedule for the Argonne National
16 Laboratory is.

17 CHAIRMAN MELIUS: And how about the
18 reserved portions of this petition?

19 DR. TAULBEE: Our timeline is to finish
20 the Argonne National Laboratory West petition
21 first. Because that's the one that really affects
22 the current petitioner as far as this next

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1 evaluation. And he's the one who filed this
2 particular petition.

3 CHAIRMAN MELIUS: Right.

4 DR. TAULBEE: So after that report was
5 done, at that point we would go back and probably
6 start around the beginning of September. Because
7 the last few weeks are a lot ADC type of reviews that
8 we would start initiating the completion of the
9 addendum to this particular petition.

10 CHAIRMAN MELIUS: Thank you. We have
11 suggested action. Are there are any more comments
12 or questions from Board Members? And I think we
13 need to make a decision on what to do. Paul?

14 MEMBER ZIEMER: Is there an INL Work
15 Group --

16 CHAIRMAN MELIUS: Yes.

17 MEMBER ZIEMER: -- that has reviewed
18 this?

19 CHAIRMAN MELIUS: No. There is an INL
20 Work Group, Phil Schofield's in charge. I'm a
21 Member of it. I believe Josie, and Loretta and --

22 MEMBER BEACH: Loretta and John Poston.

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1 CHAIRMAN MELIUS: And John Poston. Six.
2 Oh, wow. Gen, oh no, I mentioned Gen.

3 And given the timing and the uncertainty
4 about the timing of this report, that Work Group did
5 not meet, it has not had a chance to review the
6 report. And actually it's not met for a fair amount
7 of time because of getting the Site Profiles and
8 everything updated. And this has been an extended
9 time period with this whole site.

10 MEMBER ZIEMER: I am not necessarily
11 wanting to slow down the process, but I'm wondering,
12 particularly since the petitioner is going to be
13 awaiting the other site materials anyway, if it
14 would be useful to have the Work Group take a look
15 at this and maybe address the issue also on the film
16 badge requirement?

17 CHAIRMAN MELIUS: What I would suggest is
18 that we postpone decision on this particular
19 petition today, that we convene the Work Group
20 meeting for at least a brief meeting to work out a
21 plan for going forward on that and to try to
22 prioritize what needs to be done, and particularly

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1 this issue of the Class Definition.

2 We include NIOSH in that meeting
3 obviously, Work Group meeting, and so then we would
4 be able to come up with a plan. And I think NIOSH
5 has to make some decisions about how it would
6 prioritize its resources going into this effort
7 also.

8 I don't think it's necessarily
9 appropriate that we wait until September and then
10 start working on this Class Definition. I think a
11 number of us have expressed concerns about that.

12 And I don't see any reason why it couldn't
13 be addressed earlier. But I think we have to look
14 at the scope of the amount of work involved. I
15 don't want to, you know, judge prematurely.

16 But I think if we get that Work Group
17 together and get a focus and then have SC&A start
18 doing some work, even now we can task them to start
19 working on it. And then we can meet relatively soon
20 to make sure we've got this issue coordinated in
21 terms of timing and so forth. Does that make sense
22 to you, Paul? Josie, I'm sorry.

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1 MEMBER BEACH: Well, I initially had mine
2 up, because I was going to say that we could go ahead
3 and still task SC&A to start their review. And you
4 mentioned that at the very end. So I put it down.
5 But I do agree with that path forward.

6 MEMBER SCHOFIELD: You know what, Josie,
7 I back you on that one 100 percent. This is Phil.

8 CHAIRMAN MELIUS: Stu?

9 MEMBER SCHOFIELD: That was Phil.

10 CHAIRMAN MELIUS: Yes. Stu to come to
11 the --

12 MR. HINNEFELD: Okay. I 'm here.

13 CHAIRMAN MELIUS: It's hard on the phone,
14 Phil. I know, and we understand.

15 MR. HINNEFELD: Well, we would like, I
16 mean, I tend to want to defer to the Board's wishes
17 on priorities. You know, we can prioritize in
18 accordance with your desires.

19 I think it certainly, coming out here
20 today, it certainly seems like the first thing we
21 want to do is investigate this Class. And that's
22 clearly first.

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1 And then beyond that, we can see, I mean,
2 you know, Tim is working under the assumption that
3 the resources available from our contractor are the
4 resources available and that we have to accomplish
5 all of this work. And so he's kind of laid it out
6 in that way.

7 We can look at what does it do to other
8 things in the program if we get our contractor to
9 add, and perhaps have two teams sort of working
10 collaboratively at Idaho to see if we can accelerate
11 some of this.

12 We also have to bear in mind that the
13 people at DOE Idaho who will be helping both teams,
14 that's a person, that's the same set of people at
15 Idaho who now, instead of assisting one of our
16 teams, would be trying to assist two of our teams.

17 So I don't know, that may actually be the
18 rate limiting factor as opposed to how much staff
19 we can put on the thing. So we can sort that out.

20 But in the meantime we can do some
21 investigation, and perhaps collegially with SC&A,
22 because they're being tasked to work on this. I

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1 think they probably will have some specific
2 questions about what kind of evidence can we pursue
3 that would either support or not support our
4 proposed position about how to define the Class.

5 So, I mean, that might even be something
6 best left to them, because they do, you know, they
7 are kind of the well, yes, but sort of people in
8 terms of the devil's advocate position. Well, they
9 are.

10 CHAIRMAN MELIUS: We weren't sure how
11 many T's there were in but there.

12 MR. HINNEFELD: It's no surprise to
13 anybody, right? So I think that might be actually
14 an avenue, is for them to say, you know, what holes
15 can you poke in this? I mean, what's the story
16 here?

17 And so I think we can kind of work out how
18 to do this. And we'll work, certainly, as quickly
19 as we can on this.

20 CHAIRMAN MELIUS: And I would just add,
21 I mean, I think what we were, or at least I was trying
22 to propose was that we task SC&A. The first thing

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1 that SC&A comes up with is sort of a plan. How do
2 we, you know, I hesitate to use validate, but
3 evaluate this Class Definition?

4 We then have a quick Work Group call to
5 get everybody onboard and discuss. Because I think
6 we're also concerned that if that evaluation is
7 going to take years, which I don't think it will,
8 but I think we need to have some estimate of how long
9 that will be. Because I think that would affect
10 what actions we might take on this petition in the
11 meanwhile and so forth.

12 I had also, when I first read the report,
13 I had asked some questions. And I understand
14 better now the reserved section. I was sort of
15 hoping, well, do the areas that are reserved, would
16 they cover enough of the site in the same time period
17 and get resolved quickly enough that they might sort
18 of obviate having to look at just this area.

19 And I'm not sure that they're going to be
20 quick to complete either, judging from what Tim was
21 saying. So I think it's just, this is where our
22 focus should be. Are Board Members on the phone

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1 satisfied with that approach?

2 MEMBER SCHOFIELD: I can live with that,
3 Jim.

4 CHAIRMAN MELIUS: Okay.

5 MEMBER LEMEN: I can too, Jim.

6 CHAIRMAN MELIUS: Okay.

7 MEMBER VALERIO: This is Loretta. I
8 agree.

9 CHAIRMAN MELIUS: Okay. Thank you.
10 And thank you very much, Tim, and your team
11 involved. They've been a helpful and a very
12 thorough report. And we appreciate the effort and
13 the number of slides. And we didn't do it, I didn't
14 do it to your computer.

15 And the next item on our agenda, and I
16 think we can actually say last but not least -- Where
17 is he hiding?

18 Search party underway. We called the
19 airport.

20 MR. RUTHERFORD: After you heard those
21 schedules from Tim, I wasn't sure I wanted to tell
22 you the other schedules. No, I'm just kidding.

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1 CHAIRMAN MELIUS: We're testing. We
2 know what's there. We're going to start a new Q/A,
3 Q/C evaluation, you know, competing presentations,
4 and see which one has more credibility.

5 MR. RUTHERFORD: All right, ready?
6 Okay, this is a final presentation. I'm going to
7 give the Special Exposure Cohort update. By the
8 way, I'm LaVon Rutherford. You probably heard that
9 from Dr. Melius while I was outside.

10 CHAIRMAN MELIUS: Are you going to give
11 me a chance to introduce -- no. Go ahead. Go
12 ahead, LaVon. We all know who you are.

13 MR. RUTHERFORD: All right, thank you.
14 So I'm going to talk about Special, I'm going to give
15 a summary of the current petitions, petitions that
16 are outstanding, evaluations, again, talk about
17 petitions qualification, petitions under
18 evaluation, petitions currently with the Board for
19 review, potential SEC 83.14. And we do this to
20 update the Board to prepare for future Work Groups
21 and Board meetings.

22 Our summary table, we added a little star

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1 to the summary table. And I'll explain why. If
2 you look at the summary table, these numbers were
3 put together as of March 16th, 2015.

4 We actually received Petition Number 227
5 shortly after this was prepared. And that is
6 another petition for Rocky Flats. It's for the
7 years post-84 to 2005, and so it is in the
8 qualification phase.

9 So it won't show up on the rest of the
10 table or the rest of the slides, I'm going to put
11 up but just to let you guys know, so you can see we
12 have three petitions in the qualification phase.

13 Petitions that were qualified, 138,
14 various phases, and 85 petitions that did not
15 qualify. So our petitions in the qualification
16 phase, we actually have another petition for Grand
17 Junction Operations Office.

18 I know there is probably people that
19 reviewed our summary report, it kind of threw them
20 off, just wondering where this one came from.

21 But this was a petition that was for the
22 later years, '86 to '90. But it was really for some

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1 of the calibration pads were actually moved out by
2 the airport. So currently, the portion of the site
3 that they were requesting a petition for is
4 currently not covered in the program.

5 We are providing that information to the
6 Department of Labor, Department of Energy, to see
7 if either another site would be established or what
8 they would do with that.

9 We have a Carborundum Petition
10 Evaluation. And it is now qualified, I believe.
11 It was just qualified. And that will be moving
12 forward.

13 And we have a Blockson Chemical petition
14 that is in the residual period. And it is in the
15 qualification phase. Again, like I said, the
16 Blockson Chemical in the residual period, it is in
17 the qualification phase.

18 We have a few petitions under evaluation
19 right now, Westinghouse Electric Company, this was
20 a petition that we received some time ago that was
21 for the residual period. However during our
22 evaluation we uncovered some information that

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1 supported that there was actually some operational
2 work that occurred during this residual work.

3 We presented that information to the
4 Department of Energy, the Department of Labor. And
5 we had a small portion of operational period added,
6 so that kind of pushed our evaluation out. We're
7 almost complete with that. We expect completion in
8 April of that report to present at the July Board
9 meeting.

10 Lawrence Livermore National Lab, this
11 one, it's qualified. And I know the 180 days are
12 somewhere, you know, June/July timeframe.
13 However, what we found is that, as most of you Board
14 Members know, a lot of the work that was conducted
15 at Lawrence Livermore National Lab has
16 classification issues such that it's going to be
17 required a lot of review.

18 There was a lot of different operations
19 that took place there. For example, we went to the
20 site, I can't remember exactly, recently, that we
21 did the data -- end of January, and identified a
22 number of documents there for the evaluation. And

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1 we've just found out recently that the ADC is not
2 going to start reviewing those documents for
3 another month.

4 So we anticipated completion of the
5 Evaluation Report in November. The site's been
6 very cooperative, but it's, you know, it's going to
7 be a challenge.

8 Argonne National Lab, I think we've
9 already talked about that, so I won't go into that
10 much more.

11 CHAIRMAN MELIUS: There's a little
12 discrepancy, I think, here. I thought I heard
13 September for --

14 MR. RUTHERFORD: For? Oh, you know --
15 Yes.

16 PARTICIPANT: The report will be
17 completed in September. But we're proposing to
18 present it in November.

19 MR. RUTHERFORD: Yes, instead of the two
20 weeks. So now we get reports --

21 CHAIRMAN MELIUS: The Advisory Board
22 goes into shock.

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1 (Laughter.)

2 MR. RUTHERFORD: We've got three
3 Petition Evaluations there. Well actually, this
4 is not true now. But Petition Evaluations that
5 were waiting on initial Board action, Kansas City
6 Plant, Grand Junction we presented today, and
7 actually the Board moved forward on that.

8 Dow Chemical was presented today, and the
9 Board moved forward on that one as well. And then
10 Idaho National Lab was presented today. That has
11 been delayed. And the Hanford was presented
12 yesterday. And the Board took action on that one
13 as well.

14 Sites with remaining evaluation periods,
15 Fernald, I think we're working hard to get that
16 closed out as Brad and Stu had talked about
17 yesterday.

18 Hanford, the issues are working through
19 there as well. Los Alamos National Lab, the
20 challenge of dealing with the site, and we're
21 working on a path forward with that one. Rocky
22 Flats, I think Dr. Kotelchuck summarized very well

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1 yesterday where we are with that one, a few
2 remaining issues.

3 Sandia National Lab, I believe that Sam
4 talked about it a little bit yesterday and where we
5 are with that one. Santa Susana, we have one short,
6 I want to say 1965.

7 That was the initial Petition Evaluation
8 that we approved for review went through 1965. So
9 we have a 1965 year for that Petition Evaluation
10 that's still left out.

11 There still, as Jim Neton presented and
12 Phil Schofield presented, there are still a number
13 of issues that we're working on at Santa Susana as
14 well, and Savannah River.

15 And 83.14s, again, we discussed this one,
16 Sandia National Lab early years, they're still
17 waiting for a litmus claim for that one. It appears
18 that the claims are being pretty much moved forward
19 as an SEC under Los Alamos National Lab.

20 So if we ever get one, we will move forward
21 in 83.14 there as well. Dayton Project Monsanto,
22 will move forward if we get a claim there as well.

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1 And that's it.

2 CHAIRMAN MELIUS: Questions for LaVon?
3 Are you going to make a correction or --

4 MR. RUTHERFORD: No. Tim said I should
5 add to that, Idaho potentially 83.14s, yes, where
6 there are, because Tim had mentioned, we could end
7 up with doing it additional 83.14s for that.

8 CHAIRMAN MELIUS: All right. I guess
9 this goes back to the INL issue. I think, since
10 we'll be in Idaho in July before the Argonne West
11 report, if you can, Tim and the ORAU team could
12 identify issues where we need more input on that
13 would be helpful, I think that's helpful in terms
14 of both conducting interviews and what SC&A will be
15 doing there, but also when we have the, you know,
16 public comment period and so forth.

17 I think we can at least help to identify
18 people that have information, get some input from
19 people working on the site and a little bit better,
20 more involvement last time. We were up there last
21 July and hopefully get more interest this time also.
22 And so it would helpful, given the weather there,

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1 we probably won't be back until the following
2 summer.

3 Okay. If there are no more questions,
4 Board Members on the Board have any questions for
5 LaVon -- excuse me, on the phone? I've talked to
6 much.

7 Okay. That's it. And we have one more
8 Board action to take. Do I hear a motion to
9 adjourn?

10 MEMBER ZIEMER: So moved.

11 MEMBER LEMEN: So you know I'm still on
12 the phone, I'll second that.

13 (Laughter.)

14 MR. KATZ: Goodbye, Dick.

15 MEMBER LEMEN: Goodbye.

16 (Whereupon, the above-entitled matter
17 went off the record at 3:18 p.m.)
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